



**Varazdin Development and Entrepreneurship Agency**  
in cooperation with  
**University North, Croatia**  
**Faculty of Management University of Warsaw, Poland**



# **Economic and Social Development**

23<sup>rd</sup> International Scientific Conference on Economic and Social Development



Editors:  
**Marijan Cingula, Mirosław Przygoda, Kristina Detelj**

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## **Globalization and Challenges of the Modern World**

## TAX STRUCTURE AND ECONOMIC GROWTH RECOMMENDATIONS AND REFORMS IN CEE COUNTRIES

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### ABSTRACT

*Tax policy, as a component of fiscal policy, takes key place in realisation of different goals of economic growth and development of any country. Impacts of level and structure of taxes on economic agent's activities reflect on whole aspects of standard of living. Having that in mind, many countries, particularly those more developed, proceeded with the structural reforms of their tax systems. These reforms very in great part motivated by the recent global economic crisis and the basis for the realisation of reforms were different recommendations of the European Commission, International Monetary Fund and different empirical studies based mostly on the sample of developed OECD economies. Besides developed economies (OECD or EU-15) many other less developed countries realised or still undergo reforms of their tax systems. However, basic problem in conducting the tax reforms in these countries is lack of empirical findings in the field of impact of tax policy changes on overall economic activity. Thus, based on the main components and characteristics of modern tax systems on the effects of tax structure on economic growth, authors research in what extent the results of the existing literature which basis on developed countries can be applicable to these issues in less developed countries.*

*Based on these findings, in the paper, authors present main guidelines and specific recommendations, which should be considered during the tax reform implementation in less developed economies.*

**Keywords:** CEE countries, growth-oriented tax recommendations, tax reform, tax structure

### 1. INTRODUCTION

In the last two decades, particularly after the beginning of the global economic crisis in 2008, more and more countries reformed or initiated reforms of their tax systems. Such reforms have both impact on the structure of tax revenues and the level of the tax burden, i.e. share of total tax revenues in GDP. The place and role of each tax form in the tax system differs from country to country and depends on the goals of the taxation policy. In the same manner country tax decision makers have to choose between income or consumption based tax orientation. Some countries, mainly those with higher growth rates of GDP, have income based tax system. In such tax systems, the most of tax revenues come from personal and corporate income taxation. Thus, due to progressivity of the personal income tax the tax burden is more equally distributed. In addition, such tax systems besides fiscal goals place high importance on non-fiscal goals of taxation. Non-fiscal goals of taxation refer to using taxes as instrument of economic policy; in this case, to support equal tax burden distribution. On the other hand, many less developed countries have consumption based tax system where the most of the tax revenues comes from different form of consumption taxes, particularly value added tax.

Consumption tax orientation of the tax system features regressive impact of taxes, unequal distribution of tax burden and focus of tax policy on fiscal goals, i.e. collection of tax revenues to support financing of public expenditures.

In this paper, the authors will analyse less developed countries that rely on consumption based tax system. We particularly address effects on economic growth. Because, after the global economic crisis, these countries still face weak economic recovery, and constantly struggle with budget consolidation problem, besides other available instruments of countercyclical policy, reforms of the tax system are certainly one of the major instruments for attaining higher rates of economic growth. Thus, the main goal of the research is to give recommendations of the tax system reforms in these countries based on the recent empirical research in the field of effects of tax structure on economic growth. The results of this research show that countries of Central and Eastern Europe need to conduct reforms of the tax system, but the basis of these reforms due to historical and economic specificities cannot be similar as in the case of developed countries of Western Europe.

We structure the rest of the paper as follows: Section 2 highlights the literature overview in the field of tax structures and economic growth, Section 3 presents main results of the impact of tax structures on economic growth in the CEE countries, Section 4 presents the recommendations for tax reforms in the analysed CEE countries and Section 5 concludes.

## **2. LITERATURE OVERVIEW**

The effects of the tax level and tax structure on economic agent behaviour reflect to overall living standard. Recognizing such fact, many countries, developed ones in particular, conducted structural reforms of their tax systems. The analysis of effects of tax structure changes on economic growth is crucial for tax policy decision makers and their decisions. Such analysis is particularly important for research of the best channelling of tax structure for stimulating economic growth. Namely, very often it is not possible to determine if positive (or negative) effects on economic growth come from changes in overall tax level or from changes in the tax structure. Features of the tax systems or particular tax measures depend on numerous social, economic and political factors. Tax structures in the most of the countries are shaped by political decisions, which has dominant impact on many other modification and reform of the tax system. Separately from primary function of tax revenue collection, and that is financing government expenditures, features of the tax system depend on the manner how the latter is used for achieving other goals as well. In recent period the main part of the tax receipts, both in developing and developed countries, come from personal income tax including the social security contributions, consumption taxes such as value added tax and excises, and from corporate income tax. Other goals of taxation usually not relate with the main goal of collecting revenues. These other goals include, i.e. the analysis of how and how much personal income tax and value added tax affect ability to pay and are they used for employment policy, investment growth or/and reduction of socially undesired consumption such as overconsumption of alcohol or cigarettes. Related to that, these goals refer to the environment protection goals as well. Due to the fact that the tax systems, besides primary function of collecting the tax revenues, increasingly have to be in function of other non-fiscal goals. These are stimulating living standard of population, conducting healthy business environment, increase of innovation and investment, stimulating international trade and other activities favourable for economic growth, there are more and more research that analyse effect of tax policies and tax structure on economic growth. Further, below, we present brief overview of latest contributions in that field.

In the last twenty years, especially after the economic crisis, economic policy makers have shown a growing interest in implementing tax reforms. The goal of such reforms should be to modify the existing tax forms and/or introduce new tax forms if necessary in order to make the tax systems more effective and efficient in achieving the economic growth. The European Commission's recommendations (European Commission, 2013) call on Member States to broaden their tax base, to reduce the tax burden on labour and to increase the tax burden on consumption and property. These recommendations base on the latest empirical research on the impact of the tax structure on economic growth analysing OECD countries. According to the results of the most relevant empirical research (Arnold 2008, Arnold et al., 2011, Johansson et al., 2008, Xing, 2010), corporate income tax has the strongest negative impact on GDP growth, which is followed by personal income tax, while consumption and property taxes have a neutral or even a positive impact on GDP growth. In addition to them, there are many other authors analysing the influence of tax structures on economic growth but all of them, including the above mentioned, conducted their studies on OECD countries. One of the most recent studies on this matter was conducted by Macek (2014) analysing the period from 2000 to 2011.

What is specific for this work, is that the author conducted two separate analyses – one in which taxes are classified according to the OECD Tax Classification and one according to World Tax Index classification. In case of the OECD Tax Classification, analysis showed that corporate income tax has the strongest negative impact on economic growth, followed by personal income tax, whereas social security contributions have the least negative impact. Property taxes were not statistically significant, and were excluded from the analysis. In case of World Tax Index classification, the results have again confirmed that corporate income tax has the strongest negative impact, followed by personal income taxes, while consumption taxes have the least negative impact. Other taxes (and contributions) were not statistically significant. Studies that have included a different group of countries in their analyses include those by Acosta-Ormaechea and Yoo (2012), Klun and Kotnik (2014) and Grdinić et al. (2017). In their research on a sample of 69 countries (including 21 OECD countries) for the period 1970 – 2009, which they grouped into high, medium and low income countries according GDP per capita, Acosta-Ormaechea and Yoo (2012) wanted to determine whether there are differences in the impact of tax structures on countries' economic growth depending on their degree of development. They came to similar conclusions as above-mentioned studies when it comes to high and medium income countries, but the results were found to be not significant for low-income countries.

Klun and Kotnik (2014) based their research on the work of Acosta-Ormaechea and Yoo (2012) and analysed the EU member states (EU-27) in the period of 2000 – 2012. They grouped the states in two groups: the old (EU 15) and the new member states (EU-12). They found that the European Commission recommendations are general and may or may not necessarily be applicable to all Member States. They confirmed that the recommendations for stronger taxation of consumption and property, as a precondition of GDP growth, are good when it comes to old Member States, whereas stronger taxation of consumption has the most negative impact on the economic growth of new Member States when compared to personal income tax and property tax. A more detailed analysis by the type of taxes shows that corporate income tax has no statistically significant impact on economic growth while personal income tax and property tax have a negative impact in the EU-12.

### **3. THE RESULTS OF THE RESEARCH OF EFFECTS OF TAX STRUCTURE ON ECONOMIC GROWTH IN COUNTRIES OF CENTRAL AND EASTERN EUROPE**

There are many papers and studies within the economic literature that analyse tax structures on economic growth by using dataset for developed countries (OECD, EU). On the other hand, for emerging economies, such literature is insufficient. Therefore, the question poses in what extent the existing results of the research based on developed countries can be applicable for emerging economies. All of the countries of Central and Eastern Europe from the 1990s are featured by transition from planned to market economy, i.e. transition process. The structure of economy in former transition economies is different from the economic structure of developed European countries (lower level of industrial production based on slow changes in ownership structure and privatization; lack of investment and too slow inflow of foreign capital; slow penetration in new markets and inclusion in global flows of goods and services; large unemployment and poverty; undeveloped financial markets; and lack of environmental awareness). On the other hand, the most dominant economic activities are trade, accommodation and food services, and intellectual services. In addition, there are differences in tax policies as well. It is important to note that tax structures of developed economies differ from tax structures of transition economies. There are significant differences in the share of taxes in GDP, number and type of tax forms, structure of tax revenues, tax reliefs' application, and tax forms introduced on central and local tiers of government. Special problem refers to the fact that emerging economies cannot compensate lost revenues from abolishment of duties as consequence of eliminating trade barriers by increase of other tax forms, i.e. value added tax. In addition, natural shift from one to another tax form has to be less relevant than in developed countries. Many emerging economies need more total revenues in order to boost economic growth through infrastructure investment (it is less important to decrease corporate income tax than to increase total tax revenues). Regarding the fact that there are less profitable taxpayers in transition economies, corporate income taxes are more applicable (tax collection costs are lower). On average, transition economies have larger share of indirect taxes in total tax revenues and in GDP and larger share of social security contributions in comparison to developed economies. Also, they are featured by centralization of tax revenues. Share of direct taxes is lower than in developed countries and share of value added tax in total tax revenues significantly higher.

Based on that, we can conclude that the results of the research in the field of effects of tax structures on economic growth of transition countries cannot be completely applied in former transition economies. Thus, Grdinić et al. (2017) conducted research on interdependency of tax structure on economic growth in 19 selected economies of Central and Eastern Europe and Republic of Croatia. Grdinić et al. (2017) based her research on the study conducted by Arnold (2008) and analysed the impact of the tax structure on economic growth in the period from 1990 to 2010 on a sample of 20 countries (EU-12, Croatia, Albania and 6 selected former Soviet Union states.) The results also showed that all types of taxes have a negative impact on economic growth. However, when it comes to these countries, personal income taxes have the strongest negative impact on growth, followed by social security contributions and corporate income taxes, while property taxes that have the least negative impact. Moreover, consumption taxes were found to be not statistically significant.

Based on the results of this research, further in the paper we give recommendations and measures that can be applied in the reforms of tax systems of these countries, with goal of achieving higher rates of economic growth.

#### **4. PROPOSALS AND MEASURES FOR TAX REFORM TO STIMULATE ECONOMIC GROWTH IN THE CEE COUNTRIES**

The process of transition, as it was mentioned earlier in the paper, assumes transition from planned to free market. From the late 1980s i.t. from the beginning of the 1990s and fall of communism, countries of Central and Eastern Europe faced short-term difficulties and long term constraining factors to achieving satisfactory rates of economic growth and development. The main goals and instruments integrated within the process of transition were:

- Liberalisation which, as a process, allowed setting of the most of the prices at free market and reduction of trade barriers between countries;
- Macroeconomic stabilisation that should be attained primarily through controlling the inflation level and its reduction over the time after the period of excessive inflation rate as a consequence of market liberalisation and demand for new products. The macroeconomic stabilisation process demand a government budget fiscal discipline and growth of money and credit, i.e. monetary and fiscal discipline and progress towards the sustainability of balance of payments;
- Restructuring and privatisation, i.e. creation of sustainable financial sector and reform of the companies in transition economies, which should contribute to achieving the goal of production goods and services that could sell at the free market and transition of property to private sector as well;

Legal and institutional reform, which should redefine the role of government in these societies and introduce appropriate policies of market competition and rule of law.

However, the transition process brought many problems in to the fore, and some of those are increasing unemployment, high rates of inflation, lack of entrepreneurial skills, new capital and technology; corruption and inequality. Rise of unemployment in these countries occurred because of privatisation of many companies, which are, in other to boost efficiency, reduced labour costs i.e. number of employees. Also, during the transition process, there was a significant reduction of government administration and many employees in the government sector became unemployed. In addition, many governments faced problem of high inflation that was a result of removal of government price control. New companies created under the privatisation process started increasing prices to the level, which reflect real costs of production, and on the other hand, started accumulating profits. In late 1990s the inflation rates steadily, decreased and reached the level of inflation similar to developed western European economies.

In many transition economies, there was a lack of entrepreneurs and entrepreneurship, which additionally slowed the process of economic reforms and stimulation of market capitalism. Besides, there was a lack of workers with necessary qualifications and skills needed in newly privatised companies. Lack of capital and new technologies necessary for efficient production was also one of the major problems. Such state was a consequence of underdeveloped financial markets and, thus, low level of foreign direct investment. All these factors retarded growth and development of governments in transition.

Before mentioned issues address the fact that economies of the Central and Eastern Europe differ by their historical development and economic perspectives from the developed countries. Due to that, these countries demand different tax structure in comparison with developed countries.



Having in mind the results of the research in the paper of Grdinić et al. (2017), based on the example of 20 countries of Central and Eastern Europe, it is possible to formulate specific recommendations and measures that should implement within the tax system in order to stimulate economic growth. These are as follows:

Negative and significant effect of personal income tax on economic growth in the long run suggest necessary tax reforms in the field of labour taxation. The most of countries analysed in their tax systems applies flat-tax, i.e. income is taxed by one rate (unlike in the case of progressive taxation) which leads to higher taxation of middle-income population group, and favours rich population group. Regarding the negative effect personal income tax on economic growth, it is important to reform tax system and introduce progressive income taxation;

Also, following the already present trend of reduction of corporate income tax rates, it is necessary to further develop system of tax reliefs in the system of corporate income tax, particularly for small and medium companies and for stimulating and attracting foreign direct investment;

Considering the fact that the analysis shows that personal income tax in comparison to corporate income tax has impact that is more negative on economic growth, the tax reforms should focus more to personal income tax, i.e. labour taxation. As part of tax burden, in wider extent, we can include social security contributions, which also have profound negative impact on economic growth. Thus, the recommendation is to decrease social security contribution and tax burden on labour significantly. Such measures should stimulate new employment (reduce unemployment), increase competitiveness of the workforce, enable accumulation of „surplus“ for entrepreneurs which as a consequence of reduced labour taxation which will direct into increase of investment and innovations, new workplace creation and higher growth rates in the end. Also, since taxes on labour negatively affect business climate and creation of new companies, their reduction is necessary. Reducing the taxes on labour and, primarily, personal income tax for lower income groups (by widening of the tax base for lower rates of personal income tax, increasing the personal allowance and other tax reliefs which affect progressivity of the tax system such as reliefs for education, science and research and development, expenditures for residential needs, life insurance premium payments, health and pension system etc.). Also, following the existing trend of reduction of corporate income tax rates, it is necessary to further develop system of tax reliefs in the corporate income tax system, particularly for small and medium companies. This includes reliefs for stimulating and attracting foreign direct investment;

Furthermore, in countries analysed, consumption and property taxes do not show significant effect on economic growth, i.e. effects of property taxes show low level of significance and it is not possible to specify concrete recommendation. However, general conclusion is that the present level of consumption taxation should remain constant (it is already high enough having in mind that most of the countries analysed have consumption based tax system). Revenues from consumption taxes can be used as compensation for reduction of revenues from personal income tax and social security contributions. Referring to the property taxation, we can recommend slight increase of tax burden. Social security contributions and labour taxes should be significantly reduced in countries with comparatively higher rates on average and where such tax burden negatively affects labour market. In order to compensate fall of revenues because of reduction of contributions, it is recommended to increase tax burden on consumption, property and environment pollution;

Special focus should be on tax avoidance prevention and unofficial economy minimisation; Labour taxation affects fundamentals and decisions brought by economic agents. Such type of taxes can distort decision-making about employment or number of total working hours.

Furthermore, progressive income taxes can lead to decrease if education level of the employees. Thirdly, taxes on labour usually negatively affect business climate and new jobs creation which negatively affect innovations as a key component of economic growth;

On the other hand, taxation of capita does not have clear-cut effect on economic growth. The level of corporate income tax rate affects locational decisions of companies on where to invest and locate property (companies come to countries where their after-tax profit is highest). From the perspective of households, taxation of capital affects decisions on investment, i.e. savings. In the category of capital factor, we can include property taxation as well. In economic theory, taxes applied on property and inheritance have lowest negative effect on economic growth, because of lack of significant effect on labour supply, degree of education or technological progress. Considering the fact that tax policy and tax structures have significant impact on GDP, competitiveness and efficiency of overall economy, companies and quality of life of inhabitants in the widest sense, the active role of decision makers of economic policy is necessary, particularly regarding the stimulation and implementation of such tax policy that will have positive development effects in economies. This primarily relates to setting of transparent and relatively stable legislative framework. Namely, frequent changes of tax regulation negatively affect economic agent behaviour and can lead to reduction of economic activity, particularly investment and consumption. Furthermore, detailed analysis of effects should be conducted before changes of one or more tax form and ad hoc measures with goal of increasing tax revenues in the short term in order to increase government spending, should be avoided. In such context, it is necessary to strengthen coordination of ministries in charge of government finance with other ministries, representative bodies of regional and local government, different agencies, associations and other entities affected by changes in tax policy.

## 5. CONCLUSION

The goal of this paper was to analyse contemporary empirical research in the field of tax structure and economic growth, and address differences in tax systems of developing countries in comparison with developed countries covered by the most of the empirical research. Because developing countries differ not just in economic, social and political features, but in tax structure as well, it was necessary to conduct research that will show that tax reforms in developing countries cannot follow same principles as similar reforms in developed countries. Besides empirically proved negative effect of particular tax forms on economic growth, during the implementation of the tax reforms it is necessary to take consideration about other specific issues, particularly interaction of taxation and other instrument of economic policy, financial conditions on market, political circumstances and other conditions important for decision-making.

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## GENDER STEREOTYPES VERSUS THE CHARACTERISTICS OF MANAGEMENT STYLE OF MEN AND WOMEN – THE PERSPECTIVE OF BUSINESS FIELDS

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### ABSTRACT

*The article is based on an assumption supported by research in psychology that people's attitudes towards others often result from more or less conscious tendencies to a stereotypical perception of people through the features and behaviours that are assigned to them on the basis of their gender. Therefore, the following research problem has been formulated: What features and behaviours, according to the students of business fields, are characteristic for men and women in management positions. The problem has been found to be cognitively interesting and significant in the perspective of the practice of management since the attitudes of managers in business relations with other managers as well as human resources policy they lead (especially the policy of promotion) are often conditioned by their beliefs about management predispositions of the representatives of a given gender. For this reason, it is worth studying the behaviours, features and inclinations attributed to men and women as "typical" for the representatives of their gender since they can become the foundations of mental barriers that significantly hinder effective relations with business partners and co-workers.*

*The article presents the results of a questionnaire research carried out among 420 students of business fields: from Poland (Bialystok University of Technology) and from Ukraine (Poltava National Technical Yuri Kondratyuk University), who, due to the education they are getting, can be treated as future managers in business and public entities. The studies are also important from the perspective of economic co-operation between both countries. The tool used for the research was the author's questionnaire developed with Delphi method.*

**Keywords:** *masculine management style, feminine management style, stereotypes of masculinity and femininity*

### 1. INTRODUCTION

This paper is based on an assumption confirmed in psychological research (Juodvalkis, Grefe, Hogue, Svyantek, DeLamar, 2002, pp.67-84) that our attitude towards other people often results from a tendency, which we are aware of to a greater or lesser extent, to perceive others in a stereotypical manner based on features and behaviour attributable to them due to their sex. Thus, the following research problem has been formulated: What qualities and behaviour, from the perspective of business students, are typical of women and men holding managerial positions? This issue has been deemed interesting from the cognitive viewpoint and significant from the perspective of management practice as attitudes of managers in business relations with other managers, as well as human resources policy maintained by them, especially the promotion policy, are often based on their beliefs and convictions concerning managerial predispositions of representatives of a given sex. Therefore it is worth looking into behaviour, qualities and inclinations attributable to women and men as "typical" of representatives of their sex as they may become a basis for mental barriers that significantly hamper effective relations with business partners and co-workers.

This paper presents the results of questionnaire research conducted among a group of 420 business students from Poland (Bialystok University of Technology) and from Ukraine (Poltava National Technical Yuri Kondratyuk University) who given their education may be perceived as the future managerial staff in business and public entities. A questionnaire developed by the author in line with the Delphi method served as a research tool.

## 2. STEREOTYPE OF FEMININTY AND MASCULINITY AS THE FOUNDATIONS OF ONE'S IMAGE AT WORK

Stereotypes represent a set of simplified and rigid convictions concerning personal attributes of a group of people or social categories related for instance to women and men. E. Aronson, T. Wilson and R. Akert define stereotype as a “generalisation which refers to a group among which identical characteristics are attributed to all members of this group, without exception, regardless of actual differences between them (1997, p.543). The term *gender stereotype* is used interchangeably with other terms: “gender-connected stereotypes”, “socio-cultural gender stereotypes”, “cultural gender stereotypes”, “psychological gender stereotypes”, “gender stereotypes” and also terms used less frequently such as “sexual stereotypes” and “femininity and masculinity stereotypes”. Being a universal and easy to identify feature, gender is particularly subject to be stereotyped. According to convictions relating to gender stereotypes, particular behaviour characteristic of a given gender does not or to a much smaller extent refers to another gender (Aronson, Wilson, Akert, 1993, p.534).

According to L. Brannon (2002) masculinity and femininity stereotypes cover convictions concerning mental features of men and women and actions appropriate for one or the other gender. Femininity stereotype common in many cultures mostly includes such features as: neatness, tenderness, gentleness, tactfulness, talkativeness, tendency to gossip and lack of interest in the sexual sphere. Whereas men stereotypically are described as aggressive, independent, dominant, active, physically and mentally strong and self-confident (Bee, 1987; Grabowska, 2007.) Features regarded as typical of women and men in Poland are shown in table number 1.

*Table 1: Masculinity and Femininity Stereotypes – Polish Research (Kuczyńska, 1992)*

Features treated as typically feminine	Features treated as typically masculine
sensitive, caring, loving, gentle, coquettish, caring about her looks, thrifty, grumpy, tender, emotional, sensitive to others' needs, capable of sacrificing, delicate, shy, naive and gossipy.	dominant, independent, competitive, success focused, smart, easily takes decisions, clever, bossy, coarse, arrogant, fit, active, self-confident, self-sufficient, demanding, complicated, seeking appraisal, sociable, hiding his feelings, cheerful.

A number of sub-types may be singled out from both feminine as well as masculine stereotypes. These subcategories include some specific attributes of the said female and male subgroups. For instance under the femininity stereotype there are such definitions as: a tomboy, wife, housekeeper, mother, businesswoman, feminist, lesbian etc.; while in reference to men we have a macho, sissy, businessman, homosexual etc. (Nelson, 2003). Gender stereotypes may change their form by shifting from general stereotypical convictions related to women and men to more precise ones. Gender stereotypes are connected with gender roles. In the event when representatives of a given community start making connections between specific behaviour and gender, they often tend to overlook the existence of individual differences or exceptions which makes them more prone to attribute irrevocably a given behaviour to one gender only. In this manner gender role may turn into a stereotype (Mandal, 2004). Based on psychological research (Wojciszke, 2012, pp.13-18), all over the world gender stereotypes are similar. Regardless of cultural conditioning, men are perceived as agents (focused on tasks and actions), while women are perceived as “communal” (focused on emotions and social relations).



In different cultures these stereotypes may be more popular than in others but never do they get reversed. On the other hand, real differences between people representing different genders look different depending on the type of compared attributes. Big differences are observable only in the area of motor activity, violence and sexual needs (definitely higher level in men), subtle in the area of interpersonal communication, social coexistence and proneness to anxiety and depression (higher level in women). In other domains differences are either minor or none (Schmitt, Buss, 2000, pp.141-177). Gender stereotypes are a source of conviction that persons of a given gender reach a higher efficiency level in a sphere right for them than persons of the opposite sex (Stojanowska, 2008, pp.151-166). Having analysed statistical data on the number of women on corporate boards, it may be concluded that management is also such a sphere of life. Based on the report following research conducted by Deloitte *Women in the Boardroom: A Global Perspective* the average proportion of board seats held by women in Europe accounts for 20%, 19% in the US, 17% in Canada, 17% in the RSA, 7% in Latin America, 9.4% in Asia and Pacific. In Poland it accounts for 12% which is lower than the average for the EU countries. Perhaps one of the reasons for this phenomenon stems from the fact that qualities attributable to the so-called female management (leadership) style are wrongly associated with lower operating efficiency (compare Rubin, 1997).

### 3. FEMALE AND MALE MANAGEMENT STYLE

Management style is defined as a “very complex set of relations between manager’s behaviour, their personal qualities (attributes), characteristic of the managed team and the context in which the manager and the team operate” (Jasińska, 2009, p.71). When looking for differences between female and male management styles, their description is strongly determined by gender stereotypes. Male managers are said to put pressure, fight, be prone to handle resistance in a forcible manner, while women more often use negotiations, consultations and persuasion in relations with their reports (Dźwigoł-Barosz, 2016, p.132). These differences are especially exposed in the description of female and male management style. For example H. Fisher (2003, pp.21-23) proves the decision-taking styles of women and men holding managerial positions differ due to differences in the way they think and process data. Women tend to apply contextual thinking which allows them to perceive issues from a wider perspective than male managers. When taking decisions they take into account more data, factors and options and spot more ways to act. H. Fisher defines “female” thinking as a network thinking which differs from sequence thinking, typical of men, which is focused and linear. Hence, men view an organisation as a collection of different elements, while women tend to perceive it as a whole, namely a system of interdependent material and non-material resources that impact on one another. Also, they much more often use their emotional intelligence, i.e. empathy, intuition, which allows them to build relations in a more effective way (compare Kuc, Moczydłowska, 2009). According to J.B. Rosener (2003, pp.349-352) an interactive management style is characteristic of women. It entails being prepared for cooperation and communication with others, whereas men prefer better a prescriptive and control-based style which means they manage authoritatively. G.N. Powell (2003, p.362) points out that women holding managerial positions are more often focused on their own development and interesting challenges. Men concentrate on the organisational environment, its prestige, possibilities to exert impact and strive for the highest remuneration possible. Similarly as J.B. Rosener, the quoted author promotes the thesis that women tend to present a democratic while men an autocratic management style. During a scholarly debate over female and male management style some argue that a specific management style is not conditioned by gender but by the position of women and men in the organisational structure only. According to R.Kanter, a proponent of this trend, had the status and scope of men's and women's power been comparable, they would have behaved similarly on managerial positions (Lisowska, 2009, p.111).



#### 4. METHOD APPLIED TO AUTHOR'S OWN RESEARCH

Research was conducted on a group of 420 business students from Poland and Ukraine. For percentage distribution see fig.1.



*Figure 1: Percentage distribution of respondents broken by place of residence and gender (own work)*

Research was carried out among a group of 222 persons from Poland and 198 persons from Ukraine; 214 respondents were male and 206 female. Due to a relatively small research sample limited to two universities only, results of the research may be used to indicate certain trends or tendencies as well as to formulate hypotheses for further study on a group which meets representative criteria. As a research tool the author used her own test “Male and Female Management Style”. It is composed of two sheets, each consisting of the same 37 qualities and behaviour. On a scale from 1 to 5 respondents assessed to what extent behaviour and qualities presented in the questionnaire are characteristic of women and men holding managerial positions. Managerial qualities and behaviour were selected with the use of the Delphi method (Skulimowski, Kluz, 2016, pp.70-80). In the course of a discussion an expert panel chose 37 qualities and behaviour relevant in view of evaluating management style. The following research problems were formulated:

- In the opinion of business students, which qualities and behaviour best characterise women and men holding managerial positions?
- Is there any relation between qualities and behaviour attributable to women and men in managerial positions and gender of students taking part in the research?
- Who, according to students taking part in the research, is more effective in managerial roles (women or men) and why?

The Mann-Whitney<sup>1</sup>Test (the U Test) was applied to interpret the results.

#### 5. FEMALE AND MALE MANAGEMENT STYLE PERCEIVED BY STUDENTS. ANALYSIS OF THE RESEARCH RESULTS

In the first part of the research students concentrated on defining features characteristic of women and men in managerial positions. They agreed that both women and men can think strategically, are ambitious, assertive, consistent, analytical and scrupulous, perform their duties conscientiously, tend to overwork, willingly take up difficult challenges, quickly process a lot

<sup>1</sup> The test allows to define whether there are differences between the researched groups or not. The test verifies the null hypothesis according to which the researched distributions do not differ from one another against the hypothesis that they significantly differ. If the p level is lower than the adopted cut-off point (during calculations the cut-off point for the significance level was set to 0.05), then the null hypothesis should be rejected and this leads to a conclusion that significant discrepancies occur between the answers given by students from Poland and students from Ukraine.

of information and take decisions, fairly evaluate and recognise the results of team's work. On the other hand, they do not particularly care about good atmosphere in the workplace, impose their ideas on others, are interested in the opinion of their reports, take into account employees' needs, prefer a democratic management style, take up an emphatic approach towards personal problems of their co-workers, promote the policy of equal opportunities for women and men, display a tendency to manipulate others, are good listeners, are tolerant of mistakes made by their reports, expose resistance to stress and criticism, are multitasking, are visionaries and build the myth of infallibility. The degree of promoting teamwork based on mutual learning and kindness and the atmosphere of competition is comparable. For 37 statements referring to female management style 12 differences significant from statistical perspective were spotted between the answers of respondents from Poland and Ukraine. See table no. 2.

*Table 2: Differences between respondents from Poland and Ukraine in the way women are perceived in managerial positions (own work)*

Statements	Average		Mann-Whitney U Test	Significance
	Poland	Ukraine		
Imposes her ideas on others	3.57	4.21	1717.5	0.005
Is truly interested in the opinions of her reports	3.48	3.96	1901.5	0.036
Can think strategically and directs team's work against long-term goals	3.66	4.07	1886.0	0.029
Prefers democratic approach to reports	3.42	3.89	1855.0	0.021
Tends to overwork	3.49	4.18	1546.0	0.001
Likes the atmosphere of challenge and willingly takes up very difficult tasks	3.42	3.86	1844.0	0.019
Fairly evaluates the work results of her team and individual employees	3.58	3.93	1932.0	0.044
Is assertive	3.54	4.46	1112.5	0.000
Appreciates and promotes creativity of her reports	3.68	4.04	1937.5	0.045
Is tolerant of mistakes made by her reports	3.30	3.68	1925.0	0.043
Is consistent	3.69	4.32	1534.5	0.001
Is mentally strong	3.07	3.68	1799.5	0.015

Unlike Polish students, students from Ukraine to a larger degree admitted that women impose their ideas on others, think strategically, tend to overwork, enjoy the atmosphere of challenge, are assertive and consistent. Also, they are interested in the affairs of their reports, are just, tolerant and mentally strong. According to Ukrainian students there are no major differences between female and male management styles. But for 37 statements referring to male management style, 17 differences significant from statistical perspective were spotted between the answers of respondents from Poland and Ukraine. See table no. 3.

*/Table following on the next page*

*Table 3: Differences between respondents from Poland and Ukraine in the way men are perceived in managerial positions (own work)*

Statements	Average		Mann-Whitney U Test	Significance
	Poland	Ukraine		
Cares a lot about good atmosphere in the workplace	2.98	3.64	2241.0	0.000
Imposes his ideas on others	3.84	3.19	2319.5	0.000
Is truly interested in the opinions of his reports	2.86	3.54	2236.0	0.000
Very emotionally reacts to difficult situations	2.48	2.93	2986.5	0.035
Promotes teamwork based on mutual learning and kindness	2.98	3.26	3061.0	0.047
Is analytical and scrupulous	3.41	3.77	2945.5	0.022
Exposes high resistance to stress and frustration	3.82	3.42	3041.5	0.049
Is a visionary	2.98	3.64	2379.5	0.000
When making decisions takes into account the needs of his co-workers	3.00	3.36	2784.0	0.005
Promotes the atmosphere of competition	3.84	3.31	2674.5	0.002
Takes up a very emphatic approach towards personal problems of his co-workers	2.43	3.15	2327.5	0.000
Builds a myth of his own infallibility	3.66	2.99	2383.5	0.000
Is assertive	3.57	4.02	2594.0	0.001
Takes full responsibility for the work of his team	3.36	3.68	3048.0	0.046
Is a good listener	3.07	3.64	2617.0	0.002
Is tolerant of mistakes made by his reports	2.80	3.36	2598.0	0.001
Is consistent	3.89	4.17	2971.0	0.024

Compared to students from Poland, students from Ukraine to a greater extent acknowledge that men care a lot about good atmosphere in the workplace, are interested in the opinion of their reports, react emotionally to difficult situations, promote teamwork, are analytical, scrupulous, assertive, consistent and have a vision. Moreover, they take into account the needs of other people, are able to listen and take responsibility for the work of their team. On the other hand, according to students from Poland men build a myth of their own infallibility, impose their ideas on others, promote the atmosphere of competition, expose high resistance to stress.

To sum up, students from Poland assigned more stereotypical features to women and men than students from Ukraine. This may stem from historical considerations as in Ukraine women have taken both male as well as female roles (Hundorowa, 1991, pp.15-22). Nevertheless, these differences are insignificant. Most respondents are prone to efface stereotypical men and female features. Also, defining relations between qualities and behaviour attributable to women and men in managerial positions and gender of students taking part in the research has proven important. Differences of opinion between female respondents from Poland and Ukraine about the way female management style is perceived are shown in table no. 4.

*Table 4: Differences between female students from Poland and Ukraine in the way women are perceived in managerial positions (own work)*

Statements	Average		Mann-Whitney U Test	Significance
	Poland	Ukraine		
Tends to overwork	3.41	4.29	575.5	0.001
Likes the atmosphere of challenge and willingly takes up very difficult tasks	3.44	3.94	750.0	0.028
Is assertive	3.50	4.47	463.0	0.000

Female respondents from different countries shared a common opinion. Only 3 differences, significant from statistical perspective, related to the female management style were noticed. According to female students from Poltava, women have strong inclination to overwork and are assertive. Moreover, they enjoy difficult challenges. Interestingly enough, greater differences between female students were observed regarding the evaluation of the male management style (table no. 5).

*Table 5: Differences between female students from Poland and Ukraine in the way men are perceived in managerial positions (own work)*

Statements	Average		Mann-Whitney U Test	Significance
	Poland	Ukraine		
Imposes his ideas on others	3.9	3.19	1010.0	0.000
Is truly interested in the opinions of his reports	2.69	3.50	886.0	0.000
Very emotionally reacts to difficult situations	2.38	3.02	1224.0	0.013
Promotes teamwork based on mutual learning and kindness	2.86	3.24	1334.0	0.043
Is a visionary	2.97	3.63	1085.0	0.001
When making decisions takes into account the needs of his co-workers	2.97	3.32	1285.5	0.022
Promotes the atmosphere of competition	3.79	3.29	1260.0	0.019
Takes up a very emphatic approach towards personal problems of his co-workers	2.48	3.09	1142.5	0.003
Builds a myth of his own infallibility	3.69	2.93	1010.5	0.000
Promotes in the organisation the policy of equal opportunities for women and men	2.97	3.66	1143.5	0.003
Is assertive	3.66	4.03	1260.5	0.015
Is a good listener	3.00	3.66	1162.5	0.005
Is tolerant of mistakes made by his reports	2.55	3.33	1000.0	0.000

There were as many as 13 differences significant from statistical perspective. Unlike Polish female students, their counterparts from Ukraine recognised that men are assertive, empathic and tolerant, promote the policy of equal opportunities and appreciate the work of their team. Quite the contrary were their views on such features as building the myth of infallibility, promoting the atmosphere of competition or imposing one's opinion on others. Female students from Poland assigned more stereotypical features to men than the Ukrainians. This could be a starting point for more extensive research. There were similar differences among male students who took part in the research in terms of perceiving the male and female management style. In the case of the female management style discrepancies were noticed in 6 items (table no.6), and in 7 items in the case of the male management style (table no.7).

*Table 6: Differences between male students from Poland and Ukraine in the way women are perceived in managerial positions (own work)*

Statements	Average		Mann-Whitney U Test	Significance
	Poland	Ukraine		
Imposes her ideas on others	3.62	2.91	141.0	0.007
Can think strategically and directs team's work against long-term goals	3.48	4.18	166.5	0.033
Prefers democratic approach to reports	3.22	4.09	137.5	0.006
Is assertive	3.64	4.45	136.0	0.006
Is consistent	3.62	4.64	109.0	0.001
Is mentally strong	2.92	3.91	155.5	0.021

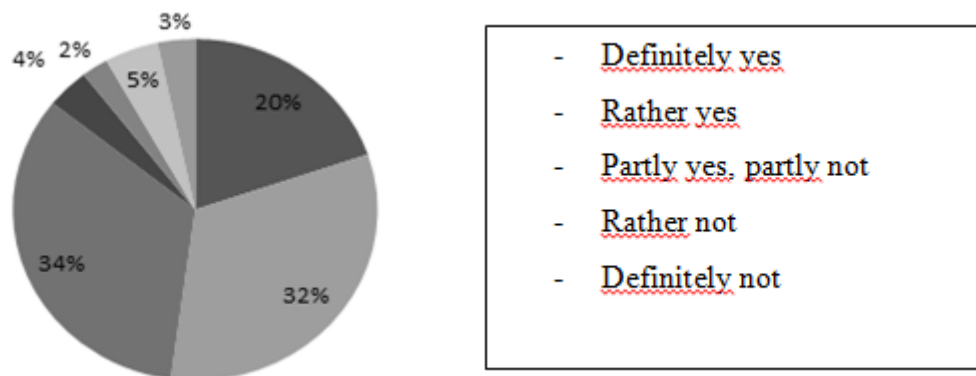
According to male students from Poltava women are assertive, consistent, mentally strong and think strategically. They also prefer democratic approach to employees. Male students from Bialystok stressed women's tendency to impose their opinions on others. The same feature proved important with reference to the male management style. It appears that compared to the Ukrainians, male respondents from Poland to a greater extent perceive women and men as domineering individuals.

*Table 7: Differences between male students from Poland and Ukraine in the way men are perceived in managerial positions (own work)*

Statements	Average		Mann-Whitney U Test	Significance
	Poland	Ukraine		
Cares a lot about good atmosphere in the workplace	2.87	3.61	226.0	0.012
Imposes his ideas on others	3.73	3.20	260.0	0.049
Is analytical and scrupulous	3.13	3.90	229.5	0.013
Is a visionary	3.00	3.65	249.0	0.033
Fairly evaluates the work results of his team and employees	3.13	3.67	252.5	0.032
Takes up a very emphatic approach towards personal problems of his co-workers	2.33	3.27	211.5	0.007
Is consistent	3.87	4.22	251.5	0.031

Unlike male students from Poland, male students from Ukraine acknowledged that men are consistent, emphatic, fair, analytical and scrupulous. Also, they care about good atmosphere in the workplace. Ukrainians more often than Poles were ready to admit that people, regardless of gender, are prepared for cooperation.

The last issue concerned the evaluation of efficiency of holding managerial roles. The question was: Are, in your opinion, men/women equally good managers as women/men? Respondents were asked to provide their comments. Results are presented in figure 2.



*Figure 2: Assessment of gender impact on management effectiveness (own work)*

Representatives of Polish and Ukrainian universities agreed that both women as well as men can be good managers. Eighty-three respondents said “definitely yes”, while 136 said “rather yes”. They justified their comments by saying that management does not depend on gender but on character, personal predispositions and upbringing. One hundred forty-one persons said “partly yes”, “partly not”. In their opinion women and men have different predispositions and their efficiency in performing given tasks can be different. Only 16 persons said “rather not”, 10 said “definitely not”. Respondents justified their choice by saying that men are more professional, tougher and resolute, while women are emotional and caring.

According to some of the students women are more hard-working and take better care of atmosphere in the workplace. Men adopt a more critical view of the situation. Twenty students participating in the research were not able to evaluate whether women and men are equally good managers or not, while 14 did not give any answers at all. To sum up, most respondents did not identify managerial predispositions with gender.

## 6. CONCLUSION

Based on research both women as well as men would behave similarly in a managerial position. According to respondents women, same as men, can think strategically, are ambitious, assertive, consistent, analytical and scrupulous, willingly take up difficult challenges, quickly process a lot of information and take decisions. Also, men just like women, are able to appreciate the results of their team's work. Most respondents, regardless of the university they attend, were of a similar opinion. There were not many differences significant from statistical perspective. Gradual vanishing of mental barriers is observable which is a promising prognosis for the future as students who took part in the research are potential managers. Nevertheless, it does not mean that there were no stereotypical opinions. Interestingly enough, most stereotypical views occurred in the answers of students from Poland. Students from Ukraine focused more on management style based on relations and did not associate it with gender. On the other hand students from Poland were more prone to separate typically male qualities from female qualities. Thus, in order to draw more reliable conclusions it would be advisable to broaden the research area. The paper shows differences referring to individual entities which does not allow to formulate general conclusions. Nonetheless, the direction of further research has been indicated.

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## THE REGULATIONS ON METROPOLITAN AREAS IN POLAND

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### ABSTRACT

*The Constitution of the Republic of Poland of 2 April 1997 stipulates that the territorial system of the Republic of Poland shall ensure the decentralisation of public power<sup>1</sup>. The principle of decentralisation guarantees the effective performance of public tasks, which means that various legal entities which are independent of government administration authorities become involved in the exercise of administration activities<sup>2</sup>. The constitutional regulations do not specify the level of decentralisation, leaving a significant degree of flexibility to the ordinary legislator<sup>3</sup>. Within the Polish system, a significant role among entities exercising decentralised administration is played by local government units which, pursuant to Article 16(2) of the Constitution, participate in the exercise of public power by performing 'a substantial part of public tasks'. The legislator has equipped local government with a general competence clause by stating in Article 163 of the Constitution that local government shall perform public tasks that are not reserved under the Constitution or statutory laws to the bodies of other public authorities. Therefore, local government units should be recognised as the most important entities of decentralised administration, but they are not the only ones. After almost 20 years for which the Constitution has been in force, the legislator has satisfied the subsidiarity principle by providing legal grounds for establishing entities that carry out public tasks within specific metropolitan areas. The subject of this paper is a detailed analysis of legal regulations concerning metropolitan areas in Poland, which takes into account the legal construct and scope of functioning of metropolitan unions.*

**Keywords:** *decentralisation of public power, metropolitan area, metropolitan union, public tasks of metropolitan nature, subsidiarity principle*

### 1. INTRODUCTION

For a long time, in the Polish legislation there were no regulations governing an institutional form for the purpose of performing public tasks within specific areas characterised by high concentration and dynamics of spatial, urban, demographic and economic phenomena. Still, the circumstances allowed for so-called metropolitan areas to be functionally distinguished, even though such areas did not reflect any boundaries of the applicable territorial division of the State. The first Polish statutory act that comprehensively regulated the issue of metropolitan

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<sup>1</sup> Journal of Laws of 78, item 483, hereinafter referred to as the Constitution

<sup>2</sup> T. Bigo states that the essence of the decentralised public administration system is its independence of the centralised (governmental) administration. According to T. Bigo, the notion of decentralisation is broader and superior, while local government is a type of decentralisation (see T. Bigo, *Związki publicznoprawne w świetle ustawodawstwa polskiego* [Public-law relations in the light of Polish legislation], Warsaw 1928, p. 140)

<sup>3</sup> See W. Skrzydło, *Konstytucja Rzeczypospolitej Polskiej. Komentarz* [Constitution of the Republic of Poland. Commentary] [in:] LEX 2013

areas was the Act of 9 October 2015 on Metropolitan Unions<sup>4</sup>, which was replaced by the currently applicable Act of 9 March 2017 on the Metropolitan Union in the Śląskie Province.<sup>5</sup> The fact that the Act of 2015 was repealed by the legislator should be regarded as a step back in the regulations on metropolitan areas in Poland.

The original Act was of universal nature and could be potentially applied to any metropolitan area in Poland. The currently applicable Act of 2017 is limited to the establishment of one metropolitan union within the Śląskie province only, which deprives local government units in other metropolitan areas in Poland of any possibility of using this form of institutional cooperation.

## **2. PUBLIC TASKS OF METROPOLITAN NATURE**

### **2.1. General remarks**

The existence of specific supra-local needs shapes the list of tasks of metropolitan nature that covers, first and foremost, development policy, spatial planning, coordination of investment processes, as well as public transport management. Since local government units (communes and districts) located within metropolitan areas do not possess sufficient resources and are not able to effectively meet needs specified, it should be considered reasonable to entrust a metropolitan union with such tasks. The distinguishing of tasks of metropolitan nature is justified in terms of praxeology and reflects the subsidiary principle – a constitutional directive under which tasks and competences are regulated and distributed among specific public administration entities. The principle corresponds with the wording of Article 4(3) of the European Charter of Local Self-government, drafted in Strasbourg on 15 October 1985<sup>6</sup>. According to the provision: ‘Public responsibilities shall generally be exercised, in preference, by those authorities which are closest to the citizen. Allocation of responsibility to another authority should weigh up the extent and nature of the task and requirements of efficiency and economy’<sup>7</sup>. It is the effectiveness of satisfying the needs of people arising from their living in specific communities that is the criterion for the administration's intervention in the matters of entities outside its own system<sup>8</sup>. The subsidiary principle means that actions are taken at the supra-local level only if specific needs may be satisfied more efficiently than if actions were taken by the bodies functioning at the basic level of local government communities<sup>9</sup>. The fact that the categories of public tasks performed within areas exceeding the boundaries of communes and districts are defined justifies the establishment of a separate entity to exercise administration in metropolitan areas. This, in turn, was a starting point to take legislative steps that turned into the Act on Metropolitan Unions, which became effective on 1 January 2016 and was repealed after new legal regulations on metropolitan areas, namely the Act on the Metropolitan Union in the Śląskie Province, entered into force.

### **Spatial planning**

Spatial planning in metropolitan areas is undoubtedly one of the tasks of metropolitan nature. Both the first Metropolitan Act<sup>10</sup> and the currently applicable<sup>11</sup> Metropolitan Act mention the shaping of spatial order at the top of the list of public tasks performed by a metropolitan union.

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<sup>4</sup>Journal of Laws of 2016, item 1890 as amended.

<sup>5</sup>Journal of Laws of 2017, item 730 as amended.

<sup>6</sup>Journal of Laws of 1994, No 124, item 607, hereinafter referred to also as the ECLS.

<sup>7</sup>See judgment of the Constitutional Tribunal of 8 May 2002, K 29/00, OTK-A 2002/3/30, Journal of Laws 2002/66/612.

<sup>8</sup>J. Boć [In:] J. Boć (ed.), *Prawo administracyjne [Administrative Law]*, Wrocław 2004, p. 16.

<sup>9</sup>Cf. judgment of the Constitutional Tribunal of 18 February 2003, K 24/02, OTK-A 2003/2/11.

<sup>10</sup>See Article 12(1)(1) of the Act on Metropolitan Unions.

<sup>11</sup>See Article 12(1)(1) of the Act on the Metropolitan Union in the Śląskie Province.

The legislator introduced the metropolitan union to the system of entities that shape spatial planning policies. The provisions of Article 3(2a) of the Act of 27 March 2003 on Spatial Planning and Land Development stipulate expressly that the shaping and carrying out a spatial planning policy within a metropolitan area is a task of a metropolitan union, if only such a union has been established<sup>12</sup>. The tool to shape a spatial policy within a metropolitan area is a framework study of land use conditions and directions<sup>13</sup>. The adoption of a metropolitan study is an exclusive competence of the metropolitan union's assembly (*zgromadzenie zwiqzku*). The metropolitan study is a framework only, and its contents should cover only those elements which are necessary for the purpose of the proper shaping of a spatial policy in the communes that form the metropolitan union with a view to the spatial, as well as social and economic, cohesion of the metropolitan area. The metropolitan study allows the needs of an agglomeration related to the shaping of spatial order in metropolitan areas to be taken into consideration. The competence of the metropolitan area to adopt its own spatial policy act does not affect in any way the independence in terms of spatial planning enjoyed by communes. The legislator introduces the requirement to take the contents of the metropolitan study into account in the study on land use conditions and directions for a commune, which is compliant with the principle of spatial planning coherence. Additionally, with respect to regulations on a metropolitan study, the legislator introduces, through Article 37q of the Act on Spatial Planning and Land Development, a principle under which whenever separate regulations refer to a study on land use conditions and directions within a commune, a metropolitan study is meant as well. This translates, in particular, into the requirement of ensuring consistency between the provisions of a local plan and the contents of a study drafted by a metropolitan union.

### Development policy

According to the provisions of the Act of 2015, the scope of activities of a metropolitan union included the performance of public tasks related to 'the development of a union area'. The currently applicable Act of 2017 makes it clear that the task of the metropolitan union is to perform tasks related to 'the social and economic development of a metropolitan union area'. To determine the meaning of this notion, it is necessary to refer to a 'development policy' as referred to in the Act of 6 December 2006 on the Principles of Development Policy<sup>14</sup>. Metropolitan unions have been qualified as entities responsible for a development policy, along with the Council of Ministers and local government units. Pursuant to Article 2 of the aforementioned Act, the 'development policy' means the set of interlinked activities taken and performed in order to ensure: permanent and sustainable development of the country; social and economic, regional and spatial cohesion; increased competitiveness of economy and creation of jobs at the national, regional or local level. The above legal definition suggests that the development policy is related to organised, institutional and multidimensional activities aimed at improving the condition and functioning of specific branches of economy, natural environment, social life or culture<sup>15</sup>. Development strategies, programmes and programme documents are tools that help pursue the development policy. Development strategies are general and comprehensive acts of development policy planning related to long-term programming and planning<sup>16</sup>.

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<sup>12</sup>Consolidated text. Journal of Laws of 2017, item 1073.

<sup>13</sup>Hereinafter referred to as the 'metropolitan study'.

<sup>14</sup>Consolidated text. Journal of Laws of 2017, item 1376.

<sup>15</sup>J. Jaśkiewicz, *Ustawa o zasadach prowadzenia polityki rozwoju. Komentarz* [Act on the Principles of Development Policy. Commentary], ed. II, LEX/el. 2014.

<sup>16</sup>J. Jaśkiewicz, *Ustawa o zasadach prowadzenia polityki rozwoju. Komentarz* [Act on the Principles of Development Policy. Commentary], ed. II, LEX/el. 2014.

Pursuant to Article 9(3) of the Act, the development strategy includes, among others, documents defining basic conditions, objectives and directions of development related to certain branches, domains, regions or spatial planning, including metropolitan areas and functional areas. The metropolitan union drafts and adopts, and subsequently pursues, development strategies concerning metropolitan areas. The adoption of a development strategy constitutes an exclusive competence of the metropolitan union's assembly, but a draft is prepared by the metropolitan union's management board (*zarząd zwięzku*) after consultations with local government units from the area of the metropolitan union and with social and economic partners. To ensure consistency of the development policy, the legislator requires that the development strategy of the metropolitan union be consistent with the development strategy for the entire province, while development strategies and programmes for districts and communes in the metropolitan union be consistent with the strategy for the metropolitan union.

### **Organisation of public transport**

An important task of metropolitan nature is the organisation of public transport in a metropolitan area. According to the currently applicable Act of 2017, the metropolitan union is responsible for performing tasks related to:

- planning, coordinating, integrating and developing public transport, including road, railway and other rail transport, as well as sustainable urban mobility;
- metropolitan passenger transport.

The metropolitan union is a public transport organiser within the meaning of Article 7(1) of the Act of 16 December 2010 on Public Transport<sup>17</sup>. The tasks of the metropolitan union include:

- planning the development of transport;
- organising public transport;
- managing public transport.

From the perspective of residents of the metropolitan area, the matter of paramount importance is the establishment of an integrated system of tariffs and tickets across the area. Within its tasks related to public transport, the metropolitan union establishes an integrated system of tariffs and tickets across the area. It is mandatory for commune-level and district-level passenger transport organisers in the metropolitan area to join the system. The metropolitan union enters into an agreement with a respective local government unit to regulate the principles of mutual settlement for the participation of such organisers in the integrated system of tariffs and tickets.

### **2.5. Cooperation in designing the layout of national and province roads within a metropolitan area**

The tasks of the metropolitan union still include cooperation in designing the layout of national and province roads within the area of the metropolitan union. Examples and forms of cooperation in this regard have been regulated in the Act of 21 March 1985 on Public Roads<sup>18</sup>. Firstly, the minister responsible for transport affairs consults the management board of the metropolitan union by issuing an ordinance on establishing the layout of existing national roads to ensure their continuity. Secondly, the management board of the metropolitan union issues an opinion on the layout of existing province roads by means of a resolution of the province's assembly (*sejmik wojewódzki*).

### **2.6. Promoting a metropolitan area**

Tasks related to the promotion of a metropolitan area should also be recognised as belonging to the metropolitan union's own tasks. Promotional activities are strictly related to the

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<sup>17</sup>Consolidated text. Journal of Laws of 2016, item 1867 as amended.

<sup>18</sup>Consolidated text. Journal of Laws of 2016, item 1440.

development of the metropolitan area. The objective of such promotion is to achieve development in any field of the union's activities. The legislator does not decide on any forms of the metropolitan union's promotional activities. For instance, it would be necessary to include: publishing own newspaper<sup>19</sup>, conducting informational and advisory activities (incl. a web portal and social media profiles; preparation of brochures and folders), organising happenings and public events.<sup>20</sup> Promotional activities for a metropolitan union are covered by the definition of territorial marketing aimed, in particular, at attracting potential investors by promoting economic values of a given metropolitan area. The promotion will therefore consist, in particular, in building the image of a specific union by disseminating information through mass media.

### 3. THE LEGAL CONSTRUCT OF A METROPOLITAN UNION

#### 3.1. General remarks

Defining the categories of public tasks performed within areas exceeding the boundaries of communes and districts justifies the establishment of a separate entity to exercise administration within metropolitan areas. Pursuant to the first Metropolitan Act of 2015, administration in metropolitan areas was to be exercised by structurally separate entities established specifically for that purpose. Originally, the legal regulations on metropolitan areas provided for the possibility of creating metropolitan unions which would be the associations of local government units located within a given metropolitan area. A metropolitan union was to consist of communes located within the boundaries of the metropolitan area and districts with at least one commune located within the boundaries of the metropolitan area. Metropolitan unions were supposed to be organisationally separate legal entities that would perform public tasks independently. In view of the currently applicable law, the metropolitan union is exclusively an association of the communes of the Śląskie province that are characterised by the existence of strong functional relations and advanced urban processes, located within an area that is spatially coherent and is home to at least 2,000,000 residents. The metropolitan union includes the city of Katowice, which is a city with district rights. The establishment of the metropolitan union in the Śląskie province together with the establishment of its area and boundaries took place by means of a sub-statutory act, being an ordinance of the Council of Ministers that entered into force on 1 July 2017. The metropolitan union in the Śląskie province has a legal personality and performs public tasks on its own behalf and at its own risk. The independence of the metropolitan union is subject to protection by the court. The independence in exercising administration is not unlimited, which is why the legislator provides for the possibility of influencing the actions of the metropolitan union in a binding manner. The provision of Article 16 of the Act on the Metropolitan Union specifies the authorities which are to exercise supervision over the metropolitan union, such as the President of the Council of Ministers and the province governor, and in terms of financial matters – the regional accounting chamber. For practical reasons, the metropolitan union performs its tasks through its bodies. The legal construct of the metropolitan union's authorities is, to some extent, similar to the construct of bodies in local government units as regulated in systemic regulations included in statutory acts on local governments. The structure of power in the metropolitan union is also dichotomous in its nature.

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<sup>19</sup>C. Kociński, *Zawarcie umowy pomiędzy gminami i powiatem w celu ich promocji* [Entering into an agreement by and between communes and a district for promotional purposes], NZS 2005/4/38.

<sup>20</sup>M. Augustyniak, T. Moll [In:] B. Dolnicki (ed.), *Ustawa o samorządzie gminnym. Komentarz* [Act on Commune Self-government. Commentary, [in:] LEX 2016.



Both in the previous Act and in the currently applicable one, the two types of bodies may be distinguished:

- 1) an enacting and controlling body known as the ‘assembly of the metropolitan union’;
- 2) an executive and managing body known as the ‘management body of the metropolitan union’.

Tasks and competences of metropolitan union bodies are discussed in further parts of this paper, but it is worth emphasising at this point that the current regulations refer to the solutions provided for in the Act on Metropolitan Unions of 2015.

### **3.2. The assembly of the metropolitan union**

The assembly consists of delegates representing communes that form the metropolitan union, one from each commune. Three basic functions of the metropolitan union’s assembly are: enacting, controlling and creating functions. The enacting function is related to the activities of the metropolitan union's assembly consisting in adopting resolutions. The assembly is exclusively entitled to adopt the most important normative acts related to the metropolitan union, i.e.

- 1) the development strategy for the metropolitan union;
- 2) the framework study on land use conditions and directions for the metropolitan union;
- 3) the budget of the metropolitan union;
- 4) property-related acts as specified under the law.

The legislator specifies in detail how resolutions are to be adopted by the metropolitan union's assembly and requires a qualified majority of votes supporting a given solution. At the same time, the legislator defines the manner of calculating the majority for the purpose of determining which solution was voted for by a specific local government unit.

The assembly serves also a controlling function in relation to the management board and organisational units established by the metropolitan union. Controlling competences are performed by the assembly directly (e.g. by examining the report on budget execution and financial statements of the metropolitan union or by adopting a resolution on acknowledging or not acknowledging the fulfilment of budget duties by the management board) or through an auditing committee or other committees established by the assembly. The tasks of the auditing committee include, first and foremost, providing opinions on the metropolitan union's budget execution and applying for acknowledging or not acknowledging the fulfilment of budget duties by the management board. Additionally, the auditing committee may also perform within its control other tasks with which it is entrusted by the assembly. The creating function of the assembly is related to the appointment of persons to hold specific positions mentioned in the Act. The assembly is exclusively competent to appoint and dismiss the management board. Upon the request of the president of the management board, the assembly appoints and dismisses the treasurer of the metropolitan union. The assembly may appoint from among themselves permanent and *ad hoc* committees for the purpose of performing specific tasks. The detailed subject matter, scope of activities, composition, internal organisation and functioning of any committee should be defined in the by-laws of the metropolitan union.

### **3.3. The management board of the metropolitan union**

The management board of the metropolitan union is also a collective body that consists of five members, including the president. The provisions of the Act on the Metropolitan Union do not provide for the possibility of extending the composition of the management board. The legislator was very precise in defining who is to seat in the management board of the metropolitan union. Firstly, only a Polish citizen may be a member of the management board.



Secondly, the membership in the management board cannot be combined with membership in any body of a local government unit, the position of commune head, province governor or deputy province governor or the mandate of a member of the Sejm or Senate.

The legislator reserves a general competence clause for the management board of the metropolitan union. This means that the executive body of the metropolitan union performs any tasks that are responsibilities of the metropolitan union as long as they are not reserved for the assembly of the metropolitan union. The detailed principles and manner of the management board's functioning are described in the by-laws of the metropolitan union. The legislator specifies, however, the most important tasks of the management board, which are as follows:

- 1) executing the assembly's resolutions;
- 2) managing the metropolitan union's property;
- 3) executing the metropolitan union's budget;
- 4) managing, coordinating and controlling the activities of the metropolitan union's organisational units

#### 4. CONCLUSION

Since 7 April 2017, there have been new legal regulations on metropolitan areas in Poland that repealed the previous Act on Metropolitan Unions of 2015. Even though the new Act reiterates numerous legal solutions included in the original Act, it should be seen as a step back in the regulations on metropolitan areas in Poland. The Act of 2017 provides for the possibility of establishing a metropolitan area exclusively in the Śląskie province, which should be perceived as a sign of discrimination against other metropolitan areas, such as: Tricity, Szczecin, Poznań, Warsaw and Cracow. The departure from the earlier universal model of regulating metropolitan areas (one statutory act for all metropolitan areas) towards statutory acts dedicated to specific areas is not justified. Such actions hamper the development of other metropolitan areas in Poland by eliminating measures to manage metropolitan areas in a flexible manner without interfering with the already settled territorial division of the State.<sup>21</sup> It should be emphasised that a metropolitan union allows the shared potential of local government units that are not self-sufficient in exercising metropolitan tasks to be used. In other words, a metropolitan union is a modern method of managing supra-local public matters, which is based on the awareness of shared interests and on the possibility of achieving mutual benefits. Unfortunately, the Council of Ministers has not yet made any specific declarations concerning the establishment of any institutionalised forms of cooperation in other metropolitan areas.

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<sup>21</sup>For more information on the management of metropolitan areas, see P. Swianiewicz, Zarządzanie obszarami metropolitalnymi – doświadczenia międzynarodowe a rzeczywistość Polska [Managing metropolitan areas – international lessons and Polish reality], ST 2006, No 1–2.

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## DOES SYSTEMIC FINANCIAL STRESS IN THE EURO AREA HAVE A NEGATIVE IMPACT ON BILATERAL EXPORTS?

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### **ABSTRACT**

*This paper analyses the impact of systemic financial stress in the euro area on bilateral exports of goods on a sample of 1,560 country pairs between 2000 and 2014.*

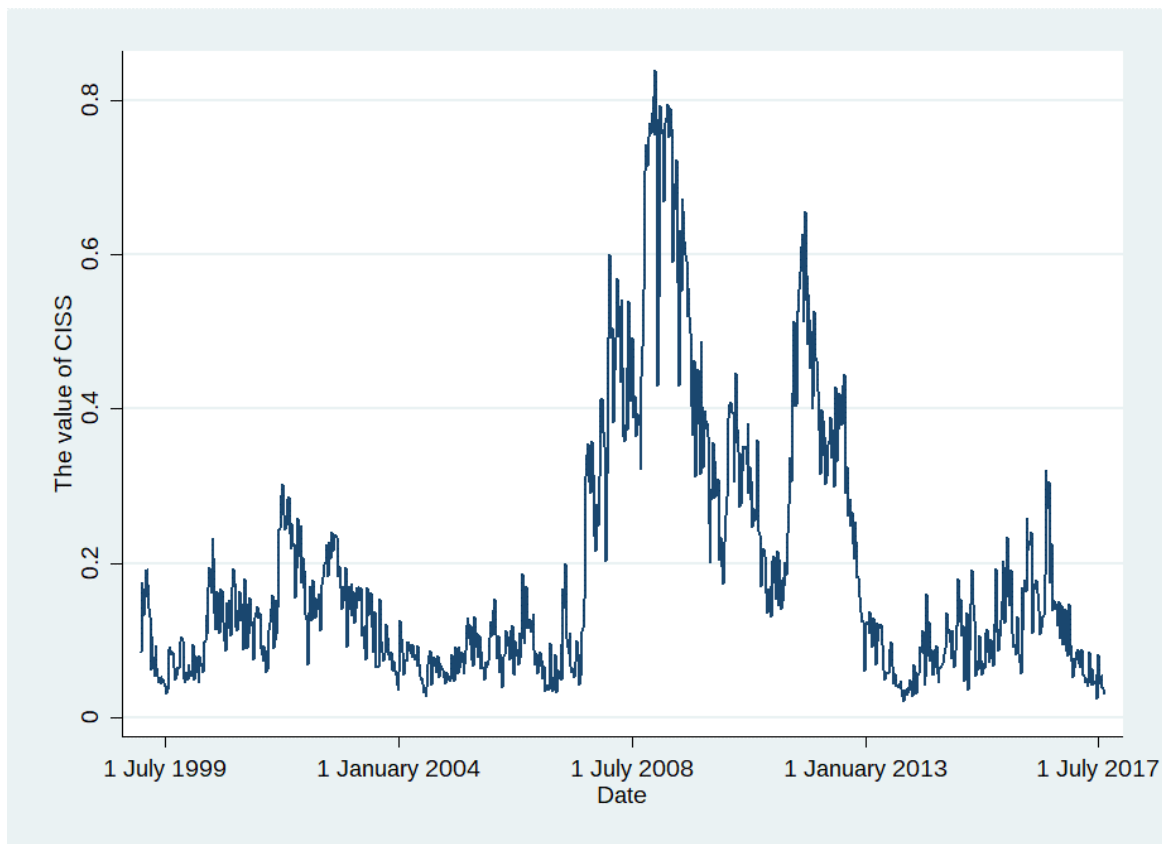
*The analysis uses gravity models of international trade whose parameters are estimated using the Poisson pseudo-maximum likelihood. The results of the analysis show that systemic financial stress in the euro area has a negative impact on bilateral exports of goods. This finding is important for the successful conduct of economic policy in euro area countries and their trading partners.*

**Keywords:** *bilateral exports, euro area, gravity model of international trade, Poisson pseudo-maximum likelihood, systemic financial stress*

### **1. INTRODUCTION**

In recent years, interest in the study of systemic financial stress has increased. Two reasons for this are the world financial and economic crisis and the euro area sovereign debt crisis, the consequences of which are still present. Holló, Kremer and Lo Duca (2012, p. 8), the authors of the composite indicator of systemic stress (CISS), define systemic stress as the amount of systemic risk that has materialized. In this paper, we analyse the impact of systemic financial stress in the euro area on bilateral exports of goods on a sample of 1,560 country pairs between 2000 and 2014. Studies have shown that systemic financial stress has a negative impact on some other economic categories (see, for example, Caldarelli, Elekdag and Lall, 2009; Davig and Hakkio, 2010; van Roye, 2011; Mallick and Sousa, 2013; Dovern and van Roye, 2014; Hubrich and Tetlow, 2014; Silvestrini and Zaghini, 2015; Evgenidis and Tsagkanos, 2017; Floro and van Roye, 2017; Galvão and Owyang, 2017). However, no studies have yet analysed the impact of systemic financial stress on bilateral exports of goods. This is surprising, since bilateral exports of goods are an important economic category, which is particularly true for small open economies. Most of the studies analysed the impact of systemic financial stress on industrial production. Therefore, there are still many opportunities for further empirical economic research. The world financial and economic crisis has led to the need of macro-prudential supervision (Borgioli, Gouveia and Labanca, 2013; Al-Haschimi et al., 2014; Tressel and Zhang, 2016), which is needed to decrease systemic risk (Cizel et al., 2016). Several stressful events took place during the world financial and economic crisis that increased systemic risk, such as the collapse of the Lehman Brothers (McDonald, 2016).

These events have also shown that micro-prudential supervision is not sufficient to maintain a functioning financial system. The world financial and economic crisis has also led to the need to address the impact of systemic financial stress in the euro area on bilateral exports of goods. The ignorance of these matters makes economic policy-making in euro area countries and their trading partners difficult. The study of the impact of systemic financial stress in the euro area on bilateral exports of goods is important for economic policy-makers from the euro area as well as for those outside the euro area. Studies have shown that financial stress can be transferred from one country to another through financial as well as through trade channels. Since studies show that systemic financial stress has a negative impact on economic activity (see, for example, Holló, Kremer and Lo Duca, 2012), the analysis of systemic financial stress as a factor in bilateral exports is important for determining the macro-prudential and economic policy. In fact, the world financial and economic crisis has shown that economic science has its drawbacks. There are various measures of systemic financial stress in the literature. Holló, Kremer and Lo Duca (2012) developed the CISS, which is used by the ECB. The statistical data of the CISS for the euro area are stored in the Statistical Data Warehouse (SDW). In the period from 7 January 2000 to 11 August 2017 the CISS reached its highest value of 0.8391 on 12 December 2008, its second highest value of 0.8042 on 28 November 2008, and its third highest value of 0.7942 on 6 March 2009, whereas it reached its lowest value of 0.021 on 27 September 2013 (ECB, 2017a). During the euro area sovereign debt crisis, the CISS reached its highest value of 0.6555 on 4 November 2011 (ibid.). Holló, Kremer and Lo Duca (2012) conclude that the CISS has a negative impact on industrial production in the euro area when its value exceeds the threshold value of 0.3233. The CISS last exceeded this value on 24 August 2012 when its value was 0.3254 (ibid.). Figure 1 shows the development of the CISS for the euro area in the period from 7 January 2000 to 11 August 2017.



*Figure 1: Development of the CISS for the euro area in the period from 7 January 2000 to 11 August 2017 (ECB, 2017)*

The SDW, beside statistical data of the CISS, also stores statistical data of the country-level index of financial stress (CLIFS), developed by Duprey, Klaus and Peltonen (2015). In the period from January 2000 to June 2017 the highest CLIFS value was reached by Ireland in February 2009 when it was 0.8596 (ECB, 2017b). By comparison, in the same period the CLIFS for Greece reached its highest value in February 2015 when it was 0.5935 (ibid.).

## 2. METHODS

Since systemic financial stress is a relatively new economic concept, its impact on bilateral exports of goods has not yet been analysed. We analyse the impact of systemic financial stress in the euro area on bilateral exports of goods by using the gravity model of international trade that is often used in economics to analyse the factors of international trade. Tinbergen (1962) is the author of the first gravity model of international trade (Combes, 2008, p. 748; Feenstra, 2008, p. 744), which he used to calculate the difference between actual and potential exports and imports in 1958 for 28 or 42 developed or developing countries. The gravity model, used in economics for the analysis of bilateral goods, service, capital, migration or tourist flows (Bergstrand, 1985, p. 474), is based on Newton's law of universal gravitation (Calhoun, 2002, p. 197; Reinert, 2009, p. 567) published in 1687 by Isaac Newton in his book *Mathematical Principles of Natural Philosophy* and according to which the force between two masses is proportional to the product of the two masses and inversely proportional to the square of the distance between them. The gravity model was first used in economics by Ravenstein (1889) for the analysis of migration flows. The naïve gravity model of international trade assumes that trade between two countries depends on their market size and the distance between them.

Yotov et al. (2016) recommend the use of panel data. In the last decades, several scientific publications on specification and estimation of the gravity model of international trade have been issued (Fally, 2015, p. 2). See, for example, Head and Mayer (2014, pp. 134–137) for an overview of the publications. Tinbergen (1962), for example, estimated his own gravity model of international trade with the ordinary least squares (OLS), however, its use is strongly criticised by the professional public because it is not robust with respect to heteroskedasticity (see, for example, Fally, 2015, p. 2). Santos Silva and Tenreyro (2006) therefore recommend the use of the Poisson pseudo-maximum likelihood (PPML). This method is, for example, also used by Anderson, Larch and Yotov (2015), Baier, Yotov and Zylkin (2016), Piermartini and Yotov (2016), and Yotov et al. (2016). Baier, Kerr and Yotov (2017) recommend the use of the gamma pseudo-maximum likelihood (GPML) as an alternative method.

In the paper, we analyse the impact of systemic financial stress in the euro area on bilateral exports of goods between 40 countries, that is, 1,560 country pairs. The chosen observed period is from 2000 to 2014, and, considering balanced panel data, the number of observations should be 23,400. We have, however, considered available data on exports flows when selecting countries, therefore the number of observations is 23,384. The proportion of selected countries in world exports in 2014 was 75.2% (see, for example, World Trade Organization, 2017a). There were ten world leading exporting countries among them in the same year (World Trade Organization, 2015, p. 26).

We verify the hypothesis that systemic financial stress in the euro area has a negative impact on bilateral exports of goods by using gravity models of international trade which are quite popular among researchers (see, for example, Anderson, Larch and Yotov, 2015; Baier, Yotov and Zylkin, 2016; Piermartini and Yotov, 2016; Yotov et al., 2016; Baier, Kerr and Yotov, 2017). Since we have used panel data, the paper is based on a panel study and the panel analysis is used. In the paper, we use static gravity models of international trade.

Their parameters can be estimated by using different methods, among which are the OLS (see, for example, Santos Silva and Tenreyro, 2006; Yotov et al., 2016), non-linear least squares (see, for example, Santos Silva and Tenreyro, 2006), the PPML (see, for example, Santos Silva and Tenreyro, 2006; Anderson, Vesselovsky and Yotov, 2016; Larch and Yotov, 2016; Yotov et al., 2016; Baier, Kerr and Yotov, 2017), and the GPML (see, for example, Santos Silva and Tenreyro, 2006; Yotov et al., 2016). Gómez-Herrera (2013, p. 1095) states that each of these methods has its strengths and weaknesses, and that none of them are superior to others. This is also one of the reasons why she recommends the use of different methods. Yotov et al. (2016) recommend the use of the PPML as a reference method and the OLS and GPML as alternative methods. In the paper, we observe country pairs consisting of exporting and importing countries, considering that the exporting and the importing country are not the same. Country pairs consist of: Australia, Austria, Belgium, Brazil, Canada, the Czech Republic, China, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Iceland, India, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Mexico, the Netherlands, New Zealand, Norway, Portugal, Russia, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, the UK and the USA.

Annual data have been used in the analysis, and have been obtained from different sources. The data on bilateral exports of goods in current US Dollars have been obtained from the United Nations (2017a), the data on the CISS have been obtained from the European Central Bank (2017a), and the data on GDP in national currency have been obtained from The World Bank Group (2017). The data on bilateral exchange rates and land area have been obtained from The World Bank Group (2017) as well. The data on population have been obtained from the United Nations (2017b), and the data on geographical position of capital cities have been obtained from the latlong.net website. We need the latter to calculate distances between capital cities. When calculating this distance, we use Vincenty's formula because it provides better results than the formula for the calculation of the great-circle distance, which is more popular among researchers. Other geographical data have been obtained from Stalker and Riches (2016), the data on main languages have been obtained from Simons and Fennig (2017), the data on trade agreements in force have been obtained from the World Trade Organization (2017b), and the data on the euro area member states have been obtained from the European Commission (2017). Regarding trade agreements, we consider free trade agreements and the customs union.

The RESET test is carried out according to the instructions written by Santos Silva and Tenreyro (2006). The regression analysis is carried out with Stata software and according to the instructions written by Yotov et al. (2016), and the ppml command is used (see Santos Silva and Tenreyro 2011). In the analysis of the impact of systemic financial stress in the euro area on bilateral exports of goods certain recommendations written by Santos Silva and Tenreyro (2006) are considered.

### 3. RESULTS

#### Model 1

We wish to fit the model

$$y_{1ijt} = \beta_0 + \beta_1 \ln x_{1it} + \beta_2 \ln x_{2jt} + \beta_3 \ln x_{3it} + \beta_4 \ln x_{4jt} + \beta_5 \ln x_{5it} + \beta_6 \ln x_{6jt} + \beta_7 \ln x_{7ij} + \beta_8 \ln x_{8t} + \beta_9 x_{9ij} + \beta_{10} x_{10ij} + \beta_{11} x_{11ij} + \beta_{12} x_{12ijt} + \beta_{13} x_{13ijt} + \epsilon_{ijt},$$



where  $y_{1ijt}$  is the value of exports of goods from country  $i$  to country  $j$  at time  $t$  in current US Dollars;  $x_{1it}$  is the value of the GDP of country  $i$  at time  $t$  in current US Dollars;  $x_{2jt}$  is the value of the GDP of country  $j$  at time  $t$  in current US Dollars;  $x_{3it}$  is the population of country  $i$  at time  $t$ ;  $x_{4jt}$  is the population of country  $j$  at time  $t$ ;  $x_{5it}$  is the land area of country  $i$  at time  $t$  in km<sup>2</sup>;  $x_{6jt}$  is the land area of country  $j$  at time  $t$  in km<sup>2</sup>;  $x_{7ij}$  is the distance between the capitals of countries  $i$  and  $j$  in km;  $x_{8t}$  is the value of CISS in time  $t$ ;  $x_{9ij}$  is 1, if countries  $i$  and  $j$  are located on the same continent, otherwise 0;  $x_{10ij}$  is 1, if countries  $i$  and  $j$  share a common border, otherwise 0;  $x_{11ij}$  is 1, if countries  $i$  and  $j$  share a common language, otherwise 0;  $x_{12ijt}$  is 1, if countries  $i$  and  $j$  are co-signatories of the same trade agreement in time  $t$ , otherwise 0;  $x_{13ijt}$  is 1, if countries  $i$  and  $j$  are members of the euro area in time  $t$ , otherwise 0; and  $\epsilon_{ijt}$  is the standard error term.

This model can be fit with ppml by typing

. ppml y1 ln x1 ln x2 ln x3 ln x4 ln x5 ln x6 ln x7 ln x8 x9 x10 x11 x12 x13, cluster(pair\_id)

Table 1: Results of the regression analysis – model 1

Number of parameters: 14  
Number of observations: 23,384  
Pseudo log-likelihood: -2.935e+13  
R-squared: 0.71945009

(Std. Err. adjusted for 1,560 clusters in pair\_id)

y1	Coef.	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
lnx1	0.7310131	0.0545593	13.40	0.000	0.6240789	0.8379474
lnx2	0.8280482	0.0590579	14.02	0.000	0.7122968	0.9437996
lnx3	0.1968630	0.0798174	2.47	0.014	0.0404238	0.3533023
lnx4	0.1146958	0.0640530	1.79	0.073	-0.0108458	0.2402374
lnx5	-0.1399989	0.0489519	-2.86	0.004	-0.2359429	-0.0440549
lnx6	-0.1272283	0.0498395	-2.55	0.011	-0.2249120	-0.0295446
lnx7	-0.2904266	0.0974667	-2.98	0.003	-0.4814579	-0.0993954
lnx8	-0.0457612	0.0068074	-6.72	0.000	-0.0591034	-0.0324189
x9	0.5389317	0.1693265	3.18	0.001	0.2070578	0.8708056
x10	0.8487265	0.1395488	6.08	0.000	0.5752159	1.1222370
x11	0.4651516	0.1404139	3.31	0.001	0.1899454	0.7403578
x12	0.2579347	0.1411443	1.83	0.068	-0.0187031	0.5345725
x13	-0.0957085	0.1207217	-0.79	0.428	-0.3323186	0.1409017
_cons	-20.91558	1.4993	-13.95	0.000	-23.85416	-17.97701

ppml produces some summary statistics along with the table of regression coefficients. At the upper left, ppml reports the number of parameters and observations, the pseudo log-likelihood and the R-squared. The number of parameters is 14, the number of observations is 23,384, the log-likelihood is 2.935e+13 and the R-squared is 0.7195 (see Table 1).

Finally, Stata produces a table of the estimated coefficients. The first line of the table indicates that the left-hand-side variable is  $y_{1ijt}$ . Thereafter follow the estimated coefficients. Our fitted model is

$$y_{1ijt} = -20.9156 + 0.731 \ln x_{1it} + 0.828 \ln x_{2jt} + 0.1969 \ln x_{3it} + 0.1147 \ln x_{4jt} - 0.14 \ln x_{5it} - 0.1272 \ln x_{6jt} - 0.2904 \ln x_{7ij} - 0.0458 \ln x_{8t} + 0.5389 x_{9ij} + 0.8487 x_{10ij} + 0.4652 x_{11ij} + 0.2579 x_{12ijt} - 0.0957 x_{13ijt}.$$



Reported to the right of the coefficients in the output are the robust standard errors. For instance, the robust standard error for the coefficient on  $\ln x_{1it}$  is 0.0545593. The corresponding z statistic is 13.40, which has a two-sided significance level of 0.000. This number indicates that the significance is less than 0.0005. The 95% confidence interval for the coefficient is [0.6240789, 0.8379474].

## Model 2

Variables are the same as for model 1, but we add two new ones, namely  $x_{14it}$  and  $x_{15jt}$ . We wish to fit the model

$$y_{1ijt} = \beta_0 + \beta_1 \ln x_{1it} + \beta_2 \ln x_{2jt} + \beta_3 \ln x_{3it} + \beta_4 \ln x_{4jt} + \beta_5 \ln x_{5it} + \beta_6 \ln x_{6jt} + \beta_7 \ln x_{7ij} + \beta_8 \ln x_{8t} + \beta_9 x_{9ij} + \beta_{10} x_{10ij} + \beta_{11} x_{11ij} + \beta_{12} x_{12ijt} + \beta_{13} x_{13ijt} + \beta_{14} \ln x_{14it} + \beta_{15} \ln x_{15jt} + \epsilon_{ijt},$$

where  $x_{14it}$  is the value of the remoteness index for country i in time t and  $x_{15jt}$  the value of the remoteness index for country j in time t. The remoteness index is calculated according to the instructions written by Yotov et al. (2016).

This model can be fit with ppml by typing

```
. ppml y1 lnx1 lnx2 lnx3 lnx4 lnx5 lnx6 lnx7 lnx8 x9 x10 x11 x12 x13 lnx14 lnx15, cluster(pair_id)
```

Table 2: Results of the regression analysis – model 2

Number of parameters: 16  
Number of observations: 23,384  
Pseudo log-likelihood: -2.919e+13  
R-squared: 0.72535121

(Std. Err. adjusted for 1,560 clusters in pair\_id)

y1	Coef.	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
lnx1	0.7453216	0.0798372	9.34	0.000	0.5888436	0.9017995
lnx2	0.8741822	0.0692311	12.63	0.000	0.7384918	1.0098730
lnx3	0.1996924	0.0797005	2.51	0.012	0.0434824	0.3559025
lnx4	0.1040262	0.0647376	1.61	0.108	-0.0228571	0.2309096
lnx5	-0.1476590	0.0537604	-2.75	0.006	-0.2530274	-0.0422907
lnx6	-0.1382405	0.0506873	-2.73	0.006	-0.2375858	-0.0388952
lnx7	-0.3275079	0.0915736	-3.58	0.000	-0.5069889	-0.1480270
lnx8	-0.0499364	0.0080273	-6.22	0.000	-0.0656695	-0.0342032
x9	0.4989173	0.1586807	3.14	0.002	0.1879089	0.8099257
x10	0.8283194	0.1338759	6.19	0.000	0.5659275	1.0907110
x11	0.4563472	0.1385039	3.29	0.001	0.1848845	0.7278098
x12	0.2598624	0.1367384	1.90	0.057	-0.0081399	0.5278648
x13	-0.0598607	0.1161630	-0.52	0.606	-0.2875361	0.1678147
lnx14	0.0171594	0.0444928	0.39	0.700	-0.0700450	0.1043637
lnx15	0.0377654	0.0201180	1.88	0.060	-0.0016652	0.0771960
_cons	-23.0742	2.245425	-10.28	0.000	-27.47515	-18.67325

The number of parameters is 16, the number of observations is 23,384, the log-likelihood is -2.919e+13 and the R-squared is 0.7254 (see Table 2).

Our fitted model is

$$\begin{aligned} y_{1ijt} = & -23.0742 + 0.7453 \ln x_{1it} + 0.8742 \ln x_{2jt} + 0.1997 \ln x_{3it} + 0.104 \ln x_{4jt} - \\ & 0.1477 \ln x_{5it} - 0.1382 \ln x_{6jt} - 0.3275 \ln x_{7ij} - 0.0499 \ln x_{8t} + 0.4989 x_{9ij} + \\ & 0.8283 x_{10ij} + 0.4563 x_{11ij} + 0.2599 x_{12ijt} - 0.0599 x_{13ijt} + 0.0172 \ln x_{14it} + \\ & 0.0377 \ln x_{15jt}. \end{aligned}$$

#### 4. DISCUSSION

Despite the studies on the impact of systemic financial stress on economic activity (see, for example, Holló, Kremer and Lo Duca 2012), of which exporting activity is one of the main factors, these studies cannot be directly compared with our study. The same applies to other studies as well. Fink and Schüller (2015) conclude that stress shock in the USA initially has a positive impact, but then becomes negative for Mexico's exports of goods to the USA. Kiendrebeogo (2013), who by using gravity models of international trade analyses the impact of banking crises on bilateral exports of goods between 75 developed or developing countries in the period from 1988 to 2010, concludes that banking crises in one or both trading partners have a negative impact on bilateral exports of goods. This study, however, also cannot be directly compared with our study because a significant systemic financial stress does not necessarily mean a banking crisis. Kiendrebeogo (2013) estimates parameters for gravity models by using three methods, one of which is the PPML. Ma and Cheng (2005), who with the use of gravity models of international trade analyse the impact of banking and currency crises on bilateral exports of goods between 52 developed or developing countries in the period from 1982 to 1998, conclude that the impact of banking and currency crises in the exporting country on bilateral exports of goods differs depending on the observed period. In this paper, we analysed the impact of systemic financial stress in the euro area on bilateral exports of goods. The results of our analysis show that in both models the regression coefficient in the case of variable  $x_{8t}$  is negative and statistically significant at a 5% level, which means that systemic financial stress in the euro area has a negative impact on bilateral exports of goods. In model 1, the coefficient of our variable of interest is  $-0.0458$  ( $p < 0.05$ ) and in model 2 the coefficient is  $-0.0499$  ( $p < 0.05$ ). Other results are in line with our expectations and reference literature. Additionally, in the case of both models, the RESET test does not indicate misspecification of the regression equation: the chi-squared statistic is 0.17 ( $p$ -value = 0.6769) and 0.00 ( $p$ -value = 0.9661), respectively.

#### 5. CONCLUSION

Our study has shown that systemic financial stress in the euro area has a negative impact on bilateral exports of goods and this is a very important observation for macro-prudential and economic policy-makers in the euro area countries and their trade partners. Despite this, further studies are needed which would address the impact of systemic financial stress in the euro area on bilateral exports of goods with the use of a larger sample and other methods. We are aware that the methods used have their drawbacks and that the selection of the right methods is very important for the usefulness of the results. Nevertheless, we think that we have made an important contribution to the literature on systemic financial stress with our study.

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## ACADEMIC GOVERNANCE AS A DETERMINANT OF EFFICIENT MANAGEMENT OF A UNIVERSITY IN POLAND – LEGAL AND COMPARATIVE PERSPECTIVE

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### ABSTRACT

*Academic governance is a factor determining efficiency of university management to a significant extent. Already from the very beginning of existence of universities in Europe they differed with their methods of management.*

*Gradually, along with the development of universities, various new organs of universities appeared which were equipped with suitable managerial competences. One must stress that currently the system of university management is still evolving, which is to lead to its effective management. One may also see that certain organs of the university which even recently had held competences, currently are representative organs, which aimed at maintenance of university traditions of previous centuries, however, the real power is transferred to other or new bodies of the university. Along with development of enterprises, and therefore – of various forms of commercial companies, one can currently perceive a tendency among employers to model themselves at the level of generally applicable law and the internal law generally applicable and the internal law of the university just pursuant to corporate governance principles. These tendencies lead to formation of new organs of university modelled after organs of commercial companies. In Poland, in the draft amendment of the act of 27 July 2005 – Higher Education Act – one may perceive an idea of a change of a university management system modelled after corporate governance, what is to lead to effective university management. This paper aims at presentation of the currently existing model of academic governance in Poland, as well as draft amendments directed towards corporate governance as a base of academic governance, taking into account the analysis of advantages and disadvantages of particular models of academic governance from the point of view of university management effectiveness.*

**Keywords:** *Academic governance, Efficiency, Law, Management*

### 1. INTRODUCTION

Organisation's governance efficiency is, to a large degree, affected by its governance model. The majority of governance models discussed in publications on the subject refers to business models developed and improved with achievements of economic theory of enterprise as well as management concepts, including factors such as competition, development of corporate governance institutions, cooperation, and rivalry (Osterwalder, Pigneur, 2010). Developed in parallel to business models are governance models for managing institutions such as higher education establishments (universities). Key elements in designing new governance models for universities in Poland include: resources, activities, structure of authority, and focus on values related to the development of their research and teaching capabilities.



Due to its objectives and tasks, a university is a special type of organisation. A special status of universities in Poland is also recognised in Polish legal doctrine where they are treated as administrative units whose employees enjoy the so called special institutional authority (Zimmermann, 2016). However note that, to deliver its objectives and perform its tasks as well as fully exercise its special institutional authority, a university must have an efficient governance model in place. A University's governance efficiency is affected by various legal, economic and social factors; however, one of the key determiners of efficient governance is the adopted academic governance model. An analysis of academic governance in EU Member States (European Commission -Education and Culture DG, 2008) shows that despite similarity of the governing bodies and the managing authority, the division of academic and decision-making powers as well as advisory and supervisory ones differs considerably. It can be also concluded that in majority of the EU member states, the preferred academic governance model is based on corporate governance. Apparently, a tendency can be observed to abandon a *sensu stricto* academic model of governance based on academic staff in favour of a model based on corporate governance. A struggle between two models of academic governance has been observable since the very beginning of universities in 11th - 12th century, when the two most important European universities in Paris and Bologna were established and became a model followed by other (Zientara, 2006). These two universities also established two dominating models of university organisation and governance - namely the Sorbonne (Paris) model and the Bologna model. Under Sorbonne model, universities were corporations of professors, while under the Bologna one - of students (Dowley, 1990). Moreover, in Sorbonne model, a university was a corporation formed by professors and students, but all authority and powers were in the hands of professors, while in the Bologna model a university was a corporation of students managed by students with the rector (president, vice-chancellor) elected from among the students and professors engaged under contracts to give lectures (Michałowski, 2012). Also note that Bologna University was famous for its school of canon and Roman law, while the Paris university for theology and philosophy. Hence, the origins of the present university governance model based on corporate governance could be sought in Bologna model, while of the governance based on academic staff (professors) - in the Sorbonne one.

Worth highlighting is the fact that a university is a corporation composed of two main groups: professors and students. Noticeable is also the fact that at the beginning of universities two major models - Bologna and Sorbonne - differed in terms of holding power over the university; the authority was exercised either by professors or by students. Presently, this pattern is no longer observable, because there are other groups of interest apart from professors and students - social and economic environment, political authorities - central, regional or local, as well as graduates. However, it appears from the analysis of higher education systems in place in various countries that in some legal systems various groups of interest are permitted to exercise authority over or elect the authorities of a university and such groups hold actual control over universities (e.g. in English-speaking countries). While in Poland, for example, the authority in universities is exercised by academics and although students do have the right to elect the authorities, they can be easily outvoted or are often treated as a bargaining card and offered illusory benefits in return for their support in elections. Additionally, students usually vote *en bloc*.

## **2. ANALYSES OF EXAMPLES OF ACADEMIC GOVERNANCE MODELS FOUND ACROSS THE WORLD**

Worth mentioning at this point is the division of powers and overview of individual governing bodies of a university. The following bodies can be found in majority of European countries (European Commission - Education and Culture DG, 2008):



1. Executive head of university – in most European countries a university is managed by a single person called Rector (e.g. in the Czech Republic, Denmark, Germany, Poland, Portugal, Romania, Luxembourg, Spain, Slovenia, Austria, Hungary, Cyprus, Lithuania, Latvia, Estonia), President (e.g. Ireland, France, Portuguese technical universities), Director (e.g. German vocational universities), *Erhalter* (e.g. Austrian vocational universities), *Rector magnificus* (e.g. the Netherlands), *Provost* (e.g. Irish universities, interchangeably with President), Vice-Chancellor (e.g. Great Britain, Sweden). Yet, in Belgian region of Flanders the executive authority is the Executive Board chaired by Rector, in Malta - Chancellor and Rector, and at technical universities in Finland - Rector or Maintaining Organisation.
2. Academic body usually is in charge of scientific and teaching issues and is called Academic Council/Board (e.g. in Belgium, France, Great Britain, Ireland, Bulgaria), Scientific Council (e.g. in some parts of Flanders in Belgium, in some parts of France), University Council/Board (e.g. Germany, Luxembourg), or Senate (e.g. Sweden, Cyprus, Malta).
3. Decision-making body, responsible for strategy, planning and setting operational directions is called, *inter alia*, Governing Board/Council (e.g. in Flanders in Belgium, Spain, Great Britain), General Assembly (e.g. in Bulgaria), Senate (e.g. in Germany), Administrative Council/Board (e.g. in France), Council (e.g. in Malta).
4. Advisory/Supervisory body whose duties include supervision over and monitoring of operational, teaching and financial activities, often composed of external stakeholders, is called, *inter alia*, Administrative Council (e.g. in Belgium – Wallonia), Controlling Board (e.g. in Bulgaria), Board of Trustees (e.g. in the Czech Republic, Slovakia), Governing Board/Board of Governors (e.g. in Germany, Estonia, Italy), Social Council (e.g. in Spain), Financial Board (e.g. in Hungary), Supervisory Board/Main Representative Advisory Board (e.g. in the Netherlands), University/College Council (e.g. in Lithuania).

It should be noted that the four bodies are not always present in organisation structure in individual countries. In some countries Academic Body and Decision-making body are combined, e.g. in the Netherlands, Poland, Portugal, Romania, Slovenia, Italy, Estonia, Hungary, Lithuania, and Latvia. In some other, Decision-making body is combined with Advisory/Supervisory body e.g. in the part of Belgium bordering with Germany, in Ireland, Sweden, Norway, Lichtenstein, Luxembourg, Cyprus. Moreover, in some countries, such as Greece, France, Romania, Iceland, or Malta, there is no Advisory/Supervisory body at all. A unique situation is observed in Austrian universities, where the Senate and the University Council share the powers of a Decision-making body.

For the sake of comparison, it may be worth to take a look at the structure of the best world university according to the Academic Ranking of World Universities, namely the Harvard University. Harvard University has two managing boards. The first – the President and the Fellows of Harvard College - is composed of the President, Treasurer and the members (Fellows) and makes decisions on strategy, planning, budget and financial matters. The other – Board of Overseers - comprises 30 members elected by graduates of the university, who are not members of the first body or university officers. It plays advisory and supervisory roles and is dominated by business representatives. There is also a rector in charge of academic matters - Chief Academic Officer (<http://www.harvard.edu/about-harvard/harvards-president-leadership>).

Division of powers among individual bodies in a university is based on certain assumptions of corporate governance. This is particularly reflected in the introduction of a supervisory body modelled after the Supervisory Board. Additionally, more and more often the person managing the university or its key organisational units becomes a university manager; therefore, it is not always necessary for such a person to hold the highest academic degrees.

Also, a growing number of universities tends to include as many groups of stakeholders as possible in the university's governing bodies (usually in Decision-making body). Finally, in some universities, university governance is being separated from academic governance. As a result, a manager is in charge of university governance, while academic staff - of academic governance.

In some countries, higher education is undergoing reforms (File, Huisman, 2016) aimed at introducing institutionalised management by changing the governance structure of a university, improving administration and modifying academic governance (Taylor, 2006; Dill, Sporn, 1995). These tendencies even lead to comparing students to consumers (Molesworth, Scullion, Nixon, 2011), and, consequently, a university to an enterprise. Yet, it seems to be a wrong direction. Due to the objectives and tasks of a university it cannot be equalled with an enterprise as this would lead to a ridiculous conclusion that knowledge and science are goods and teaching is a service. The right direction is to increase cooperation between universities and the social and economic environment in which they exist (Baaken, Davey, Galan Muros, Meerman, 2011) and to allow representatives of business cooperating with universities to seat in their governing bodies. It should be emphasised that cooperation between universities and business contributes to the development of both, including small and medium enterprises (Kozien, 2017).

### 3. ACADEMIC GOVERNANCE IN POLAND

In Polish legal system, academic governance (Izdebski, Zieliński, 2015; Sanetra, Wierzbowski, 2013) is governed in articles 60-83 of the Higher Education Law dated 27th July 2005 (consolidated text: Dz.U. of 2016, item 1842, as amended). Pursuant to the Law, collegial governing bodies of a university are the senate and boards managing individual organisational units, while individual ones are rector and heads of main organisational units (usually deans). Additionally, there are election bodies - electoral colleges, and managerial functions assisting the rector - chancellor and finance officer (see Fig.1).

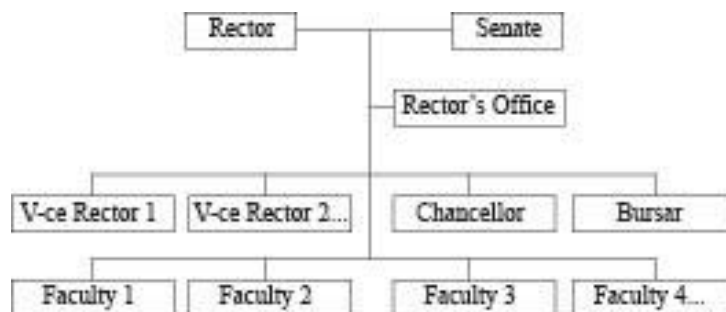


Figure 1: Organizational structure of university in Poland – schematic diagram (own study)

A brief presentation of governing structure prevailing in Polish universities is sufficient to conclude that it is strongly academic in nature and does admit all stakeholders to have their representation in governing bodies. Furthermore, Polish governance model is not of managerial nature and does not facilitate cooperation between universities and their social and economic environment.

Rector is an individual governing body of a university and a chairman of the senate. He/she is elected (by electoral collage comprised of academic teachers, master's degree and doctoral students, and other staff members) or may be appointed by open competition, but the latter method is hardly used. Rector is the managing body of the university and represents it outside. He/she also manages the operation and affairs of the university and supervises all employees as well as master's degree and doctoral students, develops and implements the University's strategy, makes decisions and enjoys "the presumption of powers" privilege.

Vice Rectors act as deputies and their scope of duties is defined by rector. The appointment procedure - either election or open competition - is defined in the University Charter (Statut).

The Senate is a collegial body. Its composition is defined in the charter and usually dominated by the academic staff. The Senate adopts resolutions binding upon other bodies of the university, its staff and students (master's degree and doctoral students). Key powers of the senate include: adoption of the Charter, awarding *doctor honoris causa* degree, developing university's strategy, teaching and education, commercialisation of research. The Senate also gives its opinions and advises other bodies on various issues.

In public (state-owned) vocational universities (and in others, if so is prescribed in their charters) there is a council (konwent) comprised of representatives of the university, local government and social and economic environment (when a vocational university cooperates with an academic one, representatives of the latter may also be members of the council). Powers of the council are defined in the charter - usually it serves advisory and supervisory purpose.

Polish universities are comprised of basic organisational units (usually departments). They are managed by their heads - usually deans. Department head is an individual chairing the council of a basic organisational unit. Head of a basic organisational unit may be either elected (by members of the relevant council, including representatives of master's degree and doctoral students) or selected by open competition - like in the case of Rectors, competition procedure is practically not used at all. Head's powers include managing the organisational unit, representing it outside, and preparing the unit's development strategy.

Composition and detailed scope of powers of the council of a basic organisational unit is defined in the university charter. Usually, a council includes senior (independent) faculty members, representatives of other staff members, of master's degree and doctoral studies, as well as of other university staff. A council adopts resolutions concerning unit's operation, plans and syllabuses of master's degree, doctoral, and post-graduate courses, financial matters.

Other key governing bodies of a university include Chancellor (kanclerz) managing administrative and economic affairs of the university (the scope of duties is defined by the Charter and Rector). Chancellor is appointed by the Rector upon consultation with the senate.

Deputy Chancellor is the financial officer (kwestor) acting as chief accountant of the university. The Financial Officer is appointed by the Rector upon request of the Chancellor.

#### **4. DISADVANTAGES OF EXISTING GOVERNING STRUCTURE PREVAILING IN POLISH UNIVERSITIES**

When analysing governing structure of Polish universities, quite apparent are numerous disadvantages adversely affecting efficiency of their governance. A huge disadvantage is the lack of managerial form of governance and lack of cooperation with social and economic environment. On the one hand, a university cannot be treated as an enterprise and students as consumers of services provided by a university, but on the other - a university must be competitive and efficiently managed by a skilful manager who has understanding of specific character of higher education. Furthermore, attempts should be made to separate decision-making body from academic body, and admit a wider group of university stakeholders to the decisions-making body. Also worth highlighting are detailed disadvantages of present governing structure of Polish universities (Radwan, 2017) contributing to governance inefficiency. From the perspective of powers of individual bodies, it could be concluded that, apart from vocational universities, there are no *sensu stricto* advisory and supervisory body.

It should be noted, though, that even councils in public vocational universities operate within the scope of powers granted by senate, which are usually rather illusory. The position of a rector, as it is today, is ineffective because due to dominating electoral procedure, he/she is strongly tied to and influenced by the corporation of academic teachers and students electing him/her. Consequently, excessive dependence of the rector on academic circles leads to poor leadership and even if legal regulations guarantee the rector a strong position in a university, the system of dependencies often prevents the rector from exercising his/her powers in full and forces to make conservative - from the perspective of university development - decisions. This also results in poor manoeuvrability of the such university. The function of a rector is perceived in Poland as the crowning achievement of academic career and, therefore, the position is usually held by senior faculty members, which reduces the competitiveness of the university. A person elected to be a rector usually has no managerial experience, which leads to lack of professionalism and effectiveness in university management. Absence of accountability of a rector for poor management may lead to stagnation or even diminish the goodwill of the university, which, in turn, may result in putting stumbling blocks in a way of young successful scholars/researchers. What is more, a poor rector - due to the system of dependencies - may be re-elected by a group of interest benefiting from his/her behaviours. Also, since a rector is usually a senior faculty member, he or she often neglects either his/her duties of a rector or an academic. Quite problematic is also the situation of a former rector staying in the university, which often leads to formation of informal rump organisations.

There is yet another *sui generis* problem related to academic governance - namely the fact that Polish universities have gained feudal and seigneurial character which adversely affects the situation of young and talented scholars/scientists who, due to seigneurial system, cannot conduct independent academic work - and it is at the age of 30 - 40 when the most significant discoveries/achievements are made (Jones, Weinberg s. 18910-18914).

## **5. PROPOSALS OF HIGHER EDUCATION REFORMS IN POLAND**

Due to ineffective university governance and very low position of Polish universities in the Academic Ranking of World Universities (<http://www.shanghairanking.com/ARWU2016.html>), the Minister of Science and Higher Education, pursuant to the communication of 23rd February 2016 on initiating a project entitled "Law 2.0 – Underlying Assumptions of Higher Education System" (M. P. item 191) announced a competition for proposals of underlying assumptions of higher education reform in Poland. Consequently, on 23rd May 2016 three teams were selected and entrusted with the task to prepare a comprehensive proposal of Polish higher education reform: Adam Mickiewicz University in Poznań - the team lead by M. Kwiek, SWPS University - the team lead by H. Izdebski and Allerhand Institute - the team lead by A. Radwan. By 31st January 2017 all teams submitted their proposals, which also included proposed reform of academic governance.

M. Kwiek's team (Kwiek, 2016) proposes open competitions for governing positions. Managing bodies would be: a board of trustees responsible for strategic and supervisory matters and the rector in charge of management (also of individual departments). Decision-making body should remain collegial, however it should be concerned mainly with research and teaching issues. Trustees forming the Board of Trustees should be elected by the senate, while the rector should be appointed for a 4-year term of office (with the possibility of re-election) by the Board of Trustees. A rector should hold at least a doctoral degree. The Board of Trustees of a research entity should be made up mainly of scientists (also from abroad), and of a research and teaching entity - obligatorily of persons from outside the university (including representatives of social and economic environment). Entities engaging only in teaching activities should not have any Board of Trustees at all.

Furthermore, collegial bodies (the senate and faculty boards) should be of advisory nature while the powers of individual functions (rector and dean) should be expanded. *Toppling* mechanism should be considered, consisting in appointing (upon approval of a certain part of the faculty board) candidates for deans by the rector. Hence, it can be concluded that the governance system presented in this proposal prefers centralisation and concentration to decentralisation and de-concentration of powers, tasks and responsibility.

A different view is presented in the proposal prepared by H. Izdebski's team (Izdebski, 2017), where the governing bodies are the rector and chancellor. The rector of a university should be elected by the senate (from among two candidates selected in an open competition, if so prescribed in the charter, while in research entities - obligatorily from among at least two candidates selected in an open competition or by nomination board and a collegial body representing external stakeholders); the rector would also be the chairperson of the the senate. The rector would be responsible for teaching and research matters and for representing the university outside; formal requirements have not be defined in the proposal, although it is proposed that managerial qualifications would be required in research entities. The position of a chancellor should be enhanced and he/she should be selected in an open competition. The chancellor should be responsible for all matters that do not fall within the scope of responsibilities of the rector (also as regards basic organisational units of a university), namely financial, supervision over staff other than faculty members. The senate, as a collegial body, should have decision-making and advisory powers and should be able to put forward proposals in the areas for which responsibility rest with the rector; it should also define and evaluate the university's strategy. There should be also a collegial body representing external stakeholders, which would obligatorily include representatives of local and regional government. This body would be empowered to give opinions and make proposals concerning teaching and research offer of the university, commercialisation of research results, and cooperation with the environment in which the university operates; moreover, it can be granted decision-making powers in the charter. Basic organisational units of a university should be faculties; dean and faculty board should have powers analogous to those of the rector and senate, respectively.

The last proposal is the one submitted by A. Radwan's team (Radwan, 2017), assuming a holistic reform of universities, including academic governance, through enhancing efficiency of management and better utilisation of talents, improving university manoeuvrability, strengthening autonomy and granting liberty in research activities, admitting a broad range of stakeholders to governing bodies, and perceiving a university as a component of social and economic system. For that purpose it is proposed to divide the governing authority into two individual functions: President and Rector. President would enjoy 'the presumption of powers' privilege. His/her powers would include: exercising executive powers, pursuing university objectives, representing university outside, supervision over the staff, master's degree and doctoral students, developing and delivering university strategy, cooperation with social and economic environment, employment policy, supervision over administration, appointing and dismissing vice-presidents and deans. The President would be selected by the Board of Trustees from among candidates proposed by nomination committee or independent members of the Board of Trustees (open competition is also possible). The President would have its Office of President, managed by the head of the Office of President. Rector should enjoy the status of *primus inter pares* of the academic community; he/she should be elected by the senate and supervise and control as well as give his/her opinions on scientific/research and teaching activities of the university. Rector would also chair the senate, appoint vice rectors - upon President's consent - and had his/her rector's office managed by head of the rector's office.



Key collegial and decision-making body would be the Board of Trustees, having decision-making, supervisory and electoral powers, open to external stakeholders, including social and economic environment. The Board of Trustees would be composed of, in relevant proportions, members appointed by: the senate, Polish Chamber of Commerce, relevant Regional Chamber of Commerce, minister competent in education matters, relevant municipal council, relevant regional Public Welfare Board, association of graduates, Polish Board of Excellence in Science, Board of Trustees (co-opted). The Board of Trustees would be responsible, *inter alia*, for adopting the charter, strategic plans, the budget, granting discharge to the President, approving important organisational decisions. The Senate would be a collegial academic body representing faculty members. It would be authorised to give opinions on matters concerning the university. The project also defines civil liability of the president and vice presidents of the university. Basic organisational unit of a university would be autonomous faculties managed by deans.

## **6. CONCLUSION - ASSESSMENT OF HIGHER EDUCATION REFORMS FROM THE PERSPECTIVE OF EFFICIENCY OF GOVERNANCE**

Poland needs a holistic reform of higher education system. When analysing academic governance models in other countries, a clear tendency is observable to divide powers among various bodies, following *corporate governance* principles. (Colley, Doyle, Logan, Stettinius, 2003). The very differentiation between governing, decision-making, academic and advisory and supervisory bodies is based on corporate governance model: president, management board, shareholders' meeting and supervisory board. Additionally, Codes of Best Academic Practices mirroring codes of best practices of commercial companies are growing in popularity. They are examples of academic *soft law*. It is also important that all groups of stakeholders are admitted to governing bodies of universities and universities be open for broad cooperation with social and economic environments in which they operate, which may become profitable both to universities and business. A key issue seems to be the division of powers among main governing bodies of a university, in accordance with the *check and balance* principle, which enables efficient management, accompanied by mutual influence and control among individual bodies. Moreover, it should be highlighted that although an institutional attempt could be made to separate academic governance (academic bodies, such as rector and senate) and university governance (president and board of trustees), in practice all these bodies should manage a university, keeping in mind its specific nature and combining scientific/research character, teaching duties, commercialisation of research outcomes, cooperation with social and economic environment, and high level of managerial skills - therefore, the differentiation between academic governance and university governance is undesirable.

Based on the analysis of proposals on higher education reform in Poland it can be concluded that the above-discussed issues so important for the reform of academic governance are best accounted for in the reform project prepared by A. Radwan's team. Through skilfully defined scopes of powers of new and existing governing bodies, the project puts into practice the *check and balance* principle, ensuring high level of engagements in science and research activities, enabling broad cooperation with social and economic environment, and handing power over to a professional manager holding the position of the president. A reform of academic governance proposed by Allerhand Institute team will result in replacement of vertical structure of governance with pillar-based one (see Fig.2).

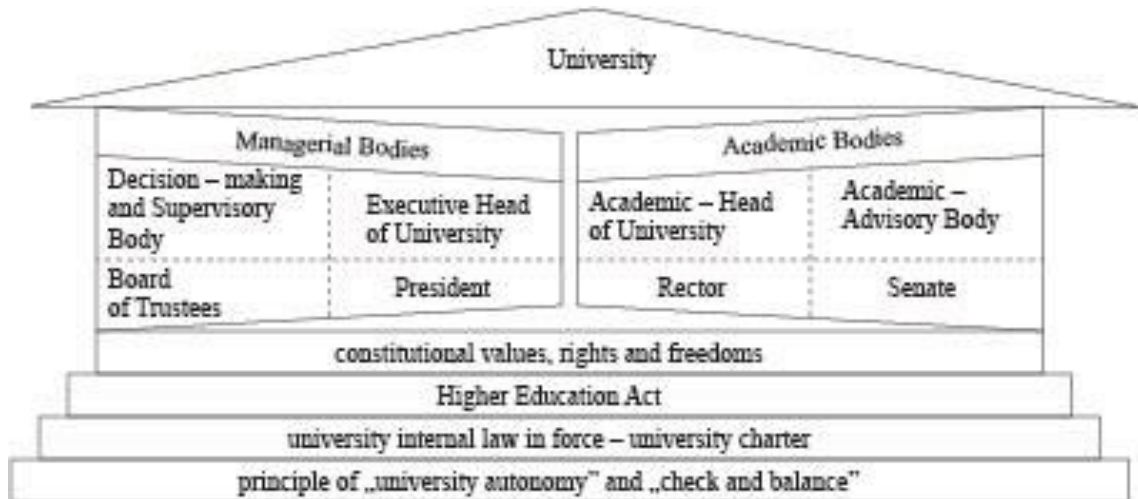


Figure 2: Academic governance – a proposal model of efficient management of universities in Poland (own study)

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## ENTRY EFFECTS UNDER STRATEGIC TRADE POLICY WITH NETWORK GOODS

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### ABSTRACT

*This paper investigates the effect of the presence of strategic trade policies on the entry of a firm in a standard third-market model with network goods and Cournot duopolistic competition. It is shown that the trade policies play a crucial role in the shape of the competitive structure in the export market. In fact, within a network industry, under free trade, the intensity of the consumption externalities works to deter entry for medium network effects; however, for sufficiently intense network effects, the entry of a firm is always favoured. On the other hand, under strategic trade policy, a single exporter monopoly may be more often the rule, and for sizable network effects, the persistence of a monopolistic market is always preserved. In line with the early intuitions of the strategic trade policy theorists, this means that such an activism is strongly effective in protecting one's own monopoly firm when network industries are considered. However, those policies show a rather interesting and somewhat paradoxical result for exporter countries jointly considered. In fact, by trying to sustain the profitability of their exporters, countries induce not only a reduction of their social welfare at equilibrium (the well-known prisoner's dilemma situation) in the short run, but also in the long run. Through the effects on the design of the market structure, such countries may obtain a sizable further reduction (resp. further increase) of their social welfares, depending on whether the product variant of the entrant is slightly or highly differentiated.*

**Keywords:** *Export subsidy, Network goods, Cournot duopoly*

### 1. INTRODUCTION

The presence of industries characterised by network goods, especially in oligopolistic contexts, as well as the increasing importance of international trade and the related strategic trade policy are evident stylized facts of the contemporary world economy. With regard to the first observation, the literature has largely investigated network goods industries characterized by positive consumption externalities<sup>1</sup> (e.g. Katz and Shapiro, 1985; Economides, 1996; Shy, 2001). With regard to the second observation, in their basic cornerstone model, Brander and Spencer (1985) adopted a two-stage game; in the first stage, the governments determine the specific subsidies, and in the subsequent stage, the firms compete in a Cournot fashion in the third market. The most significant result is that a unilateral strategic export subsidization may enhance the exporting country's welfare.

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<sup>1</sup> In essence, a characteristic of network goods and services is that the utility derived by a particular consumer increases with the number of other users of that good or service, such as software, computers, telephone, and other communication services, which are consumer durable goods whose utility for consumers depends on the quality of post-sales services, which in turn depends on the size of the consumer base.

This is due to a rent-shifting effect of the strategic subsidy, acting through the firms' distorted objective functions: government subsidization induces the firms to maximize the subsidy-inclusive profits and become Stackelberg-leader in the quantity game, thus improving their own welfare.<sup>2</sup> However, since both governments subsidize at equilibrium, then such policy interventions result in the lower social welfare of exporting countries compared to that in the case of free trade. Subsequently, many authors have expanded upon this analysis on strategic trade theory in the literature investigating the implications of oligopolistic competition on optimal trade policy in many different scenarios (among others, Helpman and Krugman, 1989, and Brander, 1995) provide surveys of early literature). However, this literature has integrated only a part of the oligopoly topic within the international trade literature because, for instance, the short- and long-term impacts of the presence of network goods have generated less attention, despite the significant increase in volume of international trade of network goods.

Some recent studies apply network externalities to open economies by extending the Katz-Shapiro model, such as Barrett and Yang (2001), who introduce a foreign firm to examine a rational choice of incompatibility and Kikuchi (2005, 2007) and Kikuchi and Kobayashi (2006, 2007) who study the impact of network externalities on trade. However, few arguments on trade policies and welfare are developed in these works. The investigation of strategic trade policies for network goods oligopoly has been conducted by Krishna (1988), who investigates only unilateral trade policy of a single country and by Klimenko (2009) and Fujiwara (2011a,b), who focus only on price competition in a import-competing model and quantity competition in the case of bilateral trade, respectively. However, none of them approach the implications of network externalities on strategic trade policies of competing countries in the case of export rivalry. One exception is Gosh and Pal (2014), who analyse the strategic trade policy with the export rivalry between two countries for differentiated network goods oligopolies, focusing on the effects of the presence of relative performance-based managerial delegation in firms. Nonetheless, they apply the standard short-term model à la Brander Spencer, and thus the impact of the presence of network goods and strategic trade policies on the entry of a firm in an international market remains unexplored.

The importance of this issue has been clearly noted by early strategic trade policy theorists: for instance, Eaton and Grossman (1986, 397-398) note that the assumption of an exogenously fixed number of firms "is reasonable if entry costs are large relative to the effect of policies on total profit or if other government policies determined the number of firms. Otherwise, the trade and industrial policy is likely to affect the total number of firms in an industry, both domestically and abroad." Hence, when the market structure is endogenous, the formulation of optimal trade policy should consider that "policy alters the total number of firms active in an industry in equilibrium. If governments set their policy parameters before firms choose whether or not to incur their fixed costs of entry or if firms anticipate policies that will be invoked after entry costs are borne, then export or production subsidies will encourage more firms to be active." Therefore, it seems evident that export subsidy policy is expected to favour entry.<sup>3</sup>

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<sup>2</sup> As known, Eaton and Grossman (1986) show that the same mechanism acts through a tax (instead of a subsidy) in the case of price (instead of quantity) competition.

<sup>3</sup> For the sake of precision, Eaton and Grossman (1986, 398) argued that the entry induced by subsidy may be harmful for the national welfare and suggest the use of export taxes to prevent entry: "This entry can raise industry average cost and cause the addition to national product deriving from profit-shifting to be (more than) dissipated in increased entry fees... Then, a tax on exports or production that discourages entry may be called for even when a subsidy would be optimal given an exogenous market structure." Horstmann and Markusen (1986) show that, in a two-country model with increasing returns, export subsidies induce a welfare-reducing entry of new firms.

However, trade policies might not only directly affect the market structure, as argued by early strategic trade policy theorists, but also interact with other technological and demand factors which would act, in the absence of the policy, as a barrier or an incentive to the entry of a firm, such as the externalities of consumption that are typical of the network goods industries.

The present paper questions whether and how trade policies can affect the long-term structure of industries characterised by network goods, and thus on long-term profits and social welfare. Therefore, it attempts to investigate this issue by inputting a network industry into a third-market model à la Brander and Spencer (1985), in which firms engage themselves in providing quantity in a third-country market – under either monopoly or duopolistic quantity competition – and governments of the exporting countries that set the optimal subsidy. In particular, the focus is on the effects of the presence of network goods on entry under strategic trade policies, while also comparing them with those under free trade. In the proposed model, it is assumed that one firm plays the role of the incumbent and, to ensure his monopoly position, it must pay a cost to establish a barrier to entry, such as paying a license fee to sell the products in the importing country or lobbying expenditures to the government of the importing country to regulate the sector. In this sense, network externalities are structural or “innocent” barriers to entry.

Church and Ware (1999, p. 487) (quoted in McAfee et al., 2003, p. 10) differentiate between structural (“innocent”) and strategic entry barriers. Nevertheless, those authors retain the expression “barrier to entry” only for structural barriers; i.e. “a structural characteristic of a market that protects the market power of incumbents by making entry unprofitable.” The definition of strategic behavior is different from the previous one in the sense that, adopting a strategic behavior, the actions of an incumbent influence the choice of entry (e.g., inflicting losses to entrants).<sup>4</sup>

In this respect, Spence (1977) investigates the incumbents’ strategic choice of capacity in the presence of potential entry in an industry with standard goods, making the distinction between capacity and quantity produced. In fact, the amount the incumbent invested in capacity in the first period is a constraint on the quantity produced in the following periods. The incumbent accommodates entry if the costs of the entry are adequately low. On the other hand, under threat of entry, the incumbent can fix a sufficiently high capacity level and possibly expand output to exercise downward pressure on the price and thus deter the market entry of a potential competitor. However, if entry does not take place because the entrant’s costs are prohibitive, the capacity is underutilized. This paper does not use the definition of strategic barrier to entry. Instead, it investigates how the structural characteristic of network externality and the strategic trade policy affects the profits of the incumbent and the entrant.

Making use of the definition of Church and Ware (1999), the current work finds that network externalities represent a structural barrier to entry. This work shows that, under free trade, the presence of medium (resp. high) network goods works for the deterrence (resp. facilitation) of the entry of a firm and the monopolist can exploit the consumption externality as an exogenously given barrier to entry. By contrast, under trade policy interventions, network effects – even of small intensity – always deter entry, and for sufficiently intense network effects, the persistence of a monopoly structure is practically ensured.

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<sup>4</sup> McAfee et al. (2003, 2004) provide an extensive discussion of the various definitions of “barriers to entry” in economics.

Our findings suggest that the market structure and the shape of competition in international markets may depend on the nature of the goods and the policy intervention. On the other hand, the consequence of providing strategic trade subsidies for the own network firm is that an existing monopoly may be preserved; thus, the less competitive market structure may imply either a reduction or an increase of the jointly considered exporting countries' welfares, depending on the degree of product differentiation in the post-entry product market.

The rest of the paper is organized as follows. Section 2 presents the monopoly and duopoly models and provides the equilibrium outcomes under free trade and policy interventions. Section 3 presents the key propositions with regard to the effects of the network and trade policies on entry. Section 4 closes the paper with a brief discussion of the results.

## 2. MODEL SETUP

A model is developed of an exporting country with network goods in which a monopolist produces and sells all the output in another country – an importing country. To focus on the effect of the strategic trade policy, trade barriers are not considered (transportation costs and tariffs). Then, using the Brander-Spencer (1985) model, two exporting countries are considered, each with a firm producing differentiated products and selling them to a third country. Firms compete in quantity; i.e. a Cournot duopoly characterises the market.

### 2.1. Monopoly model

In the present work, it is assumed that the simple mechanism of network externalities is represented by the fact that the surplus a firm's client obtains increases directly with the number of other clients of this firm (i.e. Katz and Shapiro, 1985). In the presence of strategic trade policy, the monopolist firm faces the following linear inverse demand function:

$$p = a - q + ny \quad (1)$$

where  $p$  is the price of goods,  $q$  denotes the quantity of the goods produced, and  $y$  denotes the consumers' expectation about the monopolist's equilibrium production. The parameter  $n \in [0,1)$  represents the strength of the network effects; the higher the value of the parameter, the stronger the externalities. To focus on the effects of the network externalities in this industry, the firm's marginal cost is set equal to  $c = 0$ . An alternative interpretation of the latter condition could be that the labour market is not unionized, and the firm can hire workers at the competitive wage, normalized to zero. In the case of strategic policy, the country's government can provide the exporter with a specific subsidy  $s \in [0,1)$ . Therefore, the monopolist's profit function is:

$$\Pi = (a - q + ny + s)q \quad (2)$$

A three-stage game is proposed with the following timing. At stage one, the exporting country's government decides the optimal subsidy to maximize the domestic welfare ( $SW$ ):

$$SW = \Pi - sq. \quad (3)$$

At stage two, consumers fulfil their expectations by imposing the "rational expectations" condition  $y = q$ . At stage three, the monopolist chooses the quantity.

Solving backwards as usual, standard maximization techniques lead to the expressions in Table 1 in which the upper scripts  $M / FT$  and  $M / s$  represent the monopoly under free trade and strategic policy, respectively.<sup>5</sup>

*Table 1: Equilibrium outcomes, monopoly (authors' own calculations)*

	quantity	subsidy	profits	social welfare
Free-trade	$q^{M/FT} = \frac{a}{2-n}$	$s = 0$	$\Pi^{M/FT} = (q^{M/FT})^2$	$SW^{M/FT} = \Pi^{M/FT} = (q^{M/FT})^2$
Strategic trade policy	$q^{M/s} = \frac{a}{2(1-n)}$	$s = \frac{an}{2(1-n)}$	$\Pi^{M/s} = (q^{M/s})^2$	$SW^{M/s} = \frac{a^2}{4(1-n)}$

In the absence of strategic trade (i.e.  $s = 0$ ), the results equal those of Buccella and Fanti (2016); moreover, in (3), notice that the social welfare equals the monopolist's profit and the game has two stages. It is also worth note that, in the case of strategic trade policy, the optimality of the export production subsidization under monopoly is exclusively due to the presence of network effect. Thus, with network goods, policy interventions may be justified also in the absence of a strategic context between firms.

## 2.2. Duopoly model

Consider now the case of entry: the market in the importing country passes from a monopoly to a duopoly. Firm 1 is defined as the incumbent and firm 2 the potential entrant. In a duopoly, the demand function, assuming that entrant can differentiate its product, becomes

$$p_i = a - q_i - bq_j + n(y_i + by_j), \quad i = 1, 2; \quad i \neq j \quad (4)$$

where  $b \in (0,1]$  is the degree of product differentiation,  $p_i$  denotes the firm's  $i$  price of the goods, and  $q_i$  and  $q_j$  are the firms' output levels. Both firms' marginal cost is  $c = 0$ . The governments of Countries 1 and 2 provide their exporters with specific export subsidies,  $s_i \in [0,1)$ . The firms' profits are

$$\Pi_1 = (p_1 + s_1)q_1, \quad (5)$$

$$\Pi_2 = (p_2 + s_2)q_2 - E, \quad (6)$$

for the incumbent and the entrant, respectively;  $E$  is an exogenous fixed cost the entrant faces. As usual, the backward induction method is applied to obtain a sub-game perfect equilibrium. As in the case of monopoly, the game has a three-stage structure.

<sup>5</sup> Analytical derivation is straightforward and omitted here for economy of space. Details are available upon request from the authors.



An equilibrium of the third stage of the game (the market game), in which firms simultaneously choose their output (given consumers' expectations and export subsidies chosen by governments), is obtained through the following reaction functions, satisfying the system of the first-order conditions:

$$q_i(q_j, y_i, y_j) = \frac{a + s_i - bq_j + n(y_i + by_j)}{2}, \quad i, j = 1, 2; i \neq j \quad (7)$$

whose solution is embodied at the second stage in which consumers' expectations are fulfilled, imposing  $q_i = y_i$ . Thus, output reaction functions are given (as a function of subsidy) as follows

$$q_i(q_j) = \frac{a + s_i - bq_j(1-n)}{2-n}. \quad (8)$$

From the solution of the system in (8), the firm  $i$ 's output (as a function of subsidy) is given by

$$q_i(s_i, s_j) = \frac{(2-n)(a + s_i) + b(1-n)(a + s_j)}{4(1-n) + n^2 - b^2(1-2n+n^2)} \quad (9)$$

Table 2: Equilibrium outcomes, duopoly (authors' own calculations)

	quantity	subsidy	profits	social welfare
Free-trade	$q^{D/FT} = \frac{a}{2-n+b(1-n)}$	$s = 0$	$\Pi^{D/FT} = (q^{D/FT})^2$	$SW^{D/FT} = \Pi^{D/FT} = (q^{D/FT})^2$
Strategic trade policy	$q^{D/s} = \frac{a(2-n)}{K}$	$s = \frac{a[b^2(n-1)^2 + n(2-n)]}{K}$	$\Pi^{D/s} = (q^{D/s})^2$	$SW^{D/s} = \frac{a^2(2-n)[2-n-b^2(1-n)]}{K^2}$

Then, at the first stage, each government maximises social welfare,<sup>6</sup>  $SW_i = \Pi_i - s_i q_i$ , with respect to its subsidy rate for a given subsidy rate of the other government. Consequently, from the solution of the system of reaction functions in subsidy rates, the following symmetric equilibrium is obtained:

$$s_i = s_j = s = \frac{a[b^2(n-1)^2 + n(2-n)]}{K} \quad (10)$$

where  $K = (1-n)[4 + b(2-b) + n(b-2)(1+b)]$ .

Substituting backwards (10), the sub-perfect equilibrium values of output, profits, and social welfare reported in Table 2 are obtained, which also reports the equilibrium outcomes under

<sup>6</sup> The reduced form of the expression for  $SW$  is too long and is omitted here for brevity.

free trade, straightforwardly derived by the above standard procedure, simply letting  $s_i = s_j = 0$ .

### 3. RESULTS

Now the impact of network effects on the possibility of entry under the two cases of free trade and policy interventions can be discussed. Suppose that the monopolist has to pay a fixed cost  $T$  to establish a barrier to entry, such as a license fee to be paid to the government of the importing country or lobby expenditures to regulate the industry. Suppose also that  $E = 0$ . Defining the incumbent's profit differentials under free trade as

$$\Delta\Pi^{FT} = (\Pi^{M/FT} - T) - \Pi^{D/FT} = \frac{a^2 b(n-1)[b(n-1) - 2n - 4]}{(2-n)^2[b(n-1) + n - 2]^2} - T \quad (11)$$

the following exercise in Table 3 shows the relationship between  $n$  and the incentive to block entry under free trade and strategic policy. The values on the left box are for  $b = .3$  (relatively differentiated products) and on the right for  $b = 1$  (homogeneous products). The first column reports the intensity of the network effect. The second column lists the monopoly profits as reported in Table 1. The third column reports the duopoly profits in Table 2. The fourth column shows the amount of the license fee/lobby costs,  $T$ . Those costs are set at a level such that the firm cannot preserve the monopoly position at  $n = 0$ . The fifth column reports the monopolist's net profits. Finally, the sixth column evaluates the difference between the monopolist's net profits and the duopoly profits. When the value is positive, it is profitable for the incumbent paying  $T$  and keeps the competitor out of the market. By contrast, a duopoly will be better when the value is negative.

Table 3: Network effects as structural barrier to entry under free trade. Left:  $b = .3$ ; Right:  $b = 1$ . Note: all values are calculated for  $a = 1$  and  $E = 0$  (authors' own calculations)

n	Pi(mono)	Pi(duo)	T	Pi(mono)-T	Δ(diff)	n	Pi(mono)	Pi(duo)	T	Pi(mono)-T	Δ(diff)
0	0,25	0,189036	0,0625	0,1875	-0,00153592	0	0,25	0,111111	0,14	0,11	-0,001111
0,05	0,262985	0,200191	0,0625	0,200484878	0,0002937	0,05	0,262985	0,118906	0,14	0,122985	0,0040788
0,1	0,277008	0,212364	0,0625	0,21450831	0,00214449	0,1	0,277008	0,127551	0,14	0,137008	0,0094573
0,15	0,292184	0,225681	0,0625	0,229684076	0,00400266	0,15	0,292184	0,137174	0,14	0,152184	0,0150099
0,2	0,308642	0,240292	0,0625	0,246141975	0,00584978	0,2	0,308642	0,147929	0,14	0,168642	0,020713
0,25	0,326531	0,256369	0,0625	0,264030612	0,00766144	0,25	0,326531	0,16	0,14	0,186531	0,0265306
0,3	0,346021	0,274115	0,0625	0,283520761	0,00940547	0,3	0,346021	0,173611	0,14	0,206021	0,0324097
0,35	0,367309	0,29377	0,0625	0,304809458	0,01103958	0,35	0,367309	0,189036	0,14	0,227309	0,0382735
0,4	0,390625	0,315617	0,0625	0,328125	0,0125083	0,4	0,390625	0,206612	0,14	0,250625	0,0440134
0,45	0,416233	0,339994	0,0625	0,353733091	0,0137387	0,45	0,416233	0,226757	0,14	0,276233	0,0494757
0,5	0,444444	0,367309	0,0625	0,381944444	0,01463499	0,5	0,444444	0,25	0,14	0,304444	0,0544444
0,55	0,475624	0,398054	0,0625	0,413124257	0,01507074	0,55	0,475624	0,277008	0,14	0,335624	0,0586159
0,649	0,547885	0,471518	0,0625	0,485384863	0,01386684	0,649	0,547885	0,345208	0,14	0,407885	0,0626768
0,65	0,548697	0,472361	0,0625	0,486196845	0,01383587	0,65	0,548697	0,346021	0,14	0,408697	0,0626761
0,7	0,591716	0,517572	0,0625	0,529215976	0,01164442	0,7	0,591716	0,390625	0,14	0,451716	0,061091
0,75	0,64	0,569598	0,0625	0,5775	0,00790228	0,75	0,64	0,444444	0,14	0,5	0,0555556
0,8	0,694444	0,629882	0,0625	0,631944444	0,00206286	0,8	0,694444	0,510204	0,14	0,554444	0,0442404
0,85	0,756144	0,700268	0,0625	0,693643667	-0,00662419	0,85	0,756144	0,591716	0,14	0,616144	0,0244277
0,9	0,826446	0,783147	0,0625	0,763946281	-0,0192004	0,9	0,826446	0,694444	0,14	0,686446	-0,007998
0,95	0,907029	0,881659	0,0625	0,844529478	-0,0371298	0,95	0,907029	0,826446	0,14	0,767029	-0,059417
0,99	0,980296	0,974498	0,0625	0,917796049	-0,0567023	0,99	0,980296	0,961169	0,14	0,840296	-0,120873

An in-depth analytical inspection reveals the following result:

**Result 1.** Define  $n^T(b) = \left\{ n(b) : \Delta\Pi^{FT} \Big|_{n=n^T(b)} = \Delta\Pi^{FT} \Big|_{n=0} \right\}$ .

Under free trade, if the network intensity is  $0 \leq n(b) < n^T(b)$ , then a non-monotonic relation in the profit differential exists, and entry into a network industry is more hampered than into a

standard one; i.e. network externalities are structural “entry barriers” whose maximal strength is at  $n^* = \frac{(b+3)\sqrt[3]{(b+1)^2} - \sqrt[3]{(b+1)} - (1+b)}{\sqrt[3]{(b+1)^2}(b+2)}$ , with  $n^* > 0 \quad \forall b \in (0,1]$ . On the other hand, for

$n \geq n^T(b)$ , the cost for the incumbent to keep the monopoly becomes larger than with standard goods, and network externalities always facilitate entry.

*Proof:* if  $0 \leq n(b) < n^T(b)$ ,  $\frac{\partial \Delta \Pi^{FT}}{\partial n} \geq 0$  for  $n \in [0, n^*)$  and  $\frac{\partial \Delta \Pi^{FT}}{\partial n} < 0$  for  $n \in [n^*, n^T(b))$ ; if  $n(b) \geq n^T(b)$ ,  $\frac{\partial \Delta \Pi^{FT}}{\partial n} < 0$  and  $\Delta \Pi^{FT} < 0$ .

A graphical representation of Result 1 is in Figure 1 below, left box. On the other hand, defining the incumbent’s profit differentials under strategic trade policy as

$$\Delta \Pi^s = (\Pi^{M/s} - T) - \Pi^{D/s} = \frac{a^2 b[(n-1)b^2 + (2-n)b - 4n + 8][b(n-1) - n + 2]}{(1-n)^2[b^2(n-1) + b(2-n) - 2n + 4]^2} - T. \quad (12)$$

The exercise in Table 4 (columns defined as above) leads to the following result.

**Result 2.** Under strategic trade policy, the incumbent’s profits differential always expands with the network externalities; thus, the monopolist can use increasing amounts of profits to deter entry.

*Proof:*  $\frac{\partial \Delta \Pi^s}{\partial n} > 0$ ;  $\frac{\partial^2 (\Delta \Pi^s)}{\partial n^2} > 0$ .

Table 4: Network effects under strategic trade policy. Left:  $b = .3$ , Right:  $b = 1$ .  
Note: All values are calculated for  $a = 1$  and  $E = 0$  (authors’ own calculations)

n	Pi(mono)	Pi(duo)	T	Pi(mono)-T	Δ(diff)	n	Pi(mono)	Pi(duo)	T	Pi(mono)-T	Δ(diff)
0	0,25	0,196656	0,055	0,195	-0,00166	0	0,25	0,16	0,091	0,159	-0,001
0,05	0,277008	0,217678	0,055	0,22200831	0,00433	0,05	0,277008	0,175481	0,091	0,18600831	0,010527
0,1	0,308642	0,242276	0,055	0,25364198	0,011366	0,1	0,308642	0,193437	0,091	0,217641975	0,024205
0,15	0,346021	0,271309	0,055	0,29102076	0,019711	0,15	0,346021	0,214442	0,091	0,255020761	0,040579
0,2	0,390625	0,305917	0,055	0,335625	0,029708	0,2	0,390625	0,239249	0,091	0,299625	0,060376
0,25	0,444444	0,347626	0,055	0,38944444	0,041819	0,25	0,444444	0,268861	0,091	0,353444444	0,084583
0,3	0,510204	0,398527	0,055	0,45520408	0,056677	0,3	0,510204	0,304647	0,091	0,419204082	0,114557
0,35	0,591716	0,461542	0,055	0,53671598	0,075174	0,35	0,591716	0,348501	0,091	0,500715976	0,152215
0,4	0,694444	0,540856	0,055	0,63944444	0,098588	0,4	0,694444	0,403124	0,091	0,603444444	0,20032
0,45	0,826446	0,642634	0,055	0,77144628	0,128812	0,45	0,826446	0,472466	0,091	0,735446281	0,262981
0,5	1	0,776262	0,055	0,945	0,168738	0,5	1	0,5625	0,091	0,909	0,3465
0,55	1,234568	0,956603	0,055	1,1795679	0,222964	0,55	1,234568	0,682624	0,091	1,143567901	0,460944
0,649	2,029204	1,56605	0,055	1,97420431	0,408154	0,649	2,029204	1,080995	0,091	1,938204308	0,857209
0,65	2,040816	1,574944	0,055	1,98581633	0,410873	0,65	2,040816	1,086746	0,091	1,949816327	0,86307
0,7	2,777778	2,138853	0,055	2,72277778	0,583925	0,7	2,777778	1,448903	0,091	2,686777778	1,237875
0,75	4	3,072477	0,055	3,945	0,872523	0,75	4	2,040816	0,091	3,909	1,868184
0,8	6,25	4,788148	0,055	6,195	1,406852	0,8	6,25	3,114187	0,091	6,159	3,044813
0,85	11,11111	8,48802	0,055	11,0561111	2,568091	0,85	11,11111	5,397408	0,091	11,02011111	5,622703
0,9	25	19,0388	0,055	24,945	5,906195	0,9	25	11,81641	0,091	24,909	13,09259
0,95	100	75,89695	0,055	99,945	24,04805	0,95	100	45,8897	0,091	99,909	54,0193
0,99	2500	1891,825	0,055	2499,945	608,1202	0,99	2500	1118,482	0,091	2499,909	1381,427

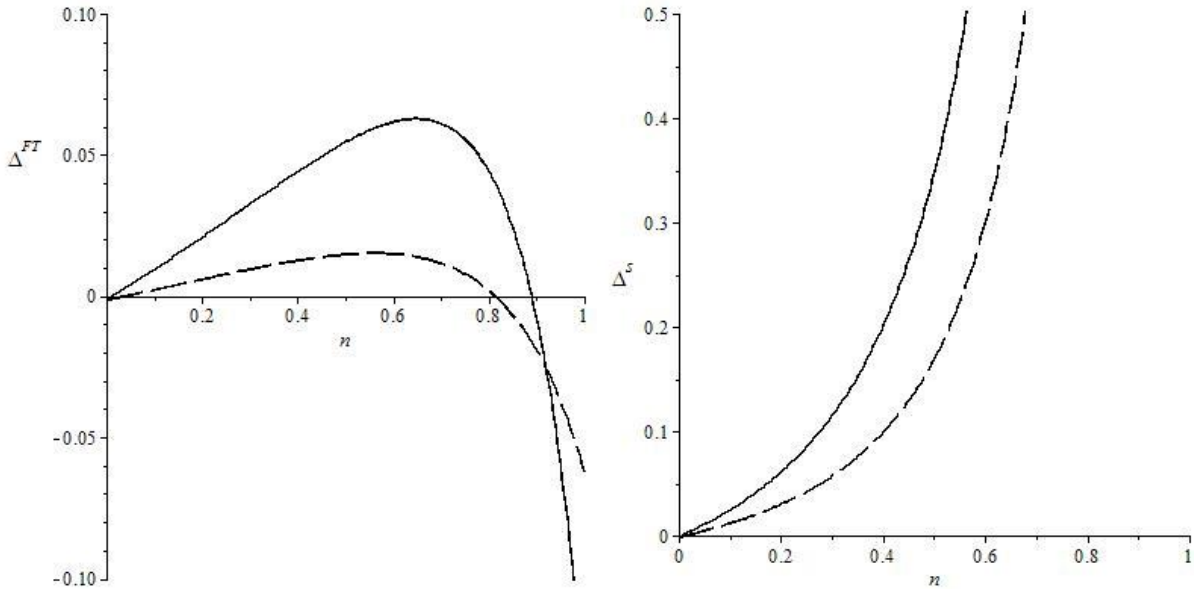


**Corollary 1.** *The higher the product differentiation, the less effective is the deterring role on the entry of a firm in both cases of free trade and policy interventions.*

The result of Corollary 1 is intuitive, because differentiation itself increases the entrant's profitability. However, it should be noted that, under subsidisation policy, strong network effects are effective in impeding the entry, even in the case of extremely differentiated products, as Figure 1, right box, shows. Note that the presence of positive entry costs,  $E > 0$ , reinforces the above results.

The analysis of entry, as summarized in the above results, reveals that in network industries under free trade, the monopolistic structure tends to be the more likely for a medium intensity of the network effects, but it is likely to be eliminated when the intensity of the network effect is strong.

Figure 1: Plot of differential profits  $\Delta\Pi^{FT}$  (left) and  $\Delta\Pi^s$  (right) with varying network effects for  $b = .3$  (long dash line) and  $b = 1$  (solid line). Note: The figure is drawn for  $a = 1$  and  $E = 0$  and the values of  $T$  reported in Tables 1 and 2 (Authors' own calculations)



By contrast, when trade policies are implemented, the monopolistic structure is more likely, because the network effects act as an exogenously given barrier to entry. The crucial role played by the subsidisation is particularly evident in a market with strong network effects; while under free trade, the market structure necessarily tends to be more competitive because network effects tend to eliminate any deterrence to entry, while under public policy intervention, the entry of a firm is practically blockaded.

Therefore, given that trade policies in network industries not only affect the short-run profits and welfare (as well-known through Brander and Spencer's approach) but also the shape of the market competition and, thus, through this channel, the long-term social welfare, it is important to investigate the welfare's changes pre- and post-entry. Now let's define:

$$\Delta\sigma = (SW^{M/s} - T) - 2SW^{D/s} = \frac{a^2 \left[ \begin{aligned} &b^4(1-2n+n^2) + b^3(6n-2n^2-4) + b^2(12+5n^2-16n) + \\ &b(16(1-n)+4n^2) - 16(1-n) - 4n^2 \end{aligned} \right]}{4(1-n)^4 \left[ b^2(n-1) + b(2-n) - 2n+4 \right]^2} - T. \quad (13)$$

The established result, under homogeneous products and standard goods, is that, since the social welfare of each exporter country is equivalent to the profits without subsidy and the industry profits under duopoly are always lower than under monopoly, then also the sum of the post-entry welfare of both exporting countries is less than that of the single exporter country under monopoly. This means that, in principle, there is always room for the single monopolist country's government to offer a lump-sum compensative transfer to the other potential rival country's government to impede the entry of a rival firm, with a welfare gain of both countries. The following Lemma shows that the above established result no longer holds for a sufficiently high product differentiation.

**Lemma 1.** *The welfare of the single monopolist country is higher (resp. lower) than the sum of welfares of both exporter countries if products are sufficiently substitutes (resp. differentiated).*

$$\text{Proof: } \Delta\sigma|_{n=0} \begin{matrix} > \\ < \end{matrix} 0 \Leftrightarrow T = \frac{b^4 - 4b^3 + 12b^2 + 16b - 16}{4(b^2 - 2b - 4)^2} \begin{matrix} < \\ > \end{matrix} 0 \Leftrightarrow b \begin{matrix} > \\ < \end{matrix} 0.702 .$$

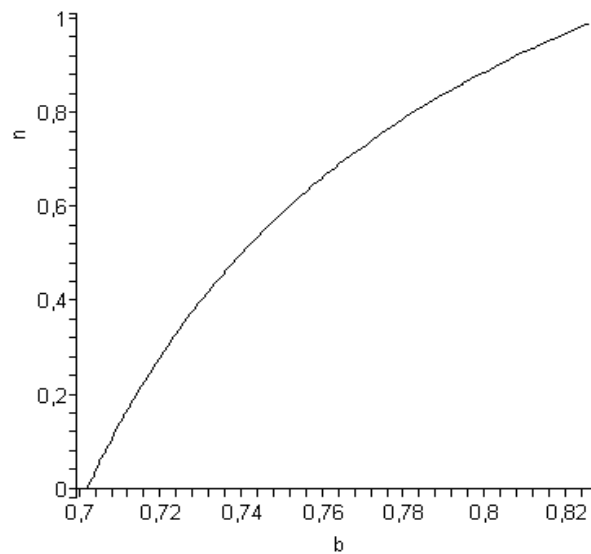
Then, it is natural to ask whether and how the interaction between policies and network effects modifies this established result. The answer is that such an interaction, to the extent that it induces a more competitive market, magnifies the post-entry welfare loss (resp. gain) of both countries, and such a magnification effect is extremely high for intense network effects, as the next result shows.

**Result 3.** *Either the welfare loss or welfare gain of both exporter countries jointly considered is increasing with the intensity of the network effects.*

$$\text{Proof: } \frac{\partial(\Delta\sigma=0)}{\partial n} \begin{matrix} > \\ < \end{matrix} 0 \Leftrightarrow b \begin{matrix} > \\ < \end{matrix} 0.83; \frac{\partial^2(\Delta\sigma=0)}{(\partial n)^2} \begin{matrix} > \\ < \end{matrix} 0 \Leftrightarrow b \begin{matrix} > \\ < \end{matrix} 0.83.$$

A graphical representation of Result 3 is seen in Figure 2. Result 3 offers a straightforward policy implication: strategic trade policies in network industries, to the extent that induce a more competitive market structure, may be either welfare-improving or welfare-reducing for exporter countries jointly considered, depending on the low/high differentiated variant of the monopolist's product the entrant sells in the market.

*Figure 2. Plot of the differential social welfare  $\Delta\sigma=0$  in the parametric plane  $(b,n)$ . Above the curve  $\Delta\sigma < 0$  holds while below  $\Delta\sigma > 0$ . Note: The figure is drawn for  $a=1$  and  $E=0$ .*



#### 4. CONCLUSION

Using a Cournot duopoly model, this paper has studied the impact of strategic trade policies on the entry of a firm in a standard third-market model with network goods. It has been shown that the strategic trade policies play a key role in shaping the competitive structure in the export market. It has been found that, in a network industry, under free trade, the consumption externalities intensity acts as a structural (“innocent”) barrier to entry for medium network effects; however, if the network intensity is adequately high, the entry of a firm is favoured. On the other hand, under strategic trade policy, the presence of a single exporter monopoly is likely to be the rule, and for extremely intense network effects, the persistence of a monopoly market is always ensured. As strategic trade policy theorists have realised, these results seem to suggest that governments’ intervention advocacy is effective in protecting their own monopoly in the case of network industries. Nonetheless, it has been shown that the implementation of strategic trade policies presents an interesting and, to some extent, paradoxical result for exporter countries jointly considered. In fact, to sustain their exporters’ profitability, countries are not only exposed to a social welfare reduction at equilibrium in the short run (the well-known prisoner’s dilemma situation), but also in the long run they may obtain either a reduction (resp. increase) of their social welfares, depending on the slight (resp. high) degree of differentiation of the product variant of the entrant because of the change of the market structure.

A first reasonable step in the future research is to check the robustness of the present findings under price competition. Other suitable extensions of the current model may include the introduction of the managerial delegation, R&D investments, capacity choices, and wage negotiations in an unionised context.

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## HOW EFFICIENT WAS THE ROMANIAN LABOUR MARKET AFTER 2008?

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### ABSTRACT

*The efficient operation of the labour market is a matter of high stake for every state, considering that it reflects the balance between supply and demand. The extent to which such balance is achieved is highlighted by the Beveridge curve. This paper examines the efficient operation of the Romanian labour market, as measured by the relevant indicators of labour demand and supply. In order to capture the evolution of these indicators across the three target sub-periods (the crisis, the rebound and the resumption of an upward trend), the timeline subject to survey was 2008Q2-2016Q3. The survey conducted to this purpose revealed fluctuations in the number and rate of job vacancies, respectively in the unemployment rate. However, in the last part of the surveyed period, the trend of such indicators was downward for the unemployment rate and upward for the number and rate of job vacancies. Even so, these indicators failed to match the levels recorded before the outbreak of the economic crisis. Due to such evolutions, the Beveridge curve presented shifts of direction specific to the three sub-periods.*

*Throughout the last part of the surveyed period, the curve seemed to recover slightly towards the top-left direction at national level. However, regionally, the evolutions of labour supply and demand varied, and the Beveridge curves varied accordingly. Surprisingly, it was not Bucharest-Ilfov, considered the best economically developed area in Romania, which reported the best correlation between labour supply and demand, but the Central region.*

**Keywords:** labour market, job vacancies, unemployment, correlation between labour supply and demand, efficiency

### 1. INTRODUCTION

The main indicators used in the analysis of the labour market efficient operation are the unemployment rate and the job vacancy rate. These two indicators are in inverse ratio to one another, as highlighted by the so-called Beveridge curve (BC), fathered by the British economist William Beveridge. This paper is intended to assess the efficient operation of the Romanian labour force market. Its structure covers three main parts: 1) analysis of the labour market demand according to the number and rate of job vacancies; 2) analysis of the labour market supply according to the unemployment rate; 3) analysis of the correlation between labour market supply and demand, by means of the Beveridge curve. Labour demand was surveyed across the entire economic activity and the main sectors of economy, at national and regional level (the eight development areas in Romania). Labour supply was approached in general, by genders, by residence environments, by age groups, at national and regional level. The data used for the purposes of this research was collected from INSSE and EUROSTAT.

The Romanian devoted literature features a series of papers which tackle the national and regional issue of the number and rate of job vacancies, as well as the unemployment rate, without special focus on whether labour demand and supply are in balance. Romanian experts have only started to examine the efficient operation of the labour market fairly recently (Dimian & Korka, 2010; Dimian, 2011; Tatu & Tăbîrţoiu, 2015), due to little availability of quarterly statistical data required to study this balance. This paper aims to bring to the attention of specialists the quarterly status of the above indicators, in terms of the balance between labour demand and supply. The subject was approached both at national and regional level.

## 2. ANALYSIS OF LABOUR MARKET SUPPLY AND DEMAND

The level of labour force demand is highlighted by the number and rate of job vacancies. The job vacancy rate reflects the capacity of an economy to absorb in the market the labour force available at a certain point in time. Depending on the stage of the economic cycles, job vacancy numbers and rates are higher or lower. Economic decline entails lower levels, while economic growth generates higher levels. The labour supply can be measured by the number of unemployed workers or by the unemployment rate, and reveals the labour force available and fit for work. Similarly to labour demand, the stage of an economic cycle can dictate the status of labour supply: unemployment will be on the rise in times of economic activity downturn, or, conversely, unemployment will decrease in times of economic boom. In the following paragraphs we will analyze separately the labour force demand and supply in Romania, after 2008.

### 2.1. Labour force demand – number and rate of job vacancies

The downturn of the economic activity in Romania, felt in particular from the 3<sup>rd</sup> quarter of 2008 onwards, is outlined by the decreasing number and rate of job vacancies. The evolution of this indicator across the period subject to survey is typical to economic recession. Starting from the 3<sup>rd</sup> quarter of 2008 until the 4<sup>th</sup> quarter of 2009, the number and rate of job vacancies followed a descending trend. Later, until the 2<sup>nd</sup> quarter of 2014, their evolution wavered, while lately they moved on an ascending path (except for 2016Q2). The highest decrease in the total number of job vacancies compared to the value attained in 2008Q2 is reported in 2010Q4, by 78.93%. After the 1<sup>st</sup> quarter of 2015, such rates return to values equal or greater than 1%. However, they are still lagging behind the rates recorded in the 3<sup>rd</sup> quarter of 2008.

The total number of job vacancies in 2016Q3 accounted only for 65% of the total number of vacancies in 2008Q2, and respectively 63.87% of the total number of vacancies in 2008Q3.

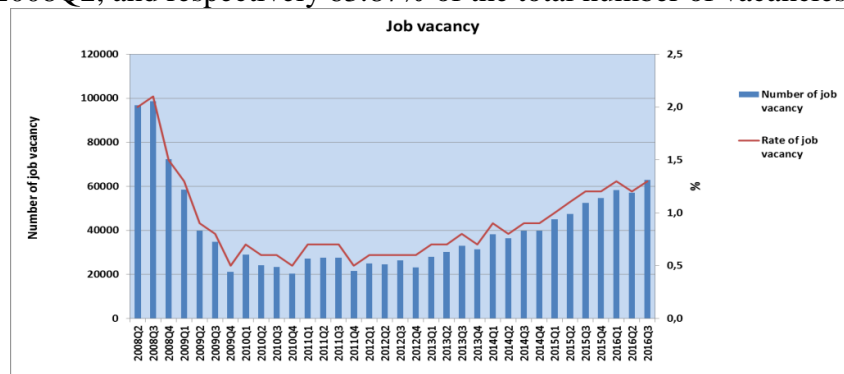


Figure 1 Job vacancies/Total economic activities – number, rate (Chart drawn up by the author based on INSSE data)

Chart no. 2 outlines the evolution of job vacancy rates by the main economic activities in Romania: 1) agriculture, forestry, fishing; 2) industry; 3) constructions; 4) services. While in the first half of the surveyed period higher values were reported in agriculture, forestry and fishing, and lower values in services, in the second half of the period the analysed indicator showed higher values for industry and services, and lower values for agriculture and constructions. The construction sector comes last, with a significant lag behind the industry sector, recording the lowest demand of labour force. In 2016, only one of the four sectors, i.e. services, managed to recover to the values of 2008 – 1%. It is followed suit by the industry, where the vacancy rate recovered strongly to the level attained in the beginning of the surveyed period (1.4% în 2016Q3 compared to 1.7% in 2008Q2).

The most spectacular evolution can be noted in the agricultural sector, where vacancy rates dropped considerably (to 0.5% in 2016Q3 compared to 1.8% in 2008Q2).

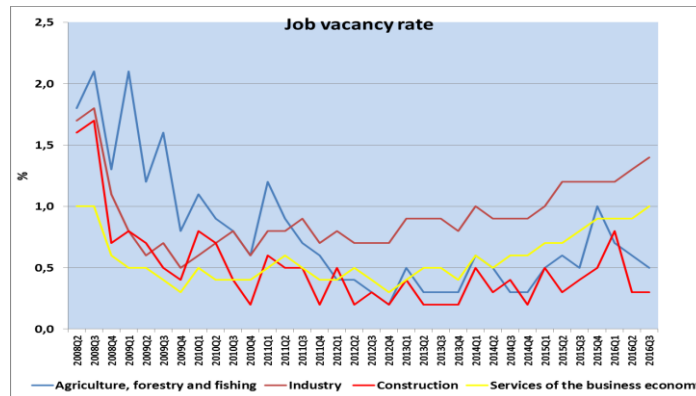


Figure 2 Job vacancy rate/Main economic activities (2008Q2-2016Q3) (Chart drawn up by the author based on INSSE data)

As it results from the above chart, in the first half of the surveyed period, agriculture still ranks first in terms of the job vacancy rate. However, at national level, the hierarchy of the four sectors is completely different if we consider the labour force demand in relation to the job vacancy ratios reported in these activity sectors (see fig. 3). According to this chart, services are on top with the highest ratio, with values above 52% in general, at times as high as 73% (2009Q1) – see table 1. The industry comes second in terms of ratio from the total, with values ranging from 18.37% to 39.31%, followed by constructions and agriculture, forestry and fishing respectively. We should also note that although services have recorded the highest ratio from the total, the evolution of the job vacancy rate ratio in services reveals a relative decrease in favour of industry. As regards the constructions sector, it revealed a general downward trend of the ratio in the total number of job vacancies. 2009Q1 and 2010Q3 are key moments, when both the minimum and maximum levels were attained for two important economic sectors: industry and services. In 2009Q1, the industry records the lowest ratio in the total (16.37%), while services are on the high end (73.73%). In 2010Q3, there was a turn of events. Industry reached the upper limit in the surveyed time period, while services hit the lower limit (52.66%).

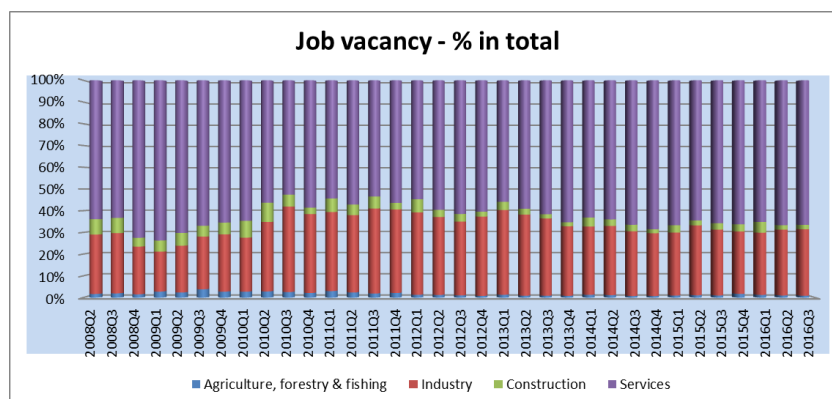


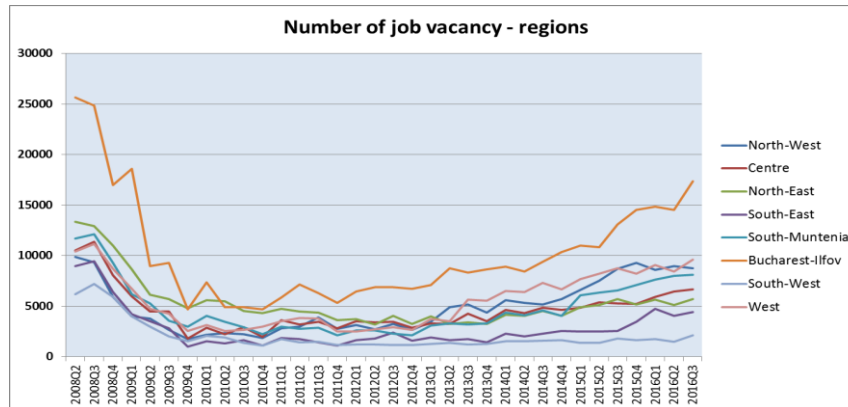
Figure 3 Job vacancies by activities - % in total (Calculation and chart drawn up by the author based on INSSE data)

*Table 1 Variation range – job vacancy ratios (%/points in time)  
(Own calculations based on INSSE data)*

ASP	I	C	S
Min: 0,75% (2014T1) Max: 3,86% (2009T3)	Min: 18,37% (2009T1) Max: 39,31% (2010T3)	Min: 1,81% (2013T4) Max: 8,82% (2010T2)	Min: 52,66% (2010T3) Max: 73,73% (2009T1)

Note: ASP – agriculture, forestry & fishing; I – industry; C – constructions; S – services

The distribution of the total number of job vacancies by regions is outlined in figure 4.



*Figure 4 Number of job vacancies by region  
(Chart drawn up by the author based on INSSE data)*

According to fig. no 4, the regional poles are the Bucharest-Ilfov and South-West regions. Bucharest-Ilfov is far ahead the rest of the regions in terms of total number of job vacancies. The ratio of this region in the total number of vacancies ranges from minimally 20.38% (in the 2<sup>nd</sup> quarter of 2010) to maximally 31.82% (in the 1<sup>st</sup> quarter of 2009). However, the level of vacancies in the 3<sup>rd</sup> quarter of 2016 only accounts for 69.49% of the respective level in the 2<sup>nd</sup> quarter of 2008. The average ratio of vacancies available in Bucharest-Ilfov during the entire surveyed period is around 25%. The South-West region lies at the opposite end, with the lowest number of job vacancies, and ratios ranging from minimally 2.88% (2016Q2) to maximally 8.17% (2008Q4). In this region, in the 3<sup>rd</sup> quarter of 2016, the number of job vacancies accounted only for 34.60% of the level reported in the 2<sup>nd</sup> quarter of 2008, while also on the lowest end compared to the other regions (see also fig. 8). In the same train of thought, in the second half of the surveyed period compared to the starting point of the analysis (2016Q2 vs 2008Q2), the West manages to rank first as regards the ratio of job vacancies, with 92.43%. It is followed, in the same order, by the North-West (88.42%) and the South (69.49%).

## 2.2. Labour market supply – unemployment rate

The quarterly evolution of unemployment rate in Romania was rather oscillating, with upswings followed by sudden downswings. The maximum level, i.e. 7.8%, was attained in 2010Q1, higher by 2.3% than in the beginning of the surveyed period (2008Q2). The minimum rate, of 5.1%, was recorded in 2008Q3, lower by 0.4% than in 2008Q2. 2016Q3 was also a key moment, when unemployment rate came very close to the initial values, higher only by 0.2% than in 2008Q2 (see fig. 5). At regional level, the unemployment rate status is very different. The regional poles change throughout the surveyed period, as unemployment rates suffer significant changes. As such, according to INSSE data and figure no. 5:



- In the first half of the surveyed period, the regional poles were the Centre, with the highest levels (12.3% in 2011Q4), and Bucharest-Ilfov, with the lowest levels (3.3% in 2008Q3);
- In the second half, the regional poles were South-Muntenia (12.8% in 2015Q1) and the South-East (13% in 2014Q1) for the highest values, respectively the North East (2.9% in 2016Q2) and, from time to time, the North-West, for the lowest unemployment rates.

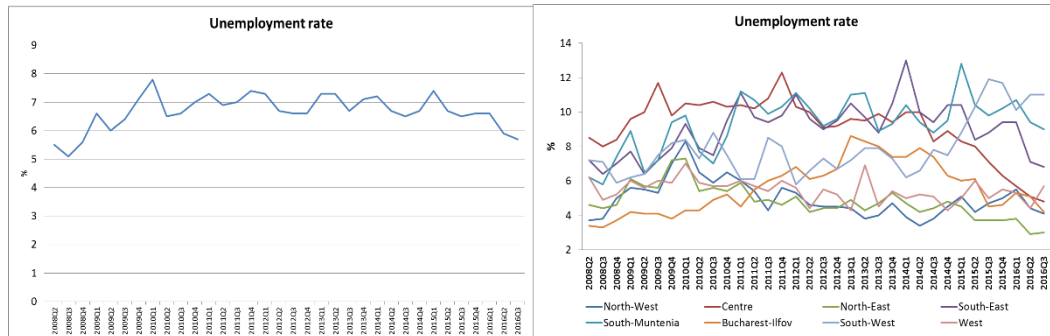


Figure 5 Unemployment rate – total and by regions (15-64 years of age) (Charts drawn up by the author based on INSSE data)

According to the residence environment, for the most part of the surveyed period, unemployment rate is higher in the urban than in the rural environment. Nevertheless, as of 2015Q3, in the context of a steep decrease in the urban unemployment rate and also an increase in the rural unemployment rate, there is a shift in the two rates (the rural unemployment rate exceeds the urban unemployment rate) – figure no. 6.

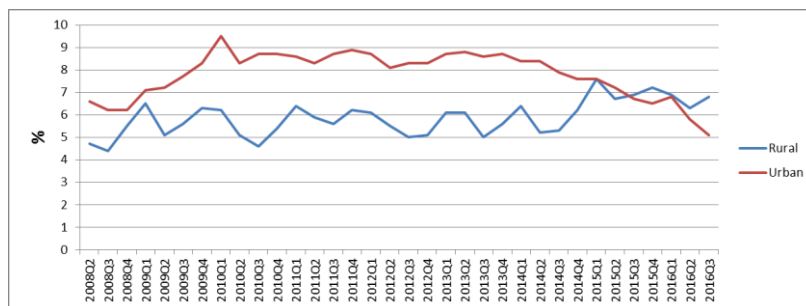


Figure 6 Unemployment rate – total by residence environments (15-64 years old) (Chart drawn up by the author based on INSSE data)

The unemployment rate by regions and residence environments, as it also results from fig. 7, followed different paths. As such, in the rural environment and in certain regions (North-East, North-West, West and even South-West) and during certain points in the surveyed period, rates tend to gather towards the inside of the circle, while the other regions are placed, more or less visibly, towards the outside. Bucharest-Ilfov is interesting to observe as regards unemployment rate differences. Chart no. 7 is relevant, from this point of view, considering the extreme points of the unemployment rate in the rural environment. We refer to 2009Q1 and 2013Q2, which reveal rates of 13% and 13.5% respectively. Such high levels are followed suit by lower values. The evolution of the unemployment rate in the South-West is also remarkable, since it is focused inwards for an extensive period of time, and draws away eventually. The lowest value reported in the South-West was 3.6% in 2008Q4 and the highest value was 12.4% in 2016T3. The results from the North-East are the most inwardly located, which means this region recorded, most of the time, the lowest unemployment rates in the rural environment.



At the opposite end there are several regions, which maintain a certain alternation (South-West, Bucharest-Ilfov, Centre, South-East). Similarly to the rural environment, unemployment rates in the urban environment also tend to be focused in certain regions (fig. 7). Again, there is no single region reporting the lowest unemployment rates. In general, the battle is fought between Bucharest-Ilfov, the North-West or the West. Nevertheless, the area of focus is not as close to the centre of the circle as in the rural environment. The South, the Centre, the South-East and the South-West are placed towards the outside of the circle. Also, there are extreme points for each region, but the highest values are not followed by values reflecting significant falls. The highest unemployment rate, of 13.4%, was recorded in 2015Q1 in the South, while the lowest, of 3.1%, was recorded in 2008Q2 and 2008Q3 in Bucharest-Ilfov.

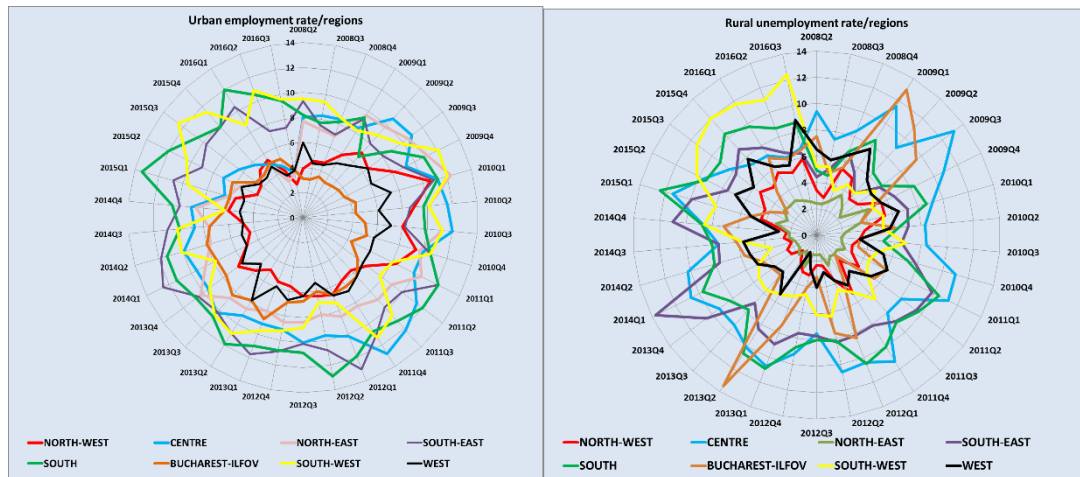


Figure 7 Unemployment rate – total by residence environments and regions (15-64 years old)  
(Charts drawn up by the author based on INSSE data)

It is noteworthy to mention that during the entire period under survey, the male unemployment rate is higher than the female unemployment rate. Overall, the rate difference ranges from minimally 0.5% (2014Q3) to maximally 2.5% (2009Q1) – fig. no. 8. The highest male unemployment rate is 8.8% (2010Q1) and the lowest is 6.2% (2008Q3). The times when female unemployment rates reach the lowest and highest values match those of male unemployment rates. As such, the lowest female unemployment rate, i.e. 4.4% occurs in 2008Q3, and the highest, of 7.1%, in 2010Q1.

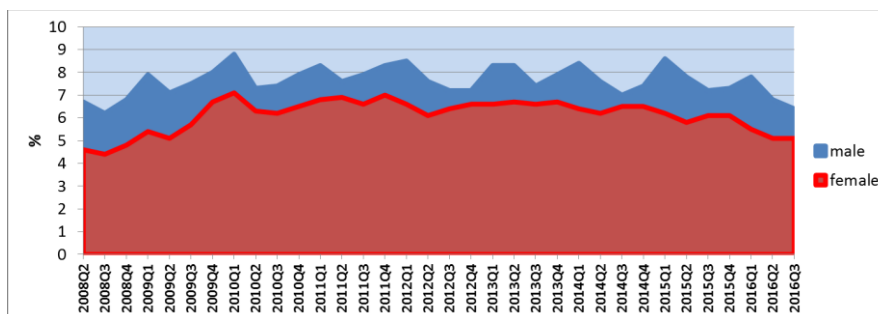


Figure 8 Unemployment rate – total and by genders (15-64 years old) (Chart drawn up by the author based on INSSE data)

The difference between female and male unemployment rates is also highlighted in chart no. 9. It can be observed through a greater closeness of female unemployment rates' level to the inside of the circle in the case of women. At regional level, the steepest difference between male unemployment and female unemployment is found in the South-West, where the values of male

unemployment rates are much higher, which takes this region closer (in the case of women) or farther (in the case of men) to the centre of the two circles. In the case of women, the regional poles are Bucharest-Ilfov and the North-East for the lowest unemployment rates and, most of the times, the South and the Centre for the highest values. In 2011Q4, the highest level of unemployment, of 12.4%, was reported in the Centre, and in 2008Q2, the lowest level, of 2.4%, was reported in Bucharest-Ilfov. In the case of men, the lowest rates are generally reported in Bucharest-Ilfov and North-West. The highest rates are reported in the Centre, the South, the South-West and the South-East. In 2014Q1, the highest level of unemployment, of 14.3%, was reported in the South-East, and in 2016Q2, the lowest level, of 3.1%, was reported in the North-East.

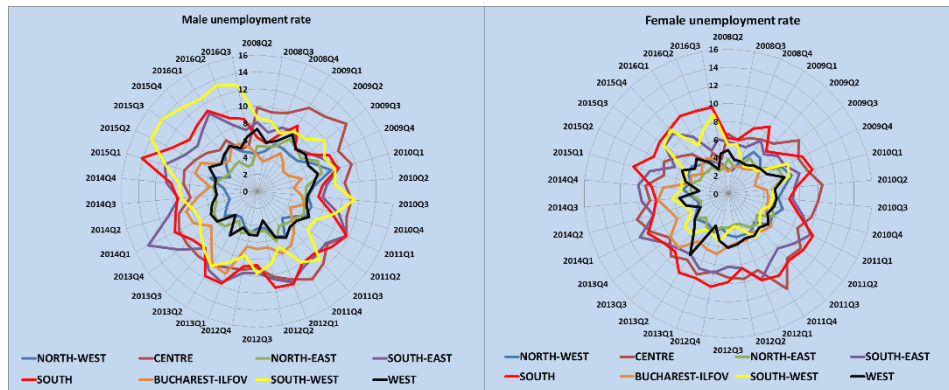


Figure 9 Unemployment rate – total by genders and regions (15-64 years old) (Charts drawn up by the author based on INSSE data)

### 3. EFFICIENCY OF ROMANIAN LABOUR MARKET OPERATION

In order to assess the balance between supply and demand on the Romanian labour market we proceeded to plot the BC. This curve reflects the relationship between the job vacancy rate and unemployment rate, highlighting the efficiency of the labour market. BC shifts may be generated by the influences of the economic cycle (along the curve) or by structural factors (changes of the curve's slope). As in the work "*Curba Beveridge în România și Uniunea Europeană*" (Tatu & Tăbîrtoiu, 1015) we decided to divide the surveyed period into three sub-periods: 2008-2009 (the peak of the economic crisis), 2010-2012 (post-crisis rebound of the European states) and 2013-2016 (resumption of the upward trend). Compared to the referenced paper, in this paper the last sub-period was extended to include year 2016. Its added value lies in the regional approach of this curve's evolution.

According to fig. 10, in the first sub-period (2008-2009), the BC path is typical to economic depression (high unemployment rates and low job vacancy rates), and accordingly, the curve shifts downward to the right. This highlights critical shortages and high equilibrium unemployment. For the sub-period 2010-2012, the economy shifts towards the bottom of the curve occurred both on the left and on the right side, specific to the rebound period. Moreover, we find that in the last sub-period (2013-2016) the economy shifts along the curve resume an upward direction to the left (specific to the phase of economic boom or resumption of the upward trend). These last shifts explain an improvement in unemployed workers' compatibility with the available job vacancies. We should note that the lack of balance on the labour force is obvious on several portions of the curve, where the increase of the vacancy rate is accompanied by the increase of the unemployment rate (shifts upward to the right). BC shifts to the right are associated with structural unemployment (increase of unemployed workers who are not properly qualified for the vacant jobs of the economy).

In Romania, from 2009 to 2011, the downsizing of economic activities led initially to a significant increase of short-term unemployment, felt in particular among young people and low-skilled workers. However, part of them continued to be unemployed after the economy picked up, doubling this long-term unemployment level in 2010-2014. This also led to an increase of structural unemployment. Outward shifts of the curve's slope point out a greater inefficiency in identifying the appropriate applicant, respectively job, and consequently, an extension of structural unemployment (determined mainly by unskilled workers in industry and constructions). Moreover, the focus of economic activities on lines of business with better technological equipment, where qualified staff was reported to be scarce, decreased the capacity of the economy to create jobs (Iordache, Militaru & Pandioniu, 2015).

According to fig. 10, the extreme ends are: on top – 3<sup>rd</sup> quarter of 2008 (5.6% unemployment rate and 2% vacancy rate); at the bottom – 4<sup>th</sup> quarter of 2009 (7.5% unemployment rate and 0.5 % vacancy rate).

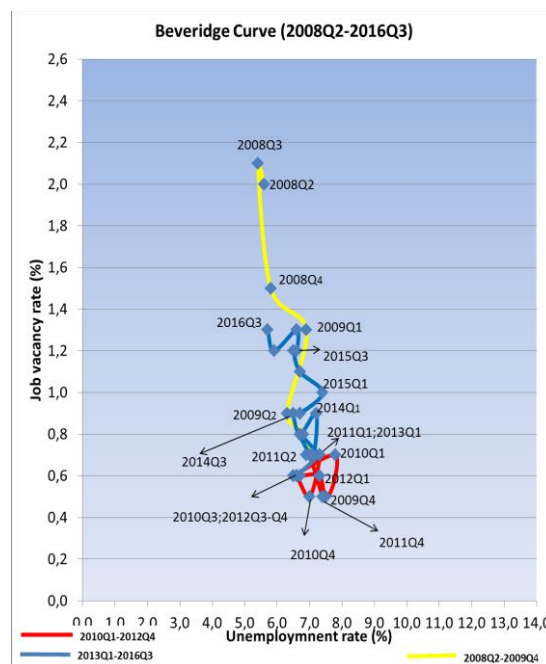
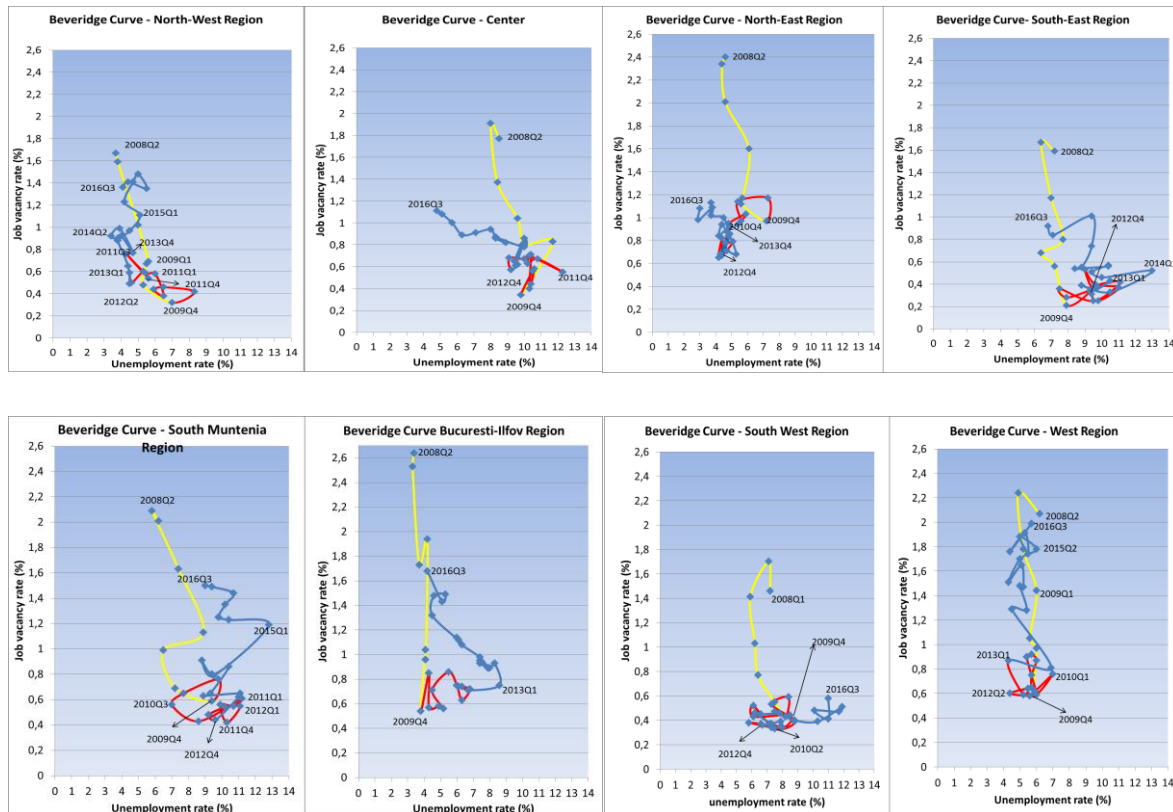


Figure 10 Beveridge curve (BC) - Romania (2008T2-2016T3) (Chart drawn up by the author based on EUROSTAT data)

At regional level, the evolution of the unemployment rate – vacancy rate is presented in figure 11. Notable differences in the BC evolution can be observed from region to region. From this point of view, increases in the unemployment rate accompanied by increases in the vacancy rate are marked especially in the South-East and South-Muntenia, which implies a gap between the training level requested on the labour force and unemployed workers' level of training. Such curve shifts to the right are also noted in other regions, but only for relatively short periods of time compared to the above two regions. Better operation of the labour force (compatibility between unemployed workers and job vacancies) is observed in the Centre, for which the BC shifts much to the left (the curve's slope becomes negative at the end of 2014 – fig. 11). From this point of view, the Centre is followed by the North-East. In fact, these two regions reported visibly lower unemployment rates in the 3<sup>rd</sup> quarter of 2016 compared to the 2<sup>nd</sup> quarter of 2008. At the same time, however, the vacancy rate for this period was lower than that in the 2<sup>nd</sup> quarter of 2008.

Nevertheless, in the beginning of the surveyed period (2008Q2), the best results were reported in Bucharest-Ilfov (vacancy rate of 2.64% and unemployment rate of 3.4%), and the worst in the Centre (vacancy rate of 1.77% and unemployment rate of 8.5%). Even if, in general, the unemployment rate is on the decrease in the 3<sup>rd</sup> quarter of 2016, such decrease fails to bring the great majority of regions back to the values of the 2<sup>nd</sup> quarter of 2008. The example of the South-West which, in the second part of the surveyed period, shifts the BC downward, to the right, speaks for itself.

On the whole, however, for all regions, we notice a more or less obvious return to a CB trend (top left), which means better matching of supply and demand on the labour market.



*Figure 11 Beveridge curve/regions (2008T2-2016T3)  
(Charts drawn UP by the author based on EUROSTAT data)*

#### 4. CONCLUSION

This paper enables us to point out the following relevant conclusions:

- The number of job vacancies and the rate of job vacancies tend to resume an upward trend once again, even if they failed to match their corresponding initial levels in the last part of the surveyed period;
- At national level, the regional poles for labour demand are Bucharest-Ilfov, with the most job vacancies, and the South-West, with the least job vacancies;
- By main activities, the highest labour force demand is reported in the services sector, followed in the same order by the industry, constructions, agriculture, forestry and fishing;
- When it comes to labour supply, we can no longer speak about the same regional poles, considering that to some extent there is a rivalry for the first and last place at general level, by gender and by residence environments;

- Also, in the last part of the surveyed period, the unemployment rate is on the decrease, without reaching, however, the initial values;
- The regional differences in labour demand and supply, through the level of the assessed indicators, also left its mark on the BC;
- Nationally, the BC has achieved a slight recovery in the top-left direction, which indicates a “struggle” to balance labour supply and demand;
- Although in comparison with the rest of the regions, the starting point for the BC, for the Central region, is located more to the right (the worst position in the beginning of the surveyed period), the curve’s shift of direction towards the top-left is the most visible. This entitles us to claim that this region achieved the best correlation between labour supply and demand, ensuring a more efficient operation of the labour market;
- The slightest shift of the BC curve is observed in the South-West, which makes it the most inefficient segment on the Romanian labour market.

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## INITIATIVE OF CHINA: “ONE BELT - ONE ROAD” AND PERSPECTIVES OF GEORGIA

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### **ABSTRACT**

*In modern world, international transport corridors are widely spread. This is complicated technological system, in which all sorts of transport and communications are assembled and material, financial and information flows are streaming and synchronized. Initiative of China - “One belt - one road”, is oriented towards creating of new multimodal transport corridor, which is directed through Eurasian continent in two flows – land and sea. The project will definitely change configuration and cargo flow of international corridors. In experts’ opinion, it is turning-point for globalization and a geopolitical gain for China.*

*Georgia, through its unique transport-geographical location, is involved in Transport Corridor Europe-Caucasus-Asia – “TRACECA”, which provides transit cargo flows for Georgia and is a guarantee for regional cooperation, security and sustainable development for Georgia.*

*New multimodal corridor will change old directions of cargo and corridors, the changes will also concern “TRACECA”, and Georgia, in order to involve in initiative of China - “One belt - one road”, will definitely need modernized sea, railway and automobile infrastructure, increase in carrying capacity of existing roads and creation of safe and stable environment on the roads. In this work, I discuss geopolitical and geoeconomical situation of Georgia, threats and perspectives which are expected as a result of implementing initiative of China - “One belt - one road”.*

**Keywords:** *“One belt - one road”, China, Georgia, international transport corridors, “TRACECA”*

### **1. INTRODUCTION**

After the dissolution of Soviet Union, the transport strategy of Europe is to widen European market by development of international transport corridors, which is considered to be one of the best ways for post-socialist states to get involved in European space. For European Union, it is also important to diversify transport flows and to create new corridors through Georgia and South Caucasus as an alternative to corridors that are passing through Russia. New reality changed Georgia’s geostrategic function and due to unique transport-geographical location it became involved in transport corridor – “TRACECA”, it connects Europe and Asia and provides Georgia with transit cargo, which is guarantee for Georgia’s regional cooperation, security and sustainable development. For us it is important to study possibility of involving Georgia in important processes occurring in Eurasia through initiative of China - “One belt - one road”, maintaining transit function and development opportunities.

### **2. HISTORICAL REVIEW OF GEORGIA’S TRANSIT FUNCTION**

Importance and role of Georgia’s transit function in development of the country begins from 19-th century. In 1821, Russia opened Kulevi (Redut-Kale) porto-franco on the Georgia’s Black Sea coast and in 1823 started regular transportation between Odessa and Redut-Kale ports. In 1828, the newspaper “Тифлисские ведомости” in its sixth edition wrote: “The advantageous location of Tbilisi, its proximity to Iran borders brings opportunity to attract Asian merchants..., Black Sea ports, especially now when we possess estuary of river Rioni, give us favorable conditions for connection with Europe. Also, Russia will have an opportunity to sell its products



to Asians”. Transit route Kulevi-Tbilisi contributed to domination of European products in Iranian market, while destroying perspectives for development of Russian trade and industry, because Russian products were more expensive and less qualitative. Iranian and Georgian merchants were going to Leipzig bypassing Russian markets and bringing European products which were cheaper and of higher quality. That’s why Russian manufacturers asked its government to abolish preferences established in 1821, which eventually were abolished in 1831. But French and Germans had already mastered Asian markets and they did not return to Russian market. They continued to trade through Turkey (Janashia, 1943).

Due to 10 years of preferential tariffs and trade in the old transit route, which united Black Sea with Caspian Sea through river (Rioni-Mtkvari) and land systems, Russia gave Europe temporary way to Iranian market, by relocating to Transcaucasia the route from Turkey to Iran, strengthening its political influence in Europe and East. Transit route from Europe to Iran was relocated from Kulevi-Tbilisi to Trapezund-Erzurum. Tbilisi lost its transit importance. This first attempt for Georgia and Transcaucasia to get involved in world trade turnover had failed.

In Soviet period, Georgia was locked in frames of planned economy and its specialization was determined by common Soviet interests. Only after independence it became necessary for Georgia to determine its role in global political and economic space by itself. Georgia does not have strategic natural resources, but has transport-geographic location, which gives it a strategic transit function and which became the main factor of formation of Georgia’s foreign and internal policy.

### **3. TRANSIT FUNCTION OF GEORGIA AND INTERNATIONAL TRANSPORT CORRIDORS**

In modern world, international transport corridors are widely spread. This is complicated technological system, in which all types of transport and communications are assembled and material, financial and information flows are streaming and synchronized. Georgia through its unique transport-geographical location, is involved in Transport Corridor “TRACECA”, which connects Europe and Asia. Europe-Caucasus-Asia transport Corridor – “TRACECA” was created with the assistance of European Union. The goal of the project was to support political and economic freedom of Post-Soviet states so that they could get involved in world market and develop regional ties. This project is also geopolitical, because mainly, it is created to become an alternative to international transit routes passing through Russia and diversify them. “TRACECA” route is: China (Lianyungang) – Druzhba border crossing – Kazakhstan – Uzbekistan – Turkmenistan – Azerbaijan – Georgia – Poti port. Two lines go from Poti. Line 1: Poti – Ukraine (Odessa) – Chop crossing – Slovakia – Austria. Line 2: Poti – Bulgaria – Romania – Austria.

“TRACECA” is operating since 1996, when by treaty of “Sarakhs”, Chevron oil started to be transported from Kazakhstan to Batumi port through railway and from there to international market through sea. Building of Baku-Supsa pipeline, in order to export Azerbaijan oil from Georgia, gave to the corridor the “energetical” aspect. Unfortunately, “TRACECA” is not equally important for participating countries. Central Asia is oriented towards Russian and Iranian corridors, West of Black Sea – towards Pan European, for Europe, Ukraine-South Caucasus corridor, which goes through Central Asia, is interesting only in extreme cases. Only in Caucasus, there is serious attitude towards it. Georgian transport infrastructure and legal base is more or less ensuring the development of transit potential.

But management is scattered and is hindering elaboration and implementation of unified transit policy. Georgia does not have attractive tariffs. Same situation is in port services. Port fees in

Georgian ports is significantly higher than in other ports of Black Sea Basin. Participants of transport infrastructure are oriented towards getting momentary maximum profit. there are many participant countries and they all have their own interests. Countries of the corridor can not agree on unified tariff and customs norms. The corridor is multimodal, which makes project expensive and prolongs transportation. Due to Georgia's small internal market, large part of import-export flows is destined for South Caucasus and Central Asia regions. All types of transport in Georgia is involved in transit operations. If we look at overall turnover by different types of transport, we will see that undisputed leader is motor transport. 87% of transit cargo is transferred by sea transport for Armenia and Azerbaijan, the rest for Central Asia.

Table 1:

Cargo Transportation by Modes (mln. tons)											
Transport Mode	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Civil Aviation	0.017	0.012	0.017	0.012	0.015	0.016	0.016	0.017	0.017	0.015	0.033
Road	27.8	27.5	27.8	28.2	28.5	28.8	29.1	29.4	29.8	30.1	30.4
Railway	21.2	22.2	21.2	17.1	19.9	20.1	20.1	18.2	16.7	14.1	11.9
Sea Ports	25.5	18.9	18.6	20.2	22.7	22.1	21.8	21.9	21.3	19.2	17.6
<b>Total</b>	<b>74.5</b>	<b>68.6</b>	<b>67.7</b>	<b>65.5</b>	<b>71.1</b>	<b>48.9</b>	<b>49.2</b>	<b>47.6</b>	<b>46.4</b>	<b>44.2</b>	<b>42.3</b>

Source: materials of Ministry of Economy and Sustainable Development of Georgia

Share of transit operations in turnover of Poti port is significant – in 2004-2015 it was between 55% and 48%. Share of import grew in 2004 from 20% to 36% in 2015. Export declined in 2004 from 25% to 16% in 2014. Decline of export occurred due to transfer of part of Central Asian cargo to Russia, while Georgian market is too small to make up for the loss. The port is specialized in dry cargo and accordingly, there is high share of dry and general cargo. Share of transit cargo of Batumi port was varying from 93,9% in 2009 to 85,8% in 2015. Kazakhstan was managing the port and was specialized in export of Kazakh oil. Kazakhstan closed Batumi oil terminal and new route of Kazakh oil is unknown to us. Probably because of instable prices of oil, Kazakhstan changed the geography of this cargo. In import, following countries have biggest share: Ukraine, Turkey, Greece, Russia, Italy, Bulgaria. In export: Bulgaria, Italy, Turkey, Ukraine, Romania, Malta.

Table 2:

Handled Cargo by Sea Ports and Sea Terminals (mln. tons)											
Name of Sea Port and Sea Terminal	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Poti Sea Port	6.7	7.7	8.0	6.1	7.3	7.2	7.5	7.4	8.6	6.8	6.3
Batumi Sea Port	13.2	11.2	8.7	7.8	8.0	7.9	7.9	8.3	6.3	5.7	5.6
Kulevi Sea Terminal	0.0	0.0	1.3	2.1	3.4	3.3	2.5	2.1	2.1	2.5	1.6
Supsa Sea Terminal	5.6	0.0	0.6	4.2	4.0	3.8	3.9	4.0	4.2	4.2	4.1
<b>Total</b>	<b>25.5</b>	<b>18.9</b>	<b>18.6</b>	<b>20.2</b>	<b>22.7</b>	<b>22.1</b>	<b>21.8</b>	<b>21.9</b>	<b>21.3</b>	<b>19.2</b>	<b>17.6</b>

Source: materials of Ministry of Economy and Sustainable Development of Georgia

Turkey has biggest share in container turnover, then comes Italy and Romania. Baku-Poti railway is important for South Caucasus region and Central Asia as a way to transfer container-transit cargo, because Poti port has the most attractive tariffs and the shortest distance, based on its geographic location, in the region.

Table 3:

Handled Containers by Sea Ports (TEU)											
Name of Sea Port	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Poti Sea Port	129,100	184,792	209,614	172,800	209,797	254,022	284,559	331,324	384,992	325,121	273,690
Batumi Sea Port	0	0	44,197	8,813	16,318	45,439	73,095	72,123	61,980	54,695	56,115
<b>Total</b>	<b>129,100</b>	<b>184,792</b>	<b>253,811</b>	<b>181,613</b>	<b>226,115</b>	<b>299,461</b>	<b>357,654</b>	<b>403,447</b>	<b>446,972</b>	<b>379,816</b>	<b>329,805</b>

Source: materials of Ministry of Economy and Sustainable Development of Georgia

“TRACECA” international transport corridor changed Georgia’s transport infrastructure. east-west corridor – motorway was developed from Red bridge (border with Azerbaijan) to Batumi; railway has been loaded, cargo turnover has increased and cargo geography has changed. All of these has had a positive effect on country’s social-economic situation. Although, after the war with Russia in August 2008 every interested party saw that Russia can disrupt transit route any time and put to question the security of transport corridors, which is one of the main condition for efficient operation of transport corridors.

Tripartite agreement about functioning of Baku-Tbilisi-Akhalkalaki-Kars railway, which was reached in February 2007, is important for regional relations between Turkey, Georgia and Azerbaijan. The goal of the project is to involve South Caucasus in Pan European transport corridor. Azerbaijan allocated 340 mln Lari as a 25 years’ and 1% loan to build new 93 km railroad and to reconstruct Marabda-Akhalkalaki 160 km railroad. Capacity at the initial stage will be 5 mln tonnes, which later will be increased to 10 mln tonnes. The construction work on Georgian section was finished in 2013 and came to Turkish border. Turkey started building its section only in 2016, which is planned to be completed by the end of this year, because they have a great interest in involvement in the Initiative of China through this particular railway, this was announced by Erdogan in Beijing in May 2017. By the railroad, China will be connected to Europe through Georgia. First of all, cargo, which is destined for Turkey, will be carried through the railroad. But most importantly, this will be the route connecting Asia with Europe, which will pass under Bosphorus strait in “Marmaray” tunnel, which was opened in 2013 and Turkey, according to its plans, will play the main part in new Eurasian corridor. The Tunnel will later be connected with Baku-Tbilisi-Kars mainline and from there, it will be connected with China, the largest cargo sender country in Asia. Very effective Asian-European transport corridor will be created in Black Sea region, which will compete with many transit projects, including “TRACECA”, this will definitely decrease cargo going through Black Sea Basin ports and probably Poti will have to restructure cargo, because it is strongly dependent on container cargo coming from Azerbaijan, Central Asia and China, large part of which will be transferred to railroad.

Active support of Turkey for Baku-Tbilisi-Kars railroad, derives from the geostrategic interest and implies development of eastern regions of the country and its transport infrastructure, basically sea ports (Samsun, Trabzon, Rize, Hopa).

Implementation of Baku-Tbilisi-Kars railroad project is also important for Azerbaijan, because by building the railroad Astara-Rasht-Qazvin, which connects Azerbaijan with Iran, and by Implementation of Baku-Tbilisi-Kars railroad project, longitudinal as well as latitudinal routes will pass through Azerbaijan. Through the project, Asian and Caucasian countries will have an opportunity to gain access to Mediterranean Sea and Trans-European and Trans-Asian systems will be connected stronger. Calculations of Georgia and Turkey about their involvement in global transport space and their social-economic advancement by developing their transit function may be under threat after initiative of China - “One belt - one road” is activated.

#### **4. INITIATIVE OF CHINA: “ONE BELT - ONE ROAD”**

New world order, which emerged from dissolution of Soviet Union, does not consider Russia and China as one of the main actors in international relations. These countries are aspiring to become main actors by themselves. After the world economic crisis, China took obligation of developing the world economy by itself. Initiative of China is not accidentally called “One Belt - One Road” and “Globalization 2.0”. Initiative of China - “One belt - one road” is oriented towards creating of new multimodal transport corridor, which is directed through Eurasian continent in two flows – land and sea.

This road unites 65 countries, 62,3% of world population, 38,5% of land area, one-third of global economic production. Geographic area of “One belt - one road” is “Economic Belt Great Silk Road” and “21-st Century Great Sea Silk Road”. “One Belt - One Road” will pass through the following corridors: Russia’s “Eurasian Economic Corridor”, “ASEAN”, Kazakhstan’s “Bright Road”, Turkey’s “Central Corridor”, Mongolian “Steppe Road”, Vietnam’s “Two Corridors – One Circle”, Poland’s “Amber Road”, Great Britain’s “Northern Powerhouse”, TRACECA” and Russia’s “North-South”.

“Silk Road” which was stretched on 7000 km 2000 years ago was the bridge connecting Europe, Asia and Africa or east and west and a symbol of China’s strength. For China, “One Belt - One Road”, besides its economic meaning, is connected to its values – willingness to see strong, stable, developed China in the world arena.

**China’s goals in the project are:** by mutually beneficial cooperation, reach security and welfare among participant countries; creation of inter-connected infrastructure and development of open type economy; simplification of investment and trade procedures and creation of free trade zones.

China also has internal goals: stimulation of its western regions and decreasing disproportion in internal development. China carried out many projects of development of infrastructure of foreign countries, the condition of which was employment of Chinese workers and use of Chinese materials, exclusive right to lease sea ports. China is biggest importer of raw materials and biggest exporter of products and is interested in free trade and world trade liberalization, in order to get more access to new markets in Eurasia and to increase export of goods and capital. With this project, we can see that China wants to be a leader at least in world financial-economic system, as it wants to create new free economic zones with Chinese vector, reform international financial institutions, which are influenced by United States and other western countries, create new financial organizations and strengthen role of Chinese currency. We think, that China has more far reaching plans, this is willingness to become influential player in world politics. Brazilian politologist Pepe Escobar considers that: “the goal of the project is not to create Harmonious world, but to diminish strength and geopolitical influence of the United States and to strengthen China”.

Here we will discuss Russia's and Turkey's, which are the biggest regional players in Georgia's neighborhood, attitude towards the Initiative of China: "One Belt - One Road", because it influences Georgia's geopolitical and geoeconomic situation.

**Russia's Goals:** Russian government looks positively at its involvement in Chinese corridor. Russia doesn't want to be one of ordinary players in the project, it wants to be main player along with China. In the opinion of Russia's president, it is an opportunity to modernize Russia's transport infrastructure, increase capacity and speed of Baikal–Amur Mainline and "Transib". Important resources will be put in building of "Northern Sea Road". Putin believes that "Eurasian Economic Union", "Northern Sea Road" and "One belt - one road" will create new transport configuration in Eurasia. China announced that it will create Russia-China investment fund with 14,5 mln USD. The agreement on increasing mutual cargo turnover was signed in 2011 and implied increase in cargo turnover by 200 bln USD.

**Turkey's goals:** Turkey is strongly interested in moving New Silk Road through its territory. Erdogan declared on the opening of "One belt - one road" forum, that Turkey is ready to invest in the project. He considers that Baku-Tbilisi-Kars railway will be important line of the corridor and also Edirne-Kars line, which is under construction, is co-financed by Chinese companies and will allow Turkey to become collector of goods coming from China and distributing hub to Europe.

## 5. GEOPOLITICAL AND GEOECONOMIC PERSPECTIVES OF GEORGIA

For Georgia, transit function in social-economic point of view is the way to increase budget revenues, maintain financial stability, develop services and create jobs. Chinese project will definitely change configuration of "TRACECA" international corridor and its cargo flows, which will have a negative impact on Georgia's regional cooperation, security and sustainable development.

Georgia already has some relations with China. China signed free trade agreement with Georgia and wanted to deepen economic cooperation and buy Anaklia port, but could not win the tender. China has unprofitable project "Hualing" on Tbilisi Sea. It is worth asking what interests may China have in Georgia, when the projects that China has are not giving profits and what China wanted to do, it was not let to do?

However, Georgia-China relations do have some perspective. In December 13, 2015 first transit train from Chinese port Lianyungang's terminal arrived to Tbilisi. With the arrival of the train, "Silk Railroad" was officially opened. The train will continue its way to Turkey in the future. This is the first transit cargo and fulfilled project of "Silk Road". In the future, transit train will connect Asia with Europe and vice versa in the shortest period of time. Cargo in Istanbul will arrive in 14-15 days maximum, when during sea transportation 40-45 days are necessary.

For Georgia, it will also be important if Turkey will manage to interest China to transfer parts of cargo to Baku-Tbilisi-Kars railroad. Although, this route may meet with resistance, because for Central Asian countries most profitable way to Europe, which is being functioning for tens of years, is Russian territory and not South Caucasus route.

One of the most probable routes will pass through Teheran-Ankara. In this case Georgia and Azerbaijan will be out of the corridor and cargo will come to Turkey via Iran. Though, cargo from Turkmenistan, which will arrive to Iran, may not pass through Turkey and go straight to Indian Ocean, especially when railway connecting Turkey and Iran does not exist.



The situation in the region is instable and it is uncertain what will the future geopolitical change bring. It depends on the United States, what will its position be towards Russia and Iran. Pressure of the United States on Russia can cause abandonment of South route by China and transferring all of its cargo to Russia in opposition to the United States.

In this situation, in geopolitical point of view, it will be less probable for Georgia that by its transit function it will reach country's social-economic development, unless there will be important geopolitical and geoeconomic shifts in the region, which will force Central Asia to transfer its cargo to Georgia and Azerbaijan. Geopolitical and geoeconomic games are beginning around the Chinese corridor, which will reflect negatively on Georgia's geopolitical and geoeconomic situation.

## 6. CONCLUSION

Literature and statistical analysis of sources lets us draw following conclusions:

1. In modern global space, transcontinental transport corridors gain great importance and develop at a fast pace, they unite economic and political poles and create communication carcass.
2. Georgia is connected with Trans-European transport infrastructure through TRACECA transport corridor, which is connecting Europe and Asia. TRACECA is a guarantee for regional cooperation, increase in cargo flows, security and sustainable development.
3. Transit function of Georgia is a factor of its political, economic and social development, involvement in global space, employment and improvement of living standards of population. World community is also promoting development of this function.
4. Initiative of China: "One Belt - One Road" is a greatest geoeconomic project, which has become a global initiative.
5. Georgia has transit and logistical potential to get involved in China's corridor, but will definitely need modernized sea, railway, motorway infrastructure, increase of capacity of existing roads and creating secure and stable environment on these roads.
6. If TRACECA project was oriented towards strengthening Georgia's geopolitical and geoeconomical positions in global space, China's initiative does not consider these interests at all and there is a danger of revision of Georgia's geopolitical and geoeconomical vector.
7. Georgia's foreign political orientation is correct and the country is involved in world processes. It is a member of up to 40 international organizations, including World Trade Organization and it seems that it is protected from geopolitical games. However, future of Georgia's sustainable development depends on the country's foreign political and economic directions in the triangle: USA-Russia-China.

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## THE DETERMINANTS OF THE EVOLUTION OF FAMILY SAVINGS IN THE CONTEXT OF A HIGH LEVERAGED SOCIETY

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### ABSTRACT

*A comprehensive understanding of the factors which determine the evolution of household savings is still missing. Despite diverse contributions of several areas of knowledge, particularly in the economic area, there is no definitive answer available to this issue. This gap is partly related to the fact that the micro and macroeconomic evidence available is not directly compatible, neither easily integrated. On the other hand, the factors that contribute to explain the evolution of savings over time and differences in savings rates across countries have a markedly multidisciplinary nature - including cultural, demographic and psychological factors. The integration of these areas of learning is important for any research outline, however is not simple. Being a vast and complex topic, the importance of continuing to research this topic in the future appears obvious, since not only savings provide a safeguard for families and society, but they are the main basis for private investment as well. This research aims studying the determinants of savings for the Portuguese families, in the long and very long term, having been built a set of various models of analysis, using multiple linear regression methodology, in order to contribute to this strand of literature and knowledge. We conclude that the change in gross savings of Portuguese families is influenced by economic and financial parameters of both the country and families. As for the variables studied which are related with the banking area, our results suggest that savings are sensitive to conditions offered by each bank at a given time.*

**Keywords:** *Savings, income, consumption, debt, banking system, credit, leverage, households, economic and social conditions.*

### 1. INTRODUCTION

In the developed economies the time is now of high levels of leverage and debt. The recent financial crisis and consequent recessions that plagued the developed countries, particularly in the 2008-2009 period, are the result of several excesses of the credit markets and consumption.

The savings topic has been relatively little handled by the social and economics sciences and remains a largely economic domain. Comparatively, more attention has been devoted, both by academics and media, to consumption, although the savings are inextricably linked to consumption, as it affects disposable income and serves as a direct counterweight. It is not therefore surprising that a comprehensive understanding of the factors determining the evolution of household savings is missing. Despite diverse contributions of several areas of knowledge, particularly in the economic area, there is no definitive answer available to this issue. This gap is partly related to the fact that the micro and macroeconomic evidence available is not directly compatible, neither easily integrated. On the other hand, the factors that contribute to explain the evolution of savings over time and differences in savings rates across countries have a markedly multidisciplinary nature - including cultural, demographic and psychological factors, as noted by TESE (2009). In the sense of understanding the frequency and success of savings, there are several psychosocial and not only economic factors, such as: habits, motivations, optimism, self-control, cultural environment, social network, school and education, and the media. The integration of these areas of learning is important for any research outline, however is not simple. Being a vast and complex topic, the importance of continuing to research this topic in the future appears obvious, since not only savings provide a safeguard for families and society, but they are the main basis for private investment as well. A number of factors, aggravated by the recent financial crisis, have also helped to alert societies to this essential need, which deserves a close look and may give rise to opportunities for action by the social agents involved in the management of savings.

Nowadays the Portuguese population has more and more reasons to control consumption by virtue of the present conjuncture of slow recovery – post recession, there is thus a growing interest on the debt issues based on several imbalances and never as currently one has discussed so much about this necessity. Accordingly, this research aims to study the determinants of savings for the Portuguese families, in the long and very long term, having been built a set of various models of analysis, using multiple linear regression methodology, in order to contribute to this strand of literature and knowledge.

## **2. RELEVANCE OF HOUSEHOLD SAVINGS**

Understanding the factors that determine the evolution of household savings is an area of economic knowledge for which there are still not many answers. On the other hand, the factors that contribute to explain the evolution of saving over time and the differences in levels of savings between countries have a markedly multidisciplinary nature - including cultural, demographic and psychological issues (Bank of Portugal, 2011). There is a need to reduce the high level of household indebtedness, in many cases higher than disposable income, as a consequence of a stable economic climate with historically low interest rates, which led to greater access to credit at lower rates, which translated into consumerist and spending behaviour. The evolution of the household saving rate has attracted a growing interest given the current economic situation of the country, this interest is based on the persistence of several macroeconomic imbalances, in particular the high external financing needs of the economy. Also the high levels of household indebtedness have generated a high level of concern. It is now important for families to recompose their family "balances", readopt the assets and income they have to the burdens and responsibilities they bear.

According to information provided by the Economic Bulletin of the Bank of Portugal (Bank of Portugal, 2010), the household saving rate fell sharply during the convergence period for the euro area and subsequently remained at relatively low levels within the European framework, amounting to around 10% of disposable income in 2009.

## 2.1 The evolution of current savings

The concept of savings generally corresponds to the difference between disposable income (either of a particular individual or of the economy in general) and the total consumption expenditure incurred by a particular economic operator. It corresponds to the amount that remains after the consumption of goods and services has been made available, which allows the agent to maximize its usefulness, that is, the satisfaction of needs. In this context, it is clear that savings are inextricably linked to consumption, which is usually one of the main items of the aggregate demand of an economy.

The importance of saving becomes more evident in a context of austerity, which is counterintuitive in that people would save when the situation is good and save themselves for less favourable situations. It is important to raise people's awareness of the importance of saving, because there are also factors that could generate a greater level of concern, such as the State, because it is less able to function as a social security support.

Due to the wage cuts and the increase in taxes that have been felt with the austerity measures, a reduction in the disposable income of families is expected. Credit is already more expensive, either by increasing rates or by the increase in spreads that are being practiced by most financial institutions, reflecting a greater risk associated with the country's current economic and financial situation.

By analysing the graphs of the following figures, it can be observed that the values of the Gross Savings of Families (PBF) have increased over the years, although with sharp decreases in 1988, 1994 and 2007. It is also noted that the growth of savings in the 1990s is accentuated at first, but after the fall of 1994, gross savings figures grow more smoothly. This behaviour was maintained during the beginning of the first decade of 2000 until the sharp fall of 2007 that leads to an abrupt increase in 2009.

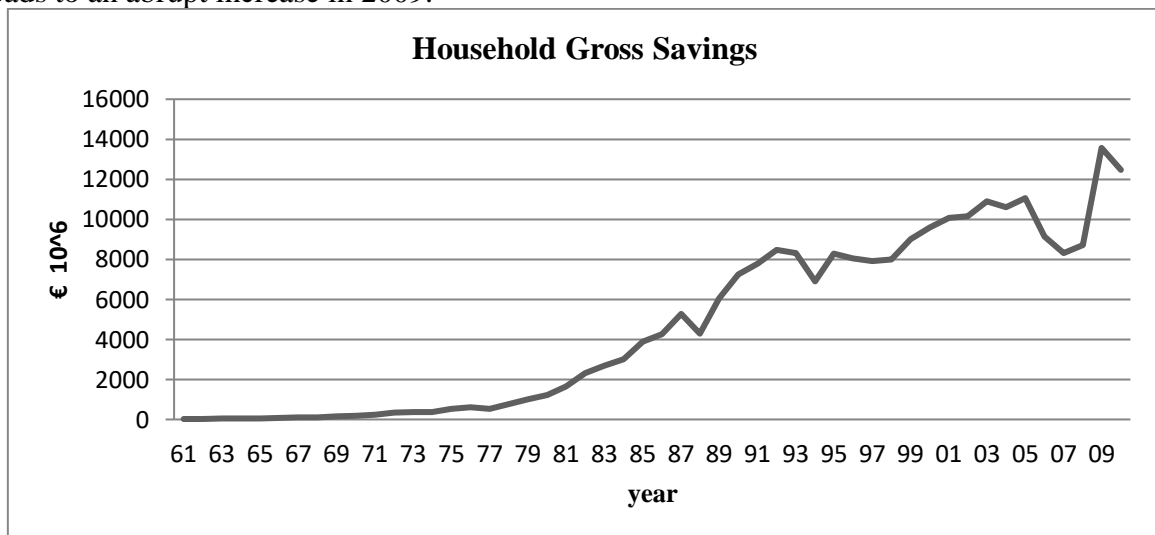


Figure 1. Evolution of gross household savings

Source: Gross Savings of Families (PBF) data series taken from Bank of Portugal (2017) and Pordata (2017)

On the basis of Figure 2, shown below, it can be seen that the Gross Savings of Families as a percentage of Available Income (PBF% RD) has declined since 1990. In reality, the gross increase in wages leading to an increase in disposable income Increase in the percentage of money invested in savings.

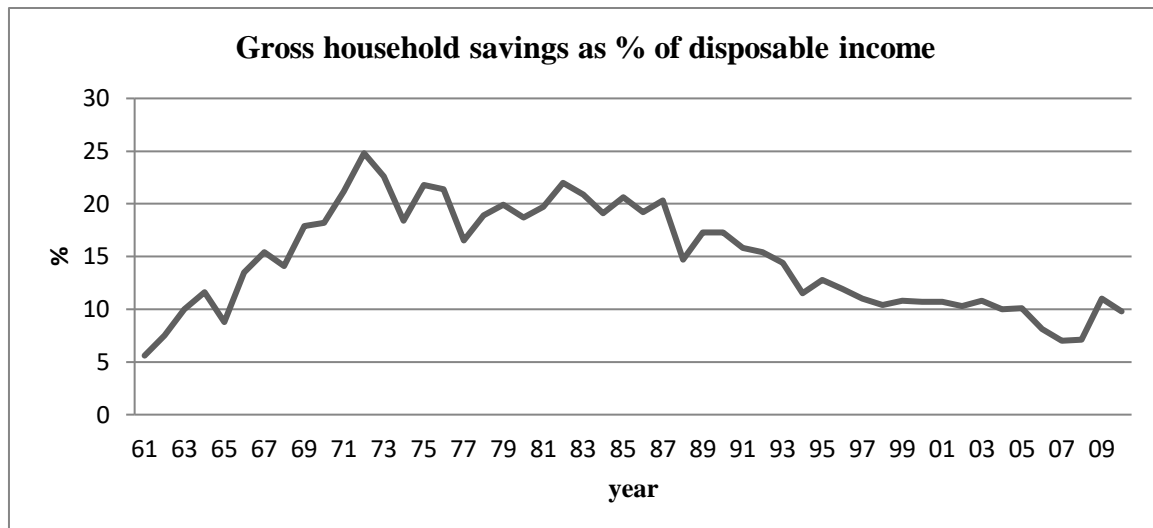


Figure 2. Evolution of gross household savings as a percentage of disposable income

Source: Gross Savings of Families as a percentage of the Available Income (PBF% RD) data series taken from Bank of Portugal (2017) and Pordata (2017).

### 3. FACTORS INFLUENCING THE SAVINGS OF PORTUGUESE FAMILIES

#### 3.1 Gross Domestic Product

A country's Gross Domestic Product (GDP) is the amount of goods and services it produces in a given year, by the various agents of that economy. This value refers to the production carried out in the country, regardless of whether it is carried out by domestic or foreign companies. GDP translates the value of wealth created annually in Portugal and acts as a measure of the overall performance of a given economy. When comparing or analysing a country's GDP behaviour over time, it is important to distinguish nominal GDP from real GDP. The first concerns the value of GDP calculated at current prices, that is, the year in which the product was produced, the second being calculated at constant prices, where a base year is chosen and where the calculation of the GDP is adjusted, thus eliminating the effect of inflation.

#### 3.2 Household Taxes

Taxes on both wages and valued added tax (VAT) on products penalize consumption levels, but also savings. According to the Agência Financeira (2015), in Portugal the weight of taxes on labour was 37.7% (individual) and 26.9% (family). In both cases, there was an increase of 0.3% in 2010 compared to the same period last year.

It is argued by some public prosecutors that the restructuring of the VAT levels envisaged by the troika should be done with care so as not to penalize the consumption of the lowest income families. They also point out that consumption taxation "is always preferable to income taxation", adding that currently a restructuring of the product mix (subject to VAT) has to be done, but without penalizing basic food loss of tax competition with Spain (Agência Financeira, 2015).

#### 3.3 Interest Rates

After almost two years at a record low of 1%, Eurozone interest rates rose to 1.25% in April 2011, but soon later the European Central Bank would lower to a record zero-rate basis. The fact that interest rates have remained at historical lows has led to greater access to credit by households and has led to a current small revival of consumer behaviour.

### **3.4 Gross National Income**

The Gross National Income (GNI) gives us the value of the wealth created annually at a given country. In the current economic context in which the Portugal lives, public debt, as it is in part very significant acquired by non-residents, is transformed into external debt and therefore has consequences when comparing the gross domestic product (GDP) with the gross national income (GNI). As part of the interest of the public debt is paid abroad, part of the wealth created in Portugal does not stay in the country, so the gross national income tends to be lower than the GDP.

### **3.5 Inflation**

Inflation, or Consumer Price Index (CPI), reflects the average annual price change. We have witnessed a worsening of the inflation rate in recent months, with significant changes in taxation, notably VAT, which is now at 23%, as well as the increase in the price of fuel, with the usual contagion effect to goods that use fuels more intensely as intermediate consumption for their production. The evolution of fuel prices and some effect caused by the reduced commercial margins of some goods that may occur through the pressure caused by the retraction of consumption are in fact some of the reasons that may condition the final evolution of prices in Portugal. Finally, it should be noted that the probability of real losses of income and wealth is very high this year (Economia e Finanças, 2017).

### **3.6 Unemployment**

When the Portuguese Minister of Finance presented the economic rescue plan negotiated with the troika (IMF / ECB / EC), he revealed that the unemployment rate would reach 13% of the working population in 2013 (Ministry of Finance, 2011). It would spike to a much higher level. The unemployment rate in Portugal indeed soared following the international crisis, and hit successive highs, reaching a record level of 17% following the financial aid received, being falling since then to a, currently, around 10% level (INE, 2017).

### **3.7 Household disposable income**

This is the net amount earned in wages deducted from the respective taxes. A decline in the disposable income of households is expected due to the current adverse conditions expected in the labour market and fiscal consolidation measures. In other words, the real purchasing power of households is expected to decrease as a result of this imbalance, a series of reasons such as wage cuts, tax increases and the reduction of unemployment benefits for almost half of the new beneficiaries. In addition, the increase in banks' spreads and the tightening of requirements are already making it difficult to access credit, preventing indebtedness from being the alternative to continue to consume.

### **3.8 Household wages and salaries**

The INE (Instituto Nacional de Estatística – Portuguese Statistics Bureau) data on the net salaries of employed workers in Portugal reveal and confirm a deep inequality that continues to exist in our country in the distribution of income, which covers the entire private sector and a large part of the public as a result of the austerity imposed by the Government and companies that spread throughout the economy (INE, 2017).

### **3.9 Indebtedness**

Indebtedness consists of piling with debts, contracting obligations for financial favours received. The definition of indebtedness goes far beyond this notion, since indebtedness is a contraction of obligations, which often seems to have no solution. It translates into such a debtor's state that it can no longer pay its creditors.



Family indebtedness is thus the inability of families to meet their obligations, motivated by factors such as financial maladministration, unemployment, prolonged illness, divorce, lack of financial education and poor investments. With the accession to the euro zone and the convergence process, the standard of living of Portuguese households tended to approximate the European average, resulting in higher household consumption. On the other hand, there was a sharp drop in interest rates and, at the same time, greater ease of access to credit was boosted by liberalization and calls for consumption by credit institutions and more diverse financial agents, as well as a strong competition between supply, which led many families to make commitments that far exceeded the acceptable rate of effort.

#### **4. RESEARCH HYPOTHESES AND DEVELOPMENT OF THE MODEL**

##### **4.1 Objectives and methodology**

In order to know more in depth some of the factors associated with the household saving decision in Portugal, several regressions were estimated that aim to explore and somehow analyse the information regarding the segments of families that contribute most to the savings in Portugal. In these regressions, the variable explained corresponds to the level of savings - or to the saving rate - of the household and the explanatory variables are the geographical characteristics, disposable income, age, work status, unemployment rate, household size, inflation, interest rate and consumption. Until recently, the rate of household savings had declined since the mid-1980s (Bank of Portugal, 2007). In its annual report, it reported that the household debt ratio was around 130% and that the Portuguese household saving rate was at 7.2% of disposable income, the lowest value in the last thirteen years. The data analysed shows a reduced saving capacity in Portugal. We find young generations living in a context of labour and financial insecurity, but seemingly unprepared to deal with it. Dependence on the family of origin will tend to extend for more years. The aging of the population is irreversible and the sustainability of social security faces serious challenges that make it urgent to rethink it. Learning to save, on a regular and methodical basis, with the aim of securing the future for both adults on the road to retirement and for young people, is inevitable now and in the future.

##### **4.2 Research hypotheses**

In this section we try to identify the factors that can influence the savings of Portuguese families, through the elaboration of hypotheses, in order to guide the study. Let then first identify the factors that can influence the household's gross saving by stating the hypotheses as well as the respective fundamental variables of analysis. The dependent variable represents the percentage of gross savings of households and is to be regressed against a set of independent variables as defined as follows. Based on the economic and financial situation of the country, four variables are analysed: GDP, Euribor rate (6 Months), Gross National Income (GNI) and Inflation (CPI). These variables were selected because they are closely related to the saving capacity. It can be deduced that high values of the GDP and GNI variables can serve as a stimulus to savings, while high values in the remaining variables functioned as an obstacle. As for consumer-related aspects, the increase in unemployment, as measured by the unemployment rate (TD), does not contribute to saving, while household disposable income (RDF) contributes positively to the increase in unemployment. For savings, however, these two variables are closely related to the family wage and salary variable (OSF). That said, in the case of unemployment, there will be a decrease in wage and / or salary values which will lead to a decrease in disposable income, implying lower savings rates. Accordingly, the following basic research hypotheses can be formulated:

**H1:** *Will the evolution of Portuguese families' savings depend on the country's socio-economic and financial situation?*

**H2:** *Will the evolution of household savings depend on bank conditions (borrowing costs)?*

### 4.3 Construction and Model Specification

The model to be used to quantify and explain the factors influencing household savings is the OLS (Ordinary Least Squares). It is a mathematical optimization technique that seeks to find the best fit for a data set by minimizing the sum of the squares of the differences between the estimated value and the observed data (such differences are called the perturbation term). That is, the problem of estimation of stochastic linear models becomes a problem of minimizing the distances of the real observations to the regression line of the sample or estimation line. It is the most widely used form of estimation in econometrics (Johnston and Dinardo, 2000). In particular, the model used in the present investigation starts from a simplified version of the function of saving specification of Deaton (1977). This function of Deaton has been used or adapted by several authors (eg. Koskela and Virén, 1984) for the elaboration of regression models that examine the economic determinants of the function of saving such as interest rate, inflation and disposable income of households, or even the distribution of income in the economy. Other authors were focused on the examination of these phenomena, presenting several contributions over time, from both the savings (vid. e.g. Attanasio, 1994; Kotlikoff, 1988, 1989) and the consumption sides (vid e.g. seminal Modigliani e Brumberg, 1954). OLS estimators are, under classical assumptions, the best unbiased unbiased linear estimators. One of the most important assumptions is that of the independence between the regressors and the term of perturbation. In order to give credibility to the aforementioned theory, the OLS estimation will be made, since the objective is to verify if the saving is influenced by the presented factors.

### 4.4 Variables used

Using the data available on the websites of the Bank of Portugal, the National Statistical Institute (INE) and the contemporary Portugal database (Pordata), the following variables were selected in the following Table 1, as they could best contribute to the paper's goals.

*Table 1. List of variables used.*

Variable	Description	Units
PBF	Gross household savings	€ 10 <sup>6</sup>
PBF%RD	Gross household savings as% of disposable income	%
RDF	Household income available	€ 10 <sup>6</sup>
OS	Wages and salaries	€ 10 <sup>6</sup>
OS%RD	Wages and salaries as% of disposable income	%
PIB%	GDP growth rate at constant prices	%
PIB%cap	Growth rate per capita GDP at constant prices	%
PIB	GDP	€ 10 <sup>3</sup>
RNB	Gross national income	€ 10 <sup>3</sup>
RQS	Remuneration of senior management (monthly average)	€
RQM	Remuneration of middle management (monthly average)	€
RECE	Remuneration and team leaders (monthly average)	€
RPAQ	Highly qualified professional salaries (monthly average)	€
RPQ	Qualified professional salaries (monthly average)	€
RPS	Semi-skilled professional salaries (monthly average)	€
RPNQ	Unqualified professional salaries (monthly average)	€
RPA	Practical and apprentices compensation (monthly average)	€
IPC	Consumer price index rate - Inflation	%
CPND	Private consumption of non-durable goods	€ 10 <sup>6</sup>
CHH	Housing credit per capita	€
TCH	Household lending rate (credit to households in total credit)	%
CHipH	Mortgage credit per capita	€
Euribor	6-month Euribor rate (annual average)	%
ISF	Taxes on families	%
TD%	Unemployment rate	%
End	Debt	€ 10 <sup>6</sup>

## 5. ANALYSIS OF THE MODELS

### 5.1 Descriptive analysis

Analysing the data collected, one can observe that over the years the gross saving of Portuguese households has been increasing, although in the last decades this growth is not so relevant (variation in the first decade of 2000 was 19.34%). However, the percentage of savings vis-à-vis disposable income fell sharply from the 1970s onwards, especially in the 1990s. Household disposable income and gross wages and salaries have grown over the years, peaking at the end of the 1970s and slowing down thereafter. It is interesting to note that wages and salaries as a percentage of disposable income have registered negative variation over the years, particularly in the last decade. GDP, GNI, CBND and End in gross terms show successive increases but with evident coverage in the late 1990s and the first decade of 2000. Since the 1980s, inflation has risen sharply, as has the growth rate of GDP in the first decade of 2000.

Regarding the monthly average remuneration, according to the qualification, it is shown in the graph below that these have been increasing over the years. However, it is noted that this increase is more pronounced in the middle and higher grades, that is, for the individuals with the highest qualifications. In the tables 2-4, which follow below, are shown the descriptive statistics for the variables used, namely the ones used in the models using different timespans datasets (Models 1 to 3, as to be presented later in this paper).

*Table 2. Descriptive statistics for very long-term series model (1961-2010)*

P. DS		PBF	PBF% RD	RDF	OS	OS%RD	PIB%	PIB% cap	PIB	RNB	IPC	CNPD
61 - 70	Min	22,60	5,60	401,10	249,40	60,20	2,44	2,84	510871,00	513040,00	1,80	342,50
	Max	176,70	18,20	971,80	629,50	64,80	10,53	9,86	1170967,00	1175225,00	9,00	686,50
	Av	84,73	12,26	634,03	399,10	62,64	6,06	6,03	793716,20	799276,70	4,52	488,54
	SD	52,07	4,30	192,26	128,44	1,29	2,78	2,71	220126,27	221750,43	2,29	118,26
71 - 80	Min	241,00	16,50	1136,70	715,10	58,30	-5,10	-8,64	1355192,00	1355751,00	10,60	767,50
	Max	1230,40	24,80	6582,40	3837,90	70,00	10,49	10,96	8140573,00	7976088,00	25,10	4646,90
	Av	596,11	20,42	3018,72	1915,82	64,23	4,99	3,82	3608352,10	3563192,30	18,07	2084,93
	SD	319,50	2,41	1761,21	1027,06	4,08	4,47	5,62	2228842,81	2172740,73	5,28	1277,16
81 - 90	Min	1642,70	14,70	8324,10	4699,40	47,30	-1,04	-1,42	9780522,00	9432514,00	9,40	5758,20
	Max	7241,60	22,00	41863,60	21363,10	56,50	7,86	8,09	55538492,0	55335366,00	29,30	30919,30
	Av	4061,24	19,11	22030,04	11043,24	50,57	3,67	3,45	27963598,2	27264162,90	17,32	15990,02
	SD	1750,71	2,15	10970,41	5528,11	3,12	3,04	3,33	15330252,9	15460831,46	6,98	8362,05
91 - 00	Min	6907,20	10,40	49169,80	25461,70	51,80	-0,69	-0,81	63684590,0	63526210,00	2,20	36844,50
	Max	9585,00	15,80	89721,50	49695,90	55,40	5,05	4,65	127007451,	124372245,00	11,40	70253,90
	Av	8229,58	12,47	67682,83	36439,77	53,62	3,07	2,82	92863923,2	92360763,60	4,92	52631,75
	SD	718,55	2,03	12943,20	7845,33	1,41	1,67	1,60	21000882,9	20260619,39	3,13	10823,33
01 - 10	Min	8317,3	7,00	94369,10	52675,10	53,80	-2,45	-2,54	134137054	130702549,00	-1,00	75022,80
	Max	13567,6	11,00	127562,30	69049,90	56,20	2,74	2,51	172546454	166698448,00	4,40	105388,30
	Av	10498,6	9,49	111585,37	60574,01	55,16	0,67	0,17	156258210	152265250,80	2,40	91724,22
	SD	1631,12	1,52	11669,21	5464,52	0,71	1,53	1,55	14290398,6	12652646,48	1,47	11043,16

P – Period; DS – Descriptive Statistics; Mi – Minimum; Ma – Maximum; Av – Average; SD – Standard Variation

/Table following on the next page

*Table 3. Descriptive statistics for long-term series model (1985-2010)*

P. DS		RQS	RQM	RECE	RPAQ	RPQ	RPS	RPNQ	RPA	TD%	End
85 - 90	Min	386,40	286,10	208,30	213,40	150,30	125,20	111,40	81,40	4,60	537,00
	Max	702,00	509,60	363,10	373,10	253,00	208,70	183,90	149,00	8,50	6418,50
	Av	541,38	402,04	284,50	294,32	202,76	169,10	148,52	115,02	6,71	2856,25
	SD	123,63	86,94	60,61	61,46	40,22	32,72	28,18	26,69	1,66	1998,06
91 - 00	Min	989,00	694,60	496,90	509,90	336,90	280,40	247,00	209,70	3,90	7859,30
	Max	1737,40	1200,00	841,80	893,80	532,40	432,20	393,40	369,80	7,20	61625,00
	Av	1425,96	985,16	696,61	730,34	453,69	368,50	335,04	297,64	5,47	26676,07
	SD	243,24	168,14	110,79	126,57	62,21	46,91	45,54	49,61	1,36	18225,55
01 - 10	Min	1960,00	1316,40	909,20	999,00	584,10	472,00	425,00	404,90	4,00	71253,80
	Max	2158,10	1466,20	1106,40	1177,30	699,10	577,00	522,80	510,00	10,80	137945,00
	Av	2059,64	1389,06	1006,29	1094,99	640,03	529,00	467,71	449,14	7,32	104522,65
	SD	79,75	54,21	73,61	65,83	40,18	39,43	32,65	37,35	1,98	24308,82

P – Period; DS – Descriptive Statistics; Mi – Minimum; Ma – Maximum; Av – Average; SD – Standard Variation

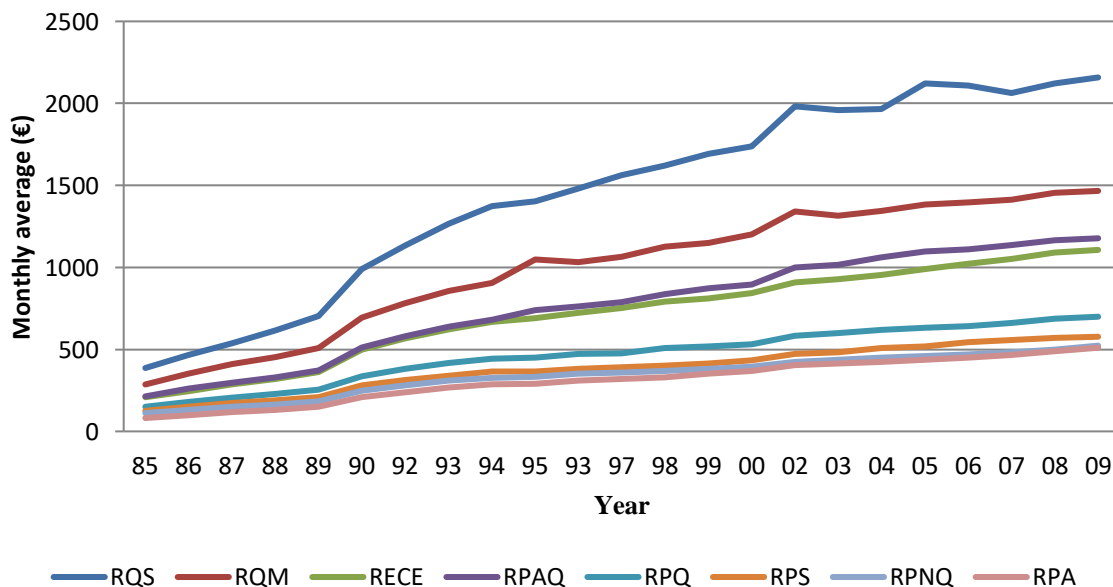
*Table 4. Descriptive statistics for shorter time-series model (2001-2010)*

P.	DS	ISF	CHH	TCH	CHpH	Euribor 6m
01 - 10	Min	12,80	4851,00	35,04	1098,00	1,15
	Max	14,80	9947,00	38,51	2067,00	4,61
	Av	13,83	7325,60	36,33	1573,50	2,89
	SD	0,56	1768,19	1,10	318,48	1,23

P – Period; DS – Descriptive Statistics; Mi – Minimum; Ma – Maximum; Av – Average; SD – Standard Variation

In terms of remuneration, the variables described below (average monthly earnings per category) were not considered for some multivariate models developed, since all these variables are closely related to gross national income and disposable income of households. It is estimated that taxes on households decreased from 1995 to 2010, while Euribor recorded growth in the 1990s and a sharp decline in the first decade of 2000, Housing credit per inhabitant, as well as the weight of mortgage credit in the total amount of credit granted has increased over the last few years and the value of mortgage credit per inhabitant has registered a slight decrease. Such can be observed in Figure 3.

**Remuneration by professional category**



*Figure 3. Evolution of the remuneration by professional category*

## 5.2 Bivariate analysis

The coefficients of correlation indicate the degree of dependence or association between two variables. They are not fully shown in this paper, due to space constraints. The dependent variable PBF (gross saving of households) has a very strong and direct relationship with the variables RDF, OS, GDP, GNI and CPND, that is, the increase of these variables is implicated in the increase in PBF. It is interesting to note that the % of households' gross saving relative to disposable income does not present such relationships. On the other hand, it can be observed that the explanatory variable RDF is strongly related and in the direct sense with OS, GDP, GNI and CPND. In turn, wages and salaries (OS) is also directly and strongly related to GDP, GNI and CPND. GDP is still directly and strongly related to GNI and NCD and these latter variables are also closely related.

It is also observed that the dependent variable, PBF, only shows a very strong relation with the euribor rate, being this a negative relation, that is, the euribor growth causes a decrease in the PBF. In turn, the variable PBF% RD shows a strong relation with the indebtedness variable and in the opposite direction. Sorter series coefficients can also be observed below.

*Table 5. Correlation matrix for shorter time-series model (2001-2010)*

	PBF	PBF%RD	ISF	CHH	TCH	CHipH	euribor	TD%	End
PBF	-	-0,51	-0,57	0,10	0,06	-0,52	-0,82	-0,14	0,78
PBF%RD		-	0,53	-0,59	-0,15	-0,61	-0,53	0,06	-0,82
ISF			-	-0,22	-0,70	-0,49	0,81	-0,13	-0,66
CHH				-	0,18	0,19	-0,14	0,91	0,99
TCH					-	0,78	-0,44	0,43	0,16
CHipH						-	0,10	0,30	0,19
Euribor							-	-0,42	0,71
TD%								-	0,25
End									-

Results obtained for a significance level of 5% highlighted in grey

## 5.3 Multiple regression analysis

Considering the dependent variable PBF, three models of multivariate analysis were constructed in order to support the theoretical contents developed and the hypotheses defined. In addition, the variability of the dimensions of the time series provided also contributed to the construction of more than one model in order to obtain a better consistency and reliability of the results. Thus, in model 1, the longest series (from 1961 to 2010) were considered, in the model 2 the shorter series (only composed of 9 observations, the years common to the series from 1995 to 2010) and, finally, the model 3 built from long and medium series.

## 6. SUMMARY OF RESULTS

In this section a summary of the results is presented. Several statistical tests for the models validation were performed but are not shown (such as residual's normality, heterocedasticity, Durbin-Watson, or VIF – multicollinearity).

### 6.1 First Model

The least squares model (OLS) was estimated from the longer series (with more observations). The coefficients are fit for this model at 94.39% (R-Squared). The adjusted value is 93.74%, that is, the explanatory variables explain roughly 93.74% of the variation of the coefficients of the gross saving of the families for the model adjusted to the number of variables. As shown in Table 6, in terms of statistical testing, the confidence level for the variables OS%RD and RNB have significance at the 1% level, which represents the best scenario that we can obtain in terms of significance. The variable PBF%RD presents a level of significance of 5%, while the

remaining variables do not present statistical relevance for the developed model. The F-Anova test allows verifying that the variables as a whole explain the model. Given that the test value obtained for the test was close to zero, ie. less than 1%, it is possible to infer that the estimated model is statistically significant.

*Table 6. Coefficients of regression for the Model 1*

Variables	$\beta$	p-value	significance
const	9058,92	0,00017	***
PBF%RD	111,874	0,03608	**
OS%RD	-157,065	<0,00001	***
PIB_cap	-41,1577	0,40387	
RNB	6,19998e-05	<0,00001	***
IPC	-34,502	0,27328	

\*\*\* Variable significant at the 99% level

\*\* Variable significant at the 95% level

## 6.2 Second Model

This model was estimated from the shorter series (with fewer observations). For this model the adjusted R-Squared is 99.31%. Table 7 exhibits the coefficients of regression, suggesting that the explanatory variables: ISF, TCH, CHipH and Euribor have a significance level of 1%, which represents the best scenario we can obtain in terms of significance. The CHH variable has no statistical significance for the model. Given that the F-Anova test value obtained for the test was 0.0004, ie. less than 1%, it is possible to state that the estimated model is statistically significant.

*Table 7. Coefficients of regression for the Model 2*

Variables	$\beta$	p-value	significance
const	-14458,7	0,01543	**
ISF	1055,5	0,00302	***
CHH	0,03991	0,31733	
TCH	470,603	0,00793	***
CHipH	-2,32689	0,00385	***
Euribor	-1163,54	0,00078	***

\*\*\* Variable significant at the 99% level

\*\* Variable significant at the 95% level

## 6.3 Third Model

The least squares model (OLS) was estimated from the long and medium series, considering 27 observations. Adjusted R-Squared value is 82.35%. As shown below in Table 8, explanatory variable IPC presents a level of significance of 1%, which represents the best scenario that we can obtain in terms of significance. The variable GDP% has a significance of 5%, the variable TD% has a significance of 10%, the variables End and OS%RD have no statistical significance for the model. This F-Anova test value obtained was approximately zero, suggesting that the estimated model is statistically significant.



Table 8. Coefficients of regression for the Model 3

Variables	$\beta$	p-value	significance
const	7461,69	0,49660	
End	0,0165038	0,10316	
IPC	-193,011	0,00131	***
TD%	-388,827	0,08420	*
GDP%	-265,831	0,03616	**
OS%RD	80,0365	0,66717	

\*\*\* Variable significant at the 99% level

\*\* Variable significant at the 95% level

\* Variable significant at the 90% level

## 7. DISCUSSION OF RESULTS AND CONCLUSIONS

In terms of conclusive analysis from the hypothesis tested, starting with H1, *whether the evolution of Portuguese families' savings depends on the economic and financial situation of the country or its economic and social situation*, the following variables were considered: wages and salaries, wages and salaries as a percentage of disposable income, private consumption of non-durable goods, gross domestic product, GDP growth rate, GDP per capita growth rate, index rate of Household income, gross national income, family taxes, unemployment rate and indebtedness.

Considering the model 1 of multiple linear regression developed, it is verified that the explanatory variables: PBF% RD, OS% RD and GNI are statistically significant in explaining the variation of the dependent variable household saving. Since this model presented autocorrelation problems, an alternative Cochrane-Orcutt model was developed in which the variables PBF%RD and GNI present significance at a level of 1% and the remaining variables are not statistically significant (vid. Table 9).

Table 9. Coefficients of regression for Cochrane-Orcutt alternative Model 1

Variables	$\beta$		p-value	significance	
const	-938,542	4443,98	-0,2112	0,83376	
PBF_RD	213,987	68,6907	3,1152	0,00331	***
OS_RD	-34,0312	62,2534	-0,5467	0,58751	
PIB_cap	-5,35366	41,8189	-0,1280	0,89874	
RNB	7,90604e-05	1,05164e-05	7,5178	<0,00001	***
IPC	-0,00605927	34,3652	-0,0002	0,99986	

\*\*\* Variable significant at the 99% level

\*\* Variable significant at the 95% level

\* Variable significant at the 90% level

Model 3 showed that the variables: CPI, GDP% and TD% are relevant at a significance level of 1%, 5% and 10%, respectively, in explaining the variation in household gross savings. Thus, it can be concluded that the variation of gross savings of Portuguese households is influenced by economic and financial parameters of the country and households, in particular negative influence: of computers and wages earned as a percentage of disposable income, unemployment rate, Household tax, inflation, GDP growth rate and positive influence: saving as a percentage of household income, household disposable income and gross national income.

As for H2, *whether the evolution of household savings depends on bank conditions (borrowing costs)*, the following variables were considered: CHH (Housing credit per inhabitant), TCH (Housing credit rate - credit to housing in total credit), CHipH (Mortgage credit per inhabitant) and Euribor 6 months (annual average). Based on model 2, it was verified that the variable ISF was considered relevant at a significance level of 1%, as well as the variables: TCH, CHipH and Euribor.

Taking into account the banking variables used in the model 2 development, it can be verified that the TCH influences positively and that CHipH and euribor negatively influence the variation in the gross saving of Portuguese households, which allows suggesting that the savings are sensitive to the bank conditions in every moment in time. In global terms, the current economic and financial situation and the prospect of significant structural changes in size, such as the financing conditions of economic operators and the conduct of fiscal policy, could be reflected in the breakdowns in the estimated relationships, so that their use in the future projection of the savings should be made with particular caution.

Considering the models developed, it is suggested here that the variation of the gross saving of Portuguese families is influenced by economic and financial parameters of the country and households, namely negative influence: of computers and wages earned as a percentage of disposable income, Unemployment, household tax, inflation, GDP growth rate and positive influence: saving as a percentage of household income, household disposable income and gross national income, hence the acceptance of hypothesis 1.

Regarding the banking variables used, it was observed that TCH influences positively and that CHipH and Euribor negatively influence the variation verified in the gross saving of Portuguese families, which allows to state that the savings are sensitive to the banking conditions in each temporal moment, making possible acceptance of hypothesis 2.

In resume, we conclude that the change in gross savings of Portuguese families is influenced by economic and financial parameters of both the country and families. As for the variables studied which are related with the banking area, our results suggest that savings are sensitive to conditions offered by each bank at a given time. It would be undoubtedly useful and appropriate that everybody could all learn something from the recent financial crisis, whose debt, together with the futility and other alleged evils of consumption, undermined the economy, the society and the personal values as well. The savings habits need to be somewhat restored in order to achieve a more balanced match with consumption, which will require a consistent and enduring strategy, based on education, a responsibility that has to be shared not only by the economic and financial sectors, but also by governments and the society in general.

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## THE IMPACT OF SOCIAL BANKS ON THE AVOIDANCE OF FINANCIAL CRISES

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### ABSTRACT

*Banks are at heart of society and economy. They play an important role in financing made by enterprises. Because of this intermediary role and their role in the process of money creation, banks can significantly influence important developments, including those that concern social, economic and environmental problems. After the Global Financial Crisis (GFC) of 2007, these are the ethical banks, apart from a lot of banks of a general kind, which are increasingly coming into existence throughout the world though the experience of the recent years indicates that they are not as popular as they should. The objective of the study is to identify and assess the impact of social banking on the stability of financial markets. My research was limited to the last Global Financial Crisis (GFC) of 2007. I investigate both direct and indirect causes of the 2007 GFC and the possibility of limiting it, in some aspects, through the development of social banking and social economy. In order to achieve the research objective, the cognitive approach was applied based mainly on observations. The content analysis was also conducted, which was based mainly on the desk research of digital and documentary sources. The results indicate that the influence of social banking was weakened before the GFC. These findings are consistent with the assessment of numerous research, however, in my research I suggest how to avoid such an enormous negative impact through developing of social banking (through quantitative as well as qualitative development). In my research I also emphasize the role of a regulator in selected areas.*

**Keywords:** Ethical Banks, Global Financial Crisis of 2007, Social banking, Social Banks, Social Economy

### 1. INTRODUCTION

The objective of the study is to identify and assess the impact of social banking on the stability of financial markets. The conducted analysis was based on the assumption of the social economy concept. Social economy and business ethics and the analysis of their positive economic impact, in particular on sustainability in various sectors of the economy are being constantly discussed. Business ethics (in this case limited to social banks) involves not only the issues of managerial decision making but it also analyzes economic, social, political, and legal institutions as well as practices within which individual decisions are made. Hence, ethics involves issues at both the individual, personal level and at the level of social institutions, structures and practices. Ethics in business refers to the economy both in its institutional and individual dimension. The first part of this paper includes the essence of social banking, and further the reasons of the financial crisis were assessed. The discussion was narrowed down to the analysis of the reasons lying behind the last Global Financial Crisis (GFC) of 2007, however, the conclusions drawn here are of a general character. In the second part, in base on logical analysis, the author tried attempts to answer the question of how social banks may contribute to the diminished number of financial crises effects?

### 2. THEORETICAL BACKGROUND

Irrespectively of numerous different definitions of social banking (described also as alternative, ethical, green, values-based), the article uses the one proposed by the Institute for Social Banking. Its authors emphasize that there is no single definition of this term due to a social and

cultural distance visible in different regions of the world. According to the ISB „Social Banking describes banking and financial services whose main objective is to contribute to the development and prospering of people and planet, today and in the future”. According to its authors, the common characteristics of “Social Banks” are:

- Catalogue of social, environmental and ethical negative / positive criteria to prevent/support activities that harm/foster common good.
- Core Banking - traditional banking practices and values; focus on certain traditional activities – namely, in the loans and savings business.
- Responsiveness to the needs reported by a local community
- Pro-active dialogue with stakeholders and engagement in a public discourse
- Transparency and responsibility

The study prepared by the Fondazione Culturale Responsabilit  Etica within the PRICE Project in cooperation with the Polish Fair Trade Association presented the differences between ethical and conventional banks (Table 1). In this case the authors of the Project used the term ethical banks, which confirms the earlier mentioned thoughts.

*Table1: The differences between ethical and conventional commercial banks  
(PRICE, 2014, p.10 )*

Ethical banks	Commercial banks
Their activity is based on a transparent system of ethical values which are known, accepted and respected at every level of the hierarchy.	Their activity is aimed at obtaining a few quantitative goals, mostly such as the share in the market and profitability.
Their goal is to obtain financial profits as well as social and environmental benefits.	The emphasis is put to maximize financial profits by controversial, from the social and ecological point of view, investments.
Investment decisions are made, first of all, by the clients (depositors and borrowers) via the possibility to choose among ethical projects to be financed.	Investment strategy and the risk level are settled by the bank management.
Regular publishing of the list including all investment projects which have been subsidized.	No information is given about the intended use of the obtained and borrowed funds.
Financing such companies whose projects influence positively the society and environment.	While obtaining financing support, no ethical behavior of the applicants is taken into consideration nor their influence on the society and environment.

While analyzing the differences enumerated in Table 1, two issues seem to be extremely crucial. The first one refers to the possibility the clients of a bank have to co-decide about where their money will be invested, and the second one concerns the transparency of regular publications on investment projects subsidized by depositors.

### 3. THE 2007 GFC DIAGNOSIS

The Global Financial Crisis (GFC) of 2007 was a key milestone in the history of financial markets. The GFC was also unique in many aspects: its economic consequences were stronger and its global impact wider than all earlier financial perturbation (Melvin and Taylor, 2009).



The moment when the GFC of 2007 broke out, the whole world faced the challenge of fighting back the consequences of this head-on collision. The crisis effects were and are still visible at different levels long before its first wave passed by. The GFC of 2007 came from the US and it subsequently spread gradually to other geographical regions across the world. Next, the GFC moved to Europe as yet another geographical region in which many south European countries experienced macro-economic problems and faced serious debt crises. Melvin and Taylor (2009) chronicle the main events of the GFC and note that as early as the beginning of the summer of 2007 it was apparent to many market participants in the US financial market that fixed income markets were under considerable stress, and in July 2007 equity markets in the USA (and around the world) exhibited remarkably high levels of volatility. Blanchard (2008) presents data demonstrating that subprime loan crisis in the USA had a multiplier-type effect of very large magnitude on different aspects, shows the losses on U.S. subprime loans and securities, estimated as of October 2007, at about \$250 billion dollars, while the expected cumulative loss in world output for the years 2008 to 2015 associated with the crisis was estimated at \$4,700 billion. The decrease in the value of international stock market was about \$26,400 billion. McQuade and Schmitz (2017) pointed out on cash flow before and after the crisis. They concluded that global capital flows have settled at a far more moderate level in the post-crisis period compared to what was observed prior to the financial crisis.

As soon as the first wave of 2007 GFC stroke, many recommendations and directives were prepared to identify the reasons of the crisis and the possibilities to reduce such serious consequences in the future. The report issued in 2011 by the Federal Crisis Inquiry Commission (FCIC) said that „The crisis was the result of human action and inaction, not of Mother Nature or computer models gone haywire. The captains of finance and the public stewards of our financial system ignored warnings and failed to question, understand, and manage evolving risks within a system essential to the well-being of the American public.” Further in the report we can read that it was a “dramatic failures of corporate governance and risk management at many systemically financial institutions”. The origin of the crisis, according to the authors of the report, should be looked for in the activity of institutions, particular people and excessive greed and recklessness, supported by an improper or even harmful country’s policy. Still, to pin this crisis on mortal flaws like greed and hubris would be simplistic. Orłowski [2008] enumerated ten different reasons for the crisis and conducted their analysis. Depending on the division criteria, they are of primary or secondary, regional or global character and may be long-lasting as well as periodical, static or cyclic. A part of these reasons served as the background to create the “ignition spark” which resulted in the crisis. Below, Fig. 1 presents the crises causes in the graphical dimensions taking into account its multi-dimensional character. The main reason of the crisis, as the author suggests, was a rapid and uncontrolled development of the markets and financial instruments, especially derivative instruments. Often a multi-factor and multi-dimensional structure of these instruments hampers their objective assessment. Additionally, high prices changeability on financial markets facilitates the development of derivative instruments (it is also facilitated by financial leverage) and a constant increase of their value intensifies optimism. Such optimism is definitely irrational, and the faith in the invisible hand of the market strengthens even more confidence in achieving unlimited profits. The above mentioned development of the financial market was stimulated by two factors: the economic policy of many countries including the USA, and the increase in demand for financial assets from institutional investors such as: pension and investment funds. Such an interest was mainly due to demographic changes (aging society) and the need to create additional protective measures for the retirement years since „pay as you go” systems were not able to carry bigger and bigger burden of greater and greater expectations of the insured. It all took place against rapid changes in the distribution of economic powers in the world and accompanying



imbalance. For example, in the years 1990 - 2007 the global GDP increased by 2.5, at the same time Chinese GDP increased by more than 7 times, Indian 4 times and the GDP of the USA and Western Europe only doubled [IMF, 2015]. According to Orłowski „..the American culture of living on credit was confronted with the Asian style of living off savings...”. The presented opinion results from the analyses of the American lifestyle and tendency to live on credit and the sources of its financing. Surplus savings in the Far East countries finance the US deficit. In the above analysis globalization processes should not be omitted since they lead to an easier allocation of financial assets at the global scale. It gives much bigger investment possibilities (scale effect) but also no real possibility of any control over financial institutions activities. It hampers risk assessment and, consequently, it leads to a free and rapid spread of financial crises via the “infecting” effect. All so far enumerated reasons boosted optimism, and the faith in the idea of absolute market effectiveness additionally only confirmed such reasoning. Market fundamentalists emphasized that the financial market is able to assess properly the goods or financial instruments, and the mistakes are only temporary, hence the market as such does not need much supervision. The effect of such a thoughtless policy in terms of the development of financial markets were immediate disturbances in the micro-economic scale. They meant mistakes in the management of financial institutions and the assessment of investment risk. Each of the enumerated reasons to a different extent resulted in the creation or deepening of the 2007 GFC, and subsequently the transformation of the financial crisis into an economic one. Therefore, it is so important to preserve a proper balance between many factors facilitating the development of crises of both institutional and non-institutional character. Sustaining the balance facilitates political, economic as well as cultural and identity-related security and the preservation of a proper level of trust between social actors is *sine qua non*.

#### **4. THE ROLE OF SOCIAL BANKING IN THE AVOIDANCE OF FINANCIAL CRISIS**

Banks constitute the element of the financial system, but also they play an important role in economy. Banks play an important role connected with financing made by enterprises. Because of this intermediary role and their role in the process of money creation banks can significantly influence important developments, including those that concern social, economic and environmental problems, being a part of social economy. So, what can a positive impact of social economy be onto the functioning of the society? A. Arvidsson and N. Peitersen described a few possible changes. First of all, a practical implementation of social economy principles may probably redefine the notion of economic growth (via the change of values). It may result in opening to new markets e.g. the markets of ecological energy, connecting new actors (like social ventures and entrepreneurs) to financial capital or enabling productive publics to monetize their efforts in more rational and transparent ways. Second of all, it may also introduce new economic rationality. It is possible thanks to ethical capital, which pursuant to the non-classical rationality concept will lead to the maximization of subjective utility, i.e. the maximization of one's own personal needs and desires, though these desires do not necessarily have to be motivated by one's own interest. Thirdly, the social economy would introduce a new source of stability, in which short-term investment (speculation) can be reduced for the long-term investments. Fourthly, social economy would redefine democracy. [Arvidsson, Peitersen, 2013, 141-142]. Analyzing the factors influencing the GFC of 2007 and confronting them with the concept of social economy and the role of social banking in this economy, the following conclusions of diagnostic and prognostic character may be drawn. The first conclusion refers to the character of the activities facilitating increased financial instability, which include direct and indirect activities (Figure 2). The former ones are undertaken by the banks themselves and their stakeholders, the latter by regulators. Undertaking such incentives may result in the reduction of negative effects financial crises have and, therefore, may stabilize the financial market.

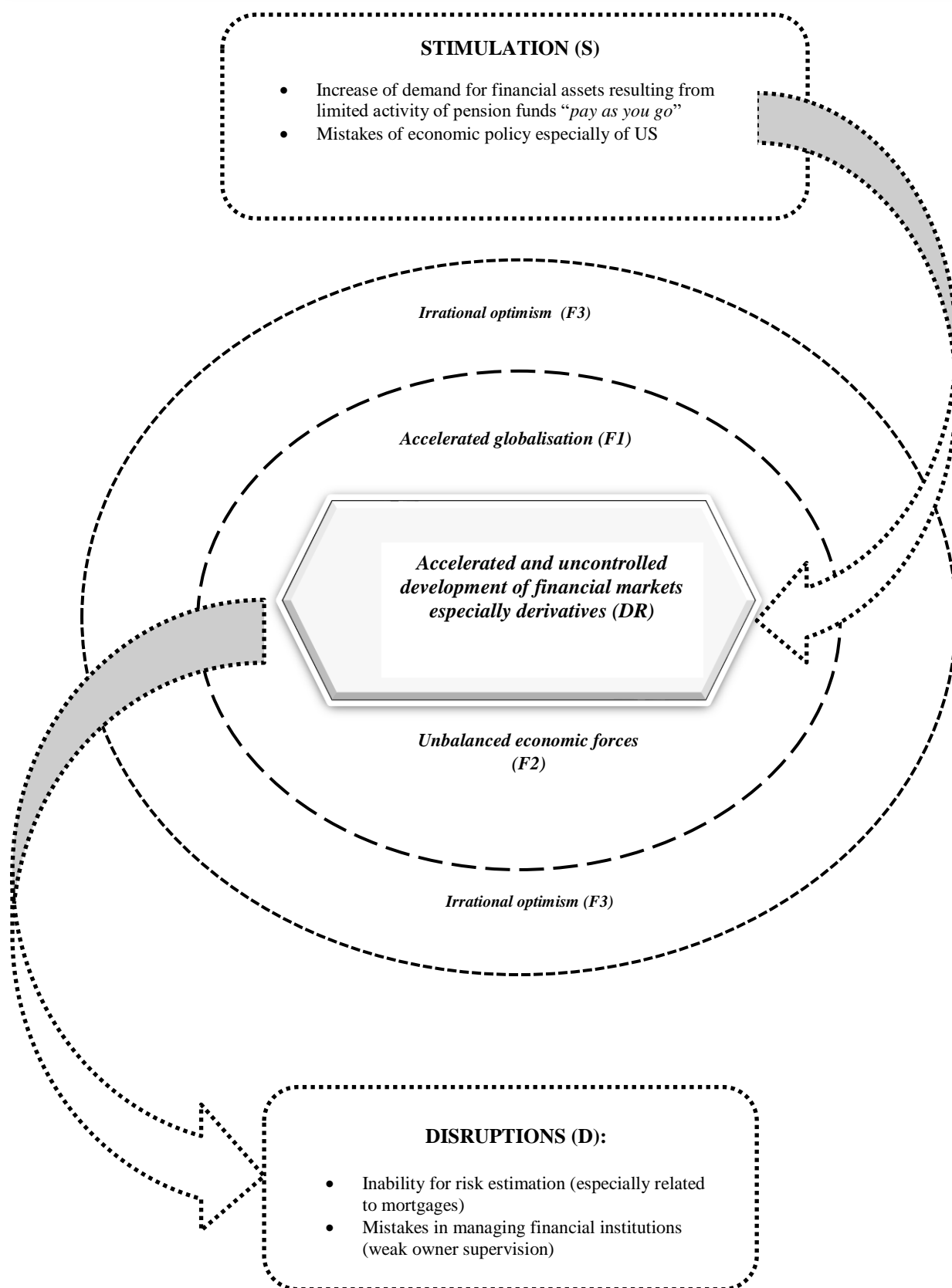


Figure 1: The causes of the GFC of 2007 in multidimensional approach, the author's own analysis based on [W. M. Orłowski, 2009], note: DR – Drivers, F

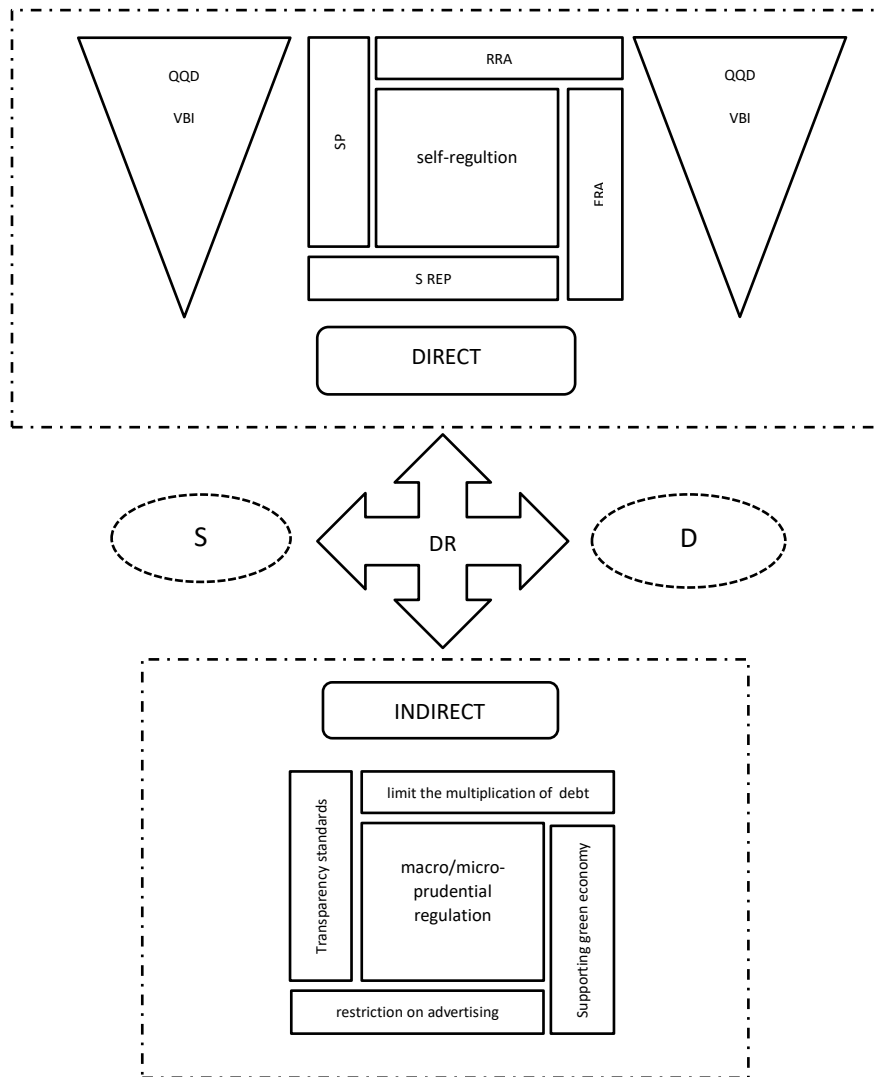


Figure 2: Direct and indirect activities for sustaining financial stability, the author's own analysis. Note: meaning of abbreviations, S – Stimulation, D – Disruptions, DR – Drivers, QQD VBI – Quantity and Quality Development Value Based Intermediaries, SRep – Sustainability Reports, SP – Sustainability Products, RRA – Reputation Risk Assessment, ERA – Environmental Risk Assessment.

The influence of social banks as shown in the diagram above refers to direct activities i.e. quantitative development (via the growth of the number of institutions and their assets) and the qualitative one (the development in terms of socially responsible practices). Indirect activities refer not only to banks alone but to supervisory regulations supporting social bank/social economy. Such regulations should concern transparency, support for green economy and restrictions against marketing activities, especially those of increased risk. Various publications state that with increased awareness of ecological risk, regulators have responded with a program with regulatory reforms arguing that an ecological modernization can result in both economical and environmental benefits [Murphy & Gouldson, 2000]. The crucial regulation which should be applied at the transnational level are the limits concerning debt multiplication. Increasing the number of social banks does not necessarily result directly in increased stabilization on the financial market, however, the main advantage of such institutions cannot be overestimated.

The examples of strangeness of social banks are as follows: they focus on the real economy and reject speculations. Social banks have a much higher propensity to cooperate with their peers than conventional banks. Widespread activities of such banks increase social awareness. Social Banks have more innovative products than conventional banks and new technologies and social media offer particularly huge opportunities for social banks. The movements supporting social banks are visible. More and more institutions are being created including foundations supporting such bank activities. An example can be LOHAS (Lifestyle of Health and Sustainability) group which plays an important role in the development of new products and services.

While facing a global financial crisis, the ideas that the financial system must be not only transparent and stable but also sustainable to allow for the transmission to low-emissive, green economy are more often observed and recognized. David Pitt-Watson, Co-Chair of UNEP FI (2014), said: "The world's financial institutions are there to finance a growing, sustainable economy, but the evidence suggests that, today, the industry performs that task poorly. The Inquiry will support the urgent need to reshape a practical and agreed agenda of reform that ensures that the finance industry fulfills its purpose."

Beside a lot of institutions of this general kind (sustainability) which have come into existence throughout the world seem to be underestimated. Both, the process of creating new solutions and the process of their implementation are marginalized against main business strategies. Many of such institutions belong to FEBEA (Fédération Européenne des banques Ethiques et Alternatives) and INAISE (The International Association of Investors in the Social Economy) European and non-European network. Also in 2009 the global Alliance for Banking on Values was founded. It is a worldwide network of social banking.

## 5. CONCLUSION

The conflict between the responsibility towards a society and effective use of resources banks have at their disposal, though is somehow alleviated, remains crucial. The results of my research indicate that the influence of social banking was weakened before the GFC of 2007. It is confirmed by the reasons which evoked the financial crisis. The increased and practical participation of social banks or actions pursuant to the concept of social economy would have decreased its effects. These findings are consistent with the assessment of numerous research. In my research I have enumerated direct and indirect factors to avoid financial crisis through social economy and social banks development. The direct factors are connected with developing social banks and relation between banks and stakeholders. The indirect factors could be introduced by authorities, regulators or pan-European or global institutions, by introduction macro/micro-prudential regulations.

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## FINANCIAL SECTOR DEVELOPMENT AND ECONOMIC GROWTH

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### **ABSTRACT**

*The subject of the analysis in this paper is the connection between the development of the financial sector and economic growth. First, the directions of possible impacts are investigated. Then, key indicators of the level of financial market and banking sector development are presented and calculated for Serbia and their potential influence on economic growth is being considered. Finally, attention is devoted to the fact that the observed financial market is still in the initial stages of development and that in the recent period the banking sector faces a significant level of non-performing loans.*

**Keywords:** *banking sector, economic growth, financial market, non-performing loans*

### **1. INTRODUCTION**

Very important subject of analysis in many theoretical and empirical papers is the role of banks and financial market as financial intermediaries in economic development of countries. This paper also deals with that subject, specifically focusing on direction and strength of the possible impact of financial sector on economic growth. The complexity of interlinkages is even more profound in developing countries that are facing constant changes and growth of both sectors. The growth was very pronounced in many countries before the global crisis, and important recovery of both sectors is expected in the following years. The connection of financial sector and economic growth that exists in these countries will determine the way and the speed of their recovery. In this paper, relevant indicators of the level of financial market and banking sector development are presented for Serbia and potential influence of financial sector on economic growth is analysed.

### **2. LITERATURE REVIEW**

Numerous theoretical and empirical papers examine the relationship between financial sector and economic growth. The papers in this field therefore explore the sources, causes, direction and strength of this connection. Additional analyses investigate which segment of the financial sector can have a more significant impact on growth and development, banking sector or the financial market. It is generally considered that these two segments have different effects on growth. Among the first, Shumpeter (1912) emphasized the importance of banks in fostering technological innovation through credit support to entrepreneurs with innovative products and production processes. Patric (1966) stressed the significance of financial market for the supply of financial resources necessary for economic growth. Gurley and Shaw (1955) concluded that efficient markets increase trading efficiency by boosting borrowers' capacity and thus affect *per capita* income. Hicks (1969) argues that financial system played a key role in the industrialization process in England, making it easier to mobilize capital. As the author Spears (1991) estimates, the development of financial market contributes to economic growth through the mobilization of domestic savings and more efficient allocation of resources, even in countries with capital market that is in initial stages of development.



Finding of Bencivenga, Smith and Starr (1996) is that development of financial market, through the increase of liquidity, affects economic growth. Greenwood and Smith (1997) point out that the stock market can reduce the cost of transferring financial surpluses, thus making it easier to invest in productive purposes. Obstfeld (2009) emphasizes the importance of financial development for international diversification, risk sharing and more efficient allocation of savings among investment alternatives.

If channels of influence are considered, a positive correlation between the indicators of financial development and economic growth when found points out that the performance of the economy improves when financial resources can easier and faster reach the best users. The emergence and development of the stock market can stimulate economic growth by lowering the cost of acquiring and changing ownership rights in companies. Developed financial system stimulates investments by identifying and financing profitable business ventures through mobilization of savings, efficient allocation of resources and risk diversification. Countries that are characterized by a higher degree of financial development are faster identifying and investing more in growing sectors than in declining, compared to financially less developed countries. Financial development is more effective in fostering growth in industrialized economies compared to agriculture-oriented countries.

Based on numerous and different literature, key channels of the influence of financial development on economic growth include: efficient allocation of capital as the share of savings in total wealth is growing, mobilization of savings through attractive financial instruments and savings mechanisms, providing mechanisms for trading, grouping and risk diversification, lowering the cost of obtaining information that enables better allocation of resources, higher level of specialization in production, development of entrepreneurial activities and acceptance of new technologies.

According to some authors, financial development can negatively influence economic growth. Demirgüç-Kunt and Levine (1996, p. 230) mention several ways how liquidity increase can negatively impact GDP growth. Certain authors also claim that direction of the correlation is opposite – from economic growth to financial market development. Such correlation is consistent with the hypothesis according to which financial development “follows demand”. According to this hypothesis, economic growth influences financial services demand growth and financial system adapts in order to answer that demand. Another type of hypothesis implies that there is a two way causality between financial development and economic growth.

Demetriades and Hussein (1996) have, regarding 16 developing countries, come to the conclusion that the causality direction differs from one country to another. The research they conducted in general points to the conclusion about the correlation between financial development and economic growth. More precisely, the results of their research show interdependence between financial sector development and economic growth in most of the countries, as well as to the economic growth influence on financial development in a certain, smaller, number of countries. The interdependence between economic growth and financial development was also proven by Luintel and Khan (1999). Dritsaki and Dritsaki-Bargiota (2005) showed that in Greece there is a bilateral causal relationship between banking sector development and economic growth, that the relation between economic growth and financial market development goes one way, and that there is no correlation between financial market and banking sector development. Bangake and Eggoh (2011) have also, using empirical analysis based on panel data for 71 countries for the period 1960-2004, confirmed the interdependence between financial sector development and economic growth.

Certain authors argue that there is no influence of economic growth on financial market nor vice versa – influence of financial market on economic growth. To that group of authors belongs Lucas (1988), who in his research points to the absence of influence of financial system development on economic growth. On the other hand, financial development reflects *expectations* regarding economic growth. Based on empirical analysis for Turkey, Acaravci, Ozturk, and Acaravci (2007) did not find long-term relationship between financial development and economic growth, while the short-term effects of financial intermediation development on economic growth are confirmed. Indicators based on the level of development of the banking sector as an indirect financing and financial markets system in the narrow sense, as a direct financing system, are used as explanatory variables in the literature dealing with economic growth. However, there is no final answer on which indicators are better and whether they may represent only different ways to achieve the same impact on growth and development.

The first group of studies highlights the uniform impact of both funding systems on growth. Allen and Gale (1999) analyze the developed countries and find that marginal impact of differences in the form of financial system on economic growth is weak. Arestis and Demetriades (1998) find that both financing systems affect economic growth, but that this effect is also backward in the case of a banking system. Beck et al. (2000, 2000a) state that, contrary to the importance of individual forms of financing for growth, the overall level of financial development and the efficiency of the legal system in protecting investor rights is in fact important. Another group of authors stress that there is a difference in the functioning of the two funding systems, and therefore their impact on growth is different. Studies by Levine and Zervos (1998), Atje and Jovanovic (1993), Rousseau and Wachtel (2000) and Beck and Levine (2003) find that both, the liquidity of the stock market and the development of the banking sector, affect the future rate of economic growth. They also conclude that financial market provides different services in comparison to the banking sector.

Since there is a great number of different papers on a relationship between financial development and economic growth, which not only contain differently set hypotheses but also different results depending on the observed country, development level and a period analysed, this area is particularly interesting from research point of view. Thus, in this paper regarding Serbia we point out to some important indicators of financial and economic development and try to apprehend their movement, mainly after 2000, when significant development of domestic financial sector was recorded. Therefore, in this paper the aim is to present, in more detail, the state of financial sector in Serbia based on the level and movement of the most significant indicators of financial system development and economic growth, as well as to recognize possible interdependence between development of this sector and growth of domestic economy.

### 3. ECONOMIC GROWTH

In analyzing relationship between financial and real sector, GDP *per capita*, yearly GDP growth rates, foreign trade to GDP and foreign direct investments (FDI) to GDP are usually considered as important macroeconomic indicators. Some authors use a range of other indicators, along these, including the public expenditure to GDP, inflation, investment/capital, and also certain indicators that point to the quality of human capital, including the percentage of population with secondary or tertiary education, etc. Commonly, in researches that aim to establish the causality between real and financial sector, economic activity growth rate is taken as dependent variable, while explanatory variables from the group of macroeconomic indicators are the remaining mentioned indicators (logarithmic value of GDP *per capita*, share of foreign trade and foreign direct investments in GDP). For Serbia, we first present these indicators (Table 1).

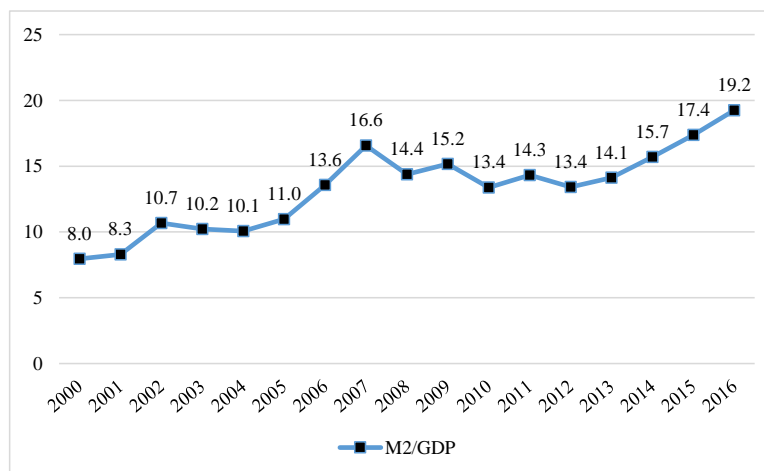
*Table 1: Serbia: GDP, Openness and FDI (Authors' presentation based on The World Bank and Ministry of Finance data)*

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
GDP per capita, US\$	3,528	4,130	5,458	6,702	5,821	5,412	6,423	5,659	6,354	6,200	5,237	5,348
GDP real growth rate, in %	5.5	4.9	5.9	5.4	-3.1	0.6	1.4	-1.0	2.6	-1.8	0.8	2.8
Openness of economy, in % of GDP	70.8	77.4	80.1	82.6	69.0	79.8	82.7	89.9	92.6	97.7	103.1	109.2
FDI, in % of GDP	5.9	13.6	8.6	7.4	6.7	3.8	9.9	2.4	3.8	3.7	5.4	5.5

GDP *per capita* data show economic activity growth trend prior to the emergence of the world economic crisis, as well as termination of that trend after 2008. Average level of GDP per capita after 2008 was 5.807 dollars, and in 2016 it was 5.348 dollars. Based on GDP growth rate data, Serbia recorded strong economic growth before the crisis, while in the period after the beginning of the crisis GDP growth rate was negative in 2009, 2012 and 2014 and it was moderately positive during the remaining years in that period. In 2016, GDP growth rate was 2.8% (Table 1) and in 2017 it is expected to reach 3%. Based on the recorded values for the ratio of foreign trade (sum of import and export value) and GDP, it can be concluded that in Serbia, during the observed interval, the level of economic openness was moderately growing, with certain minor discrepancies in some years. Data point to the considerable growth of this indicator in the last few years, which is partly a result of stronger export growth in this period, and partly, of lower GDP because of the crisis. The value of this indicator was specifically high in 2016 when it reached 109.2%. Unlike with the previous indicator, greater variations were recorded in the level of FDI to GDP. The greatest FDI inflow was in 2006, 13.6% of GDP. Apart from that year, a considerable FDI inflow was in 2011 (9.9% of GDP). Ratio of FDI to GDP was the lowest in 2001 and 2002, 1.3% and 2.4% respectively, while relatively moderate level was recorded in 2015 and 2016.

#### 4. BANKING SECTOR DEVELOPMENT INDICATORS

We have been observing series of data which are most often used in the literature and research that analyse progress and changes in banking sector development and stability of the banking system. The chosen indicators are the ratio M2/GDP as an indicator of liquidity in the economy, private loans to overall loans, loans to non-financial sector to deposits of non-financial sector, loans to non-financial and non-public sector to deposits of non-financial and non-public sector, as well as non-performing loans (NPLs) to overall loans. These series for Serbia are shown in Charts 1-3, respectively.



*Chart 1: Serbia: M2/GDP, 2000-2016, in %  
(Authors' calculation and presentation based on the NBS data)*

M2/GDP after 2006 has been on a considerably higher level compared to the previous period. This indicator had the highest value in 2007 and after that it had been on a level between 13.4% and 15.2% for a few successive years. Since the beginning of the crisis, it is highly possible that a considerable part of growth of M2/GDP is a consequence of the decreasing denominator (GDP) but also expansive monetary policy. After 2012, it can be seen that the money supply level in GDP had been growing from year to year until it reached 19.2% in 2016.

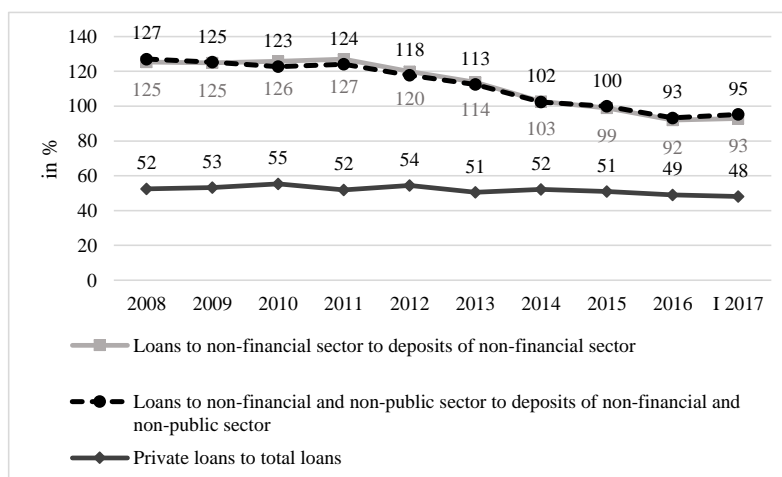


Chart 2: Serbia: The share of loans in overall loans and deposits, 2008-2016 (Authors' calculation and presentation based on the NBS data)

Indicators that show the credit activity of banks (Chart 2) are presented for the period after 2008 including the first quarter of 2017. The level of private loans (loans to enterprises) to total loans is almost unchanged (even slightly lower). On the other side, due to the growing deposits, the data that show loans to non-financial sector to deposits of non-financial sector and loans to non-financial and non-public sector to deposits of non-financial and non-public sector are lower. After the initial value of approximately 125% and 127% in 2008, both indicator levels in 2016 and at the beginning of 2017 are 93% and 95% respectively. These data thus show that, after the “credit boom” in the pre-crisis period, credit activity in Serbia has been in stagnation since the eruption of the world economic crisis. In the previous decade banking sector in Serbia faced increasing level of NPLs that was especially profound after the crisis.

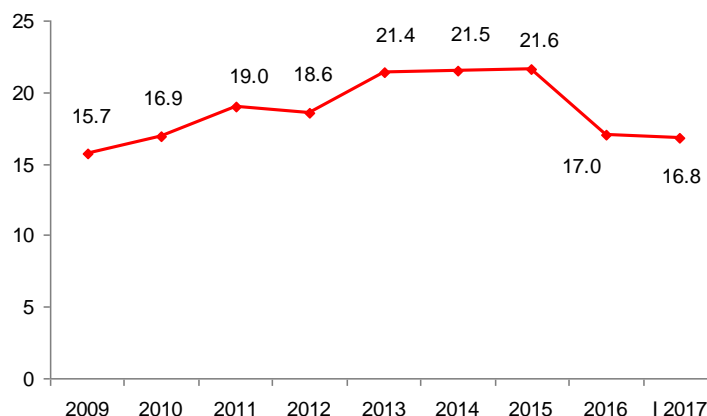


Chart 3: Serbia: Gross NPLs as % of gross total loans, 2009-2017 (Authors' presentation based on the NBS data)

This increase was higher for corporate loans and predominantly driven by the change in exchange rate and reference interest rate of the central bank but also market and regulatory environment. The decrease of NPLs in 2016 is due to the Action plan of the NBS and the NPL resolution strategy implementation. That is expected to have positive effect on stability of the banking and broader financial sector and consequently economic growth prospects.

## **5. FINANCIAL MARKET DEVELOPMENT AND VOLATILITY INDICATORS**

Various measures of the level of financial market development and stability can potentially be used in analyses of the impact of the financial sector on economic growth. In this paper, one indicator of the size and two indicators of market liquidity are distinguished. In addition, the measure of the market return variability is presented. The indicators are then calculated and graphically displayed for the financial market data in Serbia.

### **5.1. Indicators of the size and liquidity of the financial market**

Market capitalization/GDP ratio relates market capitalization of stocks traded on the stock exchange to the value of GDP. Market capitalization represents the market value of the listed stocks. In a significant number of studies, this ratio is taken as an indicator of capital market development. Market size is expected to be positively correlated with capabilities for capital mobilization and risk diversification, thus with real economic activity and growth. Market trading value/GDP ratio divides the total value of stocks traded on the stock exchange with GDP. Although the market is sometimes large, it is possible that the volume of trading is low. This indicator is complementary to the previous one, but it indicates the level of market and stocks' liquidity. Market turnover ratio relates the trading value of stocks with market capitalization. It measures market liquidity. A high turnover indicator usually means low transaction costs in particular market. Large but poorly active markets have high market capitalization, but low turnover ratio. On the other hand, while the indicator of the share of volume of turnover in GDP relates market turnover to the total domestic product of a particular economy, the turnover ratio puts turnover in relation to the size of the stock market. Thus, a small liquid market will have a high turnover indicator, and low market turnover/GDP ratio.

The stock market in Serbia is characterized by a low level of liquidity and a high degree of ownership concentration. A small number of stocks are listed on the most liquid segments of the Belgrade Stock Exchange. The trading volume over the past two decades reached the maximum in the pre-crisis period in 2007 (RSD 165 billion), with a sharp decline afterwards to around RSD 27.7 billion annually in the 2010-2016 period. Market capitalization reached maximum value in 2007 when it amounted to over RSD 1,400 billions. After the crisis, there is a noticeable withdrawal of foreign investors from the local market and a fall in the stock market value. The number of transactions varies between 25,000 and 2.9 million per year in the period 2000-2016. The maximum of 2.9 million of transactions was achieved in 2011, after privatization of the national petroleum company and Belgrade Nikola Tesla Airport in 2010. Unfortunately, it is mostly due to the massive sale of the part of the stocks that were distributed to citizens free of charge.

On the basis of the available data, the indicators of the size and liquidity of the financial market in Serbia were calculated. The share of market capitalization in GDP ranges from 15-61%, on average around 28.65% in the period 2006-2016. The other two indicators are at a very low level in the same period. The market trading value/GDP is on average 1.9% a year, while the market turnover ratio reaches around 5.7% per annum in the observed period.

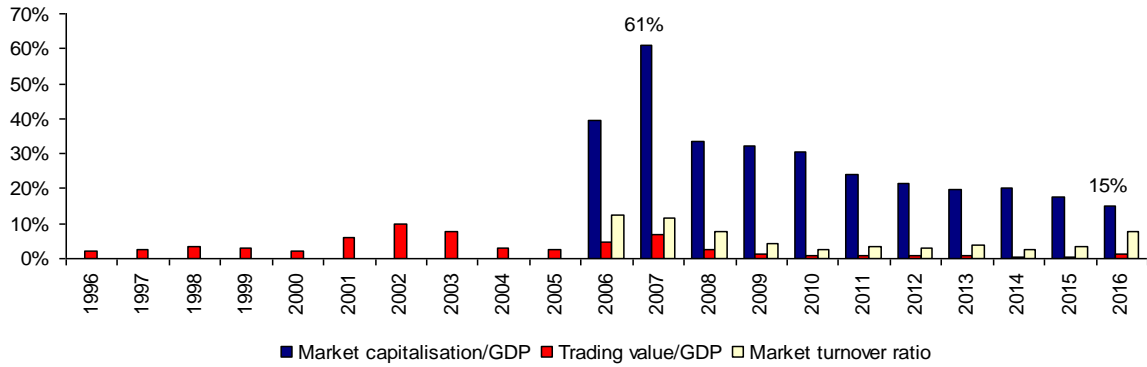


Chart 4. Indicators of size and liquidity of the financial market in Serbia, 1996-2016  
(Authors' calculations based on the data from the Belgrade Stock Exchange and the NBS)

## 5.2. Market volatility measures

Standard deviation and variance of stock returns are considered to be effective measures of the volatility of the stock market. The stock return in discrete form is defined as follows:

$$r_t = \frac{I_t - I_{t-1}}{I_{t-1}} \quad (1)$$

where  $r_t$  represents stock return in the specific market,  $I$  represents the value of the market index, and  $t = 1, 2, 3 \dots, T$  the time dimension (number of days, months or years).

The standard deviation of the stock index returns in this case is expressed in the following way:

$$\sigma = \sqrt{\frac{\sum_{t=1}^T (r_t - \bar{r})^2}{n-1}} \quad (2)$$

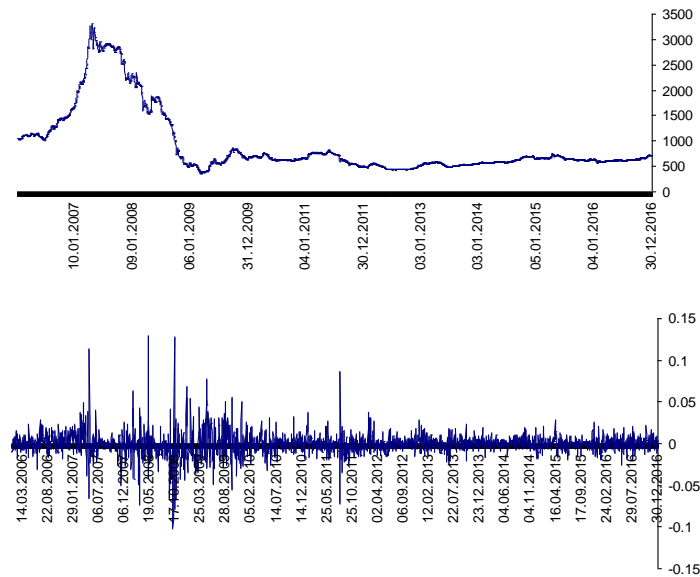
where  $\bar{r}$  is the average return for the total observed period, and  $n$  is the number of observations in the sample.

It is expected that higher volatility of stock returns negatively affects economic growth as it deforms investors' decisions on allocation of available financial surpluses. However, in the case where a higher risk is accompanied by an adequate return as compensation, the higher volatility does not have to have negative impact on growth. An additional measure that can be used as an indicator of the level of variability in the stock market is the coefficient of variation obtained by putting into relation stock return standard deviation and average return.

The stock return variability at the Belgrade Stock Exchange was measured. The historical values of the Belex15 index were considered as relevant data for analysis of the volatility of the broader capital market.

/Chart following on the next page





*Chart 5. Belex15 stock market index and index returns in the period 2006-2016  
(Authors' calculation and presentation based on the data from the Belgrade Stock Exchange)*

Increased return variability is noted during 2008 and 2009. The average daily return was -0.003%, and the standard deviation of returns as a risk measure in the observed period was 1.30%. Because of the negative average return, the coefficient of variation is -386,801. It can be concluded that the potential for a positive impact of the financial market on Serbia's economic growth is limited due to the low level of liquidity and insufficient depth of the local financial market. It is in ownership terms highly concentrated and shallow market that still does not allow efficient resource allocation and adequate diversification of risks for both individual and institutional investors, as well as for securities issuers. Due to the limited capacity for financing through issuance of stocks, issuers rely mostly on debt instruments, primarily loans, in obtaining resources for investments financing. The high cost of debt makes financing expensive, limiting the range of available investment projects and a more significant indirect impact of the financial market on economic growth and development.

## 6. CONSLUSION

The main focus of this paper was the relationship between the level of financial development and economic growth. Many authors have noted that the link between financial development and economic growth is reciprocal, and state that exact direction of the connection varies from country to country. Since the results of previous analyses dealing with the subject depend on the countries observed, the level of development and the analysed period, this topic remains challenging and important, especially currently, taking into account expected economic and financial growth of countries in the next period. After reviewing possible directions and strength of the relations, the indicators of the development of the real sector, banking sector and financial market in Serbia were presented. The data point to a simultaneous development of the financial and real sector before the crisis, as well as the stagnation after its beginning. In Serbia, credit activity has been very low for a long time. According to the current situation, the banking sector has liquid assets although it faces significant level of non-performing loans. In the forthcoming period, the development of local and international economic activity, solutions for non-performing loans, as well as investment environment in the domestic economy will be important for further financial development, in particular the development of various types of direct financing.

Therefore, we can conclude that at present, due to the existence of insufficiently developed and illiquid financial market in Serbia, there are limited opportunities for its significant impact on the economic growth and development of the country.

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## **SOCIAL SERVICES OF SELF-GOVERNMENT UNITS AND FINANCING OF THE LOCAL AND REGIONAL DEVELOPMENT**

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### **ABSTRACT**

*The goal of the study is to undertake research regarding the new opportunities and existing restrictions on the financing of development of social services at regional and local level in a market economy in Poland. The research focuses also on the management and efficiency issues which can be implemented in public sector entities in the process of supporting social and economic development. In the study there were applied analytical methods relating to the gathered empirical data and research methods related to determining the real impact of the self-government units on the processes of socio-economic development. An important part of the text is analysis of the empirical source data regarding financial potential and directions of expenditures of self-government. Preliminary results showed that the development of social services in a market economy in Poland was mainly the result of activities the entities and agencies of the public sector, whose role was to support and stimulate the development. A challenge for the future still remains strengthening the cooperation with entities of the private sector and developing their responsibility not only for the economic processes but for social problems as well.*

**Keywords:** *local and regional development, public finance, social services*

### **1. INTRODUCTION**

In the market economy conditions, the social and economic development is a result of interaction of organizational entities and units of the public sector whose role is to support and stimulate the development, especially among the private sector organizational entities, which are responsible for the actual course of economic processes related to market-based production of goods and services. Therefore, undertaking research on the relationship between entities, organizational units being part of the public sector and enterprises operating in the real sphere of market conditions leads to establishing the actual cause-and-effect relationship, as well as the role and the importance of particular groups of entities and their impact on the course of economic processes in the market-based conditions. The principles and methods of providing social services have a special role here. In the context of this study, social services include all administrative activities that address the social needs of citizens, health care services, education, personal social services, care services, housing services, employment services and specialized services and also money transfers for different groups of the society.

In today's unstable economic markets conditions, but also more and more volatile market mechanisms in Europe and in the world, it is necessary to verify both possibilities and challenges with regard to supporting social and economic processes in the market economy conditions. It is important to pay attention to a significantly diverse scope of tasks and obligations of organizational entities and units being the part of the public sector and of the enterprises operating in the real sphere of market conditions. It should be emphasized that investment expenditure is the most important factor directly affecting the level and quality of public service delivery, including the level and quality of social services.

However, the broader context of development processes, including the role of the public sector and social services, can not be overlooked, especially with regard to global development problems, generally identified in the concept of development economics. According to the concept of development economics, we must seek optimal resource allocation and support economic growth for poor countries that not always participate in globalization and development processes. The purpose of the submitted proposal is identification and analysis of current possibilities and limitations occurring in the financial development at the regional and local level processes in the conditions of the market economy in Poland. The main focus of the research has been restricted to determining the role of organizational entities and units of the public sector in the process of supporting the economic development and delivering social services. In the framework of the study, analytical methods were applied that refer to the real impact of entities and organizational units of the public sector on the processes of social and economic development, including a critical analysis of literature on the subject and an analysis of empirical data.

## **2. THE PUBLIC SECTOR TOWARDS DILEMMAS CONCERNING ECONOMIC DEVELOPMENT AND SOCIAL SERVICES**

In the conditions of the market economy, economic and social phenomena may be studied both in the macroeconomic dimension and from a specific territorial perspective. A similar pattern concerns the shape of the abovementioned relations between entities of public and private sector. The significant scope of impact of the public sector on the economy is being implemented at the level of the state, by actions of government administration, including both functions of creating legal regulations at the executive level and a number of activities at the level of public interventions with a strong financial component, as well as control functions. From the point of view of the chosen subject of the present work, particular attention should be paid to activities having a direct financial dimension, implemented through investments financed by the state budget or a system of project-oriented subsidies addressed to various areas of economy and used for supporting implementation of certain social and economic goals, and especially supporting of the processes connected with delivering of social services.

Despite an undoubtedly important role of the public support undertaken at the central level, the present tendencies of social and economic changes indicate the need for a thorough analysis of the development problems from and local perspective. The essence of regional approach to economic and social processes refers to the identification of development potential of the region itself, external conditions forming the position of the region in respect of the business environment, as well as the determination of competencies and interrelations between entities having access to different economic resources of the region and forming possibilities and forms of their application (Parr, 2001, pp. 11-12). Against this background, it is worth indicating a special role of the public sector entities at the regional and local level.

In this structure, the local government of the province fulfils important functions in respect of the administrative territory subject to the aforementioned government (Kosiedowski, 2005, pp. 20-30). These are in particular functions that coordinate a number of activities focused on development, implemented by local government authorities of communes and districts. From the point of view of shaping future social and economic phenomena at the local and regional level, certain attention should be paid to instruments of strategic management, long-term investment programmes, long-term financial management of material property owned by local government units as a basic sphere of decision-making process whose effects have a direct connection the process of achieving a growth in quality of living for the inhabitants of a given unit (Jarosiński, Grzymała, Opalka, Maśloch, 2015, pp. 33-39).

The scope of competencies, as well as the scope of responsibility of the local government may be reflected in many areas of administrative and service activities, as well as by investment activities, determining to a large extent the efficiency of short-and long-term shaping of development conditions (Wojciechowski. 2003, pp. 136-138). Therefore, an important task of the local government is to conduct analyses and make decisions with regard to implementation of both investments proposed by social groups (councillors, social organizations etc.), as well as take into consideration initiatives and proposals presented by potential external investors.

In the case of an investment undertaken directly by the local government authorities, it is necessary to properly evaluate the rationality of such projects, which may be demonstrated by preparation of each investment project in terms of its scale, by referring to factors, such as the number of future users and features typical for elements of technical and social infrastructure. One of the more important factors may be the massiveness of infrastructure elements, which often determines lack of substantiality for undertaking investment projects of small material, and therefore financial scope, and consequently – imposing the need for implementation of large-scope complex projects with high financial expenses.

The role of the local government in the context of shaping the development phenomena manifests itself by fulfilment of the planned intentions, describing comprehensively all spheres of functioning and the special character of a given unit, and, at the same time, preserving the scope of competencies that is adequate for the public sector. The present conditions of the market economy force, to a greater extent, the drive to achieve a certain level of economic efficiency of actions undertaken by local communities (Laursen, Myers, 2009, pp. 1-8). Furthermore, along with civilization progress, the social expectations increase, including both stricter environmental requirements and the need for implementing new technologies, which generates the necessity of providing a bigger volume of funds meant for construction, maintenance and modernization of infrastructure components (Messere, de Kam, Heady, 2003, pp. 44-46). The pursuit of achieving growth in the degree of social satisfaction in the conditions of market economy in reference to the public sector, corresponds to the development of new management concepts, including *managerism*, based on the analogy between the management of units providing public services and the company management focused on the profit (Zysnarski, 1999, p. 1). It constitutes a part of the on-going debate on the role that the public sector should play in the economy and on the methods used in the management processes.

In Poland, like in any other highly-developed countries, the change in ways of approaching a problem of management of entities and organizational units in the public sector, including local government units, moves towards improving the effectiveness and efficient functioning and also delivering of social services (Fedan, 2011, pp. 209-216). Important changes in the sphere of shaping development processes are connected with the increase in the autonomy of local government units and the popularization, at least in the indicative perspective, of the attitude of "a manager" who induces greater activity and responsibility for undertaken tasks, including the need for new, more effective solutions of strategic planning and forecasting the effects of actions for the future periods.

This problem has a broader social and economic character, because it goes beyond the borders of states and regions. This manifests itself in a number of problems in the varied forms of organization and functioning of the state and society, in many demographic problems, and in many problems of delivering of public services. There are many examples where these problems have led to a number of dangerous tensions in the world. One of possible solutions is to refer to the concept of development economics.



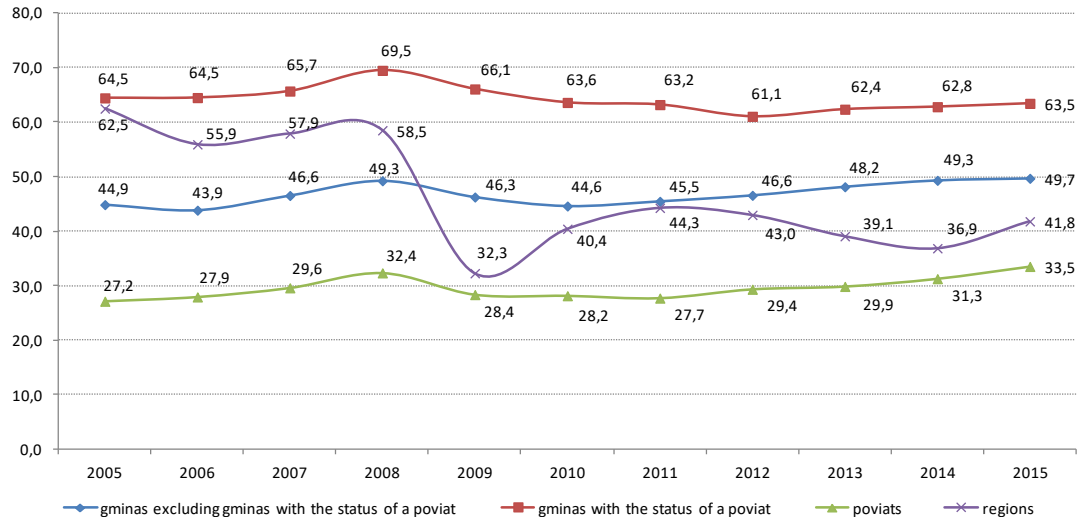
### **3. FINANCIAL CONDITIONS SHAPING THE DEVELOPMENT AT THE LOCAL AND REGIONAL LEVEL**

With regard to local government units the important problem is the function of the system of pooling resources and financing diverse public tasks. In this aspect, this is a problem of both decisions concerning global size of public funds, and decisions regarding their detailed use (Flynn, 2012, pp. 59-62). It is also related to the issues of financial independence of local government, and therefore the level of independence of particular units in respect of state authorities of the central level. To a great extent, the independence and financial stability of local government, and thus, the capacity to provide a proper process of public services provision and possibilities of long-term approach in shaping the development of a given administrative unit, are determined by the structure of budgetary income resources (Spearman, 2013, pp. 221-226). At the same time, it is worth emphasizing that the basis of financial economy of local government units is constituted by the budget, which is a decentralised plan of income and expenses, as well as of revenue and expenditures.

The aforementioned considerations indicate a critical problem of systemic shaping of budget income sources of local government units, particularly including the search for optimal relation of income referred to as own and external income, including in this case transfers from the state budget and subsidies from public funds. A high level of own income, assuming at the same time their stability, can be considered one of vital determinants of financial independence of the local government (Swianiewicz, 2011, pp. 39-43). This does not diminish, at the same time, the importance of external income, because, despite its undoubtedly limiting nature of financial independence, this income constitutes an important element of regional policy, performing the support function in selected areas and, at the same time, being in control of selected domains of financial economy of a local government through public institutions of state administration. While analysing the problem of independence, we should thus define the scope of freedom that local government units actually possess, not only with regard to pooling the budget funds, but also with regard to spending them (Knox Lovell, 2002, pp. 11-32). The greater the scope of such independence of local government units, the more autonomous the entities that participate in the process of development become.

Assuming a simplified approach towards the issue of financial independence, based on characteristics of the aforementioned category of income, it can be stated that independence as to the income may be ensured only when the dominant role in financing local governments is played by own income. As for the autonomy of expense, it will increase along with the increase in share of own income and general subventions within the structure of income of local government units. According to this approach, it would be much easier to ensure the autonomy in terms of expenses, because both own income and the general subventions are disbursed on the basis of decisions made by legislative and executive authorities of local government units. However, such an approach would be too simplified due to the fact that income originating from their own sources, as well as subventions, should be allocated for the implementation of the own tasks of a commune that rarely have a facultative character. The actual level of disbursement independence depends therefore on the degree of regulation of those actions by legal regulations and on the scope of competencies being the responsibility of a local government (Surówka, 2004, p. 54). The analysis of the actual degree of financial independence of the local government seems to be quite a difficult task while taking into consideration the ambiguous evaluation of the criteria of these problems. Nonetheless, it is possible use the analysis of specified indices, including the assessment index of share of local government units' own income in the income of the sector of public finances units in total or an index of share of local government units' own income in its income in total.

The growth in size of the aforementioned indices means the improvement in the financial independence of the local government. For the purpose of the analysis of the aforementioned phenomena, Figure 1 illustrates the percentage share of local government units' own income in budgetary income in total with division into communes, districts and provinces in Poland in years 2005-2015.



*Figure 1: Own revenues in the total revenues of budgets of self-government units in Poland, divided into gminas, poviats and regions, in the years 2005-2015, in % (own study based on data from the Local Data Bank, Central Statistical Office, 2017)*

Among separated groups of local government units, the highest values in share of own income were indicated in the municipal communes having a status of city with the powers of a district. This is a specific group, usually characterized by a strong economic base resulting from a high level of development in the private sector, which makes the units classified into this category the growth centres of different impact range. In the studied period, the index value for the aforementioned group reached the maximal value of 69.5% in 2008, and then experienced a gradual decrease that lasted until 2012 when the value of the index amounted to 61.1% and then again, a slowly growing tendency was recorded in the subsequent years. The index of share of local government units' own income in budgetary income in total determined for the general public of other communes reached a definitely lower level, despite the fact that changes in the studied period were similar to the ones in cities with the powers of a district. After the period of growth in the years 2005-2008 the value of the index amounted to 49.3% and then it experienced a short-term decrease to the level of 44.6% in 2010. In the following years there was a stable growth, up to the level of 49.7% in 2015, which was the maximum value of the discussed index in the researched period for certain units. The group of local government units at the local level with relatively lowest values of the examined index were districts. Although, like in the case of communes, after the initial fluctuations since 2011, an expressly gradual increase in the value of the index was observed, its maximum value achieved in 2015 amounted to only 33.5%. In the studied period, the situation in the budget of provinces was characterized by significant changes. However, the recorded dramatic decrease in the index in 2009 resulted, not so much from the actual reduction in purchase volume of own income, as from significant changes in the structure of the budget funds, where a significant role was played by the funds from the European Union budget that were transferred under subsidy development programs prepared by local governments of provinces as components of cohesion policy.

It should be noted that in years 2005-2008, the level of the examined index in the provinces was maintained at the level of approx. 60.0%, which would indicate a high level of financial independence. However, it is difficult to directly compare the situation of provinces and communes, due to different scope of tasks and structure of budgetary income. It may be generally stated that before 2009 both the scope of budgetary income and the actual possibility to influence economic processes in the region were significantly limited in the case of local government of provinces.

#### **4. FINANCING OF DEVELOPMENT PROCESSES BY SELF-GOVERNMENT UNITS IN POLAND**

A deteriorating economic situation and a decrease in revenues in the real sphere cause, as a consequence, a limitation of current activities, a cost reduction (often by reducing the level of employment) and a limitation of the scope of investment, as well as an increased frequency of decisions on suspension or total closure of business activity. From the point of view of the public sector, the aforementioned phenomena lead to a significant risk of reducing the volume of taxes for the state budget from which shares are transferred to budgets of local government units. The characteristic tendency for the contemporary systems of public financing to make budgetary income depend on the volume of public levies, causes an intensification in sensitivity of the public sector both to changes in the real economy, and to cross relations. The example of the economic situation in Poland in comparison to the economic slowdown in many countries of the EU in the period after 2008 indicates the leading role of entities of the public sector in shaping the phenomena of development under conditions of financial crisis, and with the involvement of existing financing sources of public expenses. The lack of activity of the public sector would cause an additional deterioration in the condition of institutional infrastructure, weakening of regulatory functions of public administration and decreasing of quality of public services, including social services – which, as a result, would worsen the management conditions for the private sector (Owsiak, 2011, pp. 27-28). In the analysis, an assumption was made, concerning the equivalence of the terms of development and investment, assuming in the present paper that the investment expenses can be considered as an equivalent of development. It results from the observation that by means of investment we maintain the economic potential, making it possible to increase its scope, both quantitative and qualitative and also referring to the public services, including also social services. When it comes to local government units the principle of development is recorded in the planning documents of strategic character, including projects concerning quantitative and qualitative changes in the future periods. Therefore, in order to indicate the development of the public sector in local and regional economy the following scope of investment expenses within budgets of local government units was adopted. In order to examine detailed changes in directions of change at the regional and local level, the index of the share of capital expenditures in total budget expenditures of self-government units have undergone an analysis, with adopting the division into provinces, districts and communes. The graphic illustration of changes in the index value in the aforementioned groups of units is presented in Figure 2. In the audited period the highest value of the index of share in investment expenses in expenses budget in total, maintained at the level of more than 30.0% was recorded in the case of provinces where, despite fluctuations of the index level, existed a visible growing tendency. The leap increase in the value of the index occurred in 2009 (up to 47.3%), which should be connected with the intensive use of the funds from the European Union's budget under organizational solutions, introduced as an element of implementation of the cohesion policy in Poland in the programming period 2007-2013. In the case of the set index for districts, there were significant fluctuations, including the growth from 2007 to 2010, when was recorded the maximum value in the audited period equal to 21.7%.

However, in the subsequent years there occurred a decrease and then a stable level concerning the value of the examined index did not exceed 15.0%. In the group of gminas, the situation in terms of changes in the index value of participation in investment expenses in expenses budget in total should be assessed as the most stable one among the distinguished groups of local government units. In the analysed period, until 2008, there was a mild increase in the value of the index, while in the subsequent years, in spite of a decreasing tendency, the value of the aforementioned index was maintained at a similar level, and amounted to 20.0%. After that we experienced a dominating growth of the maximum value of index in the audited period, which amounted to 23.4% in 2010. The following years brought, however, a significant decrease of the concerned values to the level of recoverable amount near to 17.0%.

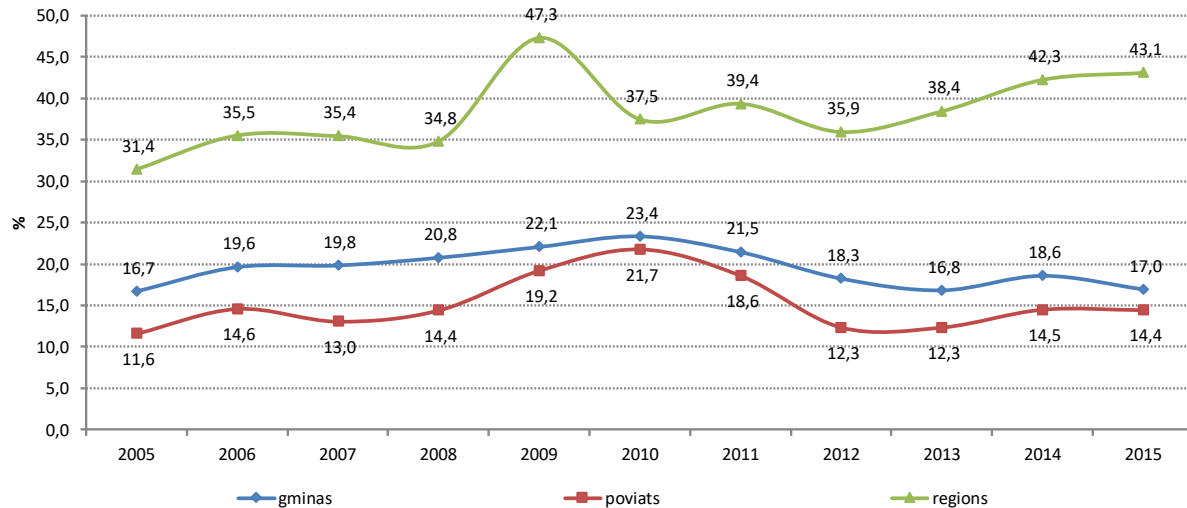


Figure 2: Capital expenditures in total budget expenditures of self-government units in Poland, divided into gminas, poviats and regions, in the years 2005-2015, in % (as in Fig. 1)

It is also worth noting the structure of expenditures for basic activities in the sphere of social services provided by the self-government. During the study extensive empirical data was collected, however, due to the limitations in this article, the results for the major items of relatively high level of expenditure were presented. The highest share between 2005 and 2015 was related to education expenditure. This is related to the accepted systemic solution whereby local government units at various levels are responsible for governing and financing this part of social services. Another important part of public expenditure was social security expenditure. Their share in the budget expenditures of self-government units is relatively stable and is the result of adopted systemic solutions. The empirical results are presented in Table 1.

Table 1: Expenditures on basic activities in the sphere of social services provided by the self-government in total budgetary expenditures in the years 2005-2015, in % (own calculation based on data from Local Data Bank, Central Statistical Office, retrieved 10.03.2017 from <https://www.bdl.stat.gov.pl/BDL/start#>)

Specification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Housing	6.6	6.2	6.0	6.8	6.4	6.1	6.3	6.5	6.0	6.1	6.6
Education	60.5	55.5	53.9	53.0	48.4	51.5	52.0	54.5	54.0	51.6	53.7
Healthcare	4.5	4.6	4.2	4.5	4.2	4.0	4.0	3.4	3.7	3.3	3.5
Social assistance	27.4	29.6	28.3	26.6	24.1	25.6	24.5	25.4	25.7	25.0	25.2
Other	1.0	4.1	7.6	9.1	16.9	12.8	13.2	10.2	10.6	14.0	11.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Funding of local government tasks is still strictly connected with the need of catching up with the development in the sphere of infrastructure, both economic and social. Despite a favourable situation observed in the past periods with regard to capacity of generating funds allocated on investment projects, in future stages of research, more attention should be paid to the issues of participation of external capital in financing investment expenses, as well as the issues of growth in the public debt, being factors that indicate a presence of structural mismatch of base of budgetary incomes to actually identified ones in new conditions of needs of social services of local communities.

An important challenge in the decision-making process concerning started investment projects by local government authorities is the rationality of spending public funds. At the stage of preparation of development plans or investment programs we should therefore perfect the methods of analysis concerning the economic efficiency of particular investment projects, but also the impact of a particular project on the functioning of the local economy (Fuguitt, Wilcox, 1999, pp. 38-42, Gorzałczyńska-Koczkodaj, 2011, pp. 169-179). Services of general interest and social services are usually characterized by low price flexibility and an income of demand, which means that both changes taking place on the part of prices and income have little effect on changes in the demand, thus on the level of demand. The phenomenon of low flexibility of demand in this area of services has its specific effects on the whole process of services provision (Stiglitz, 1983, pp. 17-41). In addition, some public services, especially social services, are provided free of charge, which means that their effectiveness cannot be assessed only by using instruments of financial analysis (Jarosiński, 2003, p. 91). Similarly, the investments made in order to increase the fixed assets of serving provision of the aforementioned services should be, to a larger extent, evaluated with the use of tools allowing measurement of not only the financial effects, but also the impact on the condition of natural environment and social effects, which shapes the future attractiveness of the areas of a given territorial unit as a place of residence and development of local entrepreneurship.

Taking into consideration the anticipated limitations of the availability of external investment capital of non-returnable character, in the budget economy of a given local government unit there is an important element which is to maintain the balance of the budget and a safe level of indebtedness (Leithe, Joseph, 1991, pp. 71-87). In the view of an insufficient level of social and technical infrastructure still present in numerous local government units in Poland, and the phenomenon related to this insufficiency, namely expectations with regard to faster satisfaction of collective social needs, many units undertake the implementation of capital-absorbing investments in tangible assets. The excessive level of debt and long-term costs of incurred debt associated with it may significantly block or reduce the capacity of a given unit to make new investment projects. These problems appeared in Poland quite commonly in the past. In the period of transition, it was possible to rebuild the structures of the state and society and to direct socioeconomic processes to the development path. Numerous difficulties in the functioning of the state and provision of services within the public sector are still present in poor countries. In broader context, in many poor countries of the world development dilemmas are still waiting for effective solutions.

As it was mentioned earlier, in the conditions of market economy the social and economic development is a result of enterprising tasks implemented in the companies operating on the open market. We may thus formulate the thesis that a need for interaction of public sector and private sector entities results from the fact that local government units are responsible only for a small scope of tasks, including mainly public ones (Jarosiński, Opalka, 2015, pp. 11-14).



At this point, it is worth indicating the growing importance of dynamically increasing groups of participants of development processes on a local scale - the cooperation of local government with NGOs with regard to services provision and social investments. The organisations regarded as part of the sector of non-profit organizations and constituting at the same time facilities of social economy may be considered as an important and still developing group of participants of social and economic processes in Poland, and gradually acquiring a significant part of social tasks, which until recently have traditionally been the domain of the state.

## 5. CONCLUSIONS

The results of the analysis give the basis for stating that the role of entities and the public sector entities in the processes of social and economic development is undoubtedly significant and, as it results from a survey, it grew in the years 2005-2015. The local government units are still responsible for shaping the development phenomena. However, this role remains limited, while the centre of gravity of economic effects was transferred to the real sphere and to the private sector. The financial independence of local government units was weakened due to the fact that local governments became significantly dependent on external both return and non-returnable sources of financing. In particular, the refundable sources of financing meant for achievement of investment goals have a long-term dimension. The decisions made in such cases may have their long-term consequences, exceeding the current term of office of a local government taking part in the decision-making process. Despite the existing guarantee of decision continuity in the public administration, it is worth highlighting the importance of direct liability for any potential effects of undertaken actions that may negatively affect the budget situation in the future periods. As it results from the conducted analysis, the responsibility for the decisions on development and their future economic and social results are among the most significant, and, at the same time, the most difficult elements of participation of entities of the public sector in the economy at the local level and in the process of shaping and stimulating its development. Among many challenges that are still valid, we must enumerate proper assessment of the needs of the social services, the improvement in processes of preparation of investment projects, including taking into account all the relevant instruments of planning and evaluation of the material and financial scope of the projects, as well as the responsibility of a local government manifesting itself in the implementation of investment projects, describing comprehensively all the spheres of functioning of a given unit. Bearing in mind all the past experiences related to the functioning of local government units in Poland it should be stated that these entities are responsible for a considerable scope of delivering process of public services, including social services, that often involve undertaking capital-absorbing investments. In this regard, there are, however, serious restrictions consisting in mismatching the scope of measures and the scope of tasks. The result of this mismatching is the search of local government units for the source of extra-budgetary character, including mainly sources of returnable nature. However, it may constitute a limitation in future possibilities of development financing. Organization of social services is still a complex process. These services are characterized by high demand for investment capital and high operating costs. An important feature of social services is gratuitousness, which means that all costs related to their provision are financed by public entities, and citizens receive the services for free.

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## **DIRECTION AND CRITERIA OF KOREA'S GOVERNMENT R&D INVESTMENT FOR RESPONDING TO CLIMATE CHANGE IN FY 2018**

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### **ABSTRACT**

*Climate change due to global warming is one of the hottest global issues and has become more important since the Paris Agreement, a global agreement on the reduction of climate change. The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts. Moon Jae-in government, which was launched in May, declared an environment-friendly energy policy with a focus on expanding renewable energy. Also, in order to respond proactively to the global issue of climate change, the government of the Republic of Korea is constantly striving to strengthen its national science and technology capacity. In this paper, we introduce the change of environment and energy technology policy which is the core of responding to climate change, and the investment direction of national R&D in Korea. The total amount of government R&D investment in the environment and energy sector in FY2015 was \$2.07 billion (1.9% increase from the previous year) which the investment in the power generation sector was high, 25.7% of renewable energy, 19.3% of nuclear power and 10.3% of electric power respectively. According to the energy policy paradigm of the new government, the share of renewable energy and gas power generation is increasing but the share of nuclear and coal-fired thermal power generation is decreasing in the energy mix. The government is focusing on core technologies for climate change response that are in line with R&D on GHG(greenhouse gas) reduction and utilization. And, Currently, R&D on environment and energy sector is continuously increasing. Especially, to improve investment efficiency and effectiveness with limited resources, strategic selection and concentration are needed to develop greenhouse gas reduction technologies and foster related industries and markets.*

**Keywords:** *environment, energy, climate change, government R&D*

### **1. INTRODUCTION**

Climate change due to global warming is worsening as time goes by. And it is a global issue and a top priority. On December 2015, COP21(United Nations Climate Change Conference) was held in Paris, France. The conference negotiated the Paris Agreement, a global agreement on the reduction of climate change (shutter, 2015). The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to

strengthen these efforts. Due to that, differing liabilities on greenhouse gas reduction is charged to corresponding all countries. Moon Jae-in government, which was launched in May, declared an environment-friendly energy policy with a focus on expanding renewable energy in Korea. Also, in order to respond proactively to the global issue of climate change, the government of the Republic of Korea is constantly striving to strengthen its national science and technology capacity. In this paper, we analyzed the recent investment status, performance and direction, focusing on energy and environment closely related to climate change response. And also suggest the desirable strategic direction of government R&D in Korea.

## 2. PROGRESS IN RESPONSE TO CLIMATE CHANGE IN KOREA

In Korea, Green Growth was introduced as a national policy agenda in 2009. At that time, the concept of Green Growth is harmonious and balanced growth between the economy and environment. Considering environmental conservation and economic growth simultaneously, development of green technology is the core of national competitiveness in Korea (fig. 1).

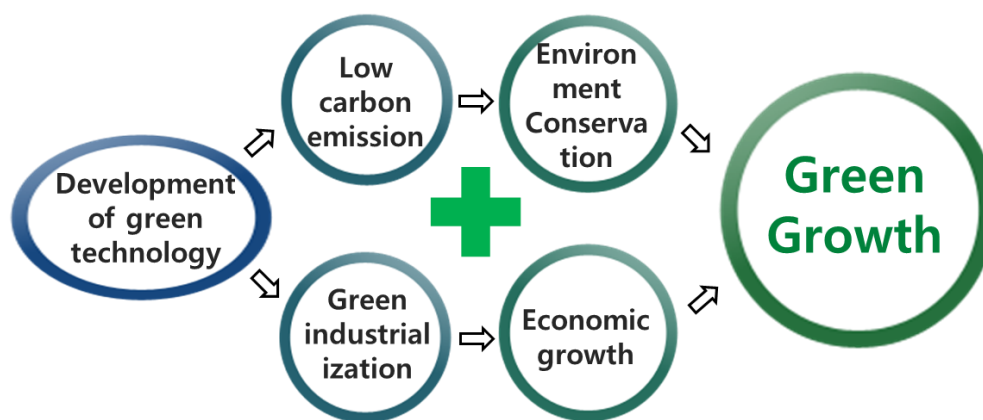


Figure 1: The Concept of Green Growth (*Green Growth: Concept, 2009, modified*)

The Korean government prepared and attracted various organizations to support the government's strong commitment for Green growth (fig. 2) (*Brief history, 2017*). In February 2009, the Presidential Committee on Green Growth was launched to coordinate and evaluate the Green Growth policies. In June 2010, the Global Green growth Institute, GGGI was launched to support a global spread of the Green Growth Model. In March 2012, the Green Technology Center, GTC was launched to support green technology policy planning. In December 2013, Headquarters of the GCF (Green Climate Fund Operation) was opened in Songdo, Korea. Its role is for green climate fund operation. And KISTEP support the national R&D budget coordination including green technology, such as energy resources, environment, and so on (HWANG, Ki-Ha, et al., 2016)

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Figure 2: The history of National Green Growth Promotion

The progress of Green Growth is the same as follows (*Brief history, 2017*). The starting point of Green Growth policy in Korea is the declaration of Korea's Green Growth Vision in August 2008. In January 2009, the Presidential Committee on Green Growth was launched. In July 2009, the National Green Growth Strategy and 1<sup>st</sup> Five-year Plan were set. In January 2010, the Comprehensive Framework Act and enforcement Decree were established to drive Green Growth efficiently and systematically (HWANG, Ki-Ha, et al., 2016). The brief history of National Green Growth Policy in Korea is shown in Table 1.

Key milestone	Date
Declaration of Korea's Green Growth Vision	Aug. 2008
The Presidential Committee on Green Growth which supervises and coordinates Green Growth policies was launched	Jan. 2009
Establishment of 1st 5 year plan for Green Growth	July. 2009
The Comprehensive Framework Act and Enforcement Decree were established to drive Green Growth efficiently and systematically	Jan. 2010
Global Green Growth Institute (GGGI) was launched	Jun. 2010
Korea's Greenhouse Gas Mitigation Target was announced ※ 30% Reduction in 2020 against BAU	Jul. 2011
Green Technology Center(GTC) was launched	Mar. 2013
Opening the GCF's headquarters in Songdo	Dec. 2013
Establishment of the 2nd 5 year plan for Green Growth	Jun. 2014
National Emission Allocation Program was passed	Sep. 2014
Korea's Greenhouse Gas Mitigation Target was updated and re-announced ※ 37% Reduction in 2030 against BAU(851 Mton)	Jun. 2015
Reformation Plan of Climate Change Response System was prepared for the effective implementation of the Paris Agreement	Feb. 2016

Table 1: brief history of National Green Growth Policy in Korea (*Brief history, 2017*)

The green technology area was classified into 5 types (Fig. 5) (Byun, Sun-Chun, 2009, p. 3). Most green technologies belong to energy and environment technology area.

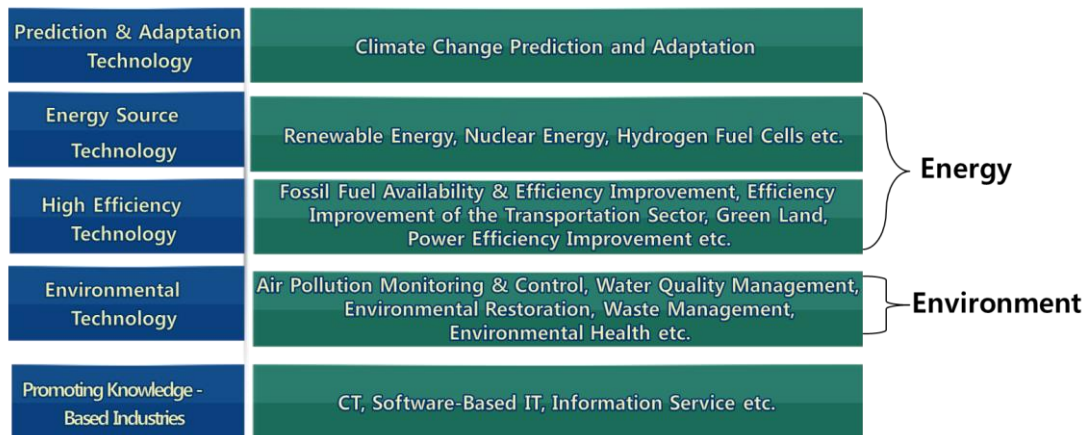


Figure 3: Green Technology Area

At that time, green growth emphasized the balance between environment and economy, but focused more on economic aspects. However, current government's energy policy, which was launched in May this year, is pursuing policy changes that emphasize environmental and civil safety rather than the existing economic viewpoint. As part of this, it declared that it will increase the renewable energy, but reduce nuclear power and coal power generation in the energy sector. In particular, it aims to foster new and renewable energy industries that will respond to greenhouse gas reductions, thereby aiming to increase the ratio of renewable energy to 20% by 2030. Specifically, it will expand the infrastructure of new and renewable energy such as mid- to large-sized lithium secondary batteries for electric vehicles, energy storage devices (ESS), carbon capture and storage (CCS), and smart grid (transmission and distribution equipment) respectively. On the other hand, in recent years, Korea has declared de-nuclear power generation and de-coal fire power in accordance with the increase of public concern about the safety of nuclear power generation and the response of fine dust... In accordance with the policy of de-nuclear power generation, it declared the cancellation of new nuclear power construction plan, the early closure of nuclear power plant(Wolsong Unit 1) which was planned to extend the lifespan operation, and the ban on the extension of the life of nuclear power plants with a design life. In addition, the coal-fired power plant will be abolished during the presidential term as part of de-coalification. The government pledged to increase the share of LNG and renewable energy as an alternative to decrease the share of coal-fired power generation and nuclear power generation. In this way, the energy policy related to climate change is further strengthened by the government's change. Next, we will review the status and performance of government R&D investment in energy/environment related to climate change, and suggest investment direction.

### 3. ENERGY R&D INVESTMENT STATUS AND DIRECTION

#### 3.1. Investment Status

Government R&D investment in the field of energy and resources technology is stagnant from 1.60 billion dollars to 1.59 billion dollars from 2011 to 2015(*Survey of Research and Development Report, 2012-2016, Database*). Looking at recent investment trends, it can be seen that the renewable energy has been reduced but the nuclear power generation has continued to increase slightly while the total investment in the energy sector has stagnated in the former government. Fig. 4 shows the government R&D investment for each technology sector.



Investment is mostly in the power sector such as renewable energy, nuclear power and electric power.

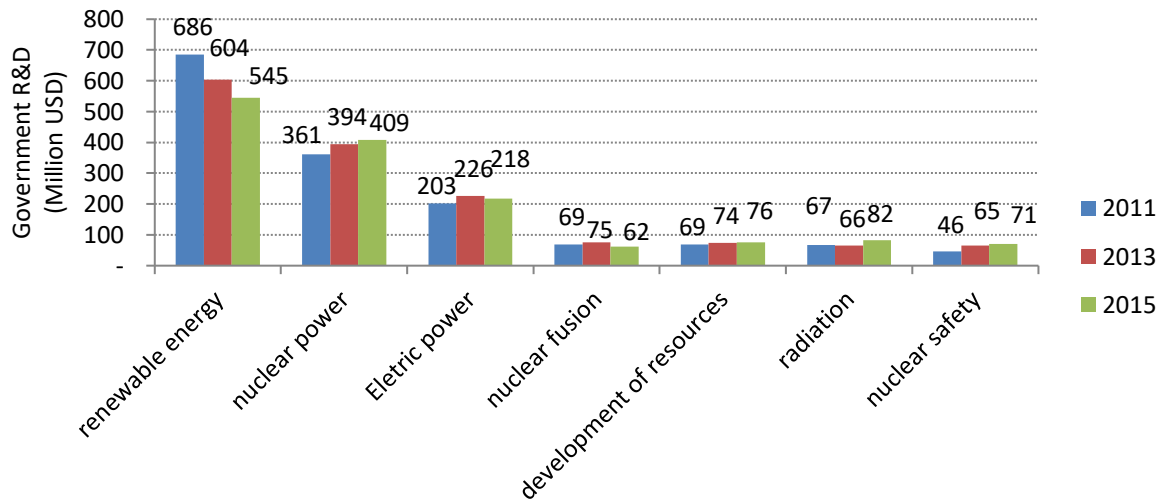


Figure 4: Government R&D investment in the field of energy/resources

### 3.2. Outcome and Evaluation of R&D Investment

The major achievements of the government R&D investment include the reduction of the technology trade deficit and the reduction of total greenhouse gas emissions, as well as contributing to social and economic performance. In particular, it contributed to the reduction of total greenhouse gas emissions by expanding R&D investment in reducing greenhouse gases such as CO<sub>2</sub> and non-CO<sub>2</sub>. On the other hand, there are some improvements, which are as follows. The link between energy technology and the market is insufficient, and the rate of commercialization due to the lack of self-sustenance of the industrial ecosystem is low and needs to be improved. For example, the ratio of energy R&D commercialization is 22.4%, which is lower than that of the Ministry of Industry and Trade (31.9%). In addition, the performance management system of government R&D projects to respond to climate change is insufficient such as the lack of performance indicators related to greenhouse gas reduction and needs to be improved.

### 3.3. Investment Direction in FY 2018

Government R&D investment direction in the energy field is focusing on following two areas. (*Government R&D Investment Direction and Criteria FY 2018, 2017*, p. 70-71) First, it will be expanding investment in the development of new and renewable energy and energy storage technologies in order to develop greenhouse gas reduction technologies and create related industry markets. Second, the secondary battery sector focuses on securing the source technologies of next-generation secondary batteries and intends to encourage commercial nuclear power plants and smart grid technology related to power transmission and distribution to be invested by the private sector. Major areas of technology are as follows. The renewable energy sector will focus on core technologies to respond to climate change that are in line with the reduction and utilization of greenhouse gases and the fostering of new energy industries. Among them, it will focus on core technologies for climate change such as solar cells and fuel cells. And it will strategically support them in consideration of technology maturity, R&D stage, and commercialization. In addition, it will continue to support the convergence of new and renewable energy technologies and other technologies and the installation & diffusion of optimal systems to overcome the technological limitations and technology convergence of renewable energy sources.



In the fusion e field of greenhouse gas treatment, it intend to strengthen cooperation between ministries and research bodies such as large-scale demonstration CO<sub>2</sub> storage technologies, and invest in centering on low-cost and high-efficiency technologies. CO<sub>2</sub> capture will support the development of core technologies such as wet, dry, and separation membranes for dramatic cost reduction (\$ 20 / tCO<sub>2</sub>), and CO<sub>2</sub> conversion will be selectively supported by next-generation chemical and biological technology. In the field of nuclear safety, it will expand comprehensive and independent verification capabilities to respond to safety enhancement technologies and safety regulation issues for nuclear facilities so that citizens can rest assured. Especially, it will expand strategic investment (earthquake response, cyber security, etc.) for preemptive response to disasters and accidents, which have recently become a hot issue in Korea. It will also support the development of comprehensive and independent evaluation and verification technologies for responding to all-round safety regulation issues on nuclear facilities and life safety management, including nuclear dismantlement evaluation and regulation technologies.

#### 4. ENVIRONMENT R&D INVESTMENT STATUS AND DIRECTION

##### 4.1. Investment Status

Government R&D investment in the field of environment and meteorology technology increased continuously 0.36 billion dollars to 0.51 billion dollars from 2011 to 2015(*Survey of Research and Development Report, 2012-2016, Database*). In particular, it is investing heavily in the fields of life safety and climate change such as environmental health and forecasting, climate, weather etc. Fig. 5 shows the government R&D investment for each technology sector. Investment is mostly in the environment related to public health such as air quality management and environmental health.

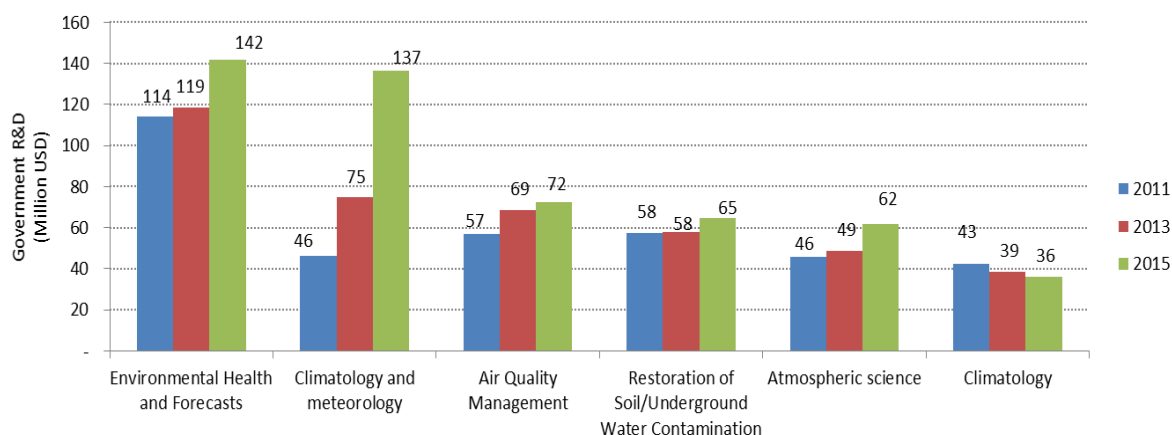


Figure 5: Government R&D investment in the field of Environment/Meteorology

##### 4.2. Outcome and Evaluation of R&D Investment

The main outcome of the government R&D investment is that raise the level of technology in the field of establishment of infrastructure for reducing environmental pollution and overall environment area. In detail, system improvement and countermeasures strategies for solving public health and social problems such as fine dust have been strengthened and it has been evaluated as contributing to the establishment of infrastructure for reducing environmental pollution. On the other hand, it contributed to the improvement of technology level and industrial competitiveness in the whole environmental field, but it is pointed out that the strategy of government R&D program and management of program are insufficient.

##### 4.3. Investment Direction in FY 2018

Government R&D investment direction in the field of environment technology is focusing on Climate and Meteorology. associated with climate change (*Government R&D Investment*

*Direction and Criteria FY 2018, 2017, p. 139-140*) The new climate regime (POST 2020) is strengthening support for infrastructure technologies to achieve national GHG reduction targets and mitigation technologies corresponding to abnormal temperatures. In particular, the development of greenhouse gas reduction technology in the environment field will be reduced by considering the strengthening of the energy technology development project (CCS, carbon resource project, etc.), but will continue to support the infrastructure technology for efficient management of national greenhouse gas reduction. In particular, it focuses on climate change adaptation integrated management system (impact assessment), and integrated management system of greenhouse gas reduction. The reason for the strengthening of investment in the climate & meteorological field is that the importance of technology development in the field of forecasting and response (greenhouse gas reduction and adaptation to climate change) becomes more evident as the frequency and severity of the occurrence of meteorological disasters increase. Accordingly, it is necessary to build a climate change adaptation system and strengthen the base of greenhouse gas reduction (inventory building) in order to preemptively respond to danger weather (scorching heat, drought, cold wave, etc.).

## 5. CONSLUSION

In order to respond proactively to the global issue of climate change, Moon Jae-in government, which was launched in May, declared an environment-friendly energy policy with a focus on expanding renewable energy. The continuous increase in investment in energy and environment R&D is needed to achieve an environment-friendly energy policy. Especially, to improve investment efficiency with limited R&D budget, strategic selection and investment direction are required in energy and environment technologies. . In particular, it is important to realize how to implement a significant increase in renewable energy along with the reduction of nuclear power by the current government's policy of de-nuclear power generation, unlike the previous govenment's one. Moreover, investment should be focused on energy innovation technology and environmental-friendly environment technology for the future. Climate change response can not be solved by the effort of one country, and global cooperation is needed. In the Korean context, cooperation among Northeast Asian countries is also required for the issue of yellow dust, fine dust, and nuclear accident, which are as important as global climate change.

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## ECONOMIC DEVELOPMENT IN ASIAN LEAST DEVELOPED COUNTRIES

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### **ABSTRACT**

*The paper presents trends in economic growth and development in nine Asian least developed countries (Afghanistan, Bangladesh, Bhutan, Cambodia, Lao PDR, Myanmar, Nepal, Timor-Leste, and Yemen) over the period from 2001 to 2015. The study is mainly based on the data retrieved from the World Bank Open Data. During analysed 15 years, Asia's LDCs, except Yemen, experienced high economic growth. Average annual GDP per capita growth rate in five countries was more than 4%. GDP has been largely generated through the service and industry sectors. The biggest decline in the contribution of agriculture sector to GDP was observed in the fastest growing economies. Afghanistan, Timor-Leste, and Bhutan sustained strong growth mainly because of foreign assistance. In Nepal, Yemen, and Bangladesh remittances were a significant source of development finance. In the years 2001-2015, Myanmar, Cambodia, Lao PDR, and Bhutan increased their GDP per capita more than twice. Asia's LDCs substantially improved their development indicators. Cambodia, Afghanistan, and Timor-Leste recorded the highest rise in the value of HDI. Moreover, Cambodia, Timor-Leste, and Yemen significantly reduced infant mortality and under-five mortality. Afghanistan, Timor-Leste, and Lao PDR made big progress in reduction of maternal mortality. Life expectancy at birth increased the most in Cambodia, Bhutan, and Timor-Leste. A lot of people in Asia's LDCs have gained access to electricity and improved water and sanitation. However, Asian least developed countries are slowly implementing economic reforms. What's more, Asia's LDCs, except Bhutan, have big problems with corruption and poor governance.*

**Keywords:** *development finance, economic development, economic growth, LDCs*

### **1. INTRODUCTION**

A group of Asia's least developed countries (LDCs) comprises Afghanistan (since 1971), Bangladesh (1975), Bhutan (1971), Cambodia (1991), Lao PDR (1971), Myanmar (1987), Nepal (1971), Timor-Leste (2003), and Yemen (1971). Since the establishing of the category of least developed countries in 1971, only four LDCs have graduated to developing country status but none of the Asian countries<sup>1</sup>. However, in the last two decades, Asia's LDCs made significant progress in economic growth and development. In 2015, two Asian countries met two graduation thresholds. Bhutan satisfied HAI (score 67.9) and per capita income (2 277 USD) criteria and Nepal met EVI (26.8) and HAI (68.7).

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<sup>1</sup> The list of LDCs is reviewed every three years. Countries are eligible to leave the LDC category if they meet the graduation thresholds of the criteria. The graduation thresholds must be met for any two of the three criteria (human assets index (HAI), economic vulnerability index (EVI) and per capita income) in two consecutive triennial reviews. Alternatively countries must satisfy income-only criterion: the GNI per capita is at least twice the graduation threshold in two consecutive triennial reviews. HAI is a composition of the following five indicators: under-five mortality rate, percentage of population undernourished, maternal mortality rate, gross secondary school enrolment ratio, and adult literacy rate. Lower values of HAI represent weaker human asset development. EVI is a composite index of population size, remoteness, merchandise export concentration, share of agriculture, hunting, forestry and fisheries in GDP, share of population living in low elevated coastal zones, instability of exports of goods and services, victims of natural disasters, and instability of agricultural production. Higher values of EVI indicate higher vulnerability (UN, 2017).

Timor-Leste satisfied income-only criterion (3 767 USD). Moreover, three other Asian countries met one criterion. Bangladesh satisfied EVI (25.1), Cambodia and Myanmar met HAI with scores 67.2 and 72.7, respectively<sup>2</sup>. Asia's LDCs are expected to escape from the low development category by 2025 (UNCTAD, 2016). The main aim of the paper is to show trends in economic growth and development in nine Asian least developed countries over the period from 2001 to 2015. The study is mainly based on the data retrieved from the World Bank Open Data. The values of GDP per capita are considered in constant 2010 US dollars and they differ from those obtained using the World Bank Atlas method. There are a lot of studies on economic growth and development in selected Asia's least developed countries. For instance, Stokes (2015) analyses Bhutan's development policy, Louth (2015) and Leng (2017) focus on Cambodia's economic development, Bird and Hill (2010) and Roberts (2012) study economic reforms and development in Lao PDR, Freeman (2014) and Tin (2015) examine Myanmar's economy and Colton (2010) presents problems of Yemen's economy. The main contribution of this paper to the discussion on economic development in the Asian LDCs is a comparison of their development trends using the same set of data.

## 2. SOURCES OF GROWTH IN ECONOMIES OF ASIA'S LDCS

The group of Asia's least developed countries comprises seven lower middle-income economies (Bangladesh, Bhutan, Cambodia, Lao PDR, Myanmar, Timor-Leste, and Yemen) and two low-income ones (Afghanistan and Nepal). The largest country in the group is Bangladesh with a population of 163 million and economy of 156.6 billion USD (constant 2010 US dollars) in 2015. Myanmar has the second-largest economy after that of Bangladesh. GDP in Myanmar was worth 70.5 USD billion in 2015 and the total population was estimated at roughly 53 million people in 2016. The GDP value of Yemen (20.8 USD billion) represented 13.3 per cent of the Bangladeshi economy. Yemen ended 2016 with a population of 27.6 million people. There were about 15.8 million people living in Cambodia which GDP was worth 15.9 billion USD. Afghanistan, Bhutan, Nepal, and Laos are landlocked least developed countries. The GDP of Afghanistan was 20.2 USD billion in 2015. The GDP in Nepal was worth 19.7 USD billion, in Lao PDR 10.4 USD billion, and 2.1 USD billion in Bhutan. In 2016, approximately 34.7 million of people lived in Afghanistan, 29 million in Nepal, and 6.8 million in Lao PDR. Bhutan with 0.8 million of population is the least populated country in the group. In turn, Timor-Leste with a population of 1.3 million and economy of 1.2 billion USD is the smallest Asia's least developed country<sup>3</sup>.

In the 21st century, Asia's LDCs, except Yemen, experienced high economic growth. Myanmar's economy grew at the fastest pace. GDP annual growth rate in that country averaged 10.4 per cent from 2001 to 2015. Economies of Cambodia, Bhutan, Afghanistan, and Lao PDR grew at an average annual rate above 7% during analysed 15 years. High growth was also observed in Bangladesh, Timor-Leste, and Nepal. GDP growth rates in those countries were more than 5%. Yemen had the lowest GDP growth rate in the group (Table 1).

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<sup>2</sup> At the 2015 review the graduation thresholds were the following: the three-year average level of per capita GNI (Atlas method) was 1 242 USD, the level of human capital HAI at 66 or above, and EVI at 32 or below (UN, 2017).

<sup>3</sup> The values of GDP in current US dollars were the following: 19.7 USD billion in Afghanistan, 195.1 USD billion in Bangladesh, 2.1 USD billion in Bhutan, 18.0 USD billion in Cambodia, 14.4 USD billion in Lao PDR, 62.6 USD billion in Myanmar, 21.3 USD billion in Nepal, 1.4 USD billion in Timor-Leste, and 37.7 USD billion in Yemen.



*Table 1: Average GDP and GDP per capita growth in Asian LDCs, 2001-2015*  
(Source: own calculations based on WBOD, 2017)

Country	Average GDP growth, 2001-2015	Average GDP per capita growth, 2001-2015	Average GDP per capita growth, 2006-2015	Average GDP per capita growth, 2011-2015
Afghanistan	7.4% (2003-2015)	4.0% (2003-2015)	4.5%	1.7%
Bangladesh	5.8%	4.4%	4.9%	5.1%
Bhutan	7.6%	5.4%	5.6%	3.9%
Cambodia	7.7%	6.0%	5.3%	5.5%
Lao PDR	7.3%	5.7%	6.1%	6.1%
Myanmar	10.4%	9.5%	8.4%	6.4%
Nepal	5.0%	2.7%	3.2%	3.0%
Timor-Leste	5.4%	3.1%	5.0%	3.0%
Yemen	0.1%	-2.6%	-4.4%	-10.0%

Over the period 2001-2015, Asia's LDCs recorded high GDP per capita growth, too. In Myanmar GDP per capita increased 3.5 times, from 382 USD (constant 2010 US dollars) to 1346 USD. GDP per capita doubled in Cambodia (from 454 to 1025 USD), Lao PDR (from 700 to 1554 USD), and Bhutan (from 1264 to 2626 USD). In Bangladesh the average annual growth rate of GDP per capita was above 4%. The Bangladeshi GDP per capita rose from 525 to 972 USD. In Afghanistan, GDP per capita grew by nearly 4 per cent per year over 2003-2015 and finally it reached level of 599 USD. The average annual growth rates of GDP per capita were lower in Nepal and Timor-Leste. In the first country GDP per capita increased from 473 USD in 2001 to 686 USD in 2015 and in the second one from 725 to 968 USD. Yemen is the only Asian least developed country which experienced a negative GDP per capita growth during analysed 15 years. GDP per capita in Yemen decreased from 1148 USD to 772 USD. The decline in GDP per capita has been particularly fast since the Yemeni uprising in 2011 (Table 1).

On the supply side, GDP in Asia's LDCs has been largely generated through the service sector. Industry was the main driver of growth only in two Asian LDCs. In the years 2001-2015, services accounted for above 60% of total gross value added in Timor-Leste and for more than 50% in Bangladesh. The service sector in Timor-Leste is dominated by public administration, retail and wholesale trade, and real estate activities. Key services in Bangladesh are transport, energy, and information and communication technology (ITC). They provide the basis for development of the textile and clothing industries. The Government of Bangladesh is planning to expand ITC and ITC-related services, tourism, and professional services (accounting and auditing, architectural and engineering, and health professional services). In Afghanistan, the share of service sector has been above 50% since 2010. A nearly 18 percentage point increase in the share of services in GDP was observed in the years 2002-2015. It resulted mainly from the presence of foreign troops in the country. The withdrawal of international troops, that started in 2012, has negatively affected economic growth in Afghanistan. Services generated nearly 50% of GDP in Nepal and 40% in Cambodia and Lao PDR. The sector service slightly dominated over industry in Myanmar, too. Nepal has been developing tourism and ITC-related services. Cambodia's service sector has largely been driven by tourism which strongly affected a development of hotel and restaurant business, retail and wholesale trade, and transport and communications. In Lao PDR, basic contributors to GDP were wholesale and retail trade, hotels and restaurants, financial services and telecommunications.



Transport, tourism and travel services have a great potential as drivers of Myanmar's economic growth. In the 21st century, Bhutan's economy was dominated by hydropower industry and the building of new power projects. Main industries in Yemen were crude oil production and petroleum refining.

In terms of growth, service sector recorded the fastest growth in Myanmar. From 2001 to 2015, it has been growing by 12% annually. Moreover, the service sector grew at 8% per year in Cambodia and Bhutan and at above 7% in Lao PDR. Strong service sector growth in those countries has been supported by a fast-growing industrial sector.

Agriculture has declined significantly as a component of GDP in two Asian LDCs. In the years 2001-2015, the contribution of agriculture to GDP decreased by nearly 30 percentage points in Myanmar and above 24 percentage points in Lao PDR (Table 2).

*Table 2: Share of value added in main economic sectors in the Asian LDCs, 2001, 2015  
(percentage of GDP) (Source: WBOD, 2017)*

Country	Agriculture, hunting, forestry, fishing		Industry		Services	
	2001	2015	2001	2015	2001	2015
Afghanistan	38.5% (2002)	21.4%	23.7% (2002)	22.9%	37.8% (2002)	55.7%
Bangladesh	23.0%	15.5%	23.8%	28.1%	53.2%	56.3%
Bhutan	26.1%	17.4%	37.9%	43.2%	36.0%	39.4%
Cambodia	36.5%	28.8%	23.7%	29.8%	39.8%	41.5%
Lao PDR	44.0%	19.7%	17.1%	31.0%	38.9%	49.4%
Myanmar	57.1%	26.7%	10.6%	34.5%	32.4%	38.7%
Nepal	37.6%	33.0%	17.8%	15.4%	44.6%	51.6%
Timor-Leste	23.0%	19.8% (2014)	14.4%	18.5% (2014)	62.6%	61.6% (2014)
Yemen	15.6%	9.8%	41.0%	48.1%	43.4%	42.1%

Note: Data for Afghanistan cover the period 2002-2015, Timor-Leste 2001-2014.

However, agriculture is still important sector in terms of employment in Asia's LDCs. In 2015, agriculture provided the main livelihood for more than 60% of the population in Lao PDR and Nepal, above 50% in Afghanistan, Bhutan, and Myanmar, and more than 45% in Bangladesh, Cambodia, and Timor-Leste. Only in Yemen, fifty per cent of labour force were employed in service sector. In the group of Asian LDCs, Cambodia had the biggest decline in employment in agriculture between 2000 and 2015 (Table 3).

On the demand side, domestic private consumption was the main source of growth in Asia's LDCs. In the years 2001-2015, household final consumption expenditure increased by 32 percentage points in Yemen and by 19 p.p. in Bhutan. A small rise of domestic private consumption was observed in Nepal. On the other hand, Afghanistan recorded a 28 percentage point decrease in domestic private consumption between 2002 and 2015. Domestic private consumption declined also in Lao PDR, Cambodia, Timor-Leste, and Bangladesh. Growth was boosted by government spending first of all in Timor-Leste. The contribution of government final consumption expenditure to GDP was relatively high in Bhutan and Afghanistan. In terms of growth, final consumption expenditure grew fastest in Bhutan and Cambodia. The contribution of gross domestic investment (gross capital formation) to GDP was less than of domestic consumption in all Asian LDCs, except Bhutan. Exports of goods and services were an important driver of growth in Cambodia. A significant decline in the contribution of exports to GDP was observed in Afghanistan, Nepal, Timor-Leste, and Yemen (Table 4).

*Table 3: Employment by sector in Asia's LDCs, 2000, 2015 (percentage of total employment)  
(Source: UNCTAD, 2016)*

Country	Agriculture		Industry		Services	
	2000	2015	2000	2015	2000	2015
Afghanistan	57.3%	52.9%	10.9%	12.7%	31.8%	34.4%
Bangladesh	53.1%	46.0%	12.7%	19.3%	34.1%	34.7%
Bhutan	56.7%	54.5%	11.6%	11.6%	31.7%	33.9%
Cambodia	73.7%	45.2%	8.4%	20.0%	17.9%	34.8%
Lao PDR	77.9%	66.4%	5.5%	10.3%	16.6%	23.3%
Myanmar	61.3%	57.6%	12.7%	14.4%	26.0%	27.9%
Nepal	75.9%	64.3%	9.9%	11.6%	14.2%	24.1%
Timor-Leste	56.6%	46.7%	7.6%	10.5%	35.7%	42.8%
Yemen	41.2%	32.4%	14.4%	17.5%	44.5%	50.0%

*Table 4: Components of GDP in Asia's LDCs, 2001, 2015 (percentage of GDP) (Source: WBOD, 2017)*

Country	Exports of goods and services		Imports of goods and services		Final consumption expenditure		Gross capital formation	
	2001	2015	2001	2015	2001	2015	2001	2015
Afghanistan	32.4% (2002)	7.0%	-65.3% (2002)	-48.8%	120.6% (2002)	122.4%	12.3% (2002)	19.4%
Bangladesh	13.4%	17.3%	-18.7%	-24.7%	81.2%	78.5%	24.2%	28.9%
Bhutan	28.6%	32.9%	-47.3%	-60.0%	58.3%	73.1%	60.4%	54.0%
Cambodia	52.5%	61.7%	-61.2%	-66.1%	90.0%	82.0%	18.7%	22.5%
Lao PDR	28.5%	31.0%	-37.8%	-43.8%	95.2%	84.7%	14.1%	28.2%
Myanmar	0.5%	20.8%	-0.4%	-26.5%	n.a.	n.a.	n.a.	n.a.
Nepal	22.6%	11.7%	-33.2%	-41.7%	88.3%	91.2%	22.4%	38.8%
Timor-Leste	20.8%	5.8% (2014)	-176.5%	-95.6 (2014)	219.9%	147.7% (2014)	35.8%	42.1% (2014)
Yemen	35.9%	10.2%	-35.0%	-22.5%	79.5%	110.5%	19.6%	1.8%

Note: Data for Afghanistan cover the period 2002-2015, Timor-Leste 2001-2014.

According to the export specialisation (the type of exports accounted for at least 45 per cent of total exports of goods and services in 2013-2015) Afghanistan, Nepal and Timor-Leste are considered to be service exporters, Bangladesh, Bhutan and Cambodia are manufacturing exporters, Lao PDR and Myanmar are mixed exporters, and Yemen is classified as fuel exporter (UNCTAD, 2016). Asia's LDCs traded primarily with the Asian giants (Nowak, 2017). In Nepal, Yemen, and Bangladesh remittances were a significant source of development finance. The effect of remittances on economic growth in Nepal was studied by Sapkota (2013) and in Bangladesh by Mamun and Beshar (2015) and Chowdhury (2015). Afghanistan, Timor-Leste, and Bhutan sustained strong growth mainly because of foreign assistance. The United States were the largest donor for Afghanistan. Timor-Leste was primarily supported by Australia and Bhutan by India (Nowak, 2014, 2015). Data on remittances and net official development assistance (ODA) in the Asian LDCs are presented in Table 5.

*/Table following on the next page*

Table 5: Remittances and net ODA in Asia's LDCs, 2001- 2015 (Source: WBOD, 2017)

Country	Remittances as % of GDP, 2015	Average remittances as % of GDP, 2001-2015	Average net ODA received (% of GNI), 2001-2015	Average net ODA received (% of gross capital formation), 2001-2015
Afghanistan	1.5%	1.4% (2008-2015)	36.2%	208.6% (2002-2015)
Bangladesh	7.9%	7.8%	1.6%	6.5%
Bhutan	1.0%	0.6% (2006-2015)	9.7%	17.5%
Cambodia	2.2%	2.1%	7.8%	39.1%
Lao PDR	0.6%	0.4%	8.9%	38.4%
Myanmar	0.6%	0.8%	1.7%	n.a.
Nepal	31.6%	19.3%	5.5%	19.4%
Timor-Leste	4.3%	7.2% (2006-2015)	14.6%	126.0%
Yemen	8.9%	7.9%	2.3%	30.9%

Asia's least developed countries, except Bhutan, have serious problems with corruption and poor governance. Score below 50 out of 100 in 2016 Corruption Perceptions Index (CPI) had 8 Asian LDCs. Only in Bhutan, which was in 27th of CPI ranking with 65 points, corruption is not an obstacle for business investment. The remaining Asian LDCs are much more corrupt. They achieved the following scores: Timor-Leste 35 points (101st position in the ranking), Lao PDR 30 points (123rd position), Nepal 29 points (131st position), Myanmar 28 points (136th position), Bangladesh 26 points (145th position), Cambodia 21 points (156th position), Afghanistan 15 points (169th position), and Yemen 14 points (170th position)<sup>4</sup>. The problem of corruption in selected Asia's LDCs was analysed for instance by Murtazashvili (2015) and Scambray (2015). Bhutan is not only the least corrupt country in the group but also the country with the best quality of national governance. In 2015, it achieved positive score for four of the six Worldwide Governance Indicators. On the other hand, Yemen and Afghanistan are the Asian LDCs with the poorest governance (Table 6). A low level of corruption and relatively good governance are conducive to running business. According to the World Bank's Ease of Doing Business Survey for 2017, Bhutan is ranked 73 out of 190 economies on economy-friendly business environment. Nepal is in the 107th of the ranking. Cambodia and Lao PDR rank as 131st and 139th. At the bottom of the ranking are the following countries: Myanmar (170th position), Timor-Leste (175th position), Bangladesh (176th position), Yemen (179th position), and Afghanistan (183th position).

Table 6: Worldwide Governance Indicators for Asia's LDCs, 2015 (Source: <http://info.worldbank.org/governance/wgi/>)

Country	Voice and accountability	Political stability and absence of violence/terrorism	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
Afghanistan	-1.15	-2.50	-1.34	-1.01	-1.59	-1.34
Bangladesh	-0.49	-1.15	-0.73	-0.93	-0.70	-0.88
Bhutan	-0.06	1.10	0.41	-0.71	0.51	0.98
Cambodia	-1.09	-0.10	-0.69	-0.48	-0.92	-1.04
Lao PDR	-1.67	0.48	-0.50	-0.80	-0.75	-0.84
Myanmar	-1.30	-1.17	-1.24	-1.26	-1.22	-0.89
Nepal	-0.43	-0.93	-1.04	-0.79	-0.70	-0.55
Timor-Leste	0.15	-0.22	-1.05	-0.97	-1.18	-0.69
Yemen	-1.49	-2.63	-1.64	-1.10	-1.24	-1.45

Note: Governance score ranges from approximately -2.5 (weak) to +2.5 (strong) governance performance.

<sup>4</sup> The 2016 Corruption Perceptions Index ranked 176 countries on a scale of zero (highly corrupt) to 100 (very clean).

### 3. DEVELOPMENT TRENDS IN ASIA'S LDCs IN THE YEARS 2001-2015

Bhutan is holding the first position in the group of Asia's LDCs by GDP per capita. In 2015, the value of its GDP per capita (in constant 2010 US dollars) was 1.7 times bigger than that of Lao PDR and 4.4 times that of Afghanistan. GDP per capita of Myanmar, Cambodia, Timor-Leste, Bangladesh, Yemen, and Nepal accounted for 52.3%, 39.0%, 37.6%, 37.0%, 29.4% and 26.1% of Bhutan's one, respectively. In the years 2001-2015, Myanmar, Cambodia, and Lao PDR reduced their distance to Bhutan. On the other hand, the gap between Bhutan's GDP per capita and GDP per capita of the remaining five countries has widened. According to Human Development Index (HDI), Bhutan, Timor-Leste, Lao PDR, Bangladesh, Cambodia, Nepal, and Myanmar are classified as medium human development countries. In turn, Yemen and Afghanistan are low human development countries. Between 2000 to 2015, the value of HDI increased the most in Cambodia, Afghanistan, Timor-Leste, and Myanmar (Table 7). In terms of the percentage change, HDI increased in Afghanistan by 41.1%, in Cambodia by 36.6%, in Myanmar by 30.2% and in Timor-Leste by 28.7%.

Table 7: Basic development indicators, 2000-2015 (Source: WBOD, 2017)

Country	HDI		Life expectancy at birth		Mortality rate, infant (per 1000 live births)		Mortality rate, under five (per 1000 live births)		Maternal mortality (per 100 000 live births)	
	Value, 2015	Change, 2000-2015	Value, 2015	Change, 2001-2015	Value, 2015	Change, 2001-2015	Value, 2015	Change, 2001-2015	Value, 2015	Change, 2001-2015
Afghanistan	0.479	0.140	60.7	5.2	66.3	-27.1	91.1	-42.7	396	-654
Bangladesh	0.579	0.111	72.0	6.1	30.7	-30.7	37.6	-45.9	176	-208
Bhutan	0.607	n.a.	69.8	8.3	27.2	-28.9	32.9	-42.1	148	-249
Cambodia	0.563	0.151	68.7	9.4	24.6	-50.1	28.7	-70.0	161	-280
Lao PDR	0.586	0.123	66.5	7.1	50.7	-29.8	66.7	-46.7	197	-322
Myanmar	0.556	0.129	66.0	3.6	39.5	-19.7	50.0	-29.9	178	-119
Nepal	0.558	0.113	70.0	7.0	29.4	-27.3	35.8	-40.1	258	-269
Timor-Leste	0.605	0.135	68.5	8.2	44.7	-37.7	52.6	-52.0	215	-431
Yemen	0.482	0.039	64.0	3.4	33.8	-32.3	41.9	-48.8	385	-50

Over the period 2001-2015, several Asia's LDCs improved significantly their development indicators. Life expectancy at birth increased by more than 9 years in Cambodia and above 8 years in Bhutan and Timor-Leste. In Lao PDR and Nepal, people born in 2015 are expected to live 7 years longer than those born at the beginning of the 21st century. Bangladesh, Nepal, Bhutan, Cambodia, Timor-Leste, and Lao PDR are among the top ten least developed countries with the highest life expectancy at birth. The level of infant mortality and under-five mortality decreased considerably in Cambodia, Timor-Leste and Yemen. In terms of the percentage change, infant mortality declined by 67% in Cambodia, 51.5% in Bhutan and 50% in Bangladesh. During analysed 15 years, under-five mortality decreased by 71% in Cambodia, 56.1% in Bhutan and 55% in Bangladesh. Asia's LDCs made big progress in reduction of maternal mortality. Timor-Leste, Cambodia, Bhutan, Afghanistan, and Lao PDR reduced maternal mortality ratio by more than 60% between 2001 and 2015 (Table 7).

A lot of people in Asia's LDCs have gained access to clean and safe drinking water since 2001. The biggest progress in that field was made by Cambodia, Lao PDR, and Afghanistan. It is worth noting that 100% of population in Bhutan and above 90% in Nepal have access to improved drinking water. Only in Yemen, the percentage of the population having access to and using improved drinking water sources has been systematically declined since the beginning of 21st century.

In all Asian LDCs, the proportion of population using improved sanitation facilities has increased. However, in 2015, above 70% of population had access to improved sanitation only in Myanmar and Lao PDR. In the years 2001-2014, Asia's least developed countries made progress in access to electricity. More than a 60 percentage point rise in that field was observed in Afghanistan, Bhutan, and Nepal. Nevertheless, the electricity access gap in the group of Asia's LDCs was huge. In 2014, all households in Bhutan had access to electricity whereas in Timor-Leste, the percentage of the population with access to it was slightly above 45% (Table 8).

*Table 8: Access to electricity and improved water and sanitation in Asia's LDCs, 2001-2015*  
(Source: WBOD, 2017)

Country	Improved water source (% of population with access)		Improved sanitation facilities (% of population with access)		Access to electricity (% of population)	
	2001	2015	2001	2015	2001 (2000)	2014
Afghanistan	32.0%	55.3%	23.9%	31.9%	16.4%	89.5%
Bangladesh	76.7%	86.9%	46.5%	60.6%	33.8%	62.4%
Bhutan	85.3%	100%	32.5%	50.4%	37.1%	100%
Cambodia	43.9%	75.5%	18.0%	42.4%	17.7%	56.1%
Lao PDR	47.8%	75.7%	31.1%	70.9%	45.6%	78.1%
Myanmar	67.7%	80.6%	63.4%	79.6%	46.3%	52.0%
Nepal	78.2%	91.6%	23.4%	45.8%	24.6%	84.9%
Timor-Leste	55.6%	71.9%	37.4%	40.6%	25.6%	45.4%
Yemen	59.2%	54.9% (2012)	41.0%	53.3% (2012)	52.3%	72.0%

Note: Data on improved water source and sanitation facilities for Yemen cover the period 2001-2012.

Since the beginning of the twenty-first century, the quality of life in most of Asia's LDCs has been greatly improved. However, the countries still have a problem with poverty. In the years 2014-2016, more than 26% of population were undernourished in Afghanistan, Timor-Leste, and Yemen, above 18% in Lao PDR, 16% in Bangladesh, 14% in Cambodia and Myanmar, and less than 8% in Nepal (FAO, 2017).

#### 4. CONSLUSION

In the years 2001-2015, Asia's least developed countries, except Yemen, experienced high economic growth. On the supply side, GDP has been mainly generated through the industry sector in Bhutan and Yemen. Services were a key driver of growth in Afghanistan, Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal, and Timor-Leste. The biggest change in the structure of GDP was observed in Myanmar and Lao PDR. On the demand side, domestic private consumption was the most important source of growth. Major obstacles to economic growth and development in Asia's LDCs (except Bhutan) were corruption and poor governance.

Asia's least developed countries are diversified in terms of the size of economies and the level of economic development. Bhutan, the second (after Timor-Leste) smallest country in the group, is the most developed one. It has the highest GDP per capita and HDI, the lowest maternal mortality ratio and the second lowest (after Cambodia) infant and under-five mortality rates. Moreover, 100% of population in Bhutan have access to clean water and electricity. The lowest level of economic development is observed in Afghanistan. It has the lowest level of GDP per capita and HDI, the lowest life expectancy at birth and the highest infant, under-five and maternal mortality ratios among Asia's LDCs. Besides, only 55% of population in Afghanistan have access to improved drinking water and 68% have no access to improved sanitation. At present, Afghanistan's big challenge is the post-conflict reconstruction and development.



Over the period 2001-2015, Myanmar, Cambodia, and Lao PDR recorded the fastest GDP per capita growth. They reduced the gap between the level of their GDP per capita and that of Bhutan. Among the fastest growing economies, Cambodia made the biggest progress in economic development. During 15 years, it increased a life expectancy at birth by more than nine years and the value of HDI by 37%. Moreover, it recorded the highest increase in access to electricity, improved water and sanitation. Additionally, Cambodia is the leader in the reduction of infant, under-five, and maternal mortality. Myanmar, compared with Cambodia and Lao PDR, made lower progress in the improvement of development indicators although it is the fastest growing economy in the group. During analysed 15 years, Bangladesh, Timor-Leste and Nepal experienced a moderate GDP per capita growth. However, they made a significant progress in the reduction of maternal, infant and under-five mortality. Besides, Timor-Leste greatly increased the value of HDI and Nepal access to electricity and improved sanitation. The period from 2001 to 2015 can be regarded as the lost time for economic development in Yemen. In recent years, the living conditions of Yemenis have been getting worse and worse mainly because of political conflicts and the civil war.

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## DIVERSIFICATION OF THE LEVEL OF ECONOMIC DEVELOPMENT OF THE THREE SEAS INITIATIVE' MEMBERS

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### ABSTRACT

*The purpose of the study, the results of which were presented in this paper, was assessment of socio-economic development of the countries belonging to the Three Seas Initiative. This is the initiative of 12 European Union's members from Central and Eastern Europe. On the one hand, it is an attempt to strengthen this part of the EU which, due to its recent history, is an area of insufficient (quantitatively and qualitatively) transport, energy and communication infrastructure. On the other hand, creation of an alliance within the EU by the least developed countries (Austria is an exception) is a source of doubts raised by economists and politicians about legitimacy of creating new, special relations between the listed EU's members. The paper analyzes the material obtained during literature studies. Based on desk research, the most important premises and objectives of the Three Seas Initiative are presented. For the purpose of analyzing socio-economic development, the socio-economic development indicator (SEDI), presented in the literature, was adapted. This indicator was used to assess changes in the economies in three chosen years. The variables selected for SEDI estimation for different countries concern those areas of the state, which are particularly important for implementation of the Europe 2020 strategy. The level of socio-economic development of the Central and Eastern Europe's countries (EU's members since 2004, 2009 or 2013) is significantly different from the level of development of Austria and the average level of the entire EU economy. The lack of a stable basis of the economy in these countries was manifested by the rapid and definitively negative reaction of SEDI (in 2009) and the improvement of the economic situation did not bring about spectacular changes in the SEDI value (in 2013). The design of the SEDI indicator and the analysis of its value allowed initial assessment of the socio-economic development potential of the "new" EU states forming the Three Seas Initiative. On the basis of changes in this indicator, it can be concluded that there is no sigma convergence or absolute beta convergence between these countries. Yet, some symptoms of conditional beta convergence can be observed.*

**Keywords:** Europe 2020, socio-economic development indicator SEDI, Three Seas Initiative

### 1. INTRODUCTION

The economic growth, which according to Burda and Wyplosz, "is unchanging and natural economic law" manifests itself in an increase in total output leading to better living conditions of the population (2003, p. 96). The theory of economics gives three causes for economic growth: capital accumulation, population growth, and technological progress. Today's discussion on determinants of growth points out to additional issues, such as: investment in production capital, investment in human capital, R&D, openness to trade, and access to the developed financial markets. This is complemented by the appropriate economic policy that allows inflation to be maintained at a desirable, stable level and legal and institutional conditions that create a business-friendly environment that encourages business start-ups (Baily, 2003, pp. 1-4).

Uneven allocation of growth factors negatively affects local, national and regional economy. This situation is reflected in uneven economic development, which means diversified social development. Disproportions in socio-economic development have, in turn, a negative impact on the efficient use of the existing economic resources and are recognized as a major barrier to economic development.

## **2. ECONOMIC DEVELOPMENT AND PROSPERITY - EVOLUTION OF PRIORITIES OF THE EU COHESION POLICY**

The issues of how to reduce differences in socio-economic development are the subject of much research (Sala-I-Martin, 1996; Austin and Schmidt, 1998; Barro and Sala-I-Martin, 1992) and the practical dimension of this issue manifests itself, among others, in the concept of the European Union. Transformation of the European Community into the European Union, the economic and monetary union, has forced action to reduce disparities in economic development between the members (Yin, Zestos and Michelis, 2003, p. 189). According to the Treaty on the European Union: "in all its activities, the Union shall aim to eliminate inequalities (...)" (The Treaty on the Function ..., 2012, art.8). This is to be done by the cohesion policy, whose scope (spatial and temporal) has evolved over the years. Previously the cohesion policy focused on plans and their financing within national policies (Studzieniecki, 2016); over the time the investment horizon and spatial extent - from domestic investment to cross-border or regional investment (the EU's macro-regions) - were extended (EC, 2014, p. xviii). Meeting the EU Treaty target required greater financial commitment to regions with weaker economic conditions. These included mainly the countries of Central and Eastern Europe that joined the EU in 2004, 2007 and 2013. While initially reducing inequalities was limited primarily to reducing the gap between GDP *per capita* and the unemployment rates, changes in the EU development priorities caused a shift in the perception – now more important was which disparities should be reduced. Economic indicators (GDP, unemployment rate) were justified in assessing the implementation of the *Lisbon Strategy*, which assumed that Europe would become the most economically competitive region by 2010. The lack of success in implementing this strategy led to a change in the priorities of the EU policy. The new priorities are described in the *Europe 2020* strategy, which assumes that by the end of the second decade of the 21st century, Europe will be more coherent than ever and its development will be: "(...) smart through more effective investments in education, research and innovation; sustainable, thanks to a decisive move towards a low-carbon economy; and inclusive, with a strong emphasis on job creation and poverty reduction" (*Europe 2020. Priorities*, n.d.). In view of the above development priorities, there was a need to expand the set of indicators into five areas: (i) employment, (ii) R&D, (iii) climate change and energy, (iv) education; (v) fighting poverty and social exclusion, the dimensions of which would constitute the basis of assessing progress in meeting the goals. In the document *GDP and beyond. Measuring progress in a changing world* (COM(2009) 433 final, 2009), in addition to supplementing the environmental and social indicators, the European Commission also proposed: "(...)

- 1) near real-time information for decision-making,
- 2) more accurate reporting on distribution and inequalities,
- 3) developing a European Sustainable Development Scoreboard,
- 4) extending National Accounts to environmental and social issues" (COM(2009) 433 final, 2009, pp. 5-11).

The modified approach to the question of how to measure disparities between regions has also slightly changed the scope of the issues covered by the cohesion policy. In the 2014-2020 financial perspective much attention has been drawn, in addition to unemployment, industry and agriculture, to disparities in terms of: "(...) innovation, level of education, environment, and

poverty" (EC (2014), p. 200). What is necessary to accelerate growth are: the efficient use of available resources and the connection of economies by transport systems and information technology. The response to these challenges is the EU's financial instrument - Connecting Europe Facility (CEF), whose main objective is to support economic growth, higher employment levels and competitiveness of the EU economy by funding infrastructure investments undertaken within the framework of cooperation - on the EU level. Projects funded by the CEF are "(...) [to] fill the missing links in Europe's energy, transport and digital backbone" (European Commission, n.d.).

### 3. RATIONALE OF THE THREE SEAS INITIATIVE

The economies of Central and Eastern Europe, which joined the European Union as the latest (the last three enlargements of the EU: 2004, 2007, 2013), differed from the economies of the previous EU Member States. This was a result of the political and economic division of Europe into two areas after the Second World War. In economic terms, these areas are: a market economy and a centrally planned economy. The political and economic transformation initiated in the late 1980s allowed some countries to join the European Union. The EU members (from this region of Europe) in 2004 were: Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Slovenia and Hungary, in 2007: Bulgaria and Romania, and in 2013 - Croatia. Differences between the so-called old and new members of the EU appeared in all aspects of functioning of the state: governance, economic, social, legal, financial, etc. The weaknesses of the post-socialist economies were: inefficient and unprofitable economic structures, strong links to the Soviet economy (the largest, sometimes the only resource exporter and the importer of finished products), a delay in comparison with Western Europe in the development of the key sectors: transport, energy and communications. In 2014, a joint report was prepared by the Central and Eastern Europe Energy Partners (CEEP) in coordination with the CEED Institute with the support of Grupa LOTOS S.A. and Oil Exploitation Enterprise S.A. PERN "Friendship": *Completing Europe. From the North-South Corridor to Energy, Transportation, and Telecommunications Union*. The report presents a possibility of "completing integration" of the European Union by establishing the network of energy, transport and communication links in the countries of Central and Eastern Europe. In the report, apart from the so-called new members of the European Union, Austria was also included because of its strategic location in the North-South proposed infrastructure corridor (Figure 1.).



*Figure 1: Members of the planned North-South Corridor to Energy, Transportation, and Telecommunications Union*  
([https://www.reddit.com/r/europe/comments/69g9yu/poland\\_hosting\\_a\\_summit\\_of\\_12central\\_european/](https://www.reddit.com/r/europe/comments/69g9yu/poland_hosting_a_summit_of_12central_european/))

The initiative of close cooperation among the former socialist countries was first promoted by the Croatian President (Skrzeszewska and Luković, 2017, p. 553). The beginning of undertaking joint efforts to strengthen the countries of Central and Eastern Europe was a meeting in New York on the occasion of the UN session in the autumn of 2015 (Bekić and Funduk, 2016, pp. 3-5). The name of "the Three Seas Initiative" was proposed, as a reference to the area to be covered - the European states between the Baltics Sea, the Adriatic and the Black Sea. Although the countries invited to the Initiative account for almost 43% of all the EU members, they constitute less than 30% of the EU surface and their population is slightly over 20% of the EU population (Table 1).

*Table1: The basic data on the surface areas and populations of the Three Seas Initiative participants (Eurostat)*

Country/ group of countries	Surface area (km <sup>2</sup> )	Area as % of all EU area (%)	Population on 1.01.2016 (number)	Population as % of EU population (%)
European Union (28)	4 422 773	100.0	510 284 430	100.0
Bulgaria	110 910	2.5	7 153 784	1.4
Czech Republic	78 866	1.8	10 553 843	2.1
Estonia	45 226	1.0	1 315 944	0.3
Croatia	56 594	1.3	4 190 669	0.8
Latvia	64 589	1.5	1 968 957	0.4
Lithuania	65 303	1.5	2 888 558	0.6
Hungary	93 030	2.1	9 830 485	1.9
Austria	83 871	1.9	8 690 076	1.7
Poland	312 683	7.1	37 967 209	7.4
Romania	238 391	5.4	19 760 314	3.9
Slovenia	20 273	0.5	2 064 188	0.4
Slovakia	49 037	1.1	5 426 252	1.1
3 Seas Initiative	1 107 863	27.7	111 810 279	22.0

This means that the members of the Initiative are small countries, both in terms of area and population. As a result, the lack of economies of scale means that some investments in transport, energy and transportation are not profitable. Yet, without these investments, progress will not be as fast as in Western European countries (except Austria).

The aim of the Initiative is to equalize the levels of development of economies, achievement of which requires action to increase connectivity, complementarity and at the end - prosperity. Energy, transport and digital communications have been identified as the key areas for cooperation.

#### 4 METHODOLOGY

The modified Social & Economic Development Index (SEDI) was used to assess the level of development. The index was the Index of Socio-Economic Development prepared by Lachman and Olczyk (2011, pp. 35-36). The index allows for a multidimensional analysis of the socio-economic development and the position of the examined economy in relation to the selected economies. The indicator rule is as follows:

$$SEDI = \frac{\sum_{k=1}^n T_k}{n} * i_k$$

where:

$T_k$  - the value of a variable describing the size of the phenomenon in a given country (correspondingly scaled),

$n$  - number of indicators included in SEDI,

$i$  - a measure of the influence of a given variable on the value of the indicator ( $i_k = 1$ , if  $i_k$  is a stimulant,  $i_k = -1$ , if  $i_k$  is a destimulant).

The indicators include measures related to various socio-economic aspects. Their choice was closely linked to the priorities set out in the *Europe 2020* strategy. The purpose of the study was to examine how large are the differences between the countries that have been undergoing/underwent political and economic transformation and the so-called old members of the Union. Because the study concerned the countries participating in the Three Seas Initiative, Austria was also analyzed in addition to the post-socialist countries. The SEDI indicators have been calculated for all 12 countries of the Three Seas Initiative and for the whole European Union. Three, selected years for which SEDIs were calculated, were: 2004, 2009 and 2013. 2004 was the year, in which the largest enlargement of the European Union took place and its structures began to function in eight Central and Eastern European countries. Thus, the SEDI indicators showed the situation of these countries in contrast to Austria and the EU as a whole. Although the next enlargement took place in 2007, the authors decided to estimate another SEDI only in 2009. This was the fifth full year when the eight countries mentioned above operated in the EU and the third year of the membership of Bulgaria and Romania. In addition, in 2009, the economy suffered most of the effects of the financial crisis and this was reflected in the annual indicators. The year 2013 was chosen as the year of the last EU enlargement to Croatia.

Due to large diversity of the countries in terms of area and population (Table 1), all the measures selected for SEDI are relative measures. The following variables were used for the study:  $V_1$ : Gross Domestic Product based on purchasing-power-parity (PPP) *per capita* [market prices],  $V_2$ : Financial and insurance activities [percentage of GDP],  $V_3$ : Employment - annual average [percentage of active population],  $V_4$ : Nominal labour productivity per person [percentage of EU28 total],  $V_5$ : Unemployment - annual average [percentage of active population],  $V_6$ : Long-term unemployment [percentage of active population],  $V_7$ : Total public expenditure on education [percentage of GDP] for all levels of education,  $V_8$ : Total graduates per 1000 of population aged 20-29,  $V_9$ : Participation rate in education and training (last 4 weeks),  $V_{10}$ : Expenditure on social protection [percentage of GDP],  $V_{11}$ : Life expectancy for 65 years [years],  $V_{12}$ : At-risk-of-poverty rate before social transfers [percentage of population],  $V_{13}$ : At-risk-of poverty rate after social transfers [percentage of population],  $V_{14}$ : Total investment to GDP ratio [percentage of GDP],  $V_{15}$ : Gross domestic expenditure on R&D [percentage of GDP],  $V_{16}$ : Individuals - internet use (never) [percentage of individuals],  $V_{17}$ : Number of persons employed in the ICT sector [percentage of the total employment],  $V_{18}$ : High-tech exports [a share of total exports],  $V_{19}$ : Patents granted by the USPTO per 1 million persons [number],  $V_{20}$ : Patent applications to the EPO per 1 million persons [number].

Among the 20 variables mentioned above:  $V_1, V_2, V_3, V_4, V_7, V_8, V_9, V_{11}, V_{14}, V_{15}, V_{17}, V_{18}, V_{19}, V_{20}$  were considered as stimulants, whereas:  $V_5, V_6, V_{10}, V_{12}, V_{13}, V_{16}$  as destimulants.

## 5. RESEARCH AND RESULTS

Following the SEDI estimation for the Three Initiative countries in 2004, 2009 and 2013, the results were obtained, whose graphical interpretation is shown in Figure 2 (SEDI 2004), Figure 3 (SEDI 2009) and Figure 4 (SEDI 2013).



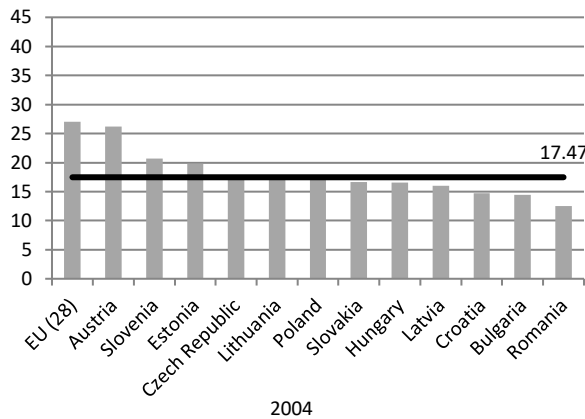


Figure 2: SEDIs of the Three Seas Initiative countries compared to the EU's SEDI in 2004 (own elaboration)

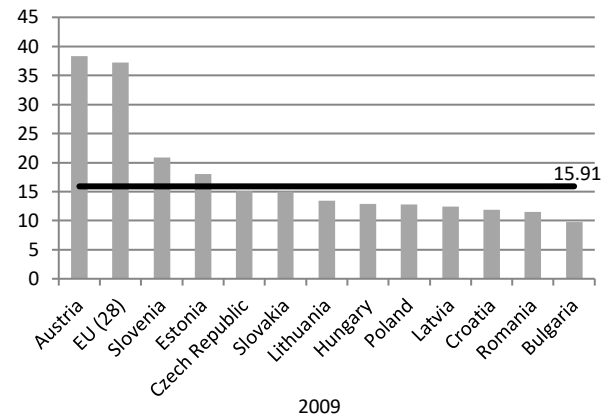


Figure 3: SEDIs of the Three Seas Initiative countries compared to the EU's SEDI in 2009 (own elaboration)

On the basis of the results it can be concluded that the post-socialist states did not only join the EU with significantly weaker economies, but are not able to effectively reduce their socio-economic gaps, despite their functioning within the EU. In 2004 (Figure 2), the highest value (27.00) was achieved for the economy of the entire European Union, followed by Austria (21.17). The average SEDI in 2004 for all the surveyed states was 17.47. Only Slovenia and Estonia achieved the rates above average (20.73 and 19.81, respectively). All other countries have lower SEDI values; however in the case of three countries - close to the average: Czech - 17.44; Lithuania – 17.39; Poland – 17.10. The most distinguishable economies in 2004 were Croatia, Bulgaria and Romania, which were not yet members of the EU in the surveyed year. In 2009, with the exception of Slovenia, the "new" countries of the European Union got lower SEDI values. This was the result of the financial crisis, whose effects were particularly felt by the weakest economies. In the case of Austria, Slovenia or the whole of the European Union, the indicator grew, which means that despite the difficult economic environment, socio-economic growth took place. The economically weaker countries hit hard by the economic downturn, which was manifested particularly in high unemployment rates, slowdowns in investment, and less investment in R&D. Bulgaria by 32%, Poland by 25% and Lithuania, Latvia and Hungary by 22%, recorded the biggest decrease. In order to see whether inequalities between the countries got bigger in the years from 2004 to 2009, the Gini index was used. It turned out that while the difference in SEDI in 2004 generated the Gini index at  $IG_{2004} = 0.100069$ , the 2009 Gini index increased to  $IG_{2009} = 0.196556$ .

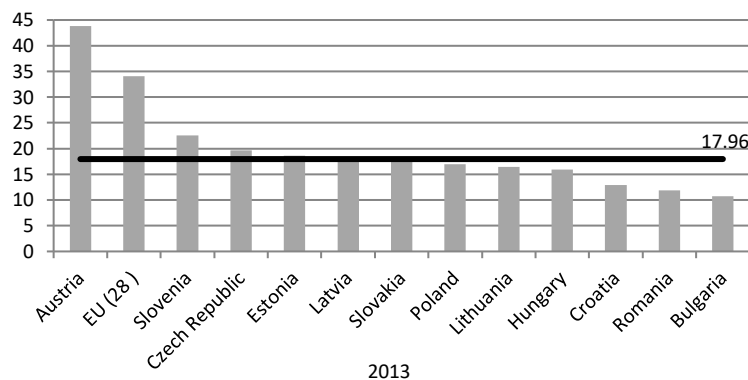


Figure 4: SEDIs of the Three Seas Initiative countries compared to the EU's SEDI in 2013 (own elaboration)

Significant differences in the level of socio-economic development, which emerged in 2009, over the next few years were not offset. Although the European Union as a whole lost a bit in value of SEDI (9% compared to 2009), and all the assessed economies increased, this does not mean equal development. In 2013, the economy of Austria and the average level of economic development of the EU are distinctly different from the rest. And also among the economies that have undergone transformation, there are growing disparities. While in 2004 only two "new" countries had SEDI above the EU average, in 2013 already four countries outperformed this average (Slovenia, Czech Republic, Estonia and Latvia), and two more (Slovakia and Poland) indicators are only slightly lower. At the other end of the ranking, the SEDI values were the same as in Croatia (12.9), Romania (11.9) and Bulgaria (10.8). Throughout the period under consideration, half of the economies increased their potential for decisive socio-economic development. Taking into account the growth rate of SEDI, they were: Austria (68%), EU (26%), Latvia and Czech Republic (13%), Slovenia (9%) and Slovakia (5.2%). The lack of progress in achieving the *Europe 2020* goals, with a decline in the SEDI values, was reported in Bulgaria (-26%), Croatia (-12%), Estonia (-6%), Lithuania and Romania (-5%), Hungary (-4%) and in Poland (-1%). Although different directions of change were noted in the surveyed economies, the range of which was high (from the 68% increase in SEDI to 26% in SEDI), the SEDI variation across the Three Seas Initiative region decreased slightly compared to 2009, though it was still higher than in 2004. The Gini's index was:  $IG_{2013} = 0.16$ .

## 6. CONCLUSION

On the basis of the research conducted it can be said that the countries that joined the Three Seas Initiative maintain a huge difference in socio-economic development measured by SEDI. Austria remains the decisive leader in its development. Among the countries that underwent systemic transformation, the socio-economic conditions in Slovenia and the Czech Republic changed most rapidly. The worst situation was in the Balkan countries: Bulgaria, Romania and Croatia. On the one hand, the weak position of the three lowest SEDI countries may be due to the shortest period of membership of the European Union. On the other hand, however, it may also mean the inability to overcome the weaknesses, which have affected to a varying extent all the economies under the influence of the Soviet Union. Confirmation of this thesis is the Gini's indicator, which shows that during the global downturn, the "new" EU's states were significantly more affected by the crisis. Diversification in economic development has deepened considerably. World economic recovery has helped some economies (Slovenia, Czech Republic, Estonia, Latvia, Slovakia and Poland), but with regard to Bulgaria or Romania, the changes were almost imperceptible. The reflection of this situation was a slight change in the value of the Gini index from 0.19 (in 2009) to 0.16 (in 2013). In view of the above, it should be noted that the study area is not subject to either sigma-convergence or beta-convergence in the absolute variant. It may be presumed that in various parts of the area of all the Initiative states, probably beta convergence processes in the conditional variant are likely to occur. This is of course only a guess, which should be verified by a separate study. On the basis of the results of the study it can be concluded that in the Three Seas Initiative states there is no adequate capacity to provide these economies with faster, better growth that fits within the *Europe 2020* goals.

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## SECURITY AS THE KEY FACTOR IN CONTEMPORARY TOURISM: SPECIFICITIES IDENTIFIED THROUGH THE ANALYSIS OF RESPONDERS' ATTITUDES

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### ABSTRACT

*The paper represents a product of mentor-graduate student cooperation, developed at the graduate study of Business Economics, major Tourism. Following the latest threatening events and having in mind those yet to come, we can conclude that no country can benefit from the tourism industry if at the same time does not develop its security system as an integral part of the standard tourist offer. Analyzing the trends in contemporary tourism, the safety and security issues became the decisive factors for the choice of a certain destination. Consequently, countries must not perceive security systems and measures as an unnecessary expense but as an essential element in organizing their tourist services. All hotels and respectable tourist agencies should have a crisis management, with detailed, thoroughly elaborated procedures for emergency situations. Tourists should be timely informed about the potential dangers and risks and the measures taken to prevent them, as well as on procedures for emergency situations. Additionally, it would be good to have mobile applications that would enable tourists to make direct emergency calls with instructions on behavior in crisis situations. It is also essential to implement and put into effect sophisticated security measures such as using surveillance cameras, controlling access to buildings, information exchange with colleagues and neighbors, reporting the suspicious occurrences to the security services, and training staff for crisis management. Having in mind everything stated above, the security issue is definitely one of the crucial factors in the development of tourism in a certain country.*

**Keywords:** *tourism, tourist destinations, security as the key factor of tourism development and sustainability, security measures in tourism*

### 1. INTRODUCTION

The World Tourism Organization (WTO) defines a tourist destination as a place which tourists visit during their trip. It represents a place different from the one they live at on a daily basis. The main feature is that the journey must be shorter than 12 months and longer than 24 hours and the tourists must not perform any lucrative activities in the place they visit. Modern tourism and security are closely related. Nowadays, security is one of the most important elements when a tourist is choosing his probable tourist destination. Security level can never be at 100%, because some situations are unpredictable and it is almost impossible to defend against them. In recent times, terrorism is the main cause of Europe and its citizens, the Europeans. From the assault on the attack, the question arises as to when? How many human victims do we have to face to make a change? Not only is human dignity jeopardized by all these attacks, but in a great and disturbing manner it destroys a healthy economic and social order, the basics of free movement crumble. Islamic extremists pose the greatest threat to security since they have changed their organization but their means of action are always terroristic.

In South America, where the most dangerous countries are Mexico and Costa Rica, the other type of terrorism prevails, and that is abduction and blackmail of tourists and businessmen. Terrorist threats become an integral part of modern life and are likely to be a danger for a long time. Some countries, like Jordan, become collateral victims of perceived insecurity in the region. Although no violent incidents occurred in Jordan over the past eleven years, the number of tourist arrivals from Europe fell by 70% after bad events that hit North Africa (<http://hrturizam.hr/itb-turizam-i-sigurnost/>).

## 2. INFLUENCES ON MAKING TOURISTS DECISIONS

Media, such as television, newspapers, radio and the Internet, give information on a daily basis about current events in our country and in the world. Great power has a media that influences on society or on an individual. Influences can be positive and negative as well, depending on the people themselves and about how they accept and respond to influences. In the media, information about a negative event in a tourist destination will immediately affect a certain number of tourists who will most likely give up travelling to that destination. In the first 24 hours, the media does not have so much information, so the public speculates on the possible causes and consequences. The images in the head come mainly from what we hear and see in mass media, where the actual existence of the world differs from pseudo reality and subjective perception of the world (journalistic observation). One of the five most important events that make up the “good journalistic story” is the crisis caused by the catastrophe. The media are usually interested in:

- What happened?
- Why did this happen?
- What will be done? (Perinić, 2014).

The media, with their reporting, shape public opinion, i.e. the opinion of various social groups about the system which then has a fatal effect on its reputation. Mass media are highly influential during the crisis situations by filtering and shaping images of possible solutions, with the tendency to intensify existing partialities (stereotypes, prejudices and similar) that exist in the public domain. The average rating of the media's influence on the standpoint of the destination is 3.29. When talking about the impact of the media on the public, we can conclude that the media are decisive for the formation of public opinion; the public easily falls under the influence of the media and mostly think what the media suggests. The media do not determine what people think, but they create a discussion platform and can boost public opinion if some topic triggers the imagination<sup>1</sup>.

## 3. RESEARCH METHODOLOGY AND RESULTS

Survey research was conducted via the Internet, through Google group. A total of 154 responders participated in the period from May 15, 2017 to June 11, 2017. Of the 154 responders, 64.9% were women and 35.1% of men. The younger population prevailed. Precisely, 52.6% of responders were between the ages of 19 and 29, and 27.9% of the responders were between the ages of 30 and 39. 11.7% of the responders were aged 40 to 49, 6.5% were over 50, and 1.3% were under 18 years of age.

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<sup>1</sup> The reason for the drop in the number of visitors to a destination may be the media that convey information about a negative event in the destination. Thus, Taiwan's demand for hotel capacities fell by 50%, as various journalists reported various unfounded data after the appearance of SARS. Also, after the tsunami in Southeast Asia, in response to Western media writing, tourist demand declined, greatly affecting Thailand's tourism. (Perinić J., 2014).

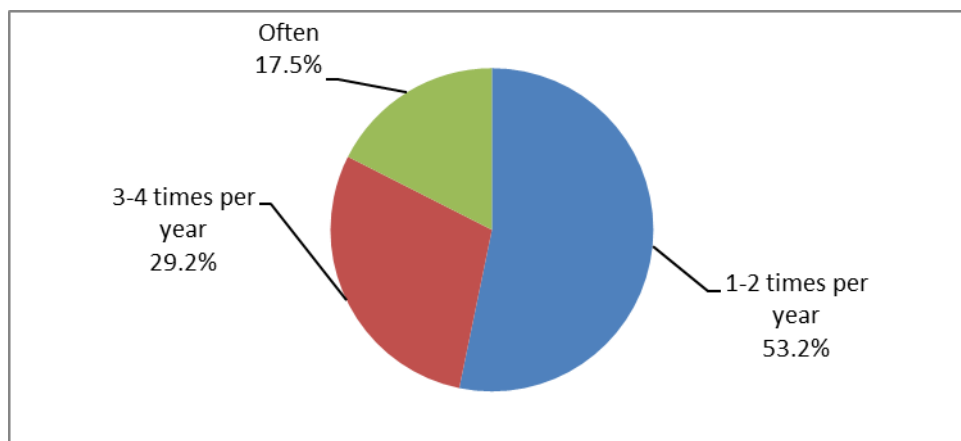
Most responders have completed undergraduate or graduate studies (57.8%). 37.7% of responders have completed high school, while 1.3% of responders have completed elementary school, and 3.2% of responders have completed postgraduate studies.

Household incomes were mostly average → 70.1%. 14.9% of responders stated that they had low incomes, as did the percentage of high-income responders (Table 1).

*Table 1: Description of the responders(s)*

		% of responders
Gender of responders	Female	64.9 %
	Male	35.1 %
Age of responders	Do 18	1.3 %
	19 – 29	52.6 %
	30 - 39	27.9 %
	40 - 49	11.7 %
	>50	6.5 %
Education level	Elementary school	1.3 %
	High school	37.7 %
	Undergraduate or graduate studies	57.8 %
	Postgraduate studies	3.2 %
Household income	Low incomes	14.9 %
	Average incomes	70.1 %
	High-incomes	14.9 %

All of the results were obtained through the own research conducted by the graduate student under lecturer's supervision. The results are shown in Figures 1-11.



*Figure 1: The frequency of traveling*

Most responders travel twice a year, 53.2%. Up to four times a year 29.2% of them travel and 17.5% travel often.



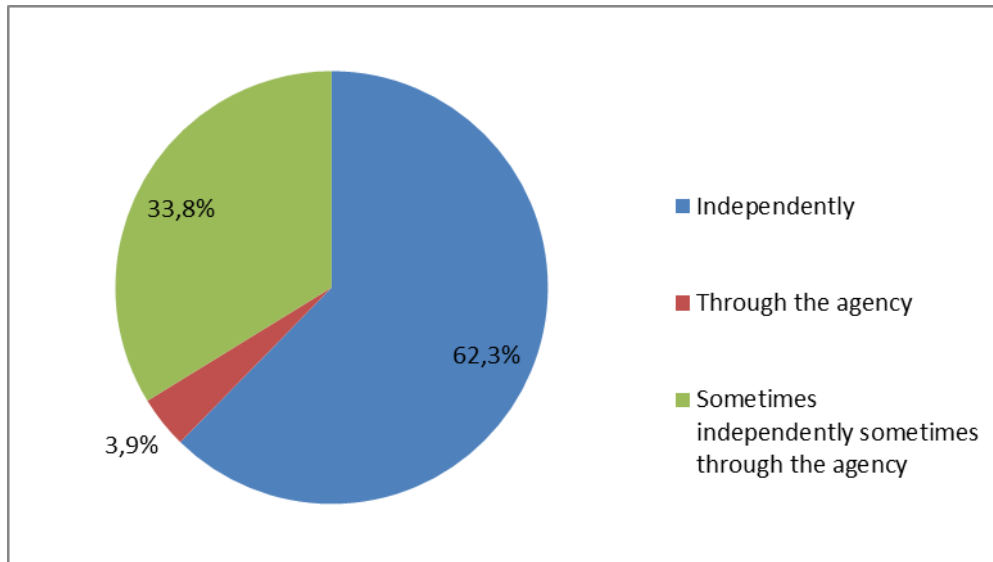


Figure 2: The means of organizing the trip

62.3% of the responders travel alone, while 3.9% travel organized, i.e. through a travel agency. 33.8% of responders sometimes organize their trips on their own and occasionally through a travel agency. When choosing the most important holiday destination for vacation, the responders had the option of multiple answers to choose from. The first is the ratio of price and quality (56.6%). The second reason is an attractive or authentic destination (50%). The diversity of content and experiences is in the third place (35.1%), and after that it is finally the security of the destination (21.4%). The recommendation of friends or relatives and visiting them makes up 17.5%. The corresponding climate was recorded by 13.6% of responders. The option “Other” was also offered, where responders wrote their own answers. These responders travel depending on the budget, they combine work and vacation, they travel for no particular reasons, often grabbing good travel opportunities. In addition, one responder replied that he was travelling to experience changes and to spread the knowledge.

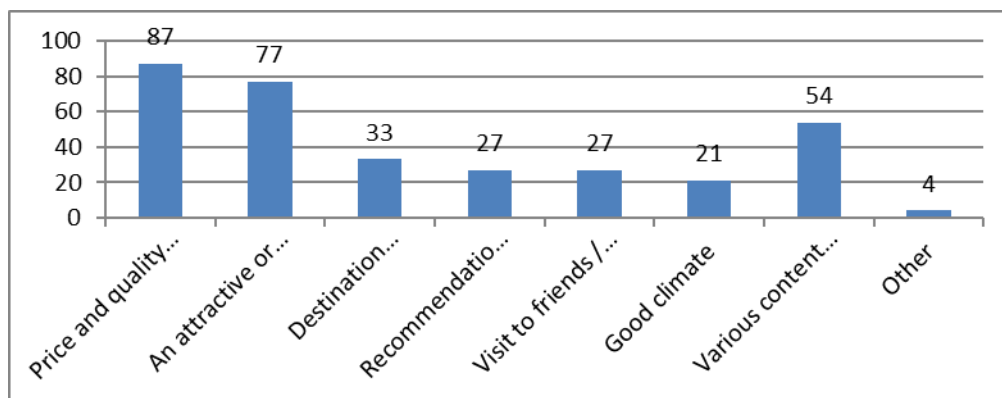


Figure 3: Reasons for choosing a tourist destination, number of responses for each possible answer

46.8% of responders sometimes or rarely seek safety information before travelling to the certain destination. 31.8% of responders are always informed about safety, while 21.4% of responders are never informed of the safety in the destination.

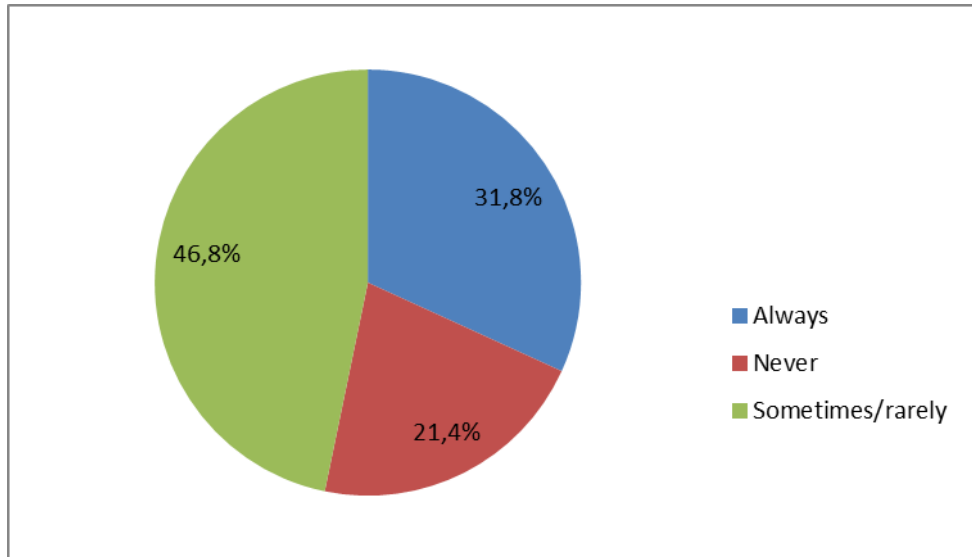


Figure 4: How often do responders seek information about security

When asked where to find the destination safety information, the responders themselves wrote the answers. Usually they search for the information on the Internet, on Google. They read the comments and recommendations of others on Trip Advisor and various forums. Also, a lot of responders find information on security in the media and in the news, as well as on the Ministry of the Interior and Ministry of the Foreign Affairs website. Some seek general information about the destination itself and along with that often come safety information as well. When asked what they considered the greatest danger in the destination, or during the trip, responders could choose more answers. Crime is considered to be the greatest danger (theft, kidnapping, rape, etc.), and then terrorism. Third, there is a disease (food poisoning, viruses, infectious diseases, etc.), while in the fourth place there is a natural disaster (earthquake, tsunamis etc.) and at the very end is a traffic accident (crash, plane crash, sinking ship) with the lowest danger risk. One responder never thinks about the potential risks and dangers, while one responded that the risks depend on where the destination is located.

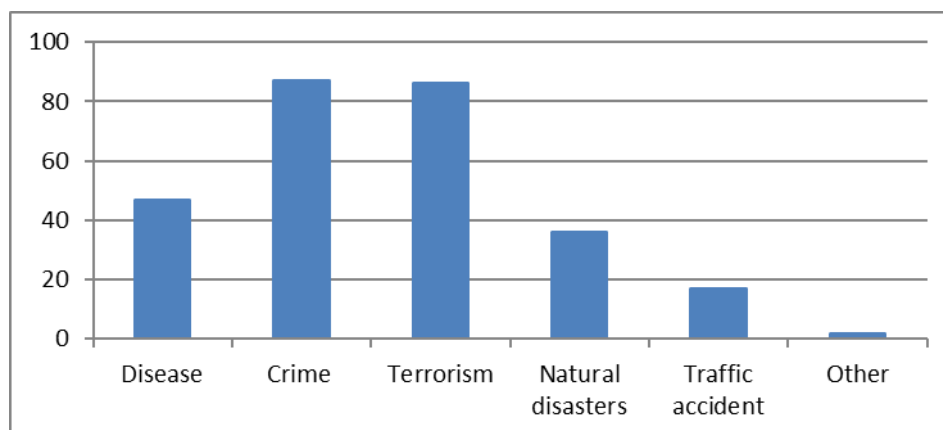


Figure 5: The perceived greatest danger in the destination, number of responses for each possible answer

The means of transport used by responders mainly depend on price, choosing the most favorable option. The second most common factor is time spent on the trip, and the third place is comfort, while safety is most irrelevant to responders when it comes to choosing the type of transport.

Of the other responses, the responders mainly mention a combination of cost, time and comfort. Sometimes it depends on the destination and the situation, but they are least thinking about safety when choosing the means of transport.

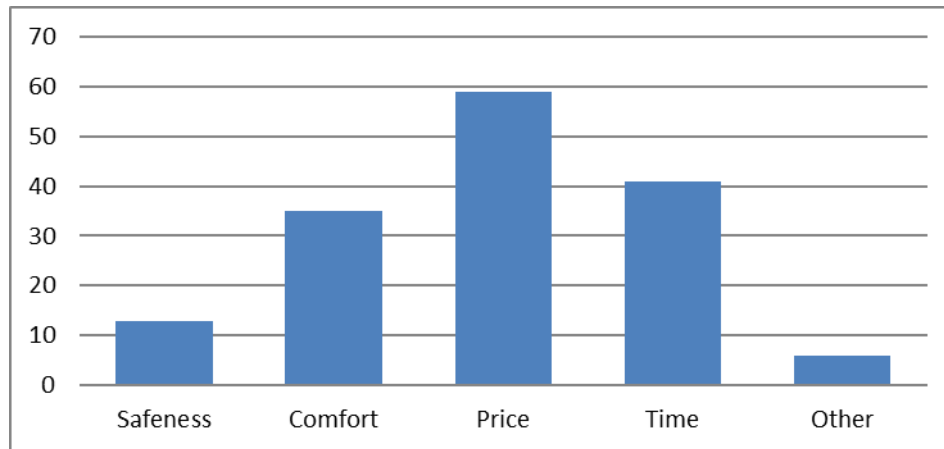


Figure 6: The most important factors when choosing a vehicle, number of responses for each possible answer

39.6% of responders sometimes or rarely take travel insurance when travelling, 31.8% of responders always take travel insurance and 28.6% of responders never take travel insurance.

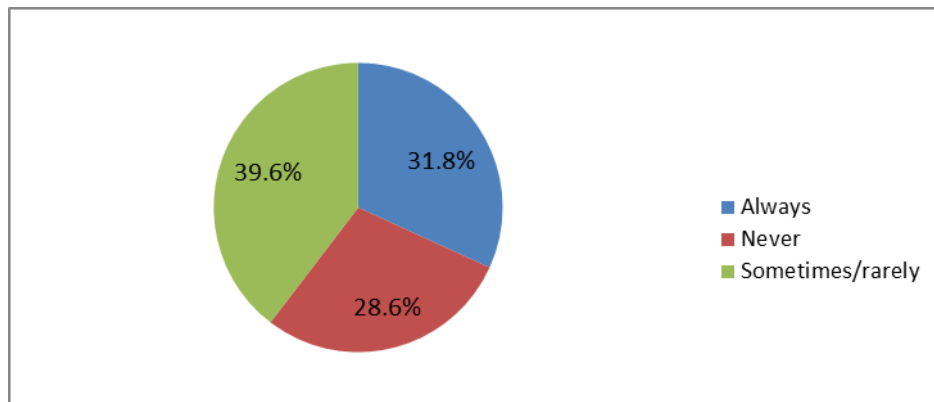


Figure 7: The use of travel insurance

Through answering which is the most common factor affecting the destination safety attitudes, responders could choose more options. The highest percentage show the news, 64.9%, second place is the experience of acquaintances and of friends, 51.9%. Third place are state warnings and advice, 29.9%, and their own experience, which they previously acquired in a particular destination is immediately behind, 28.6%. In the last place is the cultural / religious arrangement of the state, 18.8%.

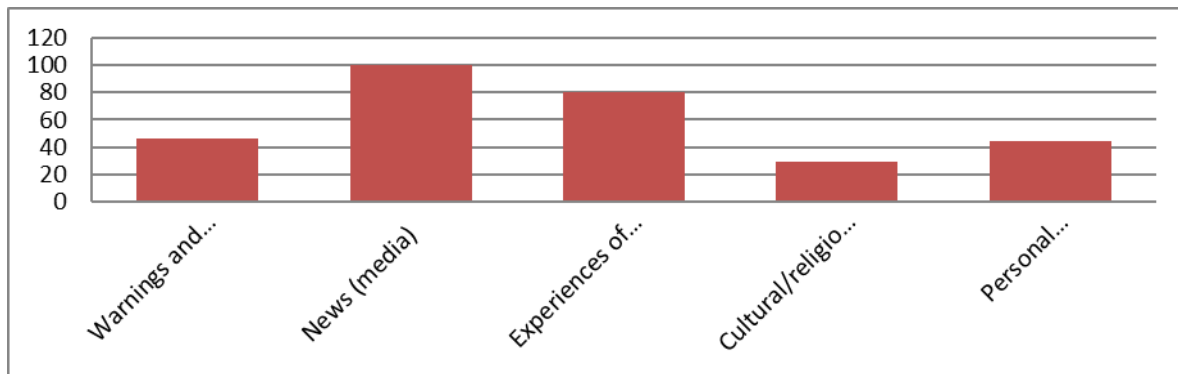


Figure 8: Which factors affect the standpoint on destinations, number of responses for each possible answer

Responders - tourists are least likely to be safe in public transport in the destination (metro, bus ...) – 55.8%, while 37.7% of responders do not feel insecure anywhere in the destination, they probably do not even think about it. In the local shopping center, 5.2% feel insecure, while only 3.9% feel insecure at the hotel. One answer went for remote parts of the city, streets and nightclubs, squares, well-known locations, and nearby tourist attractions.

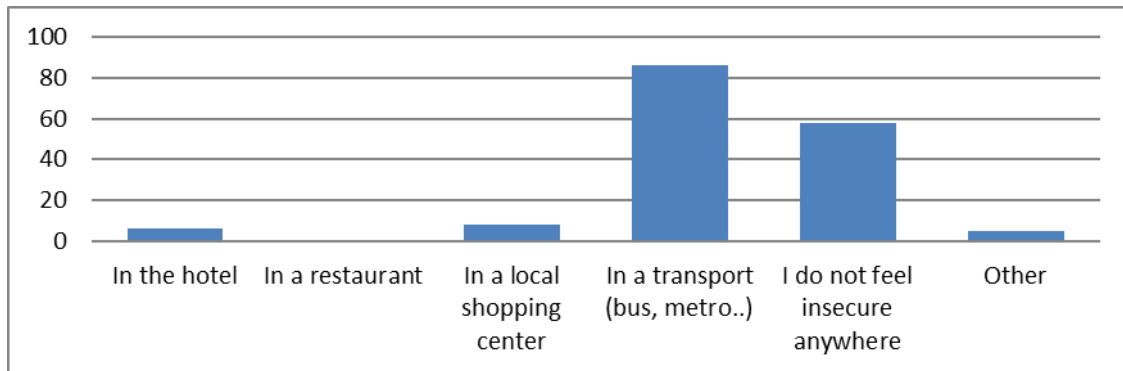


Figure 9: The most insecure places in the destination, number of responses for each possible answer

If there is a tourist attack in the destination they want to visit, an equal percentage of responders will replace the destination, just as they would travel to the planned destination, 35.7%, while 24% of the responders would give up travelling. The rest of the responders did not think about the situation and did not know what to do to find it.

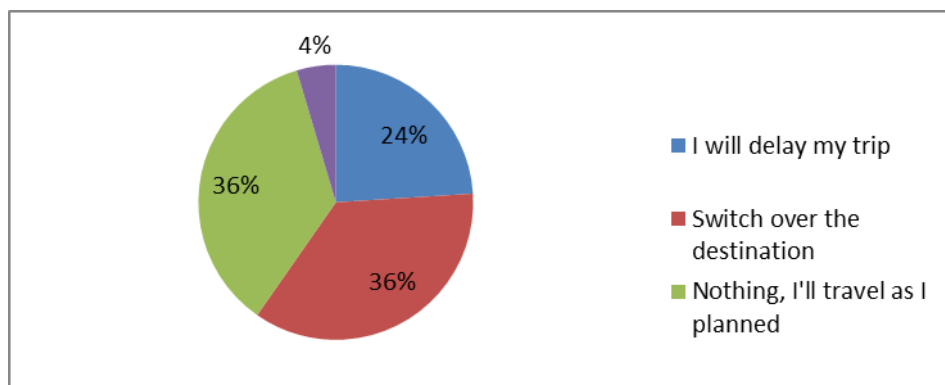
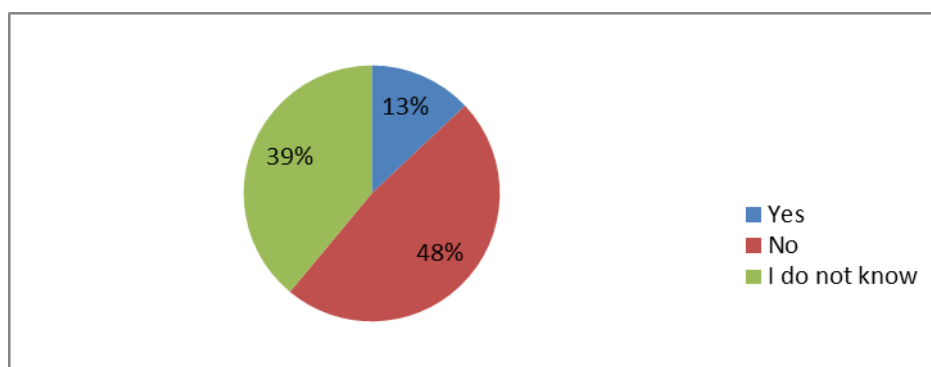


Figure 10: What needs to be done if terrorism occurs?

Travelling through the agency is safer for 13% of responders, while 48 % of responders disagree with this statement. Concurrently, 39% do not know if they are more secure through the agency or not.



*Figure 11: Organization of travel through agency*

Those who responded positively to the previous question gave an answer why they think so. Some of the answers are having everything organized, travelling in groups, agencies have experience and offer advice and assistance to tourists. The overall impression of travelling in an organized arrangement with a group of people and the experience of the agency makes the organized trip safer.

Responders also gave their answers to the question: Which country is the most dangerous at the moment? Most of them consider Syria as the most insecure destination, followed by Turkey and the Middle East. France and the UK are also one of the most uncertain countries, due to terrorist attacks. Croatia is behind them, as well as Germany and the USA. Some believe that nowadays everything is unsafe, while the two responders think that the one who loves travelling does not even think about it. One or two responders marked Venezuela, Congo, China, Hawaii, Mexico, Greece, Sri Lanka, Morocco, and Sweden, respectively, as insecure destinations.

#### **4. CONCLUSION**

Contemporary security has never been more important to one tourist destination and is therefore an essential part of the tourist product. In order to make the tourist in the destination feel the best, the most enjoyable, in order to experience a positive and clear experience, must first feel secure and protected. Today, unfortunately, the security threat does not know the geographic and temporal boundaries. When we talk about security challenges, we do not stop at crime, street raids, kidnappings, rapes, natural disasters. Most of the fear of bony is the growing danger of terrorist attacks that are happening more and more often in almost every corner of the globe. The future of the economy is ruined, and tourism particularly, as one of important economic activities, particularly for many small, vulnerable economies, such as the Caribbean island nations, and other island nations in the Pacific and the Indian Ocean especially. Because tourism is responsible for almost 20 percent of the GDP of Croatia, we have decided to give a special importance to the issue of security in tourism. Nevertheless, by questioning 154 responders, we have come to the conclusion that people continue to travel largely, despite the frequent negative phenomena occurring in the world. The survey was mostly conducted on young responders who wanted to discover new things and gain experience learning different cultures. They usually travel twice a year, most of them even up to five times a year, and only a small number of people travel often. The most important factor of travel planning is the price and on that basis it selects the means of transportation to the tourist destination.

Even 31.8 % of responders always and definitely look for safety information before traveling, while others do so rarely or never. The responders see perceive crime as the greatest danger, followed by the danger of terrorism, then the danger of an illness. Natural disasters are considered least dangerous. The impact of the media on the responders is visible and most responded to taking into account media messages, announcements and promotional activities when choosing a tourist destination. Travel insurance is largely taken by travelers before travel to a destination. A smaller part of the responders believe that the organized trip is safer, mainly because they travel to groups and believe that the agency has experience that makes them safer. According to the poll results, Syria and the Middle East were considered as the most dangerous country and region, respectively, while in Europe, France, the UK, Germany, and even Croatia were considered to be insecure. Security cannot be fully guaranteed in any corner of the Earth, as disasters can be anywhere and anytime. In the end, no matter how many people have received various information and (no) warnings, it is up to him to decide if he will go to the desired destination or stay in his already familiar environment. According to the latest analyzes and statistical data, people who are reluctant to travel to bypass tourist destinations where they have a high degree of precaution will replace them with a less dangerous destination.

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## EFFECTS OF THE GLOBAL CRISIS ON TAX POLICY OF NEW EU MEMBER STATES FROM CENTRAL AND EASTERN EUROPE

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### ABSTRACT

*The global economic and financial crisis, which began in 2008, affected the public finances of large part of EU Member States. Most of them were placed under an excessive deficit procedure because of the deterioration of their fiscal positions; thus, they faced the necessity to conciliate the conflicting goals of financial consolidation and economic recovery. The bulk of new member states from Central and Eastern Europe have been no exception. In general, the latter are characterized by lower tax burden in comparison to EU-15, as well as with some differences in the tax techniques applied, especially in the field of personal income tax. This is result of the socio-economic circumstances during the transition to market economy and the need to improve international competitiveness. However, the global crisis added new challenges, such as fall in GDP, increased unemployment and deflation. The serious economic downfall required further lowering of tax burden with the aim to recuperate growth. On the other hand, the increasing public indebtedness required tax hikes in combination with reduction and streamlining of public expenditure. Against this background the purpose of the present paper is to investigate the effects of the financial and economic crisis on tax policy of new EU Member States from Central and Eastern Europe and to summarize all important changes that took place in 2008-2016. The first part examines the dynamics of tax revenues in nominal terms and as percentage of GDP. The second part outlines the main measures undertaken in the same period. The third part concludes.*

**Keywords:** Global crisis, New EU Member States, Tax policy

### 1. INTRODUCTION

The present paper has as its object the effects of the global financial crisis on tax revenue and tax policy of new EU Member States from Central and Eastern Europe (hereinafter referred to as NMS).<sup>1</sup> The period under consideration is 2008-2016 and the objective is to analyze the development of tax receipts as well as to outline the main tax policy changes introduced in response to the crisis. NMS were strongly affected by the recession of 2008-2009. The decline of GDP was especially severe in the Baltic countries, but the rest of NMS also experienced a serious fall in output and high unemployment rates. Poland was the only EU Member State that did not go into recession, but its economy slowed down. The fiscal position of most NMS also deteriorated and all of them, except Estonia, were placed under an excessive deficit procedure. On average, the sovereign debt in NMS almost doubled, from 27.3% of GDP in 2008 to 48.9% in 2016, but its amount remained significantly below the EU average level. Between November 2008 and June 2009 Latvia, Hungary and Romania received financial assistance from the EU and the International Monetary Fund, due to a balance-of-payments deterioration, and in the case of Latvia also a bank crisis (European Court of Auditors, 2015, p. 12). The economic recovery in most NMS began in 2010-2011, stimulated by exports and their relatively stable public finances. In the period under consideration Slovakia, Estonia, Latvia and Lithuania fulfilled the convergence criteria and joined the euro area, while Slovenia did this as early as in 2007.

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<sup>1</sup> Malta and Cyprus are not included in the paper.

## 2. FISCAL REVENUE IN NMS IN 2008-2016

In general, NMS are characterized by a lower tax burden in comparison to EU-15, as well as with some differences in the tax techniques applied, especially in the field of personal income tax. This is a result of the reforms carried out in these countries during market transition. Table 1 presents the development of total tax revenue in absolute terms in NMS. As can be expected, in 2009 there was a strong decline in all 11 countries - on average tax receipts fell by almost 5 billion euro (more than 15%) in comparison to 2008. Although the Polish economy was the only one in the EU that did not go into recession, in 2009 its tax revenue fell by around 26 billion euro (20%). There was also a strong decline in Latvia, Romania and Lithuania. In 2010-2011 the upward trend in tax receipts resumed and in 2016 they exceeded the pre-crisis levels in all NMS, except Croatia. Overall in 2008-2016 they increased by 4.3 billion euro or 13.6%. During the same period total tax burden in EU-15 also rose, by over 828 billion euro or 17.5%.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	Difference 2016 to 2008
<b>BG</b>	11.4	10.1	9.9	10.5	11.2	11.9	12.1	13.1	14.0	2.6
<b>CR</b>	17.7	16.4	16.3	15.7	15.8	15.8	15.6	16.3	17.4	-0.3
<b>CZ</b>	53.3	47.7	50.9	55.4	55.3	55.0	53.1	57.2	61.2	7.9
<b>EE</b>	5.2	5.0	4.9	5.3	5.7	6.0	6.5	6.9	7.3	2.1
<b>HU</b>	42.7	36.8	36.9	37.2	38.2	38.7	40.2	43.0	44.7	2.0
<b>LV</b>	6.9	5.2	5.0	5.7	6.3	6.6	6.9	7.2	7.7	0.8
<b>LT</b>	10.1	8.2	8.0	8.6	9.1	9.6	10.2	11.0	11.7	1.6
<b>PL</b>	127.9	101.6	117.1	124.7	128.6	130.0	135.5	143.7	146.3	18.4
<b>RO</b>	40.2	32.5	34.0	37.4	37.1	39.4	41.2	45.0	44.3	4.0
<b>SK</b>	19.2	18.5	19.1	20.3	20.6	22.5	23.7	25.5	26.7	7.6
<b>SL</b>	14.0	13.3	13.6	13.6	13.5	13.4	13.8	14.3	14.9	0.9
<b>Average</b>	31.7	26.8	28.7	30.4	31.0	31.7	32.6	34.8	36.0	4.3
<b>EU-15</b>	4729.7	4418.6	4602.3	4790.1	4968.9	5064.7	5234.6	5486.0	5557.7	828.0

*Table 1: Total tax revenue (including social security contributions) in billions of euro  
(Ameco Database, own calculations)*

The dynamics of total tax revenue in proportion to GDP is illustrated in Figure 1. Again in 2009 there was a decline in all NMS, except Estonia, where revenue increased (the reason however was the significant fall in output). On average, the tax to GDP ratio in NMS decreased by 0.65 percentage points (p.p.) in comparison to 2008, with the strongest fall in Bulgaria (3.6 p.p.) and Poland (almost 3 p.p.). In the following years, however, tax receipts recovered and in 2016 they exceeded the 2008 level in all NMS, except Bulgaria, Lithuania, Poland and Romania. In 2016 the tax to GDP ratio was highest in Hungary (39.8%) and lowest in Romania (26.1%). In EU-15, the average tax to GDP ratio in 2008 amounted to 39.5% and in 2016 it reached 40.8%.

*/Figure following on the next page*

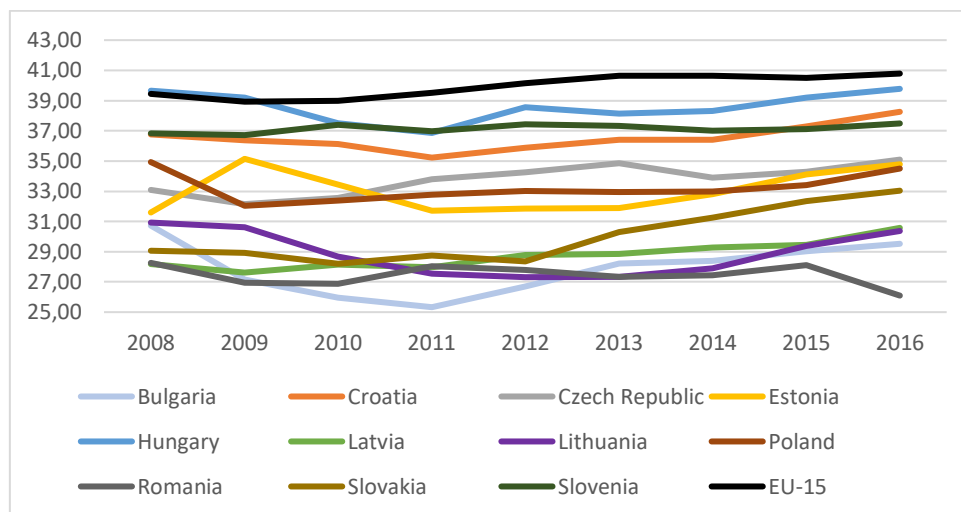


Figure 1: Total tax revenue as a proportion to GDP  
(Ameco Database, own calculations)

It is interesting also to look at the development of revenue from different types of taxes - direct, indirect and social security contributions. In general, NMS are characterized by a relatively lower share of direct taxes. This is a result of the so-called “flat tax revolution” that took place during market transition and involved the substitution of the multi-bracket progressive personal income tax systems with a single (flat) rate. The aim of these reforms was to attract foreign investments and accelerate economic growth. Estonia was the first country to adopt a flat tax in 1994 and in the next years Latvia and Lithuania followed its example. In the last decade Slovakia, Bulgaria, Romania and the Czech Republic also replaced the multi-bracket system with a single rate tax. Another pillar of tax reforms in NMS was the reduction of corporate income tax rates, considered to be an important factor of foreign direct investments. These reforms altered considerably the structure of tax revenue in NMS and resulted in a lower share of direct taxes.

In 2008 the new Member States with the highest share of direct taxes in GDP ratio were Hungary, with 10.3 % and Lithuania with 9.2%. These levels were relatively close to the EU-15 average of 13.3%. On the other hand, the proportion of direct taxes in GDP was lowest in Bulgaria with 5.8%, Romania with 6.6% and Slovakia with 6.7% of GDP. The change in direct tax revenue in 2008-2016 in NMS is presented in Figure 2. On average, revenue decreased by 0.89 p.p. (from 7.9 % to 7% of GDP). The sharpest decline, of 3.5 p.p., was seen in Lithuania, as well as in Hungary, where the ratio fell by 2.8 p.p. Receipts have risen in Estonia and Slovakia, by 0.1 p.p. and 0.9 p.p., respectively.

Thus, the global crisis led to a convergence in the levels of direct tax revenue among NMS. Their level remained significantly lower than EU-15 average, where in 2016 their proportion to GDP was 13.5% (in increase of 0.2 p.p.). As will be explained in the following section of the paper, at least in part, the downward trend in NMS was determined by the personal income tax reforms carried out in response to the crisis. At the same time, the divergence with respect to EU-15 has further deepened.

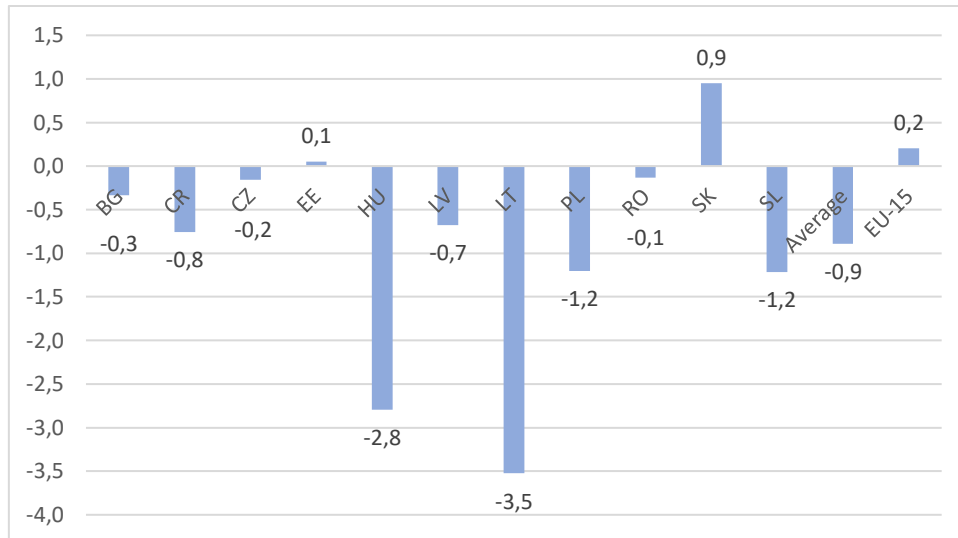


Figure 2: Change in direct taxes revenue as proportion to GDP in 2008-2016  
(Ameco database, own calculations)

Another important characteristic of the tax mix in NMS is the high share of indirect taxes in GDP, a result of the shift of the tax burden from labour and capital to consumption. In 2008 the share of indirect taxes in GDP was the highest in Croatia with 18%, Bulgaria with 16.7% and Hungary with 15.5%, whereas the EU-15 average amounted to 12.5%. In the period under consideration, the upward trend continued, as shown in Figure 3. After an initial decline in 2009, indirect tax revenue resumed and until 2016 they grew by 1.1 p.p. on average (from 13.2% in 2008 to 14.3% in 2016). The only two countries where indirect taxes as proportion to GDP fell were Bulgaria, Romania and Poland. In the EU-15 the indirect taxes to GDP ratio also has risen by 0.86 p.p. – from 12.5% to 13.4%.

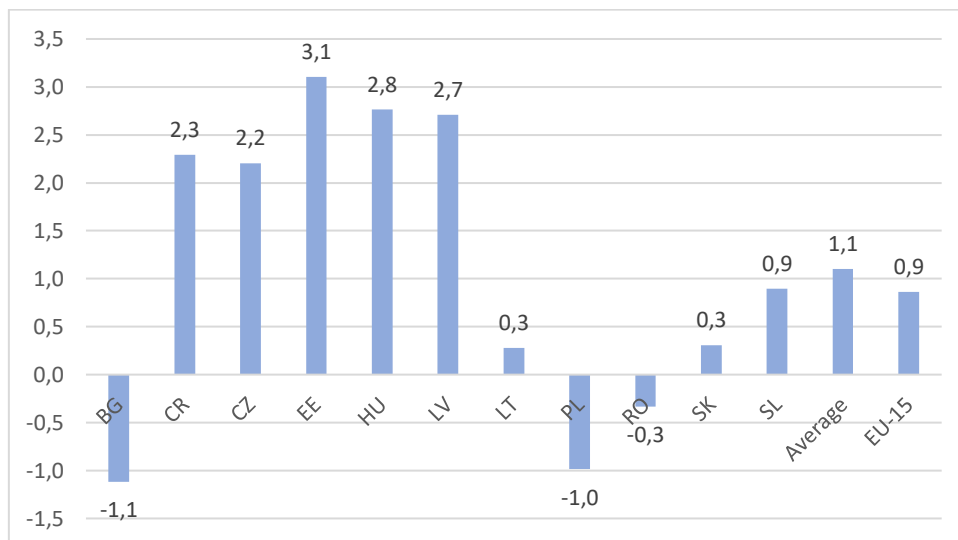


Figure 3: Change in indirect taxes revenue as a proportion to GDP ratio in 2008 - 2016  
(Ameco database, own calculations)

In 2008-2016 the average revenue from social security contributions in NMS also increased – from 11.1 % in 2008 to 11.9 % on average. The most significant rise was seen in Lithuania (2.7 p.p.), Slovakia (2.5 p.p.) and Poland (1.7 p.p.). Only in Romania the share of social security contributions in GDP declined by 1.2 p.p.

This development was in line with EU-15 where revenue from social security contributions also grew by 0.4 p.p. - from 12.1% to 12.5% of GDP in the period under consideration.

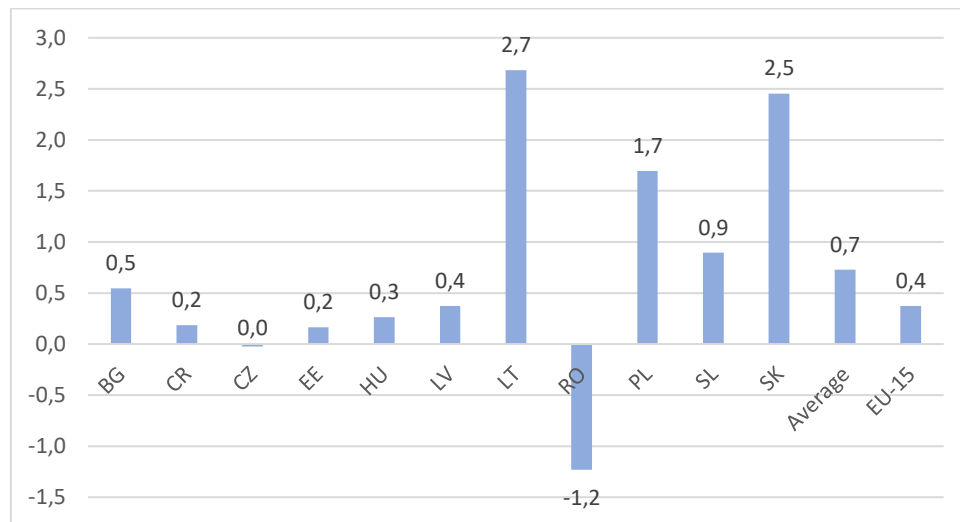


Figure 4: Change in social security contributions revenue as a proportion to GDP in 2008-2016

(Ameco database, own calculations)

### 3. TAX POLICY CHANGES IN RESPONSE TO THE GLOBAL CRISIS

Taxes were not the main tool used in EU countries to respond to the global crisis. The possibilities of many Member States were limited by their high levels of public debt in the beginning of the crisis and this problem became even more acute after the outbreak of the sovereign debt crisis in the euro zone. As already mentioned, NMS had relatively low public indebtedness, hence more space in fiscal policy. Public expenditure is considered preferable as an anti-crisis tool in the short run, because of its more rapid effects on aggregate demand, while tax cuts may have a lag of 1-2 years or even more, depending on their design (Clark, 2009, p. 5). On the other hand, taxes could be better adjusted to economic policy goals, such as reducing social inequality without decreasing labour supply, reduction of pollution, etc. In other words, taxes can be designed in a manner that contributes to the long-term sustainability and growth of the economy. In 2008-2016 the decrease in personal income taxation (PIT) rates in NMS continued. As can be seen in Figure 5, the average top PIT rate fell by more than 3 p.p., from 27.7% in 2008 to 24.4% in 2016. By contrast, the average rate in EU-15 went up by nearly 3 p.p. and reached 50.1% in 2016.<sup>2</sup> The most significant changes in NMS were carried out in Hungary where the three-bracket system (with a top rate of 40%), was replaced with a flat rate of 16%. Top statutory rates were also lowered in Croatia, Estonia, Lithuania, Latvia and Poland. On the other hand, Slovakia adopted a new rate of 25% in addition to the previously applied single rate of 19%, thus returning to the multi-bracket system. Slovenia also introduced an additional tax bracket with a rate of 50%, applied to very high incomes. The single tax rate was kept unchanged in the Czech Republic, Bulgaria and Romania. The Czech Republic, however, increased the tax burden on high-income taxpayers by means of a temporary 7% solidarity surcharge, applied only to the part of the aggregate individual income that exceeds four times the annual average salary.

<sup>2</sup> The top PIT rate was raised in 11 of the EU-15 Member States and most strongly in Portugal, Greece and Ireland.

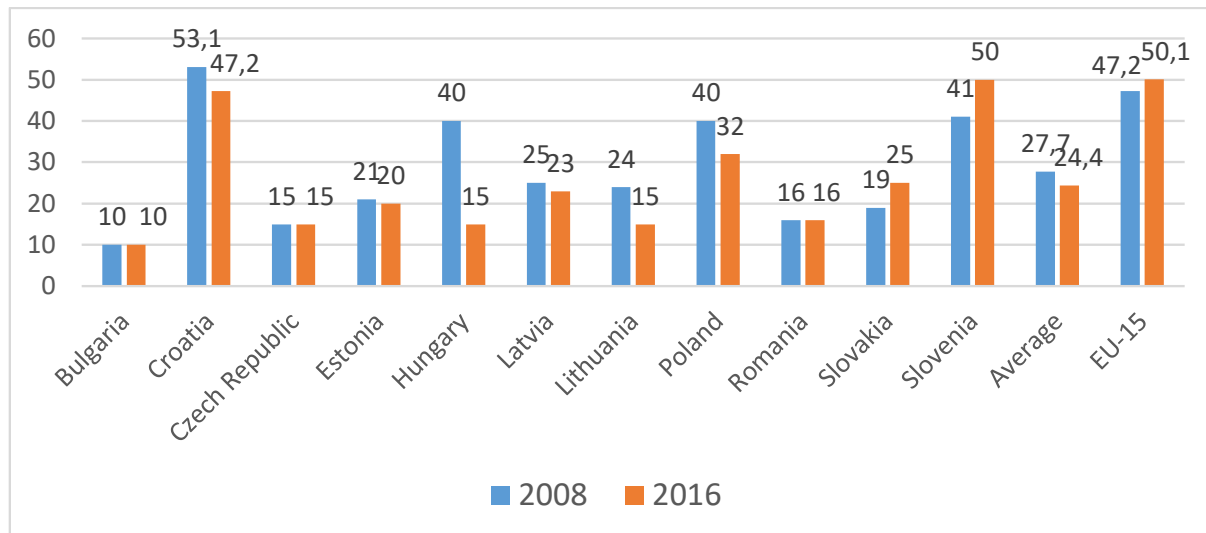


Figure 5: Top personal income tax rates in 2008 and 2016  
(Eurostat, own calculations)

Apart from top rate reduction, some NMS took additional measures to reduce the tax burden on low-income earners and families with children. In 2009 Lithuania raised the amount of the basic personal exemption. In 2013 Poland increased the tax credit for taxpayers with more than two minor children and Latvia also increased the exemption for dependents. In Bulgaria, an income tax refund for lowest wage earners was adopted, but it was in force only for the fiscal year 2014. As of 2016, Bulgaria introduced a tax credit for dependent children, thus PIT became progressive for families with children. In 2015 the Croatian government raised the basic personal allowance, including for pensioners (Eurostat Statistical Books, 2015, p. 23). The Czech Republic announced an upcoming increase in the tax credits for children. On the other hand, the Hungarian government accompanied the large reduction of the PIT rate with an abolition of almost all allowances and credits with the aim to broaden the tax base. The only tax relief applied since 2013 has been the dependent children tax allowance, as well as a temporary allowance for first marriage. Thus, taxation has become proportional for the taxpayers who do not cover these criteria. With regard to corporate income tax (CIT), in the period under consideration NMS had not much space to further lower statutory rates, since the latter were already significantly reduced after 2000. In 2008-2016 the CIT rate was markedly reduced in Slovenia (by 5 p.p.) and slightly in the Czech Republic and Hungary. As shown in Figure 6, the average rate fell from 18.1% in 2008 to 17.6% in 2016. In EU-15 the average rate also declined from 28.1 % to 26 %. The emphasis of the reforms in some NMS was placed on creating incentives for small businesses. In 2012 Croatia started exempting profits reinvested in long-term assets used in business activities. As part of its tax reforms program, Hungary adopted special tax schemes for micro, small and medium enterprises. Poland has announced in 2016 a new lower 15 % rate for smaller companies and in Romania there was an increase in the turnover threshold for application of the micro-enterprise tax regime.

/Figure following on the next page



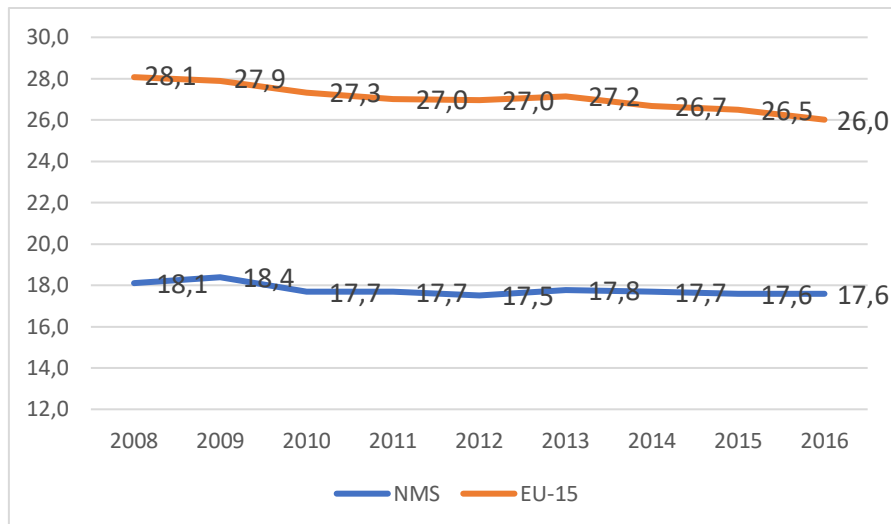


Figure 6: Development of the average corporate income tax rate in 2008-2016  
(Eurostat, own calculations)

The global crisis has focused the attention of policymakers and academics on some unresolved issues in the organization of corporate income taxation. In most countries interests on corporate debts are deductible from the CIT base, while dividends on shares are not. The favourable tax treatment of interests distorts the capital markets and increases the default risk. Another problem is related to the so-called aggressive tax planning of multinational corporations which consists in using the differences in national tax legislations to legally reduce tax liabilities. To address these issues in 2011 the European Commission put forward a proposal for the creation of a common consolidated corporate tax base in the EU, which consists in the application of a single set of rules to calculate companies' taxable profits in the EU. Due to the opposition of a part of the Member States this project has not been advanced. However, given the fact that all governments forego fiscal revenue due to profit shifting of corporations, the international coordination of the CIT becomes the only feasible solution.

In the field of social security contributions, changes undertaken in NMS were more diverse. In 2010 Poland's government initiated reforms of the pension system aimed at preventing public debt from rising to excessive levels. This reform did not cause changes in the tax burden on employees or employers. The transfers to privately managed pension funds were cut from 7.3% to 2.3% of workers' salaries and the difference was redirected into the public old-age pension system (Eurostat Statistical Books, 2013, p. 126). In Estonia unemployment insurance contribution rates were reduced as of 2013 and the rate of social contributions was reduced by 1 p.p. as of 2014. In Croatia, the rate for health insurance contributions was raised from 13% to 15%, with effect from April 2014. As of 2016 Bulgaria started a reform in the social security system involving a gradual increase both in contributions rates and in the retirement age. European countries face serious challenges to long-term fiscal sustainability related with the negative demographic trends in Europe and these challenges will require further reforms in social security systems.

Indirect taxes have played an important role during the global crisis. In the economic literature taxes on consumption are considered superior to income taxes with respect to economic efficiency. They generate significant budget revenue with a lower deadweight loss because they do not distort labour supply and savings decisions (Bartlett, 2012, p. 198). Indirect taxes also could be targeted on goods and activities causing external costs to society, such as pollution.

After 2008 NMS continued to shift the tax burden to consumption. The average standard VAT rate went up by 2.3 p.p., from 19.5% in 2008 to 21.8 % in 2016. The largest rise was seen in Hungary (7 p.p.), as well as in Romania (5 p.p.). However, as of 2016, the standard rate in Romania was decreased to 20%. The upward trend in NMS was in line with EU-15 where the standard rate increased by 1.7 p.p. and reached 21.6% in 2016. Reduced VAT rates were raised in Bulgaria, Croatia, the Czech Republic, Estonia and Latvia. At the same time Poland introduced a new reduced rate of 5 % for basic foodstuffs and the Czech Republic put in place a second reduced rate for medicines, books and child nutrition.

Year	2008		2009		2010		2011		2012		2013		2014		2015		2016	
Country	S*	R**	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R
BG	20	7	20	7	20	7	20	9	20	9	20	9	20	9	20	9	20	9
CR	22	10	22	10	23	10	23	10	25	10	25	5;10	25	5;13	25	5;13	25	5;13
CZ	19	9	19	9	20	10	20	10	20	14	21	15	21	15	21	10;15	21	10;15
EE	18	5	20	9	20	9	20	9	20	9	20	9	20	9	20	9	20	9
HU	20	5	25	5;18	25	5;18	27	5;18	27	5;18	27	5;18	27	5;18	27	5;18	27	5;18
LV	18	10	21	12	21	12	22	12	22	12	21	12	21	12	21	12	21	12
LT	18	5;9	19	5;9	21	5;9	21	5;9	21	5;1	21	5;9	21	5;9	21	5;9	21	5;9
PO	22	7	22	7	22	7	23	5;8	23	5;8	23	5;8	23	5;8	23	5;8	23	5;8
RO	19	5	19	5;9	24	5;9	24	5;9	24	5;9	24	5;9	24	5;9	24	5;9	20	5;9
SL	20	10	20	10	20	10	20	6;10	20	10	22	10	22	10	22	10	22	9.5
SK	19	10	19	10	19	6;10	20	10	20	10	20	10	20	10	20	10	20	10
Average	19.5	7.8	20.5	9.3	21.4	9.3	21.8	10.0	22.0	10.6	22.2	10.8	22.2	10.8	22.2	10.0	21.8	9.9
EU-15	19.9	8.1	19.8	8.1	20.5	8.1	20.8	7.4	21.0	7.7	21.4	8.0	21.5	8.0	21.6	8.0	21.6	8.0

Table 2: Development of VAT rates in 2008-2016

\*standard rate, \*\*reduced rate

(Eurostat, own calculations)

After 2008 the upward trend in excise rates also continued. As an additional step, several NMS introduced new levies more directly related with pollution. In Romania, a new environmental stamp duty entered in force in 2013, which differentiates car taxation based on their carbon dioxide (CO<sub>2</sub>) emissions. The Croatian government also changed the system of car taxation by introducing a special tax on motor vehicles based partly on CO<sub>2</sub> emissions, and at the same time, it adopted optional exemptions for households that use energy from natural sources for their own use. In the Czech Republic tax reductions are available for renewable and alternative electricity, biogas and specified environmentally sound vehicles. A tax refund is available also for public transportation using green electricity.

It is worthwhile to mention also the measures that were related more directly to the causes of the global crisis - financial sector levies and property taxes. Taxes on financial institutions are not a new idea but in the context of the global crisis they attracted much interest because of the recognition that financial institutions had to bear at least part of the costs stemming from their excessive risk-taking. In 2011 the European Commission launched an initiative for a harmonized financial transaction tax in the EU. Since the project did not receive the necessary unanimous consent of all Member States, some of them decided for national taxes on the financial sector. Hungary adopted in 2010 a progressive surtax on financial institutions, based on the adjusted amount of their balance sheets. The initial intentions of the government were to repeal the surtax in 2014, but the final decision was to retain it indefinitely as a permanent bank sector levy (Eurostat Statistical Books, 2013, p. 95).

The Slovenian government put in place a tax on bank assets at a rate of 0.1% and a financial transaction duty on all cash and bank transfer transactions at a tax rate of 0.2% (and 0.3% for cash withdrawals). With effect from 2012, Slovak banks and branches of foreign banks operating in the Slovak republic, are subject to a bank levy with amount of 0.1%, payable at the end of each calendar quarter. The levy is calculated on the bank's liabilities at the end of the previous calendar quarter, adjusted by certain items defined by law.

With regard to property taxation, there are two considerations. First, albeit indirectly, taxation of immovable property may have contributed to the build-up of the global crisis, because in most countries interest payments on mortgage debts are deductible from the PIT base and tax rates on property are low. Second, recurrent property taxes are considered to be among the least detrimental to economic growth (European Commission, 2014, p. 24). Thus, after the beginning of the crisis some countries reformed property taxation. In Latvia, the range of applicable rates was broadened and local authorities were given flexibility in choosing appropriate rates. In Slovenia, a special tax on immovable property of high value entered in force. Lithuania increased the upper limit of the tax rate on immovable property and Romania introduced a new tax of 1.5% on the book value of specific types of building that were not already subject to local property taxes. The Czech Republic adopted new rate of 2% on the transfer of property. There are possibilities for improvement of the revenue potential of property taxes. In most countries, the cadastral value used as a tax base is much lower than market prices, which reduces the amount of the tax base. As a result, tax authorities (which usually are the municipalities) lose fiscal revenue.

#### 4. CONCLUSIONS

In 2008-2016 total tax receipts in new EU Member States from Central and Eastern Europe have risen both in absolute terms and as a proportion to GDP. After an initial considerable fall in 2009, they resumed which can be attributed partly to the measures undertaken in response to the global crisis. Revenue from direct taxes as a proportion to GDP fell in most NMS, whereas revenue from indirect taxes and social security contributions increased. At the beginning of the crisis, the level of public indebtedness in NMS was relatively low, hence they had some fiscal space to respond to the economic downturn, by reducing the tax burden on labour and keeping low capital taxation. Thus, the global crisis has further deepened the divergence in tax revenue structure between NMS and EU-15. Hungary carried out the most comprehensive reforms in 2008-2016 among the NMS. These reforms were not targeted solely against the crisis, but rather they were part of an overall restructuring of the tax system, with the aim to improve competitiveness of the Hungarian economy in the long-run. In the rest of the countries, measures undertaken after 2008 were more limited due to the fact that their tax systems had already been reformed during market transition. In 2008-2016 the reduction of PIT rates in NMS continued and the same time the tax base was broadened through limitation or abolition of some tax preferences. Tax allowances and credits were targeted more on low-income earners as well as families with children. In corporate income taxation, there was not much space for further reduction, since CIT rates were already low. NMS also continued to shift the tax burden to consumption, through increase of VAT rates and excise duties, as well as the introduction of new taxes on pollution and unhealthy food. Also, new taxes more directed to the global crisis were introduced, including taxes on financial transactions. There are some unresolved issues in the field of corporate income taxation, such as the favourable tax treatment of interests on corporate debt and the aggressive tax planning of multinational corporations, that require some degree of international coordination. On a national level, fiscal reforms in NMS are increasingly focused on goods and activities causing external costs and on property taxation.

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## INCREASING VOLUNTARY COMPLIANCE THROUGH TAX MORALITY: A CASE OF ROMANIA

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### ABSTRACT

*Over time, it has been found that the option of earning a higher income seems to be the key motivation for any citizen involved in illicit activities. Interestingly, this motivational force seems without any commitment, as long as the citizens does not have to declare the income to tax authorities due to taxes or social security contributions too high. The size and impact of these choices or motivations vary from one country to another, depending on the degree of education, the complexity of tax laws, the standard of living and the state's development capacity. That is precisely why the tax morality represents the first step in achieving a coherent and effective image of the taxpayer's tax behaviour. Without a detailed analysis of the factors that influence the degree of tax morality, we can't talk about voluntary compliance. In fact, tax compliance means the taxpayer's ability to understand fiscal policy mechanisms, to adapt to the State needs, and to voluntarily pay for its obligations.*

*The appropriate behavior of the taxpayer must represent a desideratum of voluntary compliance, without which the State can no longer sustain a long term sustainable growth and ensuring the well-being of the population. The modernization of tax authorities must "start" and put the relationship with its taxpayers first, as the current society is becoming more digitized, leaving behind the traditional concepts of "taxman" and the long-held mentality that the tax authorities holds monopoly. Their control over citizens no longer takes place in the present, when most societies are geared towards providing quality services, based on experience gained over time and the opportunity to maintain the high standards.*

**Keywords:** *shadow economy, tax authority, taxpayer, tax morality, voluntary compliance*

### 1. INTRODUCTION

Taxation is one of the most complex Sciences (Lauré, 1993, 9. 1) which generates the emergence of psychological barriers among taxpayers, arising from the desire to optimize tax burdens or non-compliance with payment obligations, arising from the conduct of economic activities. The economic psychology of taxation plays an overwhelming role in making compliance or non-compliance decisions, because the aversion to taxes and duties determines the taxpayer to almost always choose to meet his personal needs, to the detriment of voluntary compliance with the payment and declaration of tax obligations.



## 2. TAX MORALITY – LITERATURE REVIEW

Over time, researchers such as Graetz and Wilde (1985) or Elffers (1991) have found that the degree of tax compliance cannot be explained only in terms of the enforcement of tax obligations. The reason is that, in general, there are people who pay taxes and abide by the rules imposed by the State and, furthermore, people comply for various reasons. Thus, as most people pay their taxes, voluntary compliance is only an observable action in the end (Torgler, 2007, p. 64), tax morality represents the perception that a taxpayer has or acquires, depending on social norms, the fairness of the tax burden and the confidence in the State. **Social norms** represents a behavioral regularity, based on a socially shared conviction, about how an individual should be behaving, triggering the imposition of a prescribed behavior of informal social sanctions (Fehr et al., 1998, p. 845). Social norms have a direct connection with taxpayers' expectations define a pattern of rational behavior that can be recognized in a group or a society. In other words, the acceptance of these rules by taxpayers influences the increase in the degree of tax morality and, implicitly, voluntary compliance. In this respect, two theories have been defined in the literature: "the altruistic approach" (Chung, 1976, p. 36) and the "Kantian approach" (Laffont, 1995 and Sugden, 1994). The first theory starts from the assumption that taxpayers are not only interested in their own welfare, but also are concerned about and general well-being. The decision to evade taxes is constrained by well-being. In this case, most taxpayers pay taxes because they have confidence in the State. The second theory is based on the assumption that a fair tax is a tax the taxpayer considers equitable to all other taxpayers to pay it. It will only feel the costs where it considers that part of the tax is not greater than what is defined as being correct. Whether it will pay a higher tax, tax evasion will be seen as a kind of "self-defense" (Torgler, 2007, p. 68). Thus, if most taxpayers consider the tax burden to be correct, tax evasion is implicitly reduced. Otherwise, the non-compliance will be tolerated and the level of compliance will decrease (Kirchler, 2013, p. 79). **The fairness of the tax burden** represents the taxpayer's perception regarding the existence of a fair tax system for all citizens. According to Binmore, when a general dish is properly divided into a gala dinner, there is rarely any dispute in this regard. If things go well, the food will be well distributed, without any discussion or intervention from the host. In this way, everyone will consider the host as correct, according to the current morality standards of the guests (Binmore, 1998, p. 275). Thus, a fair tax system for citizens will lead to an increase in fiscal civism and, implicitly, in voluntary compliance with taxes and duties, will outline a model of rational fiscal behavior. Bordignon (1993) introduced equity (fairness) as additional motivation for the decision to tax evasion. He asserted that the ethical rules which support compliance with tax obligations are dependent of public expenditure, tax structure and tax evasion perceived by other contributors. In this situation, the taxpayer can calculate its fair trade conditions and to choose between private and public consumption goods. The desire of evading payment of tax liabilities only intervenes in cases where the conditions of the trade fair conditions differ, the aim being to restore fairness. However, the risk of being caught is too large and this is why most people do not evade, even if it were itself making their interest in this. Furthermore, according to Spicer and Lundstedt (1976) taxpayers perceive their relationship with the State not only on a relationship constraint, but also that on one exchange. Cowell (1992) shows that economic analysis can arrive at the same results as psychological research, where custom forms of inequity are embedded in the economic model, so that "taxpayers will reduce tax evasion when you perceive inequity" (Cowell, 1992, p. 521). Falkinger (1995) demonstrated that concrete economic situations individuals reduce tax evasion where socio-economic system is considered to be "relatively equal and fair" (Falkinger, 1995, p. 388). The fairness of a system against a person living in a society that can result in a bad reputation for tax Dodgers, if people consider that tax evasion may be condemnable. Therefore, risk aversion increases with perceived equity if the value of the goods supplied by consumption increases. **The confidence in the State**, the third factor that



influence the degree of tax morality, is represented by the interaction between tax authorities and taxpayers which is determined by the picture on either side and which it creates about the goals and strategies of the other (Kirchler, 2013, p. 174). If the state trusts taxpayers' ability to comply voluntarily, accepting also the complex legislation that leaves room for interpretations, then it can turn into a tax administration that provides guidance and assistance to them. Thus, the relation between tax authorities and taxpayers can lead to the creation of a perception that the tax system, as a whole, is fair to all citizens. However, it should not be overlooked that for those taxpayers who do not comply with the payment and declaration of tax liabilities, the state can intervene by applying coercive measures to ensure the efficient collection of taxes and duties. In other words, to achieve compliance requires a combination of fears of detection and civic responsibilities (Kirchler, 2013, p. 174).

### 3. THE FISCAL DISCREPANCY BETWEEN TAX MORALITY AND THE SHADOW ECONOMY

Tax morality represents the belief of citizens of a country's stability, their identification with the values and objectives of the society in which they live and work, the traditions that tax authorities should trust their suppliers availability, beliefs and attitudes and influence those around him. Starting from the premise that no one likes to pay taxes (...) they have to be quite unpleasant and exert a psychological pressure on the citizens and, therefore, their tendency is to partially evade taxes (Ciobanu, 2003, p. 161) it is necessary to identify the factors that influence the perception of taxpayers about tax liabilities, since they may affect in a final the State Treasury. The World Values Survey (WVS) is a global research project that explores people's values and beliefs, how they change over time, and the social and political impact on them. It is carried out by a world network of social scientists who, since 1981, have conducted national surveys in almost 100 countries. WVS is the only source of empirical data on attitudes, covering most of the world's population (almost 90%)<sup>1</sup>. These surveys are a good way to assess a country's tax morality, so that, in conjunction with other indicators, it may explain certain economic phenomena and may provide a relevant picture about some nationalities can get confidence in the ability of tax authorities and the State to ensure, through economic policy, the welfare of its population. Romania is one of the countries that actively participate in these polls, since 1989, being responsive to the determination of the degree of fiscal and morality to understand which are the factors that contributes to the formation of behaviors and attitudes. The last opinion poll, called Wave 6, explores the values, beliefs and attitudes of citizens during the period 2010-2014 and provides relevant information, depending on certain criteria for determining. In the present case, to determine the extent of tax morality in Romania, we used the question no. V201 from WVS, namely **“Please tell me for each of the following action whether you think it can always be justified, never be justified, or something in between: Cheating on taxes if you have the chance”**. The question contains 10 different answers, starting from “Never justified” (1) to “Always justified” (10). Also have been measured yet two variants of answers, “Don't know” or “No answer”. Thanks to the various possibilities of answers we reclassified into three categories, as follows: **never justified** (answers no. 1, 2 and 3), **justified** (answers no. 4, 5, 6 and 7) and **always justified** (answers no. 8, 9 and 10). In Romania, the latest study (Wave 6 – question no. V201) was conducted on a sample of 1.503 people, of which only 2% did not know how to respond. In the 6 Waves (1989-2014) Romania was represented by a sample of 8.256 people, of which only 3% of them didn't know how to respond and only 1% did not want to answer the question. Thus, we detail in the table 1, the share of answers given by respondents for the six waves of assessment.

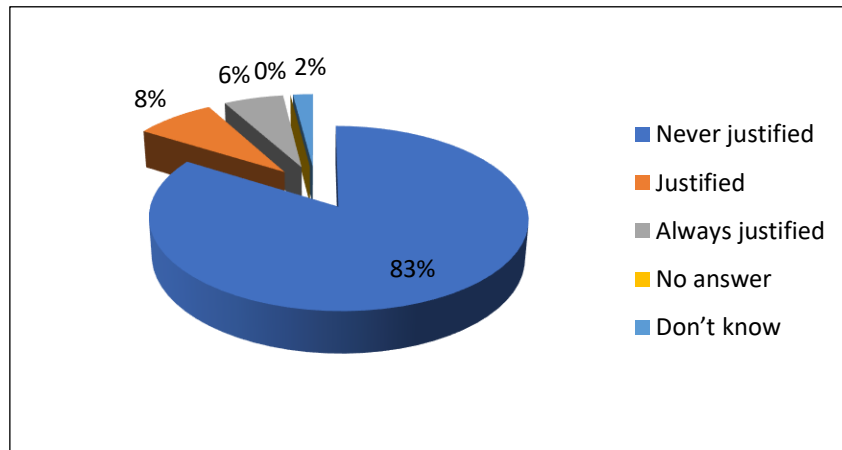
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<sup>1</sup> <http://www.worldvaluessurvey.org/WVSContents.jsp>, accessed April 18, 2017

*Table 1: Share and total number of Romanian respondents in WVS  
(processed by the authors based on data provided by WVS)*

Romania	Total (%)	Year				
		1989-1993	1994-1998	1999-2004	2005-2009	2010-2014
Never justified	75	84	81	68	70	83
Justified	1	12	12	14	17	8
Always justified	7	4	7	10	9	6
No answer	1	0	0	2	1	0
Don't know	3	1	1	4	4	2
TOTAL	8,256	1,103	1,239	1,146	3,265	1,503

Analyzing the data from the table above, 75% of the Romanians interviewed are willing to pay taxes and only 7% think that they should not do so. Referring to the last Wave (2010-2014) the figures also show that 83% of respondents prefer to pay tax liabilities, only 8% consider that sometimes it is better to pay them and 6% don't agree with taxes levied by the State.



*Figure 1: To pay taxes or not?  
(conducted by the authors based on the data in Table 1)*

However, it is necessary to identify, as much as possible, what is the profile of the Romanian taxpayer willing to comply, depending on age, gender, marital status, level of education and occupational status. Thus, in the following, we will highlight, the factors that contribute to constructing an 'ideal' profile in terms of tax morality, respectively of tax compliance.

*/Table following on the next page*

*Table 2: The age is the right answer?  
(processed by the authors based on data provided by WVS)*

Romania	Total (%)	Age			
		Up to 29	30 - 49	50 and more	No answer
Never justified	83.3	76	50.8	88.5	66.7
Justified	8.2	15.6	5.2	4.4	0
Always justified	6.1	4.1	4.3	4	20.7
No answer	0.4	0.4	0.3	0.4	0
Don't know	2.1	1.2	2.7	2	0
TOTAL	1,503	318	556	626	3

According to data from the table above, 83.3% of Romanians are willing to comply, especially those over 50 years (88.5%) and only 6.1% are tempted to tax evasion, especially those aged between 30 and 49 years (6.9%).

*Table 3: Male or female?  
(processed by the authors based on data provided by WVS)*

Romania	Total (%)	Genus	
		Male	Female
Never justified	83.3	51.9	51.5
Justified	8.2	4.8	5.3
Always justified	6.1	6	5.2
No answer	0.4	0.2	0.5
Don't know	2.1	1.6	2.6
TOTAL	1,503	723	780

Analyzing data from table no. 3 shows that 83.3% of Romanians are willing to pay their tax liabilities, of whom 51.9% are men and 51.5% are women. At the same time, it appears that men are more inclined to cheat the State (6%) compared to women (5.2%) who are more skeptical.

*Table 4: Marital status? (processed by the authors based on data provided by WVS)*

Romania	Total (%)	Marital status					
		Married	Living together as married	Divorced	Separated	Widowed	Single
Never justified	83.3	86.9	73.8	80.1	74.5	71.3	48.5
Justified	8.2	6.5	11	5	0	4.9	12.1
Always justified	6.1	4.7	7.5	6.2	18.2	8.5	7.2
No answer	0.4	0.3	0	1.5	0	0.4	0.4
Don't know	2.1	1.1	1.1	2.8	7.3	3.2	2.4
TOTAL	1,503	884	105	71	15	160	263

The marital status of the Romanians is also reflected in the way they are willing or not to comply. The highest percentage is found in the ‘divorced’ category (80.1%) and the lowest in ‘living together as married’ (73.8%). However, those who are ‘separated’ (18.2%) have a greater inclination towards tax evasion, compared to those who are ‘married’ to a limited extent not to comply (4.7%).

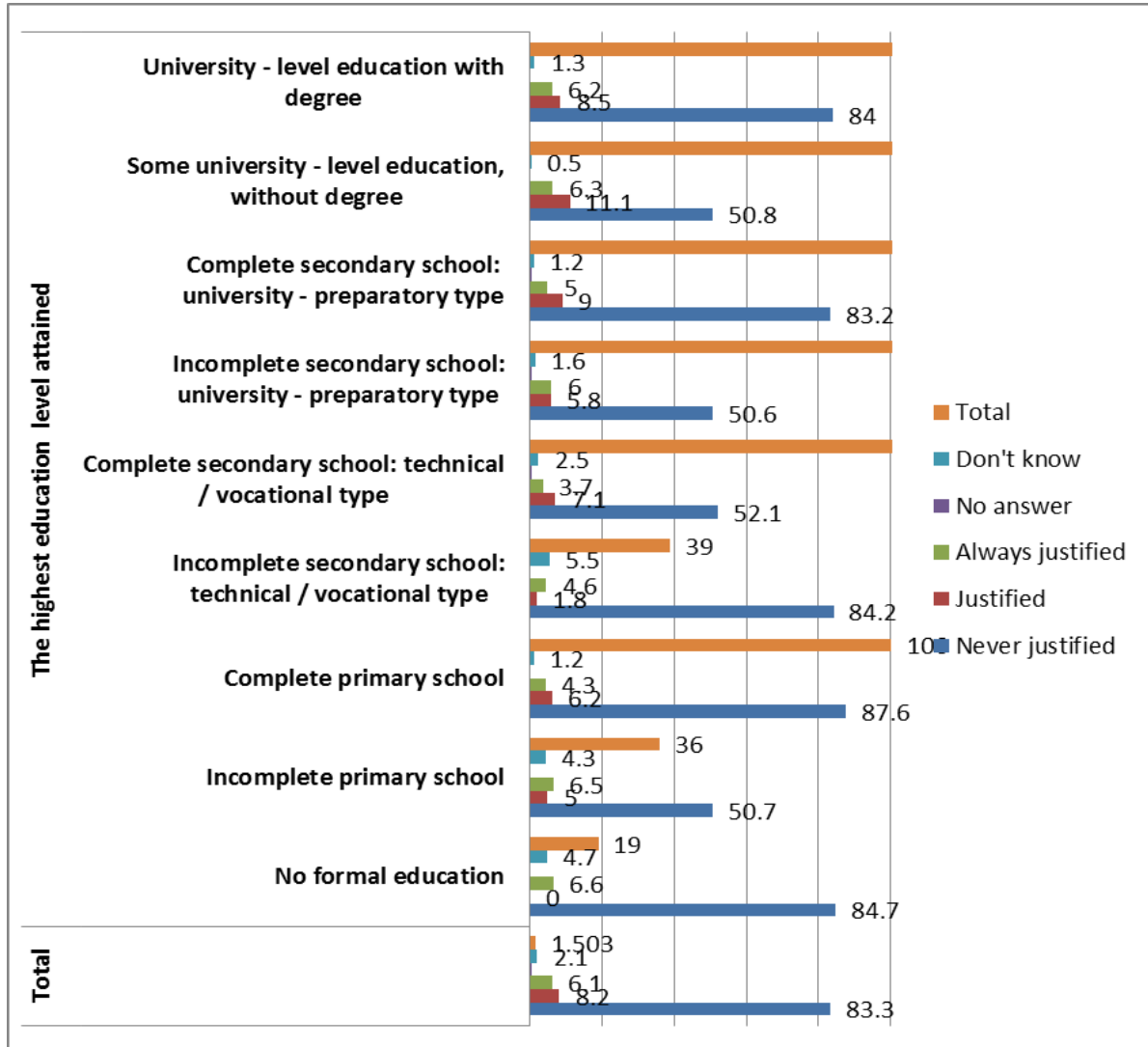


Figure 2: Education level? (conducted by the authors based on data provided by WVS)

In terms of education level of respondents shows that the share of the most representative persons with secondary education completed (87.6%) of the total of 83.3% who believe that taxes should be paid to the State. Instead, 10.7% of those without any form of education are of the opinion that it is not always justified to pay taxes to the State, the representative weight being given by persons who have graduated primary school.

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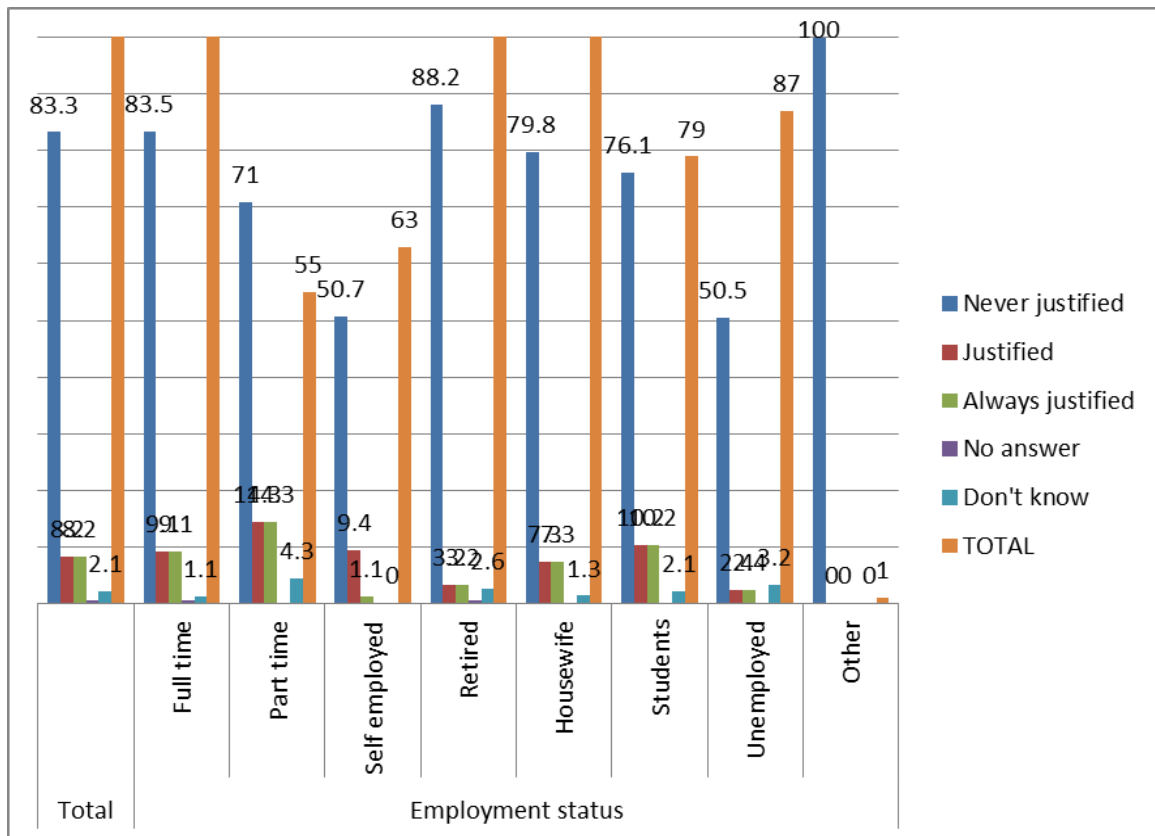


Figure 3: Employment status? (conducted by the authors based on data provided by WVS)

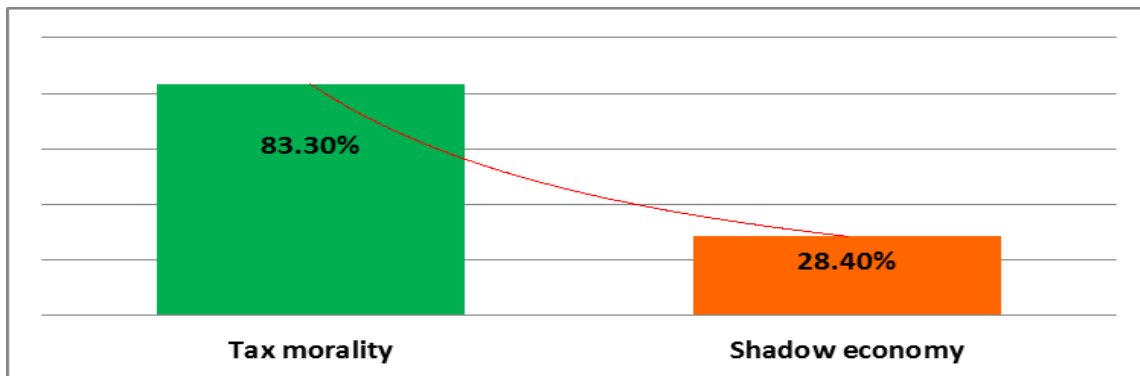
In terms of employment status, 83.3% of Romanians agree with paying taxes and only 5.1% are inclined to tax evasion. Among those who agree with the payment of tax liabilities, the largest share of the retired (88.2%) but also full-time employees (83.5%). Also, those in the 'others' category are willing to comply with their tax obligations.

Analyzing the typology of people who participated in the survey (question no. V201) we can build the **ideal profile of the taxpayer**, in terms of tax morality, taking into account the variables analyzed, such as: age, gender, marital status, educational level and employment status. Thus, the taxpayer with a high degree of tax morality can identify in the person who has the following characteristics:

- **Age:** between 30-49 years or 50 years and over;
- **Gender:** female or male;
- **Marital status:** married or divorced;
- **Level of education:** primary school or technical / vocational type graduated without a diploma;
- **Employment status:** full time or retired.

Theoretically, we could say that, in general, in Romania, the level of tax morality is high (83.3%), that people have confidence in State authorities and that they are willing to pay their tax liabilities. Concerned is the fact that the ideal taxpayer profile is made up of people who do not have a high level of education, and higher education. Moreover, neither age is an ideal 'trump', as young people should be most interested in their welfare and state. Another anomaly is found in the correlation between the degree of tax morality and the level of the shadow economy. Normally, the higher the degree of tax morality is higher, the more should fall activities in the shadow economy. Is the ideal profile (young, married or single, with higher education, full time or self-employed) found in the shadow economy? Or is the fact that tax burden is a decisive factor in their determination to engage in illicit activities?

Regardless of the reason why taxpayers choose to behave in a certain way in the economy, whether official or unobserved, it is necessary to highlight the relationship between tax morality and the shadow economy.



*Figure 4: The relationship between tax morality and shadow economy  
(conducted by the authors based on data provided by WVS and EU Reports)*

This fiscal discrepancy can only be explained by the fact that it does not reflect the reality, as the degree of tax morality is based on a determinant number of respondents, while the shadow economy is analyzed at the national level, taking into account a number of economic indicators. However, Alm and Torgler (2006) investigated the link between tax morality and the shadow economy and found that between the two variables, there is a negative relationship. It seems that a decrease in tax morality with one unit would lead to an increase in the shadow economy by about 20% (Torgler, 2011, p. 11). When the taxpayer's behavior is influenced by the behavior of others, and for example, believes that tax evasion is a "common phenomenon" (Bunescu et al., 2011, p. 27) its confidence in the tax authorities and tax system will decrease, also affecting tax morality. Instead, when the taxpayer considers those around him to be honest, he will behave the same, leading to increased tax morality. Thus, there is a dependency relationship between personal beliefs and others, influencing in a positive or negative sense the degree of tax morality. The lesser the confidence in Government and implicitly in the fiscal policy of the state, the negative impact is reflected in the growth of the shadow economy. And if the State cannot directly control the minds of the taxpayers, it remains to focus our attention on combating the shadow economy. According to Williams (2014) the reasons to combat the shadow economy is multiple, the consequences affect both legal companies, customers, Governments, as well as those who are already working in the shadow economy.

*For example for business that operates legally, reasoning for fighting the shadow economy is as follows:*

- an unfair competitive advantage for business on a wholly or partially shadow basis over wholly declared enterprises (Williams, 2014, p. 10).

*For business or self-employment who works on their own in the shadow economy, reasoning for fighting the shadow economy is as follows:*

- are unable to gain access to capital to develop their business' (Llanes and Barbour, 2007; referenced by Williams, 2014, p. 10);
- cannot advertise their business to attract new customers (Williams et al, 2012a; referenced by Williams, 2014, p. 11);
- need to keep their business small in order to stay under the radar of the authorities (Barbour and Llanes, 2013; referenced by Williams, 2014, p. 11);
- cannot secure formal intellectual property rights to process and product innovations (De Beer et al, 2013; referenced by Williams, 2014, p. 11);



- lack the ability to develop and grow due to the lack of support available compared with legitimate business (Llanes and Barbour, 2007; referenced by Williams, 2014, p. 11).

*For people who work under the table, reasoning for fighting the shadow economy is as follows:*

- do not have employment rights such as annual and other leave, sickness pay, redundancy and training (Evans et al, 2006; referenced by Williams, 2014, p. 12);
- lack access to a range of other legal rights such as the minimum wage, tax credits and working hours directive (Dellot, 2012; referenced by Williams, 2014, p. 12);
- lose employability due their lack of evidence of engagement in employment (Barbour and Llanes, 2013; referenced by Williams, 2014, p. 12);
- suffer a constant fear of detection and risk of prosecution (Grabiner, 2000; referenced by Williams, 2014, p. 12).

*For customers using services of shadow economy, reasoning is as follows:*

- legal recourse if a poor quality job is undertaken (Eurofound, 2013; referenced by Williams, 2014, p. 13);
- insurance cover (Llanes and Barbour, 2007; referenced by Williams, 2014, p. 13).

*For governments, the rationale for combating the shadow economy is as follows:*

- causes a loss of revenue for the State in terms of non-payment of direct or indirect taxes (Bajada and Schneider, 2005; referenced by Williams, 2014, p. 14);
- leads to a loss of regulatory control over the quality of jobs and services provided in the economy (Williams and Lansky, 2013; referenced by Williams, 2014, p. 14).

#### 4. CONCLUSIONS

Helplessness or ignorance of the taxpayer behavior shouldn't be reflected so incisive in the State Treasury. Correcting the emerging shortcomings should be a priority for tax authorities, given that the citizen is the main source of income for the state, and as such must be concerned about the way taxpayers understand and perceive this relationship. Moreover, the tax authorities, through subordinate organs, can counteract certain inappropriate tax behaviors, as the whole taxpayer's portfolio is based on the tax domicile. Currently, tax authorities perform two key functions: the collection function and the control function. The collection function is regulated in order to attract taxes and duties to the consolidated general budget and the control function has the purpose of preventing and combating tax evasion through the tax inspection bodies. The introduction of a function for measuring tax morality could prompt tax authorities to pay close attention in this direction, through the investigation of indicators that determine the degree of confidence of taxpayers that they manage. Since one of the strategic objectives of the National Agency for Fiscal Administration (NAFA) is to improve voluntary compliance, it should closely address this issue by identifying the reasons why its taxpayers are willing or not to pay their tax obligations and to what extent. The tax authorities' mindset should change and perceive taxpayers as a 'customer portfolio' that can migrate at any time to a gray area of the economy. Proper management of this portfolio would be a win-win relation, because the collection of taxes and fees would be achieved much more efficiently and taxpayers would be more oriented towards compliance and less towards the shadow economy. In conclusion, the collaborative relationship between the State and citizens represents the essence of tax morality and combating the shadow economy.

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## THE PROSPECTS OF RURAL TOURISM DEVELOPMENT IN THE CONTINENTAL TOURISTIC REGION OF CROATIA: A SURVEY CONDUCTED AMONG YOUNGER AND MORE EDUCATED RESPONDERS

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### ABSTRACT

*The paper represents a product of mentor-graduate student cooperation, developed at the graduate study of Business Economics, major Tourism. Theoretical part of the paper addresses rural tourism and its most interesting sub-categories. It also discusses which part of Continental Croatia has the most potential for development of rural tourism. The destinations and types of tourism are listed that exist in this area but also have room for improvement and further development. The goal is to prolongue the season and not only focus on the coastal part of Croatia, following the examples of neighboring countries. The final goal of the research is to examine the behavior and opinion that participants have about Croatian tourism, what are their preferences when it comes to the choice of destination, on what grounds, how much are they familiar with rural tourism offer, and whether they think that further development would be crucial for rural tourism improvement. The research was conducted through a questionnaire on 203 responders residing in the Republic of Croatia.*

**Keywords:** *rural tourism, offer expanding, decisive factors in the choice of destination, seasonality, tourism in Croatia*

### 1. INTRODUCTION

The paper represents a product of mentor-graduate student cooperation, developed at the graduate study of Business Economics, major Tourism. The authors studied rural tourism and its sub-categories, posing two main research questions:

- Which are the most interesting categories of rural tourism among tourists?
- What part of continental Croatia has the most potential for the development of rural tourism?

It is visible that as the world evolves, the tourist offer evolves and expands as well. Tourists do not travel only for the journey but they travel with a motive. They have desire to try something new, get to know the culture, history and the way locals live, try out something that friends or family suggested, be in popular destinations where their peers and idols travel, etc. All these factors affect our decision when we choose a destination. This paper is about key elements of rural tourism development. The goal is to extend the season and not only focus on coast part of Croatia, following the example of our neighboring countries. The final goal of the research in this work is to examine the behavior and opinion that participants have about the tourism in Croatia, what are their preferences when it comes to choosing a destination, on what basis, how much are they familiar with rural tourism offer and do they think that further development is crucial for rural tourism improvement. The research was conducted through a questionnaire on 203 responders residing in Croatia.

## 2. METHODOLOGY

To know more about what tourists need, love, and what they want to be improved, as well as how they are generally satisfied with Croatian tourism, we found out with a questionnaire. The survey was conducted through a questionnaire that consists of 23 questions. Responders were randomly picked and they answered through online questionnaire. A total of 203 responders participated, of which 71% were female, and 29% male responders. The majority of responders, 38.4% of them have university diploma or a master's degree. Only 1.5% responders are specialists of their profession or have a doctorate degree.

While the responders with secondary education 28.1% and more professional qualifications or professional or university bachelors 32%. We did not have any responders with finished elementary school as the highest level of their education. Most responders were between 26-30 years old, 45.3% of them, while only 4.4% of responders were 45 or more years old. There were no responders under the age of 18, while 18.2% of responders were between 18-25 years old. Responders aged 31-45, 32%. Such results were expected as most active tourists ranged between 26 and 45 years. The reason for this is financial independence that is most common in this age. In this range, most tourists are also interested in special forms of tourism. The reason for this is maturing, getting acquainted with personal preferences.

Fifth question of this questionnaire was about the monthly income of responders. Most responders earn between four and six thousand kunas per month, 31% of them. 24.6% of responders earn between six and ten thousand kunas. Only 11.8% earn more than ten thousand kunas. The income of maximum of two thousand kunas is earned by 15.3% of responders, while 17.2% earn between two and four thousand kunas. Given the standard of most citizens and the average Croatian wage of HRK 5 475 kunas, such results were expected.

## 3. RESULTS

### TRAVEL PREFERENCES:

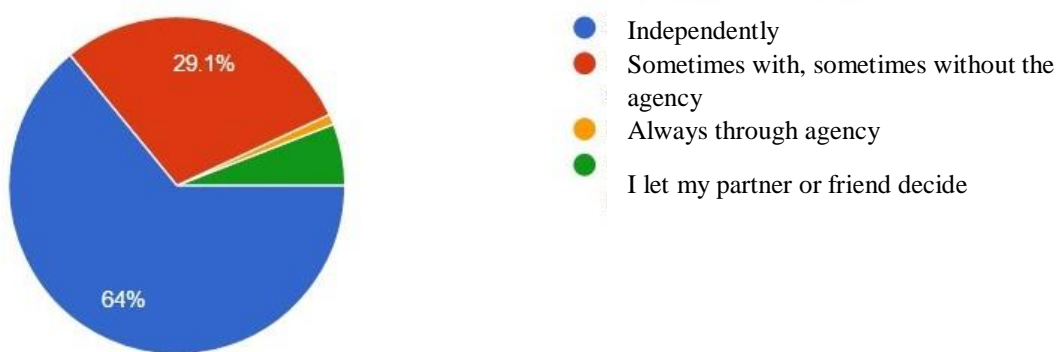
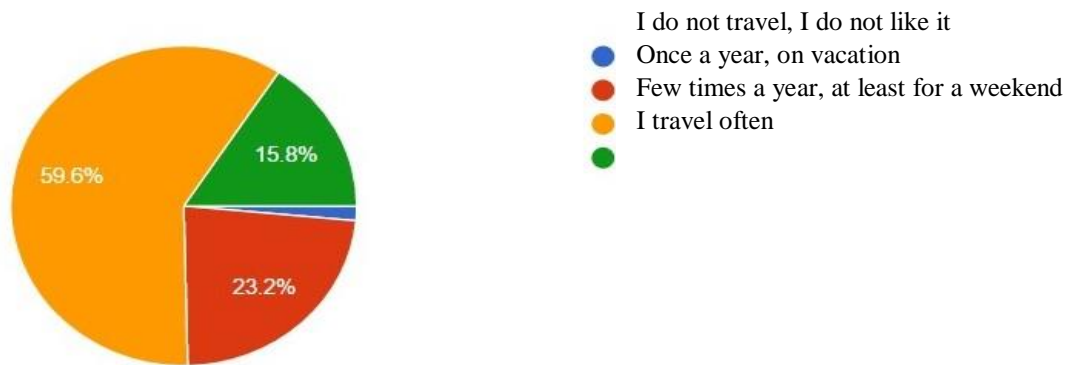


Figure 1: How do you organize your journey?

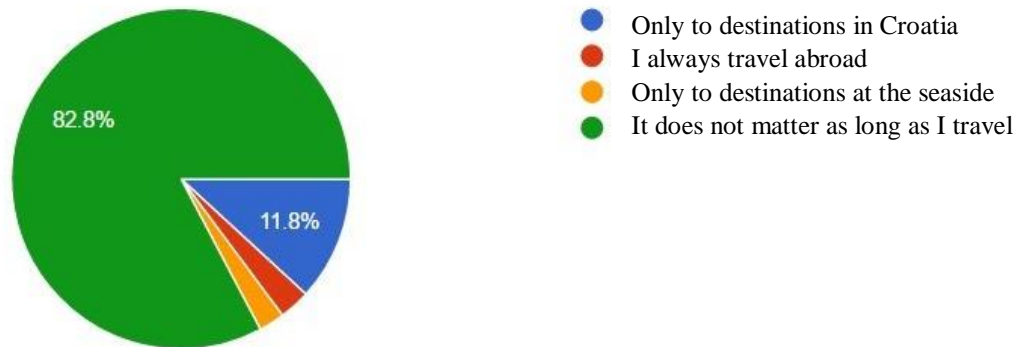
Most responders organize their own journey, and do not use agency services, 64%. 29.1% of responders combine agency services and their own organization. For 5.9% of responders, friends or partner organize their journey, and only 1% of responders travel with agency only. Traveling in our own arrangement can be less expensive than the one with an agency, and they can decide how much time they want to spend at some destination.



*Figure 2: The frequency of travel*

59.6% of responders travel few times a year, at least for a weekend. Only 1.5% of respondents do not like to travel so they do not travel at all. Only once a year travel 23.2% of responders during their vacation. Responders who travel often make up 15.8% of all responders. By often we mean 2-4 times a year. When we sum the number of responders who travel few times a year, and the ones who travel often we have the number of responders who are employed and have monthly income. Frequent trips are in many cases related to business travel and these results are expected.

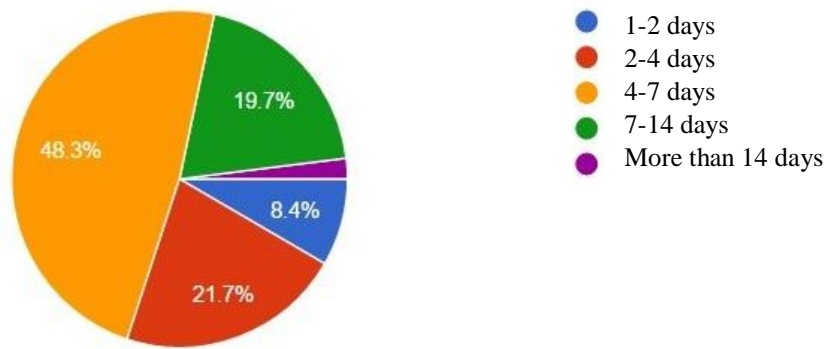
*Figure 3: When I travel, it is usually:*



82.8% of responders do not care about destination. It is most important for them that they travel somewhere. 11.8% of responders travel only within Croatian borders. Only 3% of responders travel abroad only. They are not interested in traveling to destinations in Croatia. And 2.5% of responders travel only in a destination that is one the seaside.

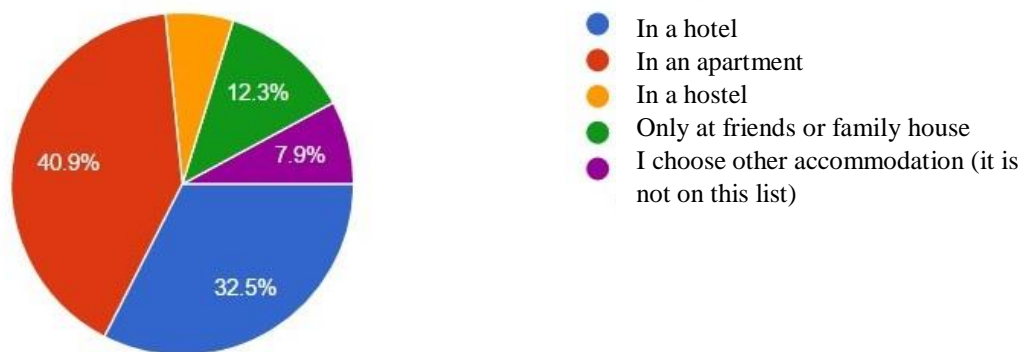
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*Figure 4: When I travel, I usually stay (how many days):*



Most responders spend 4 to 7 days on their journey, 48.3% of them. 21.7% usually stay 2 to 4 days, 19.7% between 7 and 14 days. One or two days spend 8.4% of responders and only 2% of them spend more than 14 days. Croats are famous when it comes to enjoying free days and usually connect the whole week when it has one holiday in it, so this result is as expected.

*Figure 5: When I travel, I am usually staying at (accommodation preferences):*



Accommodation in apartments is the most popular one among responders. 40.9% prefer this kind of accommodation on their holiday. Hotel is number one choice when it comes to accommodation for 32.5% responders and 12.3% of responders are accommodated in a friend's or relatives house. 7.9% of responders are more likely to choose accommodation that was not suggested when answering this question (camps, bungalow, holiday house, hotel, B&B, etc.). Only 6.4% of responders tend to choose hostel as their preferred accommodation on holiday. Results are expected due to most popular accommodation among Croats (hotels and apartments).

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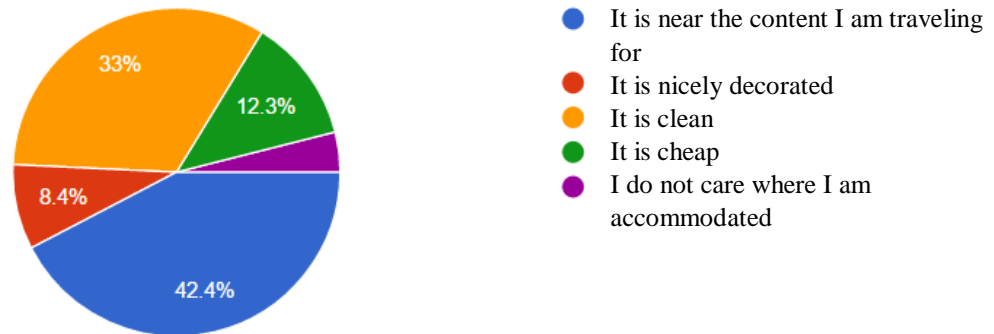
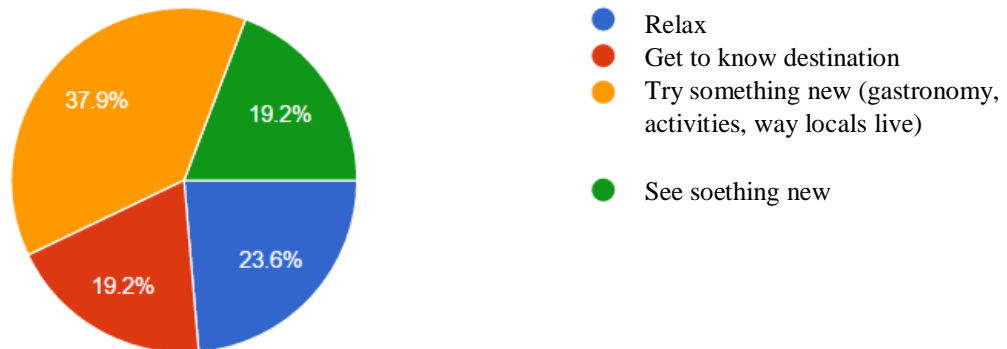


Figure 6: The most important thing when choosing accommodation:

Most important thing when choosing accommodation for 42.4% responders is nearby content that they are travelling for. Clean accommodation is the most important factor for 33% of responders, and 12.3% of responders choose their accommodation based on low price. Only 8.4% choose their accommodation based on nice interior design, and 3.4% of them do not really care where they are situated. Author expected this result. People on their holiday do not want to spend more time on travelling. It causes waste of time, money and nerves and that is definitely something we want to avoid on our holiday.

Figure 7: When I travel, I want to:



When it comes to reasons for traveling, highest number of responders, 37.9% of them say that they want to try something new, like: local specialties, see how locals live, spend their holiday actively. Responders who want to get the know destination is 23.6%. 19.2% of responders only want to relax on their holiday and the same number of them travels because they want to see and experience something new.

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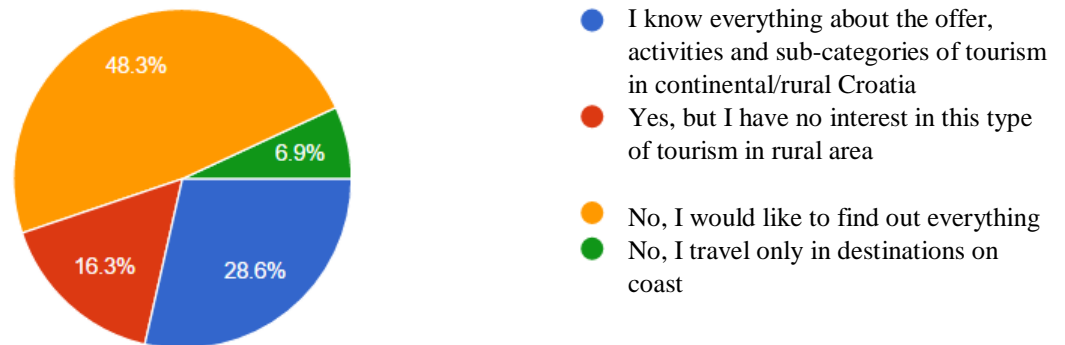
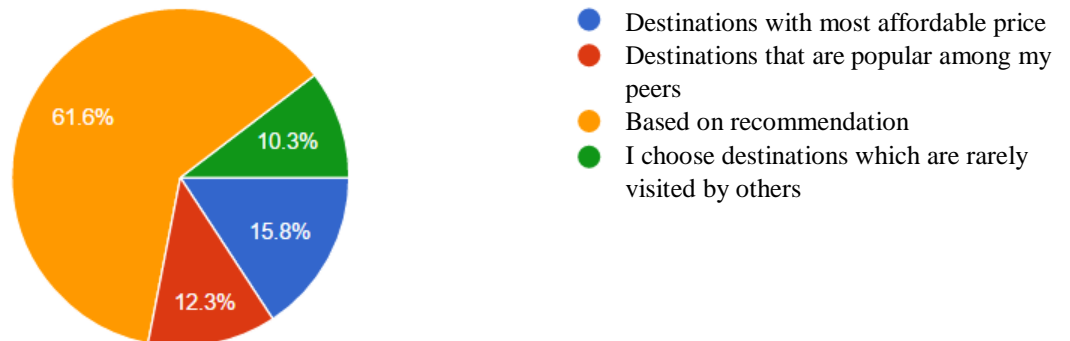


Figure 8: Are you familiar with the offer of continental/rural destinations in Croatia?

Results of this question were as expected. This is proof of insufficient advertising and promotion of rural tourism and its offer in Croatia. 48% of people do not know much about rural tourism offer in Croatia and would like to find out more. 26.6% of responders claim that they know everything about the offer. 16.3% of responders claim that they have no interest in this type of tourism, and 6.9% of them travel only to the coast.

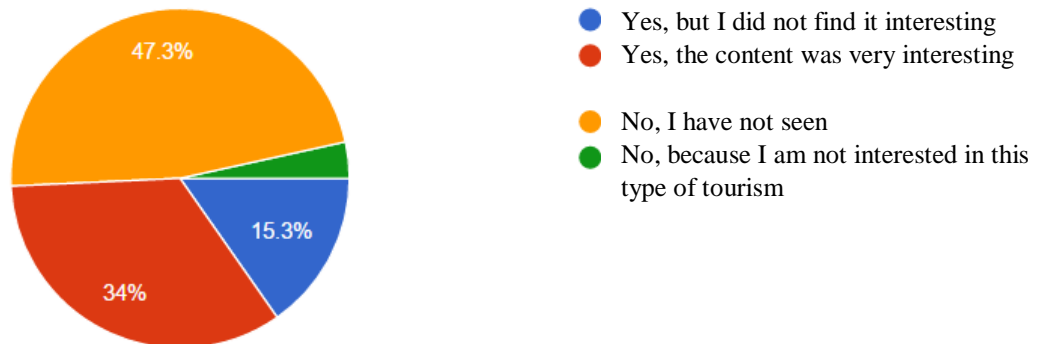
Figure 9: I choose destination based on:



Most of responders value recommendations the most, 61.6% of them. Based on recommendation and personal experience of their acquaintances, friends or family they choose their destination. Destinations with most affordable prices tend to choose 15.8% of responders. Interest in destinations that are rarely visited by others was shown by 10.3% of responders. Destinations which are popular among their peers were chosen 12.3% of responders.

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Figure 10: Have you seen some advertisement for a destination in rural/continental area of Croatia in last couple of months?



The highest number of responders has not seen any advertisement that refers to offer in rural destination in Croatia, 47.3% of them. 34% of responders have seen some advertisement and find it interesting. The responders, who have seen this type of advertisement but are not interested, make for 15.3%. Only 3.4% of them did not notice any type of advertisement due to lack of interest in this type of tourism.

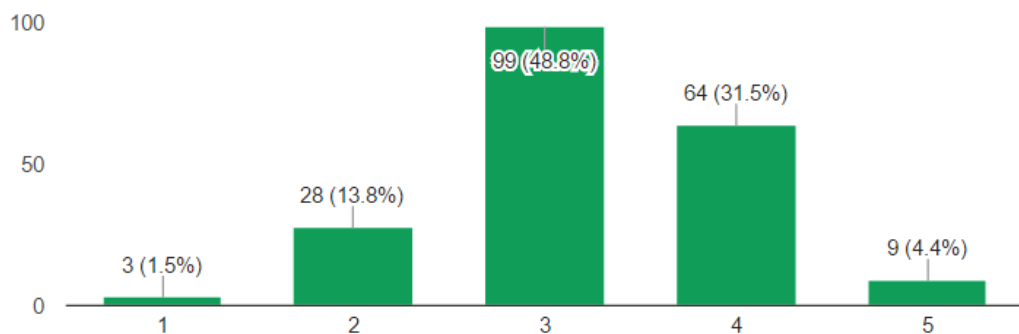


Figure 11: How do you rate your satisfaction with elements of offer in Croatian tourism? (Grade from 1-5: How you are satisfied with the offer: 1-not satisfied at all, 5-very satisfied)

Most responders valued offer and quality of excursions with grade three, 48.8%. Grade four was given by 31.5% of responders. Only 1.5% of responders graded this offer with insufficient (grade one).

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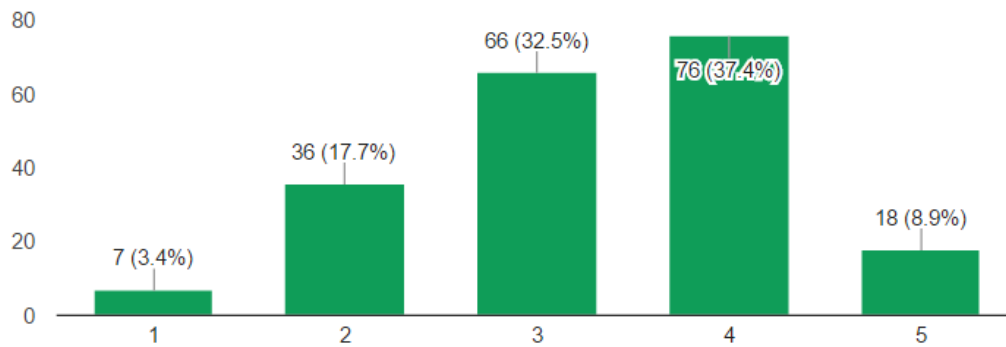


Figure 12: How do you grade the hospitality of local population?

The most people graded hospitality of locals with four (4). 32.5% or 66 responders think that hospitality of locals deserves grade 3 (three). Only 8.9% of them gave the best grade (five) to hospitality, and 3.4% think it deserves insufficient grade (grade one).

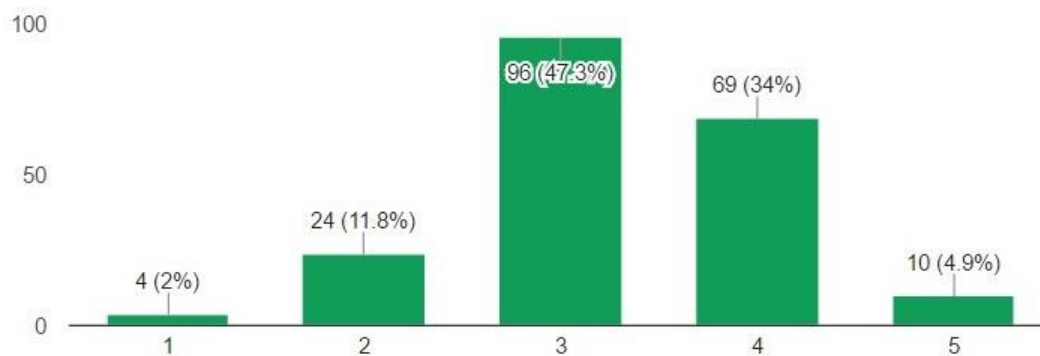


Figure 13: How do you grade tourist information in the destination:

Most responders graded availability of information in a destination with three (grade 3) and 34% of them with grade 4. This result shows that there is place for improvement.

**GRADED BY RESPONDERS (highest percentage):**

- a) Historical & cultural heritage (4-satisfied, 45.8%)
- b) Cultural and entertaining program (3-it could be better, 45.3%)
- c) Quality of accommodation (4-satisfied, 42.9%)
- d) Interior design and offerings in accommodation (4-satisfied, 43.8%)
- e) Gastronomy offer (4-satisfied, 47.8%)
- f) Public transfer (3-it could be better, 44.8%)
- g) Taxi transfer (3-it could be better, 38.4%)
- h) Shopping (3-it could be better, 45.8%)
- i) Safety (5-very satisfied, 41.4%)
- j) Total cost and quality ratio (3-it could be better, 50.2%)
- k) Overall rating of Croatian tourism (3-it could be better, 48.8%)

*GRADED BY RESPONDERS (highest percentage):*

Rate from 1-5 following statements:

(1- I disagree, 5-I completely agree)

- a) Rural tourism should not be developed in Croatia (1-I disagree, 68.5%)
- b) Rural areas are unattractive to visitors (1-I disagree 54.2%)
- c) In Croatia, we should focus only on the coast (1-I disagree, 69.5%)
- d) Offer of continental Croatia is not sufficiently developed (4-I agree, 35%)
- e) Accommodation prices in rural areas are too high (3-Nor do I agree nor disagree, 46.3%)
- f) There is not enough content to stay longer than 2 days (3-Nor do I agree nor disagree, 35%)

*1. How important are the following items in your opinion?*

(1- it is not important at all, 5- it is very important)

- a) Marketing in tourism (5-very important, 64%)
- b) Additional content offer (5-very important, 71.4%)
- c) Prices of services and accommodation (5-very important, 58.6%)
- d) Connecting more craftsmen/caterers to be able to offer more (5-very important 59.1%)
- e) The hospitality of the caterers (5-very important 85.2%)
- f) Additional benefit if you are a regular customer/visitor (5-very important 66.5%)

*2. What type of offer or what are the missing elements when it comes to tourism offer in Croatia?*

*The following elements were suggested to responders: Restaurants, Concerts, Local Entertainment, Local Animation, Family Parks, Adventure Parks, Wine Roads, Theme Trails (Honey, Gold...), Cultural Events, Agro tourism and Museums.*

**Most responders chose:**

*Adventure Parks, 61.1%*

*Agro tourism, 50.7%*

*Local Entertainment, 46.3%*

*Local Animation, 42.9%*

*Family Parks, 40.4%*

*Restaurants, Museums and Wine roads have received least of votes.*

*3. Rate the following services and offers in Croatian tourism from 1-5.*

(1-bad, 5-great)

- a) Accommodation offer (4- very good) 44,8%
- b) Content offer (3-good) 49,3%
- c) Quality of content offer (3-good) 48,8%
- d) Educated hospitality staff (3-good) 45,8%
- e) Accessibility and courtesy of employees in tourism (3-good) 36,9%
- f) Tracking global trends (3-good) 41,9%
- g) Availability of content on the Internet (3-good) 40,4%

4. *The biggest problems of the Croatian tourism offer:*  
(Multiple answers possible)

Responders could choose between following answers: Too much information; Not enough information; Missing site with all information united in one place; Bad web sites of individual accommodation and services providers; Bad reviews; Uninteresting offer; Not enough content; Too expensive offer when comparing to other European and world destinations.

Responders think that following things are the ones that are the biggest problem regarding the Croatian tourism:

1. Missing site with all information united in one place (119 answers or 58.6%)
2. Bad web sites of individual accommodation and services providers (115 answers or 56.7%)
3. Too expensive offer when comparing to other European and world destinations (108 answers or 53.2%)

5. *This is how the following things affect responders when they choose their destination:*  
(1-it does not affect me at all, 5-has the most effect on my decision)

- a) Satisfaction of my friends and acquaintances who were in the destination (4-it affects my decision, 52.2%)
- b) Reviews on forums (3-it affects me and does not affect me, 37.9%)
- c) Rating on booking.com and tripadvisor.com (4-it affects my decision, 42.4%)
- d) Commercials (3-affects me and does not affect me 36%)
- e) Special offers (discount) (4-it affects me, 40.4%)
- f) Famous people who promote the destination (1-it does not affect me at all, 42.4%)
- g) Pictures published by a famous person on social networks in these destinations (1-it does not affect me at all, 40.4%)

We can conclude that word of mouth is the best commercial a destination can have. If you treat your guest right, they will come back and bring their friends, acquaintances or family.

6. *Is there something you have experienced outside of Croatian borders and would love to add to Croatian tourism offer?* (This was the last question of the survey. Below are some of the most interesting responses, by authors' choice).

- "Wider offer of adrenaline sports, greater availability of information".
- "Sauna Park. There are plenty of different saunas in one place surrounded by the nature. In the rural area it would be ideal. But of course with the pool, showers, dressing cabinets and free use of closets. Because I have experienced that the use of cabinets is also charged, for example the aqua park in Budva".
- "It does not matter if it is outside the borders of Croatia. There is a huge difference between Istria and Dalmatia. My answers are related to Istria. The rest of the Republic of Croatia cannot be compared with Istria".
- "Artistic fairs/districts, active and open for tourists throughout the year".
- "Experience tours".

#### 4. CONCLUSION

Based on conducted research, we can conclude that most responders believe that Croatian tourism is good but there are many opportunities for improvement. Expanding the offer, linking tradesmen, the possibility of additional benefits and developing the offer of rural areas that would be accompanied by quality marketing are some of the important conclusions that this



research gave us. Through the survey we can also see how popularity of rural areas is growing and that the responders are interested in more information related to the same. Greater interest for rural destinations tourists showed due to today's more mass tourism on the Croatian coast, which for many is no longer appropriate and it is not the way they want to spend their holiday. Items that were outlined through this form of research, rated the Croatian tourism with grade three (3). Besides the countryside that is full of natural beauty, the human factor in tourism is also very important. We need to know how to upgrade it, place it on tourism market but we also have to work on sustainable development so these resources will not be exhausted or destroyed.

***LITERATURE:***

*Hence this paper presents only the results of the research that was performed in order to show the opinion towards rural tourism in Croatia among the more educated and younger population as a target group, no external sources were needed, and therefore were not cited.*

## COMPATIBILITY OF PROJECT MANAGEMENT EDUCATION'S PROGRAMS AND PRACTICE DEMANDS: CROATIAN CASE

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### ABSTRACT

*Practicality has always been one of the main drawbacks of educational and training programs in general, especially in those educational systems and markets more recently embracing market economy. Project management (PM) knowledge and skills are, on the other hand, highly practice oriented and can be treated as a profession, when considering professional associations, certification programs, professional training seminars, PMBOK, etc. The Republic of Croatia's educational system and market definitely fits into much mentioned transitional economies, with all inherited flaws when faced with contemporary business challenges of competing in developed markets. Bearing this in mind, the purpose of this paper is to investigate the discrepancy between what the PM educational system has to offer and what practice does, i.e. PM related positions demand from freshly graduated students. In order to achieve the above-stated purpose, empirical research has been conducted on a sample of 52 PM programs involving graduating students from leading Croatian state and privately owned universities and 30 project managers from Croatian companies.*

*The collected data were processed via SPSS 23.0 and Microsoft Excel. Obtained results, based on descriptive statistics, indicate on quite a gap between what the Croatian PM educational system has to offer and what practice demands and expects from freshly graduated students. In addition, research confirmed that, when compared to state owned universities, privately owned universities/schools and especially professional associations offer higher level of quality of education and training related to PM knowledge and skills.*

**Keywords:** *Project manager, Project management education, Knowledge and skills, Practice demands, Students*

### 1. INTRODUCTION

In today's highly demanding and complex business environment, project type of work is becoming more and more dominant *modus operandi* of modern organisations. In this sense project management (PM) and PM processes, methodologies and skills have been increasingly adopted by modern organisations (Fisher, 2011, pp. 994). Just mentioned has been emphasized by Davies et al. (2011; in: Ramazani & Jergeas, 2015, pp. 41) who state that project based systems are complementing or even replacing traditional functional and divisional structures. In this sense World Bank (2012; in: Bradillet et al., 2015, pp. 254) has estimated several years ago that 25% of global economic activity takes place as projects, while Project Management Institute (2013; in: Ramazani & Jergeas, 2015, pp. 41) has forecasted that 15.7 million of new PM roles will be created globally between 2010 and 2020. Similar statements about increasing relevance of project work practices in contemporary business environment have been

introduced in the literature by Kloppenborg & Opfer, 2002; Longman & Mullins, 2004; Cheng et al., 2005; Berggren & Söderlund, 2008; Thomas & Mengel, 2008; Bradillet et al., 2013; etc. Constantly rising importance of PM practices for modern organisations' effectiveness and efficiency has logically led to the exponential growth of various types of project management education (PME). The consequence of projectisation of organisations is a growing demand for PM skills (Pant & Baroudi, 2007, pp. 124). With PM becoming more central in executing projects, effective education and talent management for those in charge of managing projects is vital for organisational competitiveness, leading to the fact that university PM programs have been in high demand in all types of industries (Ramazani & Jergeas, 2015, pp. 41). Even though there is a multitude of ever developing programmes, trainings, seminars, certification modules, etc., offered by university, colleges and professional institutions, there is still quite a gap between what contemporary PM practice (i.e. project and PM related working positions) demands from project professionals and what mentioned institutions offer. In this sense Córdoba & Piki (2011, pp. 83) emphasise that PME, despite its popularity, is facing several challenges, among which inadequate preparation of people to deal with complex realities of the real world (Winter et al., 2006), is a major one. Additional challenge for PME is constant elusiveness of a profession that operates within and across many other professions, and draws on so many other disciplines (Bradillet et al., 2013, pp. 1073). Therefore, it is not surprising that there are many calls for new or significantly different approaches to PME. In such a way Ojiako et al. (2010, pp. 268) emphasize (1) the reality of the need for re-assessment of approaches of educating and training PM professionals (Berggren & Söderlund, 2008) and also while doing this (2) the necessity of including the re-examination of the experience of students studying PM.

The stressed discrepancy between market needs (job's performance expectations) and market supply (education's/training's quality), when it comes to PM related knowledge and skills, is vividly present and demands new and adequately designed educational approaches and solutions. For instance, according to Crawford (2005; in: Thomas & Mengel, 2008, pp. 305), there is no empirical evidence that trained and/or certified project managers are any more successful than 'accidental' project managers in today's complex world. This discrepancy is especially obvious on markets that are relatively 'new' on the global scene of capitalistic, unrestricted and developed market economies. The inherited flaws of transitional economies' education systems and available training/specialisation options are all but reducing mentioned discrepancy, especially in a rapidly developing education and specialisation fields such as PM. On these markets, the demand for contemporary and practice oriented knowledge and skills is well ahead of available options for PME.

Typical example of such 'new' market is Republic of Croatia's economy. Croatia is latest country to enter European Union in the year 2013 and is still an economy that can be predominantly characterized as a transitional economy. In such an economy education system in general, as well as market offer of educations, trainings, seminars, etc., are still in the process of adjustment to a 'new' demands of market which is striving to become more similar to highly developed markets of Western Europe. Moreover, discussed PME related discrepancy is additionally reinforced with the inherited flaws of the post-socialistic education system in general, among which the major ones are: (1) expensiveness and ineffectiveness of the system (large groups of students, low lecturers' wages, lower level of lecturers' expertise, insufficient funding, inadequate primary and secondary education, etc.); (2) orientation on memorisation of facts and information rather than on independent analytical and critical consideration of facts and information and derivation of conclusions; and (3) lack of orientation on innovation and innovation approaches (Bejaković, 2004, pp. 4).

Having in mind all previously stated, the main purpose of this paper is to investigate the amount and the nature of discrepancy between what educational system and professional intuitions have to offer and what practice demands when it comes to project and PM related jobs and positions. Derived from the paper's main purpose are three main questions on which paper is trying to provide insights and answers. The research questions are as follows:

- *What are the main characteristics of PME programmes in typical transitional economies such as Croatia?*
- *Is there a discrepancy between offered PME programmes and practice expectations and if discrepancy exist, what is the nature of it?*
- *Is there a difference between state owned and other (privately owned and professional) institutions in the level of quality of offered PME?*

Insights and answers to these questions are based on the empirical research conducted, which included students' and project managers' opinions on various PME's aspects.

## **2. THEORETICAL BACKGROUND**

As mentioned in previous text, paper's main research questions are focused on the nature of PME, on the practice demands regarding the knowledge and skills required for performing PM tasks and activities and finally on characteristics of institutions in (transitional) education system related to PME. Bearing this in mind, following text will be organised in three sections, reflecting the focus of research questions.

### **2.1. Project management education**

Managing projects successfully in contemporary business environment is a highly demanding job that requires a broad knowledge base, number of skills and a specific set of personal attributes. Strang (2003; in: Pant & Baroudi, 2008, pp. 124) states that managing projects successfully requires a mixture of skills including interpersonal ability, technical competencies, and cognitive aptitude, along with the capability to understand the situation and people and then dynamically integrate appropriate leadership behaviours. Due to the growing importance of PM roles in contemporary organisations, PME thus became very popular. On the other hand, above stated requirements for a successful project manager were ultimate blueprint for all education institutions to evolve while trying to offer market the best possible education of project managers and PM related roles. Both of these things led to rapid expansion of PME in the last several decades. New PM standards and certification processes are constantly being introduced, trainers and consultants produce an endless stream of PM courses and assignment tools and organisations are investing in PM training, methodologies, etc. (Thomas & Mengel, 2008, pp. 304). Despite all this, El-Sabaa (2001, pp. 1) emphasizes that there is a surprisingly little agreement among educators and training program directors of many universities and institutions on what makes a good project manager.

Today, the PME can be generally divided into (1) education being provided by universities, business schools and colleges, and (2) education being provided by professional organisations and institutions/associations. The first group is predominantly oriented on providing formal education to students through PM programmes and courses, while the latter are focused on providing professional programmes, courses, training, seminars, certification processes and methodologies for professionals and organisations. Universities, business schools and colleges, depending on country's education system, offer programmes at undergraduate, graduate and master level, doctoral programs, some form of certificate and preparation for PMI certification. Focus of PME, in the context of universities and business schools, has been on the technical skills deemed essential to achieve project success, while more difficult, 'soft' skills are put aside (Pant & Baroudi, 2008, pp. 126).

As for professional associations are concerned, two largest project management associations in the world are The Project Management Institute (PMI) and the International Project Management Association (IPMA). These two associations are globally known and are present in large number of countries:

- PMI in 70 countries, offering besides programmes and trainings, the most recognizable certifications in the world - four types of general PM certifications and four certification in specialized fields of PM, and publishes Project Management Body of Knowledge (PMBOK), most influential project management literature in the world;
- IPMA in 56 countries, offering besides programmes and trainings, certification standards, whereas its credentials are most recognizable in Western Europe (Remer & Ross, 2014, pp. 3-8).

Besides these two associations, there is a vast number of other PM associations and institutions, which are offering variety of PME.

## **2.2. Project management education in Croatia**

PME in Croatia is similar to other transitional countries, and is not resistant to inherited flaws and defects of education systems of those countries. Moreover, Croatia as a country has its own additional education system's defects mentioned earlier in the paper, which also contribute to the difficulty of educating competent PM professionals. In Croatia, PME provided by universities, business schools and colleges is relatively scarce, when considering the available PM education programmes. Besides four major and several smaller state owned universities, there is a significant number of privately owned business schools and colleges, also providing PME. Despite the fact that there is a sufficient number of state and privately owned institutions, the potential to provide PME is being used very modestly. Consequently, the education offered to the students varies from several PM focused subjects within broader management study programme to entire, predominantly graduate and master PM study programmes.

Professional side of PME in Croatia characterises the domination of PMI and IPMA, global PM associations present also in Croatia. Although dominant, their education and certification potential is also not even close to being used at the full capacity. The same can be said for various other professional organisations and consultants, which also have 'unused capacities' when PME is concerned. These insights related to scarce and/or unused offer of PME are indicating a bigger problem of the (non)recognition of the importance of PM as a profession in Croatian economy and consequently modest demand for PM professionals on the labour market.

## **2.3. Practice demands toward project management education**

Educating and preparing people for PM challenges is one thing, but real time PM situations with all of their inherent complexities and uncertainties is something significantly or even completely different. Ramazani & Jergeas (2014, pp. 41) emphasize that there is a gap between what providers are offering and what is needed to deal with projects in today's complex work environment. Therefore, stand of practice toward PME's quality is by nature 'sceptical', where this scepticism varies depending on the country's context and available PME providers. On the other hand, PME providers themselves are very diverse in their conceptualisation what PME should look like and what are the skills and attributes of an effective project manager. All this leads to an even larger gap between available PME in some countries and demands and expectation of practice from mentioned education. Generally, project manager in real time project situations needs to possess required skills, needs to have experience and to know how to use it and finally needs to demonstrate behaviours that are motivational and inspiring in order to lead its project team effectively.



If we perceive experience as something that can be predominantly gained in real work environment, what practice expects and demands from PME can be related to teachable skills and behaviours. In this sense Meredith et al. (1995; in: El-Sabaa, 2001, pp. 1) propose six skill areas: communication, organisational, team building, leadership, coping, and technological skills. Similar to just mentioned is the conceptualisation of Starkweather & Stevenson (2011, pp. 37), who are, in their listing of project manager's hiring criteria, besides formal education, PMP certification, work history, past team size, length of prior engagements and experience, emphasizing project manager's core competencies of leadership, ability to communicate at multiple levels, verbal and written skills, attitude, ability to deal with ambiguity and change, ability to escalate, technical expertise and cultural fit. Obviously, there is a clear distinction between 'hard' (technical) and 'softer' (human/interpersonal) skills in the conceptualisation of an effective project manager's skills and behaviours. As previously stated, PME, especially education provided by universities, business schools and colleges is more oriented on technical skills, which are significantly easier to teach. Even the PMBOK's Guide, a most influential PM content and blueprint for PMI's certifications, predominantly emphasizes required 'hard' (technical) skills at the expense of the 'soft' (human) skills (Gillard, 2009, pp. 727). The predominant focus of PME on technical skills is one of the major factor of mentioned scepticism of practice toward PME. Not surprisingly, according to Pant & Baroudi (2008, pp. 127), there is a growing number of those that are critical in respect to the suitability of such substantially hard approaches to PM. In this sense, Thamhain (2004; in Thomas and Mengel, 2008, pp. 308) concludes that project managers must be both technically and socially competent to develop teams that can work dynamically and creatively toward objectives in changing environments across organisational functional lines. Similarly, Pant & Baroudi (2008; in: Gillard, 2009, pp. 727) propose that effective project manager needs to possess balance between hard and soft skills, and that PM educators, especially universities, business school and colleges, needs to recognize required balance and design their education programmes accordingly. The emphasis of 'softer', social skills as being more important for an effective project manager are vivid in many recent researches. Thus El-Sabaa (2001, pp. 3-5) in his research concludes that human skills are most important for effective project manager with percentile score of 85.3%, followed by conceptual and organisational skills (79.6%) and finally technical skills, which had significantly lower percentile score of 50.46%. Related to this, Fisher (2011, pp. 999) in his research of effective people manager emphasizes skills of managing emotions, building trust, effective communications, managing others, influencing others, cultural awareness, leading other and team building. Additionally, Fisher (pp. 1001) concludes that area in which project managers need to make big improvements is the area of people management, and education is one of the crucial means in achieving these improvements. Having in mind mentioned focus of PM educators on technical skills and practice preference in favour of human/interpersonal skills, the existence of gap between educators' offer and practice' demands is all but not expected. Therefore, numerous authors, such as Crawford, 2005; Winter et al., 2006; Thomas and Mengel, 2008; Starkweather & Stevenson, 2011; etc., are sharing the opinion that current PME is not suited and does not adequately prepare managers for managing projects effectively in contemporary work environment, i.e. for what practice demands from project manager.

### 3. METHODOLOGY

In order to provide insights and answers to the main research questions posed in the paper, empirical research was conducted during mid-2016. Research populations were: (1) student population at the final year of PM study programmes or at closely related management study programmes offering several specialised PM subjects; and (2) population of project managers who hold/have undertaken some form of PME. Research instrument were two specially designed questionnaires, one for students containing 36 predominantly closed-type questions,



and the other for project managers, containing 39 predominantly closed-type questions. After collecting returned, correctly responded questionnaires, a two research samples were created, one containing opinions from 52 students, and the other containing opinions from 30 project managers (Figure 1). Collected data were processed using SPSS 23.0. and Microsoft Excel, while graphical presentation of the research results was manufactured using Microsoft Visio. In the students' research sample close to 60% were females, while in project managers' research sample both genders were equally represented. Both groups of respondents had some form of PME and project work experience. Students forming the sample were predominantly full-time students (88.46%), and more than half of them were at the age of 24 to 26, which is somewhat expected due to the fact that aimed researched sample were students at the final years of predominantly graduate level of study. When considering the age of researched project managers, more than half of them are under 40 years old (60%). This suggests that research results are very representative, given the fact that these managers are still in the career phase in which very intensive PME and specialisation needs to be undertaken. Therefore, majority of project managers forming the sample have relatively 'fresh memories and insights' concerning undertaken PME.

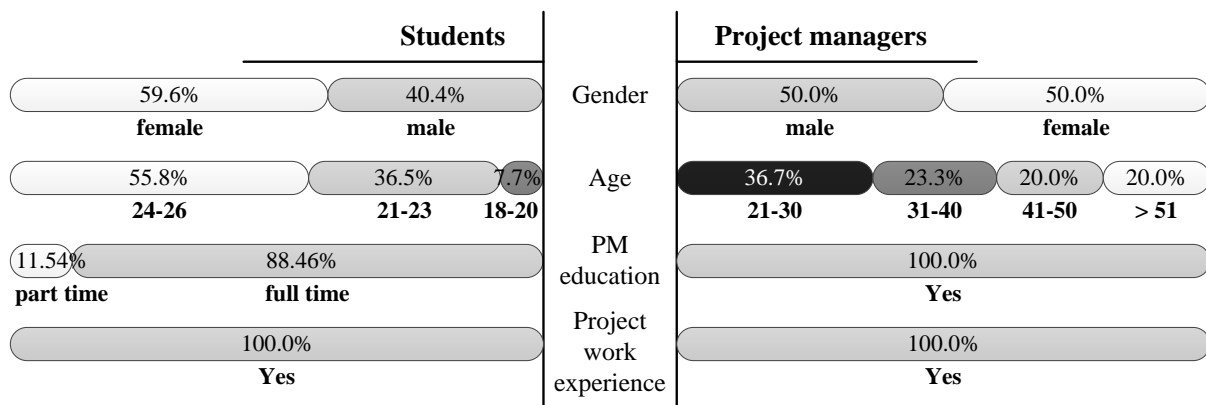


Figure 1: Research samples' main characteristics (Research results,  $N_1=52$ ,  $N_2=30$ )

#### 4. FINDINGS

The first set of questions in the questionnaires was focused on overall perceptions of students and project managers concerning PM programmes undertaken (Figure 2). On a Likert's 5 point scale, where 5 is the best and 1 the worst answer option, all five characteristics concerning PM programmes have been averagely rated below 3. It is interesting that, besides practice (project managers), students also are very critical toward PME which they are currently undertaking. Students' level of scepticism toward PME is very close to the one of the practice. Both groups gave almost lowest possible grade to sufficient amount of practical PM experiences during education and this is alarming insight for PME in Croatia. Results are not much better when considering expertise of educational staff/lecturers. Here students were more critical toward lecturers than project managers were. Three remaining characteristics gained average grades ranging between 2.5 and 3. Project managers were little more critical.

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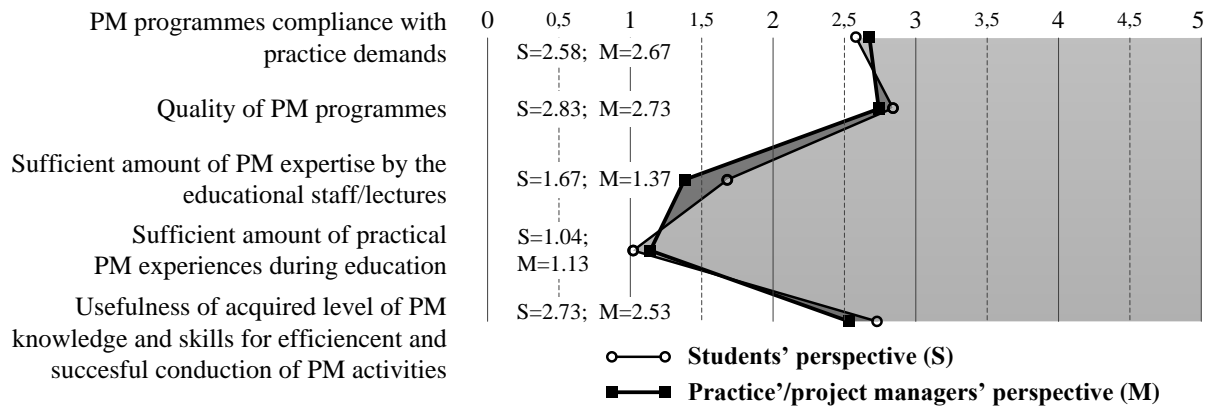


Figure 2: Students' and project managers' general perceptions regarding PME  
(Research results,  $N_1=52$ ,  $N_2=30$ )

than students were, when it comes to quality and usefulness of PME, while students are more critical concerning PME compliance with the practice demands. Presented results are suggesting that there is a wide gap between what practice expects and what even students expect from PME in Croatia and what PME in Croatia offers. This gap ranges, depending on researched characteristic, from 2.17 to alarming 3.96. More detailed investigation into structure and content of offered PME in Croatia, according to PMBOK's 9 main knowledge areas, provided additional insights (Figure 3). Satisfaction with PME's structure and content, for both students and project managers, is somewhat higher when compared to previously discussed overall perception toward PME in Croatia (Figure 2).

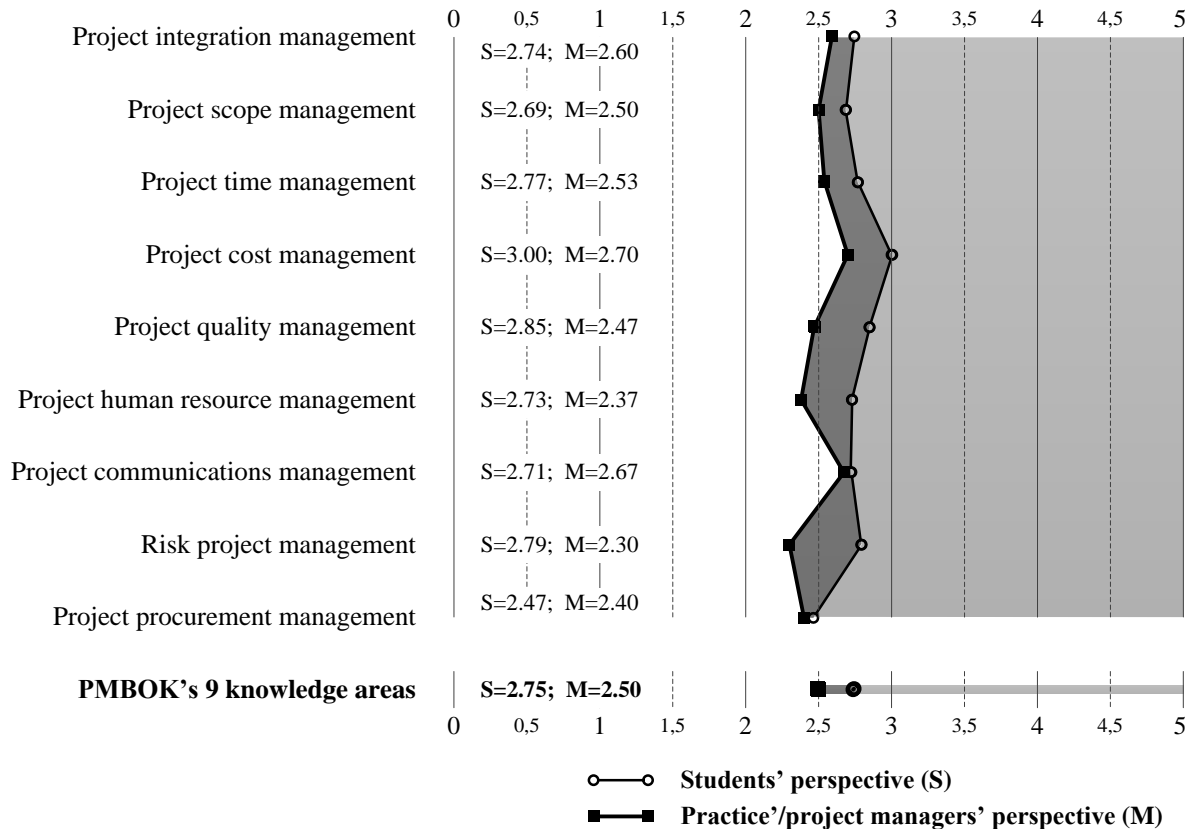


Figure 3: Students' and project managers' opinions about acquired knowledge and skills across 9 main PM knowledge areas (Research results,  $N_1=52$ ,  $N_2=30$ )

Results across PMBOK knowledge areas are ranging between low to medium level of satisfaction, i.e. between 2.3 and 3, where project managers are being significantly more critical than students. This difference in the level of criticism is evident across all knowledge areas except project procurement and communications management, where there is not much difference in attitudes. When considering all 9 knowledge areas in total, the difference in attitudes of students and project managers is 0,25, i.e. students are at medium level of satisfaction with undertaken PME, while for project managers level of satisfaction with offered PME is somewhere between low and medium. The areas which are graded slightly better are project cost, integration and time management. Nevertheless, results presented on Figure 3, similar to those on Figure 2, are revealing the magnitude of available space for not only necessary but urgent improvements (shadow and dark shadow area). The improvement space on Figure 3 ranges from 2 to astonishing 2.7.

When asked to pinpoint exact flaws and defects in PME undertaken/received, students and project managers were very straightforward in their opinions (Figure 4). Both groups of respondents denoted practical experience as a major problem in PME in Croatia. Namely, they (students and project managers) object PM educators for not providing opportunities during education for them to gain some form of practical experience of working on and managing projects. This objection is far more emphasized by both groups of respondents than any other objection, i.e. emphasized as main objection by 60% of students, and by 67% of project managers. Additional objections raised by students were defects in lectures' organisation (17% of students) and incompliance with market demands (9% of students). Smaller number of project managers (17% of them) emphasized the problem of insufficient lecturers' expertise. Other objections have been emphasized in a much smaller degree.

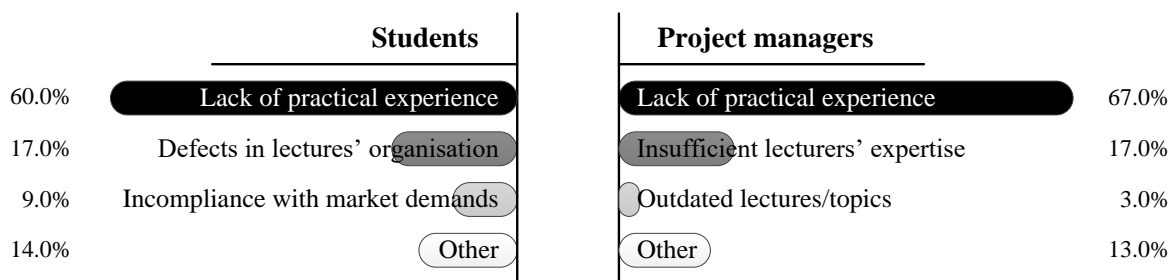


Figure 4: Students' and project managers' opinions about main defects in existing PM study programmes (Research results,  $N_1=52$ ,  $N_2=30$ )

Insights on what was especially useful for students in their PME and what project managers especially appreciate when hiring PM professionals are shown on Figure 5. Following previously presented results, none of students had emphasized practical experience as a useful resource they have received during their PME. 35% of students share the opinion that theoretical knowledge is the most useful resource they have received, 28% of them emphasizes teamwork experience, while 26% are pessimistic and emphasize mere infrastructural access to resources/databases as the most useful gain related to their PME. On the other hand, when it comes to PM professionals, project managers especially praise their analytical skills (30%), followed with praise for practical experience and adaptation to new situations (10%). Managing people and organisational skills are also important to project managers (7%). These results suggest that project managers expectations and student opinion of usefulness are somewhat matched, having in mind that theoretical knowledge and teamwork experience highly contribute to the development of analytical skills and in a significant amount to the development of adaptation, managing and organisation skills.

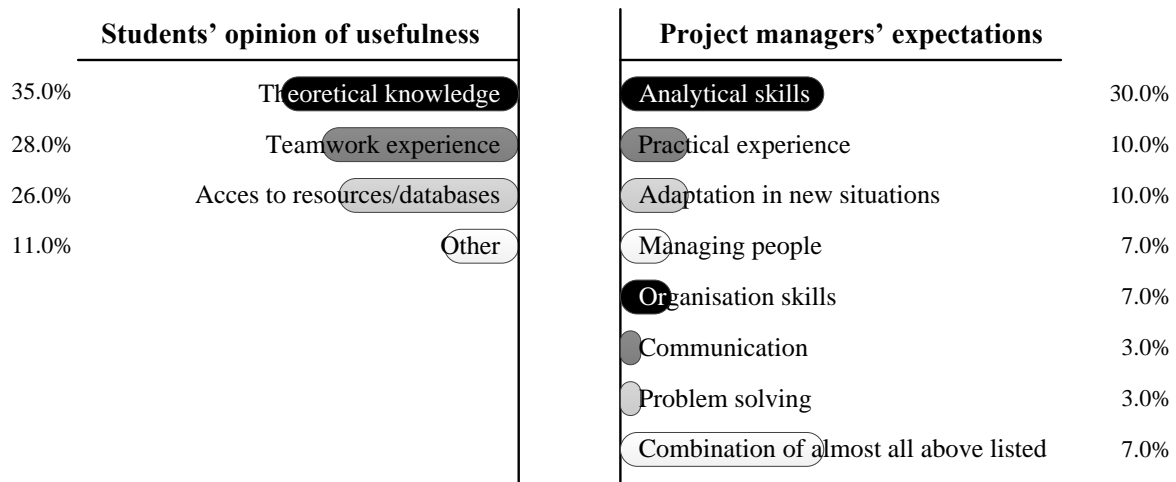


Figure 5: PM study programmes - Comparison of students' opinion of usefulness and practice'/project managers' expectations (Research results,  $N_1=52$ ,  $N_2=30$ )

Finally, when asked about the quality of specific PM educators, both groups of respondents predominantly choose privately owned instead of state owned institutions, especially professional associations like PMI and IPMA, associated with certification and professional training (Figure 6). These kind of educators, together with private specialized business schools, are considered being better in providing quality PME primarily because of better designed education's content (42% and 37%). Project managers also emphasize better lecturers (23%), individual (13%) and more practical approach (10%) on privately owned institutions, while students are also praising more practical (12%) and individual approach (11%).

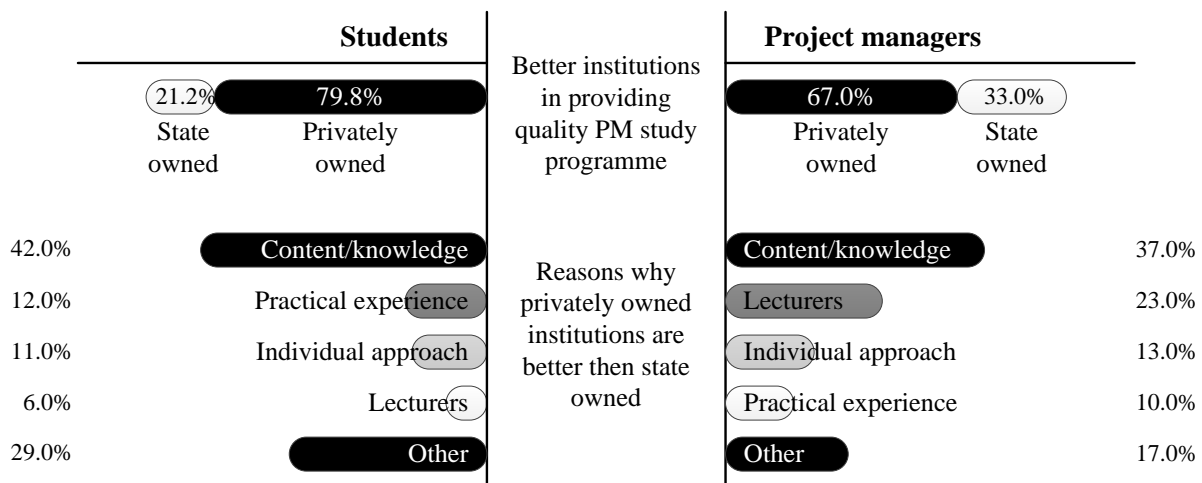


Figure 6: Comparison of privately owned and state owned institutions in providing quality PM study programmes (Research results,  $N_1=52$ ,  $N_2=30$ )

## 5. CONSLUSION

The research conducted in this paper has emphasized all the flaws and defects of transitional economy's educational system, especially when highly practically oriented body of knowledge, like project management, is concerned. The obtained results provided insights and answers on all research questions posed in the paper. Namely, the exact flaws and defects of PME in typical transitional economy, like focusing on teaching theoretical knowledge, fostering mere memorisation of facts and information and chronical lack of practical experiences during PME, were pinpointed.

The discrepancy between PME programmes and practice expectations, as expected, exists in an alarming amount and demands immediate undertaking of improvements in variety of education aspects. Finally, results have shown that state owned PM educators fall behind those privately owned in adjusting to demanding PM practice. In this sense, professional institutions and associations such as PMI and IPMA enjoy significantly higher level of reputation in the eyes of PM practice, when compared to privately owned and especially state owned universities, business schools and colleges. Reflecting on contemporary work environment, relevant PM literature ever more calls for new approaches and significant improvements in PME in even most advanced educational systems, like those of Western Europe and North America. The results presented in this paper suggest that PME in transitional economies like Croatia, are facing huge challenges just to get close to current state of mentioned most advanced education systems. From current point of view, to be a flagship in PME, PM educators in Croatia need to take a radically different approach of educating young people how to become effective project managers.

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## INDIVIDUAL DIFFERENCES AND DECISION MAKING STYLES AMONG UNIVERSITY STUDENTS

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### ABSTRACT

*Decision making is a process which characterizes every human being. The daily life of every individual contains many moments when easier or harder decisions need to be made. Without making decisions, we cannot live, develop ourselves or make achievements. Many researchers have acknowledged that individuals have habitual tendencies to approach various problems in consistently similar ways, meaning that every individual has a unique approach to decision making. These approaches or decision making tendencies are defined as decision making styles and they represent individual differences among people (decision makers). The purpose of this paper is to explore individual differences and decision making styles among young adults – university students. The paper primarily examines the relationship between demographic and psychological characteristics of university students and individual decision making styles. The sample is comprised of 77 Croatian university final year students at the Faculty of Economics at the University of Split. Due to the wide application and confirmed validation of the General Decision - Making Style (GDMS) test, developed by Scott & Bruce (1995), this test is used as the focus of this survey. The results revealed that; females are more intuitive and spontaneous in decision making than males; older students were less prone to use avoidant style in decision making; degree graduate students were more rational in decision making than professional graduates; students with work experience were more prone to a rational, intuitive and avoidant decision making style; student with external locus of control showed great propensity to avoidant and dependent decision making style; risk prone students showed tendency toward rational decision making style and those students with higher achievement desire preferred spontaneous decision making style. Considering decision making styles and outcomes of their own decisions, students with a rational style were the most satisfied ones. Following them were students who preferred intuitive and avoidant decision making style, while students characterized by spontaneous style were the least satisfied with the outcomes of their own decisions. Finally, discussion of research results and limitations of study with reference to future research directions are provided.*

**Keywords:** *Individual differences, Decision maker, Decision-making style, General decision-making style test*

### 1. INTRODUCTION

Decision-making can be defined from a number of different perspectives. The two most common are the procedural aspect which describes decision-making as a process of identifying the problem and options of its solution, while the state aspect defines decision-making as an act of choice between several potential options (Buble, 2006, pp. 143). This research focuses on

the procedural aspect, precisely on the decision making process. Decision making is a fairly complex process taking part in numerous business and private situations and scenarios. It is actually the process which characterizes every human being because without making decisions, we cannot live, develop ourselves or make achievements. It is an important aspect of every daily activity of an individual. Namely, the daily life of every individual contains many moments when easier or harder decisions need to be made. Many researchers have acknowledged that not all decisions are made in the same manner, and that each person approaches the decision making process differently. These approaches or decision making tendencies or processes that individuals follow when making decisions are defined as decision making styles. According to many empirical studies, researchers indicated that decision making styles differ among individuals and basically represent the manner in which every person gathers and makes sense of the gathered information, as well as considering the possible alternatives where the decision that needs to be made is concerned (e.g. Saidur, Rahaman, 2014; Albert and Steinberg, 2011; Scott and Bruce, 1995). Based on this conception, the process involved in making decision can be defined as decision making style (Davids, Roman and Leach, 2016).

Because it is crucial to understand how individuals approach decision making, it is not just enough to understand and to analyse individual decision styles in isolation. According to situation, type of the decision-making problem, characteristics of identification and problem-solving, and interaction with others in realization of certain activities, decision-makers use different decision-making styles. As human beings we approach various decision situations differently. Therefore, it is essential to understand what variables might contribute to these differences. Recent researchers make an effort to emphasize the importance of paying requisite attention to deepen our understanding about individual differences in decision making style (e.g. Weber and Morris, 2010; Appelt et al., 2011; Harman, 2011; Bruine and Bruin et al., 2012; Connors et al., 2013). Connors et al. (2013) explained that it is of great importance to hold close to the thought that it is not just who is making a decision that matters, but also, the situational and conditional factors that impact on how the process of decision making discloses. Given these considerations, the overall purpose of this paper is to illustrate and discuss decision making styles among young adults – university students. The main research goal is to explore individual differences and decision making styles of graduate students at the University of Split, Croatia. Accordingly, the research question is focused on the relationship between decision making styles and personal characteristics (individual demographic and psychological characteristics).

## **2. LITERATURE REVIEW**

### **2.1. Decision-making styles**

Decision-making style comprises the existence of differences among individuals in terms of how they make decisions, as well as how the same person makes decisions in accordance to the nature of a decision and the particular circumstances (Stewart, 1998, pp. 72). Decision-making style has been defined as a habitual pattern of individuals used in decision making, or individuals' characteristic mode of perceiving and responding to the decision-making tasks (Scott and Bruce 1995, pp. 818-819). It is not considered as a personality trait, but a habit-based propensity to react in a certain way in a specific decision context (Scott and Bruce 1995, pp. 820). Decision-making styles are often distinguished in the manner in which the decision-makers gather information concerning the decision that needs to be made, as well as in the way in which they consider the possible alternatives in resolving the conflicting situation to make a decision (Davids et al., 2015, pp. 70). Although individuals tend to use a specific decision-making style or styles more often than others, and possess a preferred, dominant style,

individuals may adapt their decision-making style according to a given situation (Pennino, 2002). The significance of decision-making style is especially evident in the fact that it reveals certain characteristics and propensities of the decision-maker. Individuals differ in their methods of selecting solutions and in the level of satisfaction with their choice. Ideally, decision-making style could help in the general distinction of good and bad decision-makers. Numerous decision-making styles classifications have been developed over time. They differ in dimension which determine a specific decision-making style and in the number of styles. The most accepted and commonly used classification of decision making styles, in this area of research, is the one developed by Scott and Bruce (1995). The authors upgraded the existing Harren's model which distinguishes among three decision-making styles – rational, intuitive and dependent – by adding an extra two styles – spontaneous and avoidant. The characteristics of each style are as follows:

- 1) *Rational decision-making style* is determined by thorough search for alternatives and their logical evaluation with the goal of identifying the best possible among them.
- 2) *Intuitive decision-making style* is characterized by paying attention to details and reliance on feelings. The decision-maker greatly relies on intuition, instincts and hunches.
- 3) *Dependent decision-making style* is a trait of persons who search for others' advice and rely upon their guidance and direction during decision-making. Before making the decision, they try to gain support from other persons.
- 4) *Avoidant decision-making style* represents proneness to avoid or postpone the decision-making as long as possible.
- 5) *Spontaneous decision-making style* is characterized by a feeling of urgency and trying to complete the decision-making process as soon as possible. The decision-making is approached rapidly and impulsively.

This categorization of decision making styles is most often represented in relevant literature in the decision making research area. Scott and Bruce (1995) have developed an instrument, called General Decision-Making Style (GDMS), to determine affiliation to one of the identified styles. This instrument has been extensively used in studies on decision making behaviour (C. del Campo et al., 2016). It consists of 25 statements, of which 5 suggest propensity to each of the five styles. The participants grade their agreement with each statement on a 5-point scale, and the higher grade means more expressed affiliation to that style. Finally, a person is best characterized by the style to which s/he is most significantly prone according to the cumulative score.

In this research, the decision-making style classification developed by Scott and Bruce was the focus. The reasons for choosing this classification lie in the simplicity of determining the affiliation of a person to a particular style, as well as the degree of expression of the style. In addition, most of the recent decision-making styles research has used this classification which enables easier comparison of the results and conclusions.

## **2.2 Individual differences**

### **2.2.1 Demographic characteristics and individual decision-making style**

Demography as a discipline studies numerical and spatial distribution of the population, natural and mechanic population trends (migration), and alterations in demographic, socio-economical and other population structures. Demographic analysis may refer to societies in whole or different groups defined by criteria such as education, nationality, religion, ethnicity, age, sex etc. The research described in this paper focuses on empirical test of a connection between decision-making style and chosen demographic characteristics – sex, age, work experience and type of study.

*Sex* represents a person's biological, physiological and physical attributes which differentiate a man from a woman. It is chosen in this research instead of gender, which is a social construct, as it is invariable since birth, is not culturally specific neither alterable in time and space. *Age* is a demographic determinant related to the number of years passed since a person was born. *Work experience* comprises a period of time a person has spent working employed full-time or part time, as a volunteer or student. Since Croatian law does not allow regular students to work full-time, the research distinguishes students who have done any of these kinds of work from the students completely lacking work experience. *Type of study* differentiates degree graduate students taking part in university programs from the students enrolled in professional studies, typically in a college or Polytechnic.

### **2.2.2. Psychological characteristics and individual decision-making style**

Psychological research into the decision-making process has resulted in descriptive theories, explanatory theories and prescriptive models (Stewart, 1998, pp. 56). Descriptive theories make an effort to interpret cognitive, affective and behavioral processes through which an individual goes whilst making a decision, while explanatory theories try to control the identified processes, conduct or even anticipate them. Prescriptive models advise on the ideas which should improve an individual's decision-making process. In this paper, dependence on a chosen set of psychological traits and decision-making style was tested. Those psychological characteristics will be explained in the following paragraph.

*Locus of control* is a concept which reflects individuals' beliefs whether what happens to them is causally determined by their own decisions and behaviour, and is considered as a personality trait (Cobb-Clark, 2015, pp. 2). Persons with internal locus of control believe those occurrences to be a direct consequence of their own actions and behavior, while individuals with external locus of control see life events as a matter of luck and coincidence. *Risk propensity* is considered an individual characteristic that influences person's actions. Simply stated, decision makers who enjoy the challenge that risks entail will be more likely to undertake risky actions than those who do not (Sitkin and Pablo, 1992, pp. 12). As a result of multiple years of research, Sitkin and Pablo (1992, pp. 16-18) have identified three determinants of risk propensity: risk preferences (approach and reaction of an individual to risk), inertia (usual or routine way of acting in a risky situation) and outcome history in risk-related situations (decision-makers who were successful in previous situations when they chose risky actions will be more prone to taking risk in the future). *Achievement desire* implies internal and external motivators which stimulate an individual to action, ability to initiate and persevere in a task, as well as devoting great levels of effort, energy and concentration in its achieving. *Self-perception of own decisions quality* has been chosen due inexistence of standard measures of decision and decision-making quality. The interviewees have been asked to self-evaluate their decisions in three categories: (a) general decision quality (subjective attitude of an individual towards quality of made decisions); (b) positive decision-making result (belief that the chosen option has accomplished the aimed result and goal); and (c) retrospective regret for chosen option (if an individual believes a more positive outcome could have been made by choosing another decision-option). The last category is contrary to the first two which means its higher grade implies less quality decision. These three measures assist in computing a synthetic indicator of self-perception of one's decisions, whereas higher grades in general decision quality and positive decision-making result make the total score higher, while a higher grade of retrospective regret impacts the total result negatively.

### 3. METHODOLOGY

The main objective of this paper is to explore individual differences and decision making styles among young adults – university students. Following the literature review, the ensuing research question and two main Hypotheses emerged as a result:

*Research question:* What is the relationship between the demographic and psychological characteristics of university students and their decision making styles?

*Hypothesis 1 - There is a relationship between demographic characteristics and decision making styles among university students.*

*Hypothesis 2 - There is a relationship between psychological characteristics and decision making styles among university students.*

The aims of the aforementioned hypotheses are to see whether some of the demographic and psychological characteristics of the individual can trigger the use of decision making styles. To do the required analysis the following variables were included in the study:

A) *Decision making styles*- Due to the wide application and confirmed validation of the General Decision - Making Style (GDMS) test, it is used as the focus of this survey. It consists of 25 items which correspond to 5 different decision making styles: rational, intuitive, dependent, avoiding and spontaneous. Each style is measured with 5 items with a Likert response format. A higher score on the Likert five scale indicates a higher presence of a particular decision making style.

Decision making styles are influenced by many factors. These factors are most often classified into three basic categories: organizational, individual and environmental factors. Individual factors are traits that differ among individuals and consequently affect their decision-making process. They are divided into demographic and psychological factors.

B) *Demographic characteristics* – Selected demographic characteristics are *gender, age, work experience and type of study*.

C) *Psychological characteristics* – In this research the following psychological characteristics are considered: *risk attitude, locus of control, achievement desire, and self-perception of own decisions quality*.

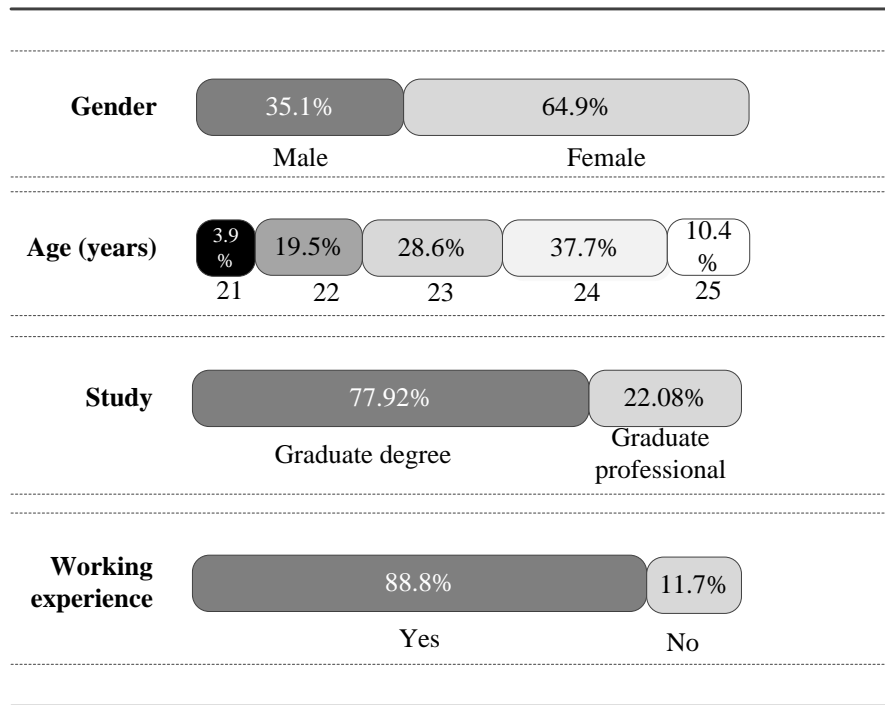
To collect data, a questionnaire was used as the main research instrument. The sample comprises 77 Croatian final year students at the Faculty of Economics in the University of Split. The statistical processing of gathered data was made on a PC using Excel and SPSS software for data processing.

### 4. FINDINGS

As presented in Figure 1, the research sample is dominated by female students (64.9%) as opposed to male students (35.1%), which is very interesting, since female and male students are at least equally represented in Croatian higher institution study programs. The majority of students were aged between 24-25 years which is expected since this research was targeting the final year of studying. 77% students are graduate degree students. This can be explained by the higher number of enrolled students in this type of study at the Faculty of Economics in Split, as well as with their greater motivation for participation in research. It is very admirable that the majority of students had some work experience. That will be of great help when they complete their studies and enter the labour market. So, it can be concluded that they are proactive and they are trying to link theory with practice.



Figure 1 – Demographic characteristics of the students from the research sample



Source: Research (N = 77)

Table 2 presents the distribution of decision making styles among final year students. Evidently, the majority of respondents are prone to the use of the intuitive decision making style when making decisions. Thus, decision makers show a great tendency towards their reliance on feelings and paying attention to details compared to other decision making style characteristics.

Table 2 - Decision making styles

Decision making style	Presentage (%)
Rational decision-making style	28,6
Intuitive deciison making style	50,6
Dependent decision-making style	11,7
Avoidant decision-making style	7,8
Spontaneous decision-making style	1,3
<b>TOTAL</b>	<b>100,0</b>

Source: Research (N = 77)

In order to evaluate posed hypotheses and to examine whether there a statistical significant relationship between individual characteristics and decision making style, the Chi Square test and Man Mann-Whitney U test were computed.

Firstly, results for demographical characteristics and corresponding results for Chi Square test are presented in Table 3.



Table 3 – Relationship between demographic characteristics and decision making styles

Chi Square	
Gender and decision making styles	$\chi^2^* = 4,114$ 0,391
Age and decision making styles	$\chi^2^* = 23,682$ 0,045
Work experience	$\chi^2^* = 9,832$ 0,043
Type of the study	$\chi^2^* = 30,697$ 0,000

Note: Statistically significant differences were determined on the confidence level of 95% and 90%.

Source: Research (N = 77)

As seen from Table 3, there is statistically significant difference in students' decision making styles with regards to their age, work experience and type of study ( $p < 0,05$ ), but not with regards to gender ( $p > 0,05$ ). Namely, results in Table 3 show a statistical significant difference in students' decision making styles considering their four demographic characteristics. These results are additionally strengthened with the Man Mann-Whitney U test, the results of which are presented in Table 4 which indicates which style (among five of them) is preferred regarding students demographic characteristics. As it can be seen when it is about gender, more detailed analysis show that there is statistically significant differences in preferences for the use of intuitive and spontaneous decision making style. But, contrary, statistical significant difference is not confirmed for the remaining three decision making styles. Namely, as seen from the table 4, the expressed decision making style categories for which a statistically significant link to gender was identified suggest that female are more prone to an intuitive and spontaneous decision making style. This confirmed the expectations that women are more intuitive in general compared with the man.

Table 4- Relationship between demographic characteristics and five decision making styles

	<i>Rational decision-making style</i>	<i>Intuitive decision-making style</i>	<i>Dependent decision-making style</i>	<i>Avoidant decision-making style</i>	<i>Spontaneous decision-making style</i>
<i>Gender and decision making style</i>					
Mann-Whitney U	557,000	486,500	650,000	634,000	399,500
Sig.	0,206	<b>0,041</b>	0,789	0,661	<b>0,003</b>
<i>Type of the study and decision making style</i>					
Mann-Whitney U	172,500	492,000	225,500	174,000	160,000
Sig.	<b>0,000</b>	0,823	<b>0,000</b>	<b>0,000</b>	<b>0,000</b>
<i>Work experience and decision making style</i>					
Mann-Whitney U	94,000	78,000	196,000	183,000	225,500
Sig.	<b>0,001</b>	<b>0,000</b>	<b>0,080</b>	<b>0,050</b>	0,198

Note: Statistically significant differences were determined on the confidence level of 95% and 90%.

Source: Research (N = 77)

Furthermore, the expressed decision making style categories demonstrated that university programs students compared with students enrolled in professional studies were more inclined to a rational and less inclined to a dependent, avoidant and spontaneous decision making style. The initial expectation for a greater tendency towards a rational decision making style among university students was confirmed.

Also, according to the expressed decision making styles categories, it was suggested that students with work experience are more prone to a rational, intuitive and avoidant decision making style. This was in opposition to initial expectations that students with work experience are less inclined to the avoidant and dependent style. These conclusions need to be considered with caution because of significant differences in sample size given that students with work experience were seven fold greater in number. An additional limiting factor was the far lesser number of students with an avoidant and especially with a spontaneous decision making style.

Therefore, according to the presented results in table 3 and 4, it can be stated that first hypotheses could be partially accepted.

The correlation coefficient between the expressed individual decision making style and age of respondent are shown in Table 5. The data show that there was no statically significant relationship between age and rational, intuitive, dependent decision making style whereas avoidant and spontaneous decision making style showed a statically significant negative relationship. Therefore, it can conclude that characteristics of avoidant and spontaneous decision making style are less represented among older respondents.

*Table 5 - Correlation between age and decision making styles*

<i>Decision making style</i>	<i>Coefficient</i>	<i>Sig.</i>
Rational decision-making style	0.099	0.391
Intuitive decision making style	-0.115	0.320
Dependent decision-making style	-0.172	0.134
Avoidant decision-making style	<b>-0.316</b>	<b>0.005</b>
Spontaneous decision-making style	<b>-0.189</b>	<b>0.099</b>

*Note: Statistically significant differences were determined on the confidence level of 95% and 90%.*

Source: Research (N = 77)

The aim of the second hypothesis is to prove the existence of a statically significant relationship between the decision making style and chosen individual psychological characteristics. Proving the differences in expressed decision making styles among students considering chosen psychological characterises was carried out with the Mann-Whitney U-test. The presented results in Table 6 indicate that when concerning the locus of control, there were statically significant differences among students with expressed avoidant decision making style.

*/Table following on the next page*

Table 6 - Relationship between psychological characteristics and five decision making styles

	<i>Rational decision- making style</i>	<i>Intuitive decision- making style</i>	<i>Dependent decision- making style</i>	<i>Avoidant decision- making style</i>	<i>Spontaneous decision- making style</i>
<i>Locus of control and decision making styles</i>					
Mann-Whitney U	562,000	568,500	498,500	443,500	584,500
Sig.	0,336	0,369	<b>0,098</b>	<b>0,024</b>	0,473
<i>Risk propensity and decision making styles</i>					
Mann-Whitney U	579,000	613,500	671,500	673,500	680,500
Sig.	<b>0,099</b>	0,191	0,483	0,497	0,541
<i>Achievement desire and decision making style</i>					
Mann-Whitney U	610,500	495,000	609,500	566,000	448,500
Sig.	0,907	0,155	0,898	0,539	<b>0,053</b>

Note: Statistically significant differences were determined on the confidence level of 95% and 90%.

Source: Research (N = 77)

The average categories suggest that students with external locus of control are more prone to an avoidant and dependent decision making style. This confirms initial expectations. Testing the differences in expressed decision making style among students with different risk propensity results showed that statistically significant differences exist where rational decision making style is concerned, but the difference is not a strong one. So, students who are risk prone have tendencies towards a rational decision making style. Furthermore, test results indicated that there were no statistically significant differences in expressed decision making styles among students with greater or lesser achievement desire when considering 4 decision making styles except for the spontaneous one.

Furthermore, the existence of the dependence between decision making style and self-perception of one's own decisions quality was tested using a synthetic variable consisting of three categories: general decision quality; positive decision making results and retrospective regret for the chosen option. These three measures assist in computing a synthetic indicator of self-perception of one's decisions, whereas higher grades in general decision quality and positive decision-making result make the total score higher whilst a higher grade of retrospective regret impacts the total result negatively. Therefore, firstly the differences in each category and afterwards the synthetic indicator of self-perception of one's decisions quality were tested using the Kruskal-Wallis test.

Table 7 - Kruskal Wallis test for self-perception of one's decisions quality

<i>Self-perception of one's decisions quality</i>	<i>General decision quality</i>	<i>Positive decision – making results</i>	<i>Retrospective regret for chosen option</i>	<i>Total quality</i>
Chi Square	5,610	10,506	7,723	14,317
Sig.	0,230	<b>0,033</b>	0,102	<b>0,006</b>

Note: Statistically significant differences were determined on the confidence level of 95% and 90%.

Source: Research (N = 77)

Results suggested that students with a greater tendency toward a rational decision making style are the ones that are the most satisfied with the outcome of their own decisions. Following them are students with an intuitive, dependent and avoidant decision making style, while students characterized by a spontaneous decision making style are the least satisfied with their own decision making quality. Considering the above results, the second hypothesis of this paper was also partially accepted.

## 5. CONCLUSION

The main objective of this paper was to explore individual differences and decision making styles among young adults – final year university students. The relationship among five decision making styles and chosen demographic and psychological characteristics was empirically tested. The main research question was positively answered and the two posed hypotheses were partially accepted. Namely, the research results showed that the majority of students were prone to the use of the intuitive decision making style when making their own decisions. When considering demographic characteristics of respondents, results showed that females were more prone to an intuitive and spontaneous decision making style compared to males; university program students compared with students enrolled in professional studies were more inclined to a rational and less inclined to a dependent, avoidant and spontaneous decision making style. Results also revealed that older students were less prone to use an avoidant and spontaneous decision making style in decision making; students with work experience were more prone to a rational, intuitive and avoidant decision making style. When considering psychological characteristics of respondents, results revealed that students with external locus of control showed great propensity to an avoidant and dependent decision making style; risk prone students displayed a tendency towards a rational decision making style and those students with higher achievement desire preferred a spontaneous decision making style. Considering decision making styles and outcomes of their own decisions, students with a rational style were the most satisfied ones. Following them were students who preferred an intuitive and avoidant decision making style, while students characterized by a spontaneous style were the least satisfied with the outcomes of their own decisions. There are a number of limitations to this research. The main one is addressed to the research sample. In terms of being able to do make more general conclusions of the research findings, a more varied population and wider sample should be implemented. However findings of this study will be useful for current and future students. Further studies could attempt to examine some other individual variables (widen the number of variables in each categories) as well as involve a greater number of universities in our country and some other countries, in order to have better and deeper understanding of the relationship between individual characteristics and decision making style.

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## THE IMPACT OF SANCTIONS ON CZECH ECONOMIC RELATIONS WITH RUSSIA

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### ABSTRACT

*Our contribution deals with the impact of economic sanctions imposed on the Russian Federation by the European Union, the USA and other developed countries from the beginning of 2014. As a member of the European Union, the Czech Republic was one of the countries that introduced sanctions. These were supposed to affect the economic relations between both economies. We generally recognize three channels by which the sanctions can affect the Czech economy – a decline in exports and outflow of FDI to Russia, a drop in the inflow of investment from Russia and a decrease in number of Russian tourists in the country. It was often argued that the Czech economy depends on exports to Russia, especially exports of mechanical engineering products, which at least partially balanced huge imports of Russian oil and gas. At the same time, there has been supposedly strong inflow of Russian foreign direct investment into the Czech economy, even though the Russian official FDI inflows are declared as negligible. In addition, the Czech Republic has also benefited on a long-term basis from the influx of Russian tourists. Recent political events as well as the decline of the Russian economy may have led to disruption of such economic relations between both countries. For this reason, we aim to provide a complex analysis of the dependence of the Czech economy on the Russian one and the impact of sanctions on mutual relationship. Our analysis will be primarily descriptive, due to nearly total absence of credible data about real Russian investment in the Czech Republic.*

*We found that there was a possible small direct impact of the sanctions on specific Czech exports. Otherwise the impact is highly questionable.*

**Keywords:** *Economic sanctions, exports, FDI, Russian Federation, tourism*

### 1. INTRODUCTION

In 2014, and as a consequence of the Crimean crisis, major Western economies, including the whole European Union, imposed economic sanctions on the Russian Federation. Subsequently, Russia responded by introducing retaliatory measures. Immediately, serious worries about the impact of the Russian sanctions on the Czech economy appeared. In reaction, a number of Czech politicians started to call for the sanctions imposed on the Russian economy to be lifted, so that the Russian side would also withdraw their anti-sanctions.

The goal of this paper is to determine whether the sanctions had any real impact on the Czech economy. In specific, there can be seen a direct impact of the sanctions on Czech exports (foremost food and animals stuff), as well as in some way on the Czech FDI to Russia. The other influences are indirect – via other channels. Decline in mutual trust and increase in political risks could have impact on the inflow of the Russian FDI in the Czech economy and on the arrival of Russian tourist. However, we must emphasise that all these channels were affected by parallel economic crisis in Russia, decline in price of oil and huge depreciation of the Russian rouble.



The recession has caused a fall in the Russian GDP per capita from \$15.553 in 2013 to \$14.374 in 2014 and then to just \$9.503 a year later. Private consumption and investment declined by 9.8% and 9.9% respectively in the last year. Inflation has even climbed to 15.5% (*Focus Economics*, 1.8.2017). However, economic sanctions imposed on the country after its taking power over the Crimean region were just one of the causes of the great fall of the Russian economy. And according to the IMF, much more harmful to the performance of the economy, depending on the export of raw materials, were oil prices, which began to crash in 2014 (*CNN*, 19.5.2017). In line with the collapse in oil prices, the course of the rouble developed as well. Its slump was so marked that in March 2016 the rouble was more than 50% weaker than in July 2014. In the first months of 2017, however, the Russian currency strengthened considerably (Bloomberg, 2017).

The structure of the paper reflects the above mentioned channels and it is organized as follows. First of all, we sum up the introduction of economic sanctions and other restrictive measures on the economic relations with the Russian Federation. The next section deals with the mentioned drop in trade between the Czech Republic and Russia. Then we move to the analysis of the movement of FDI into and out of Russia and to the influx of Russian tourists into the Czech Republic. The last section presents conclusions of our research.

## **2. THE IMPLEMENTATION OF ECONOMIC SANCTIONS ON THE RUSSIAN FEDERATION**

Since March 2014, a wide range of sanctions has been imposed against the Russian Federation in response to the annexation of Crimea and the subsequent political crisis in the area. Apart from diplomatic and individual restrictive measures which involved assets freezing and travel restrictions<sup>1</sup>, a number of restrictive measures affecting economic relations between the European Union and Russia have been adopted. Specifically, these were economic sanctions, restrictions on economic relations with Crimea and Sevastopol and restrictions on economic cooperation (European Council, 7.8.2017). The Russian government did not hesitate and in July 2014 responded in the form of an embargo on a wide range of food products proceeding from the EU, Norway, the USA, Canada, Australia and other countries. This measure included various types of food, e.g. to fresh vegetables and fruit, dairy products and meat (*BBC*, 15.9.2014). The sanctions imposed by the Russian side, therefore, mainly concerned agricultural products. In mid-2017, Vladimir Putin announced a renewed sanction until December 31, 2018. It was a response to the renewal of restrictions by the European Union (ČTK, 30.6.2017). Already at the time of the introduction of the sanctions, voices calling for their elimination began to appear warning against negative impact of the sanctions on both sides. Some of them even predicted catastrophic consequences for the Czech economy. For example, František Masopust, the Chief of the Chamber of Commerce with the CIS countries, presented his views:

The negative effect of sanctions will grow. It will actually take effect in the foreseeable future. Already in 2015, Korean, Chinese and Brazilian players will appear on the Russian market, which has been abandoned by Czech and European companies due to sanctions. We know the Russians are looking for a replacement for us, and they found it. (...) The sanctions do not solve anything that will not bring any good. And even to those who introduce them. To a greater extent, from the sanctions suffer countries which, like the Czech Republic, have close business relations with Russia. Yes, someone can say, "But what, we deliver to Russia only 5% of the total export volume." But no one has calculated how many of the huge volumes of Czech supplies in the European Union result in the Russian market.

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<sup>1</sup>These restrictions concerned mainly the branches led by powerful political elite close to Vladimir Putin, such as Russian state finances, the arms industry and the energy sector (*BBC*, 15.9.2014).

No one has figured out how many German companies are buying our parts for their equipment, which is then exported to Russia. And the reduction of this German export is a real blow even for the Czechs (Hlas Ruska, 14.11.2014).

Similarly, Ivan Mládek, the then Minister of Industry and Trade and a member of the Social Democratic Party, and other Czech politic leaders, advised on the possible loss of up to thousand jobs due to a decline in mutual trade. However, the biggest concerns at the time were the possible Russian restrictions on their export of oil and natural gas, which they could throw away in retaliation (*Echo24*, 31.7.2014). The Association of Exporters even predicted the loss of 30 to 40 thousand jobs and also announced the return of the EU and the Czech Republic to the recession in the event of a break in oil supplies (*idnes.cz*, 18.3.2014). Potential risks for Czech companies were also linked to the outflow of the Russian capital from the country and the possibility of nationalization of foreign companies by the Russian government. In terms of tourism, analysts predicted the disappearance of about 20 thousand jobs if the volume of Russian tourists in the Czech Republic dropped by a half because of the sanctions. This mainly regarded accommodation staff. Significant drop in revenues in Prague and the Carlsbad Region was also expected (*idem.*). Later on, Mládek pointed out that the trade with Russia is based on mutual trust, which has been greatly overthrown by these restrictive measures. As a result, all trade with the Russian Federation, not only goods subject to Russian retaliatory measures, is likely to be damaged (e.g. *Parlamentní listy*, 20.10.2016).

### 3. THE DROP IN TRADE BETWEEN THE CZECH REPUBLIC AND RUSSIA

In spite of significant historical trade relations between Czechoslovakia and the Soviet Union, after the collapse of the COMECON market, the trade between the successor states of both political groups was significantly reduced. After the fall of Communism, Czech trade was fully redirected to Western markets, especially to the European Union market, which absorbed 83.3% of Czech exports (Czech Statistical Office, 2016). Russia became a relatively small partner. The relative importance of the Russian Federation as a trading partner<sup>2</sup> started to decrease even further, since 2013, and especially 2014, the volume of mutual exchange in absolute terms began to decrease significantly (see Table 1). On the other hand, in 2015, the Czech Republic participated in Russian imports by 1.7% and absorbed 1.2% of Russian exports (Observatory of Economic Complexity, 2017). The Czech Republic's current account with Russia has long been in (deep) deficit -fundamentally influenced by the purchase of Russian oil and natural gas. On the other hand, there is a significant trade in services for which a stable surplus of tourism is important.

As has been mentioned, a large decline in export was expected due to the introduction of a number of restrictions and economic contra-sanctions on the Western countries, including the Czech Republic. Moreover, the trading relations between both countries may have also been influenced by the crisis, which the Russian economy suffered and which went hand in hand with the crash in oil prices and the rouble depreciation. As can be seen from table 1, there was a considerable drop in bilateral trading relations between both countries. However, whereas the exports fell by half from 2013 to 2016, Czech imports from Russia reached in 2016 only 36% of its value in 2013, resulting in a historically first Czech current account surplus with Russia.

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<sup>2</sup> For more information about the importance of the Russian economy as a Czech export partner, see Coufalová, Židek (2017, [in press]).

*Table 1: Czech trading relations with Russia and the rest of the world from 2013 to 2016 in US \$ (UN ComTrade Database, 2017)*

	2013	2014	2015	2016
Czech imports from Russia	7 750 046 384	6 248 073 732	4 194 560 296	2 811 322 260
Czech exports to Russia	5 936 747 596	5 452 117 623	3 199 489 631	3 054 450 561
Balance	-1 813 298 788	-795 956 109	-995 070 665	243 128 301
Total Czech imports	142 525 808 089	153 225 461 484	140 716 185 564	140 316 182 518
Total Czech exports	161 524 152 111	174 279 451 675	157 194 122 601	161 247 828 122
The share of Russia on Czech imports	5.44%	4.08%	2.98%	2.00%
The share of Russia on total exports	3.68%	3.13%	2.04%	1.89%

Table 1 reflects also the declining share of Russian trade on Czech trade with the rest of the world. Following 2014, the overall Czech trade dropped. However, the fall of trade from 2014 to 2015 was in general common for both developed, as well as developing markets (WTO, 2016). The export volume to the Russian Federation has also undoubtedly been influenced by the country's economic crisis and depreciation of the rouble, which increased the price of Russian imports, and therefore necessarily led to its decline.

As regards commodity structures of mutual trade, the most important drop in exports was registered in class 7, *i.e.*, machinery and transport equipment, on which, however, the sanctions were not imposed. The sanctions concerned mainly goods in class 0 – Food and live animals. The Russian Federation has long been the largest non-union partner of the Czech Republic in the agrarian production business. Czech exports of this type of production to Russia in the long run exceed their imports. According to the data published by the Ministry of Agriculture (2017), the most important export commodities are beer, non-chocolate confectionery and poppy. In recent years, there has been an increase in the trade in biscuits, eggs and preparations for animal nutrition. In 2014, the value of exports of agricultural products was CZK 2.96 billion, which was about 18% more than in the previous year. This increase was recorded despite the Russian import embargo on dairy products (whey and cheese). By contrast, in the first four months of 2015, there was a relatively significant decline in exports compared to the same period in 2014 (about 26%). This was mainly due to lower import of beer, malt and the mentioned absence of dairy imports. The most significant impact of the sanctions was therefore on dairy producers. However, as can be seen from table 2, exports of class 0 in 2016 almost doubled their level in 2011. From 2014 to 2016, the drop was modest. The impact of the Russian restrictive measures was therefore negligible. The following table is dedicated to the commodity structure. It shows that the importance of the Czech export of engineering products to Russia has decreased in recent years. It fell from 72.11% in 2012 to 61.46% in 2016. Between 2014 and 2015, there was also a drop in the volume of exports in class 0 (Food and live animals). Relatively, however, due to the decline in other classes, exports of this type of commodity have gained importance. The same holds for commodities in the fifth, sixth and eighth classes, that have risen in importance, despite the absolute decline in the value of their exports. As has been already mentioned, on the import side, there is a clear predominance of mineral fuels, lubricants and related materials. The relative importance of oil imports, however, declined between 2013 and 2016 from 83% in the former year to 68% in the latter one (Czech Statistical Office, 2017). Along with the recovery of the Russian economy (this year the IMF expects a 1.4% growth), there has also been a significant recovery in the trade ties between the two countries, *e.g.* in

January 2017, the year-on-year increase in Czech exports to Russia reached 35% (*idnes.cz*, 14.3.2017). It mainly reflects the strengthening of the rouble, thanks to which Czech exports are relatively cheaper for Russian customers than in the previous year. The sanctions affected some specific producers rather than the economy as a whole. For example, Madeta, which declared a loss of CZK 150 million at the beginning of the year due to its business in Russia, was forced to move part of its production to other countries. Several companies (e.g. Hamé), however, are trying to circumvent sanctions by moving their production to Russia (*ČT24*, 30.5.2017). The decline in mutual exchange may be therefore a consequence of the economic downturn of the local economy rather than the devastating impact of the sanctions imposed.

*Table 2: Changes in the commodity structure of Czech exports to Russia (2011-2016) in thousands of CZK (Czech Statistical Office, 2017a)*

SITC1	2011	2012	2013	2014	2015	2016
<b>0</b>	1 185 441 1.28%	1 407 691 1.19%	1 586 290 1.37%	1 993 976 1.76%	1 576 307 2.00%	1 741 852 2.32%
<b>1</b>	463 151 0.50%	557 548 0.47%	583 775 0.50%	599 991 0.53%	378 264 0.48%	404 136 0.54%
<b>2</b>	296 773 0.32%	437 799 0.37%	544 881 0.47%	662 154 0.59%	661 391 0.84%	637 867 0.85%
<b>3</b>	176 500 0.19%	339 279 0.29%	276 091 0.24%	275 029 0.24%	174 208 0.22%	166 914 0.22%
<b>4</b>	886 0.00%	8 528 0.01%	9 341 0.01%	7 151 0.01%	5 348 0.01%	4 998 0.01%
<b>5</b>	9 467 766 10.22%	9 405 926 7.97%	8 938 407 7.69%	9 922 755 8.78%	8 219 779 10.43%	7 358 839 9.79%
<b>6</b>	9 330 183 10.07%	11 069 174 9.38%	11 763 732 10.12%	10 944 665 9.68%	9 617 543 12.20%	8 993 857 11.96%
<b>7</b>	63 619 805 68.67%	85 102 085 72.11%	82 440 392 70.95%	75 783 416 67.05%	49 265 103 62.51%	46 204 416 61.46%
<b>8</b>	8 107 238 8.75%	9 696 826 8.22%	10 044 813 8.65%	12 827 680 11.35%	8 913 682 11.31%	9 668 513 12.86%
<b>9</b>			403 0.00%	1 100 0.00%	760 0.00%	
<b>Total</b>	92 647 743	118 024 856	116 188 125	113 017 917	78 812 385	75 181 392
The corresponding SITC1 categories are: 0 - Food and live animals; 1 - Beverages and tobacco; 2 - Crude materials, inedible, except fuels; 3 - Mineral fuels, lubricants and related materials; 4 - Animal and vegetable oils, fats and waxes; 5 - Chemicals and related products, n.e.s.; 6 - Manufactured goods classified chiefly by material; 7 - Machinery and transport equipment; 8 - Miscellaneous manufactured articles; 9 - Commodities and transactions n.e.c. in the SITC.						

This can be demonstrated on Russian imports from other trading partners, who did not impose sanctions on Russia, as they have also declined. Between 2014 and 2015 Chinese and South Korean exports fell. A year later, the same happened with the Brazilian ones. This fact mainly points to the impact of the bad situation of the Russian economy and the mentioned weak rouble, which greatly increased the price of imports. Nevertheless, in 2016, there was a modest increase

in Chinese, as well as South Korean exports, whereas the Brazilian ones continued falling. Moreover, the year-on-year change in Czech exports to Russia was greater in 2015 and 2016 than the correspondent change in total Russian imports, as well as its imports from the selected partners without sanctions (with the exception of Korea change from 2014 to 2015). The data contained in table 3 therefore at least partly support the argument of the replacement of Czech exports with exports from countries which have not imposed sanctions on Russian exports.

*Table 3: Total Russian imports from its major import trading partners without sanctions and the year-on-year changes in total Russian imports and its imports from the Czech Republic (UN ComTrade Database, 2017).*

	2013	2014	Δ	2015	Δ	2016	Δ
China	53 173 086 207	50 853 009 519	-4.36%	35 199 263 948	-30.78%	38 086 968 999	8.20%
Rep. of Korea	10 305 436 128	8 972 462 063	-12.93%	4 532 320 186	-49.49%	5 113 263 435	12.82%
Brazil	3 492 845 077	3 968 954 237	13.63%	2 928 293 772	-26.22%	2 523 459 459	-13.82%
Total Russian imports	314 945 094 987	286 648 776 878	-8.98%	182 781 964 814	-36.23%	182 257 213 910	-0.29%
Δ in Czech imports	5 936 747 596	5 452 117 623	-8.16%	3 199 489 631	-41.31%	3 054 450 561	-4.53%

Another of the above-mentioned arguments against the introduction of economic sanctions was the negative impact of the decline in component exports due to the fall of German exports to Russia. However, despite a certain drop in some groups (712 or 726), the overall trend of Czech exports in the seventh class involving components was growing at all times (Czech Statistical Office, 2017). In general, it can be concluded that the relatively large decline in mutual trade is more likely to be due to the poor situation in which the Russian economy has been in recent years than the introduction of economic sanctions. This does not mean that the sanctions do not have a negative impact on particular producers.

#### 4. THE IMPACT OF SANCTIONS ON FDI MOVEMENT

According to the above sources, the deterioration of the political climate and the loss of mutual trust as a result of the imposition of sanctions may have also been reflected in a decrease of Czech FDI into Russia (4.1) and in the inflow of the Russian capital into the Czech economy (4.2).

##### 4.1. The Czech investment in the Russian Federation

The second direct effect of the (European) sanctions was theoretically on Czech outflow of FDI into Russia. However, the restrictive measures imposed by the Western economies were taken only for investment in Crimea and Sevastopol. If the companies had any plans for investment in these destinations then they were marginal. The other impact could be possible due to worsening of mutual relationship or institutional and business climate in Russia. The development of Czech FDI in Russia can be seen in table 4.

*Table 4: The stock of the Czech foreign direct investment in Russia (in millions of Czech crowns) and its share on the total Czech foreign FDI (Czech National Bank, 2017)*

	2013	2014	2015
Czech FDI in Russia	5387.46	4441.80	4030.50
Share of Russia on total Czech foreign FDI	1.31%	1.07%	0.87%

The table shows that the Czech FDI situation in Russia between 2013 and 2015 declined significantly, as well as the share of Russia on the total stock of Czech foreign FDI. However, in the first half of 2016, they amounted to approximately CZK 3.7 billion, almost the same as in the whole previous year. Hence, a significant increase was recorded, mainly due to the



relocation of production directly to Russia. This is a consequence of Russian legislation, which requires companies to step up their production on the local market as a prerequisite for entering it. All of the companies successful in Russia, locate their production directly in the country. Of the Czech manufacturers, for example, in 2016, the Brisk company producing spark plugs opened a plant worth CZK 135 million in Samara. Also, the Brano company, built by PSJ in Jihlava, opened a plant in Nizhny Novgorod. Similar examples could be found in other industries as well (*idnes.cz*, 14.3.2017). In addition, there has also been the aforementioned effort of food producers to avoid the imposed sanctions, which led some of them to move their production to the local market. Thus, the development of Czech FDI in the Russian Federation was simultaneously influenced by several factors. First of all, a deterioration in the political situation exacerbated the already bad investment climate in the country. It is also necessary to add the bad situation of the local economy in recent years. These factors are likely to lead to a decline in investment. A contrary trend can be seen in the Russian economic restrictions forcing companies to move to Russia in order not to limit production or to look for new selling markets, as well as the favourable development of the exchange rate.

#### **4.2. The inflow of Russian FDI into the Czech economy**

According to the official statistic provided by the Czech National Bank (2017), the major sources of foreign direct investment in the domestic economy in 2015 were the Netherlands (24.1%), Austria (13.4%) and Germany (12.9%). The Russian share on the official inward FDI was rather negligible (0.61%). These investments were mainly allocated to the manufacturing (32.9%) and financial and insurance sectors (27.3%) (*idem.*). Nevertheless, the report of the Czech National Bank (2017) also recognizes that the official numbers are incomplete. This is a consequence of the fact that a great part of the Russian capital flows to the world (including the Czech Republic) via offshore centres, mainly via Cyprus. In 2015, the Cypriot inward FDI in the Czech Republic reached 3.23% of the total FDI inflow (Czech National Bank, 2017). As a consequence, it is practically impossible to estimate the exact value of the Russian capital flowing into the Czech Republic. Kalotay et al. (2014) use the Cypriot investment as a proxy variable for the Russian one, as the capital from the insular banks is primarily Russian. Nevertheless, on a smaller scale, it is also Ukrainian, Azeri and Kazakh and even Czech. Hence the Cypriot investment can, only to a certain degree, approximate the Russian one. This procedure cannot be, however, applied to other tax havens, as there is no clear predominance of Russian capital. Therefore not all of the Russian capital flowing over, is being mapped. Kalotay et al. (2014) state that 37% of the Russian capital flying over offshore centres is from Cyprus, the second more frequent destination is the Netherlands with 16% and the third one are the British Virgin Islands (11%). There are good economic reasons for this behaviour of Russian companies. Push factors could be unstable institutional and legal environment at home and tax advantage. Among pull factors we can include access to stable environment in the EU, proximity to the core European markets, good economic conditions and masking the original destination. All these reasons last and they are possibly deepened in the new situation and thus there is no reason to expect decline in FDI via tax havens. It also makes the investment less transparent and solves negative emotions that Russian capital brings to the inhabitants of its former satellites. This negative attitude springs from historical reasons, as people fear a possible return under the Russian political influence (*The Economist*, 11.12.2004). Also the “misbehavior of those firms in foreign countries” (Kalotay et al., 2014) should be added to the reasons of fears of Russian capital, as well as political corruption. According to *The Economist* (11.12.2004.), Russian companies are often associated with scouts, bribes and political intrigues. As has been mentioned above, in the political and economic discourse of recent years, the argument about the negative impact of economic sanctions on the inflow of Russian foreign



direct investment into the Czech Republic was very common. The reality of the inflow is shown in table 5 below, along with the inflow of Cypriot investments.

*Table 5: Russian investment in the Czech Republic before and after the application of the sanctions in millions of Czech Crowns (Czech National Bank, 2017)*

	2010	2011	2012	2013	2014	2015
Russia	7 520 625	6 251 065	7 824 765	11 341 730	15 744 800	17 743 800
Cyprus	91 975 140	87 080 065	102 367 329	94 471 752	109 748 300	93 499 900

According to this data, there has been, therefore, no huge Russian disinvestment in the Czech Republic – on the contrary, the numbers are growing. There is a plausible small decrease in investment coming from Cyprus, but in the long run, the FDI stream fluctuates. The reasons why the introduction of sanctions did not mean a drop in the inflow of Russian capital into the Czech Republic are numerous. First of all, investors seek primarily profit. Nowadays, the Czech Republic represents a good opportunity how to invest money with a very low risk. Moreover, investment in this country has many advantages due to its geographical position, next to core European regions, and the diversification of its trade. For example, German Gref, the head of the Russian bank Sberbank, which bought the east European division of Volksbank, considers the Czech economy more stable and with a very favourable outlook than the EU-15 countries (*BBC Monitoring European*, 28.3.2013). Moreover, Kalotay et al. (2014) point out that if Russia wants to build business ties to the advanced Western European industry, it cannot forget the Central European countries, because all transport corridors are running through this region.<sup>3</sup> However, the imposed sanctions will hardly have any influence on the aforementioned pros and cons of the Czech economy. Sanctions will take effect mainly on investments in Russia, not on Russian investments in the Czech Republic. For Russian capital it is more attractive and, above all, safer to invest in the Czech Republic.

## 5. THE NEGATIVE TREND OF THE INFLUX OF RUSSIAN TOURISTS INTO THE CZECH REPUBLIC

Worsening of mutual trust and political climate had theoretically impact via the third channel – tourism. Parallel to the imposition of economic sanctions, there has also been a significant decline in the arrival of Russian tourists to the Czech Republic. Their arrival rate in the last years can be seen in table 6.

*Table 6: The arrival of Russian tourists to the Czech Republic between 2012 and 2015 (Ministry of Regional Development, 2016)*

	2012	2013	2014	2015
Number of Russian tourists (in thous.)	802	903	763	484
Year-on-year change		13%	-16%	-37%

The year-on-year difference in arrivals between 2013 and 2014 was 140 thousand, which meant a 16% decline. This drop was doubled the next year, as there were 280 thousand Russian tourists fewer than in 2014 (-37%). As a consequence, there were some negative impacts on spa resorts, and other touristic facilities, as well as a general tourist attendance to the Carlsbad Region

<sup>3</sup>Another advantage is free movement of people and capital within the European Union. The similar language as well as historical economic ties may be also of interest for Russian investors, as well as the great part of Czech exports going to Germany, relatively low level of debt and a good level of infrastructure. On the other hand, Contiguglia (14.10.2011) sees the major disadvantages in the Czech business culture, tough immigration policy and the mentioned negative reaction of the population to Russian capital.

(Ministry for Regional Development, 2016). However, this decline in Russian tourists' arrivals continued only until August 2016. Then the situation turned and the first year-on-year increase since spring 2014 was recorded (Ministry for Regional Development, 2017b). Moreover, the Balance of international movement of people published by the Czech National Bank (2017) shows that income generated from Russian people has not decline. Indeed, there was a large increase in the so-called “income from international movement of persons” from Russia from 2014 to 2015. Despite the small fall between the years 2015 and 2016, in the latter, the value was still well above that from 2013. The same holds for the proportion of tourists' income from Russia to the total income of tourists from all over the world, as can be seen from table 7.

*Table 7: Income from tourists from Russia and their share on the total income from tourism (Ministry of Regional Development, 2017a)*

	2013	2014	2015	2016
Income from tourism Russia	8 716.60	8 752.50	13 339.90	12 292.80
% of total	6.32%	6.17%	8.95%	7.97%

Regionally, Russian tourists concentrate in the Czech Republic often in the Carlsbad spa region. Due to it, the worries connected with the decline of their interest were concerned foremost with this area. Table 8 offers the real trend in the number of guests at the collective accommodation facilities in Carlsbad in the recent years.

*Table 8: The percentage of the growth of guests at collective accommodation facilities in Carlsbad, year 2012 = 100 (Mikeš, 2017)*

	2012	2013	2014	2015	2016
Total guests	100	97.7	92.7	101.3	123.8
from which foreigners	100	99.4	94.1	95.7	113.6
Russians	100	105.2	96.2	63.2	59.1
Germans	100	95.3	101.7	140.4	188.9

According to this data, the number of Russian tourists visiting Carlsbad therefore fell considerably between 2012 and 2016. Nevertheless, after the small decline in 2013, they were substituted by German visitors, who started to flood the city, leading to a large increase in total guests from abroad. In the second half of 2016, the Russians began to return (Ministry for Regional Development, 2017b). In addition, the Czech Statistical Office, which monitors the number of overnight stays in the collective accommodation establishments, registered that in the first quarter of 2017 guests from the Russian Federation became second in the ranking of foreign guests in the Czech Republic. The positive trend in these arrival dynamics from the second half of 2016 deepened at the beginning of 2017. For the first quarter, the number of Russian guests increased by 45.3%. In February 2016, their number in collective accommodation facilities increased by 66.2% and 60.9% in March of the same year (Czech Statistical Office, 2017c). These dynamics again testify to the fact that this year-on-year decline was a consequence of the economic crisis in the Russian Federation rather than the imposition of economic sanctions. In 2014, the discourses of Czech politicians often emphasized the possible loss of jobs in the Carlsbad Region and in the country's capital, Prague, which was supposed to bring a large decline in the influx of Russian tourists to the Czech Republic. This fact is illustrated in table 9.

*Table 8: Employment in accommodation, catering and hospitality (ACH) in Carlsbad and Prague regions in thousands of people (Czech Statistical Office, 2017d), together with the average unemployment rate in there, according to the Sample Survey (Ministry of Labour and Social Affairs of the Czech Republic, 2015, 2016, 2017).*

	2013	2014	2015	2016
Employment in ACH - Carlsbad Region	11.10	10.20	6.90	7.00
Employment in ACH - Prague capital	29.30	37.30	35.40	29.90
Karlovy Vary region	9.3%	8.2%	7.1%	5.5%
Prague capital	5.1%	5.0%	4.2%	3.4%
Total Czech unemployment	8.2%	7.5%	6.2%	5.5%

The table shows a decreasing trend in the employment in accommodation, catering and hospitality in both regions in the period under review. Nevertheless, it also shows that the overall unemployment in both regions evolved in line with the national average. While the unemployment rate is expected to be below the average in the capital, in the Carlsbad Region it has long been over it. Between 2014 and 2015 the year-on-year decline in the region, along with the Moravian-Silesian Region, was the slowest, however, in 2016 the unemployment in this spa area decreased to a national average. The situation in the region therefore improved significantly. In view of the development of unemployment, it can be concluded that if there were job losses in the accommodation sector these were more than balanced by growth in jobs in other sectors. ČT24 (1.6.2017) points out that while in 2016 the Carlsbad hotels were still in danger of being laid off, in the first quarter of 2017 the situation turned and Russian tourists started to visit the city again. There was therefore no significant negative impact on unemployment in both regions.

Moreover, a finding that the decrease in the influx of Russian tourists into the Czech Republic was not just a consequence of the imposition of economic sanctions is due to the fact that a drop in the number of trips to non-European destinations was more significant than a decrease in the number of trips to Europe. While in the summer months of 2015 34% fewer Russian tourists came to Europe than in the previous year, their numbers dropped significantly more in other destinations of interest among Russian tourists. This involved, for example, the Dominican Republic (63%) and Mexico (58%). This decline was due in particular to a significant depreciation of the rouble, which made foreign travel relatively more expensive than in previous years (*The Moscow Times*, 22.10.2015). Russian tourists rather choose domestic destinations for their holidays. According to the Federal Tourism Agency, there was a significant increase in domestic tourism in 2014, a 30% increase over the previous year. However, thanks to its history and cultural heritage, Europe remains attractive for Russian tourists. Although the tense political situation and its associated negative reaction to Russian visitors in some countries will certainly affect somewhat the attendance of the old continent by Russian tourists (Lossan, 10.6.2015).

## 6. CONCLUSION

It is hence very difficult to assess the real impact of the sanctions on Czech-Russian economic relations, as their imposition coincides with the start of the recession of the Russian economy and the drop in oil prices and the course of the rouble. With regard to the direct impact of the sanctions on exports of specific groups of goods, we can note that there was a fall in exports in group 0 (food and live animals). But this drop was only very mild. The same holds for the overall impact on Czech exports to the Russian Federation, as the registered decline was only slightly worse than that in overall Russian imports.

Given the inaccessibility of data, it is very difficult to assess the impact of sanctions on the inflow of foreign direct investment into the Czech Republic. Statistics show that there was no impact on the official Russian FDI inflows. It is, however, also necessary to assess the influx of Russian capital via offshore centres, as well as from a number of tax havens. On the contrary, a significant increase in Czech FDI in Russia was partly due to the Russian import substitution strategy and partly due to the imposed sanctions, which Czech producers tried to avoid. The drop in the inflow of Russian tourists into the Czech Republic was primarily a result of the increase in prices of foreign trips for Russian tourists due to the significant rouble depreciation. In this case everything suggests that if there was any effect of the sanction, it was only temporary. To sum it up, with respect to the greatly limited data availability, it can be inferred that the overall impact of the sanctions imposed by the EU on Russia and the reciprocal sanctions by the Russian Federation on the Czech economy, is negligible.

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## FINANCIAL TRANSACTION TAX IN EU: ESTIMATION OF ECONOMIC IMPLICATIONS

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### **ABSTRACT**

*The need to reexamine the European tax system in relation to undertaxed and privileged financial system has been rising along with the development of financial crises and the rise of public financing of financial institutions in the EU. Since 2011, there are ongoing negotiations on the proposal for a Directive on the unified European financial transaction tax (FTT). The initial EU-wide proposal came into question, mostly because of the Member's disagreement about the issues of how the tax will apply to derivative trades, and to transactions executed by pension funds. It is intended that FTT will be applied in just ten member states under the enhanced cooperation legislative mechanism. Although the scope and objectives of the original FTT proposal have been limited in the latest modified proposal, it is expected that general impacts on EU financial system and economy are still significant. The aim of this paper is to present all the potential effects, implications and restrictions of the FTT introduction. These effects concern trading volume and speculation, liquidity, asset price volatility, asset prices and the cost of capital, cascading and intersectoral distortions, financial stability and budget revenues. One of the most pronounced economy impact is probably increasing the transaction costs and decreasing the profits of financial institutions. This study summarizes recent literature on the possible positive and negative effects of European financial transaction tax.*

**Keywords:** *financial institutions, financial transaction tax, government revenues, European union*

### **1. INTRODUCTION**

Despite the remarkable interest of scientific and professional public for taxing of financial sector in the wake of the financial crises, the idea of taxing financial transactions has a long history. It was introduced almost before a century by economist John Maynard Keynes (1936). In the 1970's James Tobin proposed specific currency transaction tax, in order to stabilize excessive exchange rate fluctuations. The primary purpose of applying the FTT in national financial system is to ensure stability and to prevent or at least reduce the negative consequences of the future crises. But in the recent years and in the case of EU proposal, there is evident a significant influence of political and social circumstances, because of the widely accepted opinion that financial sector have to take part in achieving greater stability and economic justice. The European Commission has launched the idea of a EU-wide levy in a form of harmonised financial transaction tax (FTT) in September 2011. According to the proposal of European Commission (2011) the objectives are 'to assure that the financial sector makes a fair and substantial contribution to public finances to recoup the costs of the crisis, to alleviate Member States' contributions to the EU budget and to discourage to a certain extent risky market behaviours.' During the crisis, EU member states supported the financial sector with EUR 4.6 trillion (i.e., 39% of EU27 GDP in 2009), which of course had significant budgetary consequences (Solilová, Nerudová, Dobranschi, 2016). Budgetary consequences were not the only drivers of the discussions for introduction of FTT; the argument for taxes in the financial sector as a regulatory tool also played a very important role. However, after disagreement of

involved countries, a group of eleven<sup>1</sup> EU countries started to negotiate a common FTT through the mechanism of enhanced cooperation<sup>2</sup>. After the FTT introduction date has been repeatedly postponed, even its actual implementation is still not clear. The aim of this paper is to determine the financial, economic and wider, social effects of the introduction of a FTT tax on countries involved. Even the prediction of budget benefits differs among literature, it is undeniable that increase in tax revenues will have immediate positive impact. FTT impacts on financial institutions will be particularly unfavorable because of the low-yield environment and tighter and more strict supervision and regulation. The paper is divided into five parts. The introductory remarks provide insight into the subject and the research problem. The first part briefly reviews the design of FTT proposal given by the European Commission. The third part offers literature review on estimated economic FTTs impact, while the fourth section of the paper is focused on wider social and other non-economic aspects of FTT introduction. Finally, the last section offers conclusion.

## **2. THE EUROPEAN COMMISSION'S PROPOSAL OF HARMONISED FINANCIAL TRANSACTION TAX**

According to European Council Directive, FTT is a tax with a very low rate to be collected from the total value of all financial transactions, conducted between financial institutions of which at least one party is located in a country participating in the initiative. Financial transactions that are taken in account are those made by financial institutions and carried out on organized/regulated markets as well as on over-the-counter markets. Financial transactions include sale/purchase, lending/borrowing, transfer of ownership, conclusion or modification of derivative contracts and financial instruments such as stocks, bonds, currency transactions<sup>3</sup>, derivatives agreements and structured products. The definition of financial institutions is wide and includes investment companies, regulated markets, credit institutions, insurance and reinsurance undertakings, collective investment undertakings and their managers, pension funds and their managers, financial leasing companies and other persons carrying out certain financial activities with more than 50% financial transactions in their annual turnover. Financial institutions from the EU that are party to the FTT transaction acting on either on their own behalf or on behalf of their clients, or in the name of a party in a transaction. The Directive aimed the harmonization of the regulation on taxation of financial transactions in order for financial instrument transactions to operate properly in the domestic market (European Commission, 2013). Original proposal for FTT took a “triple A” approach, i.e., the tax should apply to all markets (such as regulated markets or over-the-counter transactions), all instruments (shares, bonds, derivatives, etc.), and all financial sector actors (banks, shadow banks, asset managers, etc.). The base of the tax is very wide, covering transactions carried out by financial institutions on all financial instruments and markets when at least one party to the transaction is located in the EU. Nevertheless, according to the last proposal from February 2013 (EC, 2013), FTT base is narrower and would apply to the purchase of a equity or derivatives for a exchange-based transactions but also to over-the-counter transactions. Tax rates are set very low, for basic financial instruments at 0.1% of the value of buying and selling transaction (except the primary market for shares and bonds), whereas the tax rates of 0.01% of nominal contract value are defined for derivative products (Olgić Draženović et. al. 2016: 1067).

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<sup>1</sup> Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia and Spain. Estonia, withdrew its participation in March 2016, leaving the total participating countries to ten.

<sup>2</sup> The mechanism of enhanced cooperation is a procedure where at least 9 member states are allowed to establish advanced integration or cooperation, without involving other member states. This possibility is based on the Article 20 of the Treaty on the EU and Articles 326 and 334 of the Treaty on the Functioning of the EU.

<sup>3</sup> Currency derivative agreements are defined as taxable financial transactions, while spot currency transactions do not constitute taxable base.

Also, the EC proposal foresees a list of exemptions. Therefore, the scope of FTT is primarily limited to financial industry and it would not apply to:

- day-to-day transactions of households and businesses,
- enterprise borrowing/lending, mortgage loans and consumer credits,
- spot currency transactions,
- transactions on primary capital market (including underwriting),
- investment banking activities,
- transactions in and with foreign currencies,
- transactions carried out as a part of restructuring operations,
- the transactions carried out by the central banks of participating nations,
- the transactions carried out by central securities depositories,
- refinancing operations with the ECB, the European Financial Stability Facility, the European Stability Mechanism and with the EU institutions.

Under current proposal, there will be no exemptions for pension funds, market makers and risk management transactions. FTT attracted special public attention due to its possible impact on outside its boundaries. It is proposed that the tax function on the residence principle but also have some elements of the issuance principle. The general rule is that the tax would be levied by the residence principle i.e. on all financial transactions between financial institutions, if at least one of the party is established in the territory of the FTT-jurisdiction and at least one financial institution there established is involved. The issuance principle implies that worldwide transactions of instruments issued in EU-11 could be liable to pay the tax regardless the geographic residence of the entities party to the transaction. The primary motive for implementing this approach is to reduce level of risk of tax avoidance through geographical reallocation of transaction outside the FTT zone. This implies its possible positive impact on fighting tax avoidance because it does not matter where a transaction is carried out but who the transaction partners are.

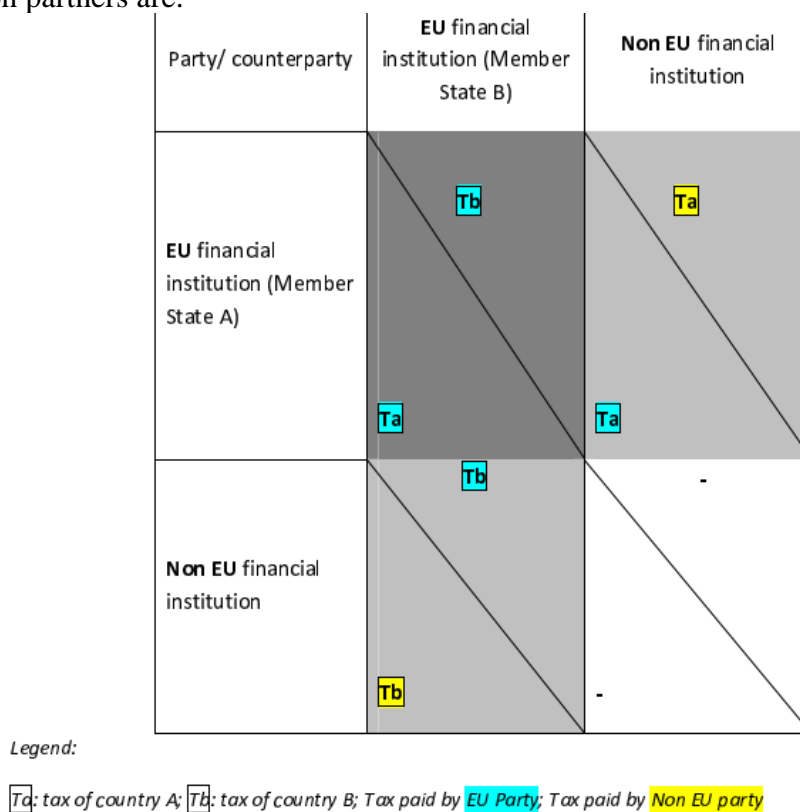


Figure 1: Residence principle in EU FTT (EC 2011)

### **3. ECONOMIC IMPACTS OF THE FTT INTRODUCTION IN EUROPEAN FINANCIAL MARKETS**

Introduction of FTT is proposed following two main motivations. First, it is a form of a Pigouvian tax due to its aim of correcting the market failures. Second, it is a very efficient model for raising government revenues. The possible effects of the introduction of a FTT are strongly disputed between supporters and opponents of the proposal. This debate is based on numerous literature that has evaluated the proposition of J.M. Keynes (1936) for a transaction tax on equity trades to discourage speculation and the proposition of Tobin (1972) to introduce a tax on currency transactions to reduce volatility. Both argued that short-term trades were more likely to destabilize financial markets than long-term trades. Later arguments in favour of FTT were presented by the work of Stiglitz (1989), Summers and Summers (1989), Spahn (2002) and Schulmeister (2010). They stated that financial transaction levies reduce and curtail short-term speculation, thereby reducing market volatility and achieving better asset determination. Opponents (e.g. Oxera 2011) argue that introduction of FTT would result in lower asset prices, increased cost of capital for businesses, reducing liquidity and increasing volatility and lower returns to savings. An important argument of proponents of an FTT is that it will reduce systemic risk by reducing volatility or the incidence of asset price bubbles. The effect on volatility has been extensively studied, both empirically and experimentally. The majority of studies conclude that transaction taxes either increase volatility or have no effect. Bubbles are therefore potentially the most important aspect of systemic risk an FTT may have impact on. Also, FTT will significantly reduce activities of High-Frequency Traders - at least those residing within the geographical scope of the proposed tax. An additional point is that the financial sector is under-taxed and that a financial transaction tax is simply an efficient way to raise taxes (Anthony, Bijlsma, Elbourne, Lever, Zwart 2012, p. 7). The opposite view is given by Matheson (2014). Study found that increases in FTT-like fees were associated with a reduction in volatility, while Xin and Wei (2014) study shows that the effect on volatility may depend on how well-developed is the market for a particular asset. One of the main motivations brought forward by proponents of a FTT is the revenue raising. The European Commission original proposal (2011) expects the EU-wide tax revenue potential of roughly €57 bn per year, of which nearly two-thirds from derivatives and €19 bn from shares and bonds. Limiting the scope of the FTT to the 11 countries under enhanced cooperation (EC 2013), estimated revenues are €35 bn, or 0.4% of euro area GDP. Last EC projections revised downward total revenues, suggesting that the levy would rise around €22 bn per year (Colussa, Hempell, Späte 2016). Also, there are some factors that could significantly alter the estimated revenue base, and, as a consequence, the actual revenue collected from the tax. One of them is a possible change in behaviour of both providers and users of financial services and producing some financial innovation to avoid the tax.

*/Chart following on the next page*

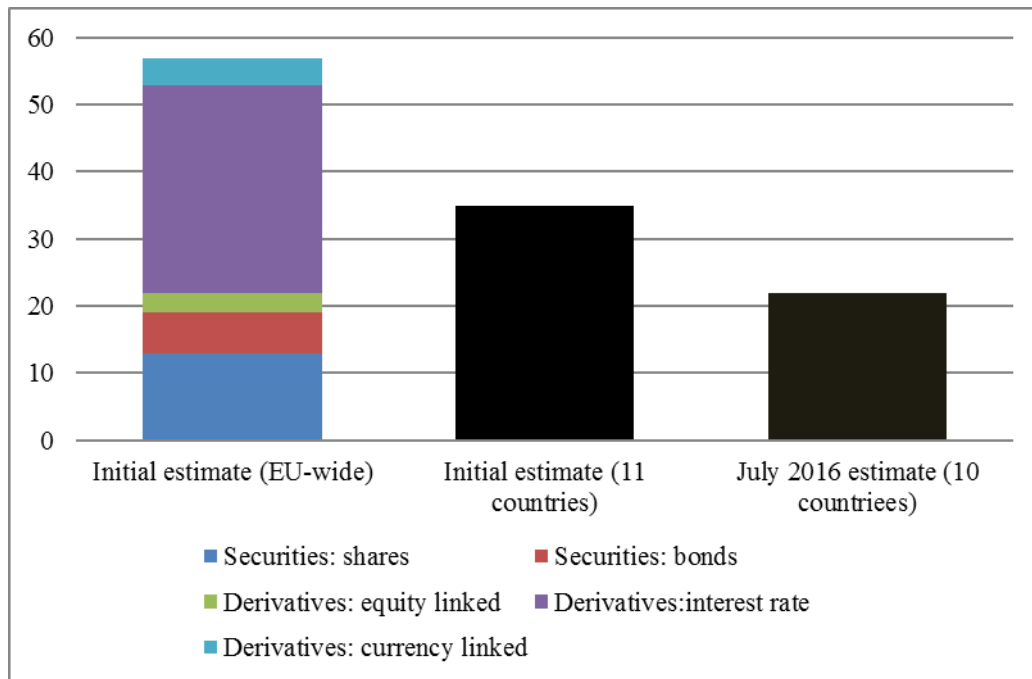


Chart 1: Projected revenue from EU FTT, in EUR bn/year (Colussa, Hempell, Späte, 2016, p. 2)

Furthermore, FTT in general is in general easy and inexpensive to administer, as most transactions are carried out electronically and the tax can be collected electronically and at the source. FTT can be collected at very low cost of less than 1% of revenue raised, especially when there is existing market infrastructures, e.g. trading platforms, trade repositories or clearing houses (Matheson, 2011).

Projections of EC (2011) assumed that the turnover on securities markets will decline by up to 20%, namely with respect to the segment of high frequency trading. The turnover on derivatives markets is expected to decline by up to 90% in some market segments, especially in the market segment of high frequency trading and highly-leveraged products.

Opponents are worried that financial institutions will pass on the FTT related costs to the private households and businesses, thus resulting in a considerable burden on private pension systems, corporate finance and taxpayers due to increasing costs to finance the government. Also, effective tax burden can be significantly higher than the headline tax rate of 0.1% and 0.01%, due to the cascade effect. The cascade effect indicate that the tax will require multiple payments i.e. FTT will be payable at each level of intermediation in a transaction chain.

#### 4. WIDER MACRO-ECONOMIC IMPACTS OF THE FTT INTRODUCTION IN EU

Special aspects of FTT introduction are possible macro-economic impacts and the real social costs. Imposing the FTT will cause higher capital costs and consequently in reducing willingness to invest, which leads to declining growth rates. Thus, negative influence on employment can also be expected. According to the EC (2011) scenario, FTT of 0.1% and 0.01% would have limited negative impacts on employment of respectively -0.03% and -0.20%. Impact on GDP has been topic of many empirical and theoretical studies. According to Griffith-Jones and Persaud (2012) the introduction of FTT could generate a positive effect on growth of 0.25% GDP. Other authors agree that influence of FTT on GDP will be negative, but there are some significant differences over the scale of the impact. Current ECs (2013) study estimates that GDP will be reduced by 0.28%, while other authors predict a larger negative impact.



Namely, Anthony et. al. (2012) estimate a reduction in GDP between 0.4% and 1.2%; London Economics (2013) predicts a reduction of 1% of GDP; and the most severe reduction of 2.42% GDP was estimate by Oxera (2011) for the first EC proposal. FTT's proposal states that private households and SMSs not actively investing in financial markets will not bear the economic incidence of the tax. However, there are many opposite opinions. For example, EFAMA (2013) argue that ordinary citizens investing in UCITS would experienced reduced value of their savings by 15% of their total contribution as a result of the FTT.

Some authors point out the potential for pension funds to be affected with a fall in equity prices due to the FTT introduction and higher transaction costs when buying or selling. Still, it is worth point out that historically pension funds favoured a valuation based low turnover approach to investing so a low-rate FTT levied at points of entry and exit from the market would have minimal impact on returns. While a significant proportion still adopt such strategies, in recent years a variety of forces (low interest rates) have encouraged increased turnover of assets which is contributing to a significant percentage of pension funds' high costs (estimates vary from 2% to as high as 20%). Therefore, for pension funds with a long term investment approach the FTT will add a negligible cost (a small fraction of transaction costs) and the extent to which an FTT moves funds toward lower turnover in the markets should benefit pensioners (Gray, Griffith-Jones, Sandberg 2012).

Anthony et. al. (2012) claim that in the longer term, prices and wages will adjust to the new tax. As a result, costs will be borne by the financial sector itself (in the form of lower rents), the consumer (in the form of higher prices for financial services), or firms (in the form of higher costs of capital) and governments (higher interest rate on government bonds). For example, companies may pass on transaction taxes (partially) into higher output prices or lower wages and pension funds into lower pensions.

## 5. CONCLUSION

Global financial crises seriously affected EU economies and their public finances and the finance sector has played an important role in the finanacial crises. There has been a strong consensus that finance sector must be taxed to make greater contribution to the crises related costs. Therefore, European Commission proposed introduction of harmonised EU financial transaction tax as a common levy for financial institutions in a EU-11 under the EU's enhanced cooperation procedure. The introduction of FTT creates significant implications for the economy of involved EU countries. Among wide range of economic and wider effects these are the most important: it will raise up budget revenues, stabilise financial markets by reducing short-term transactions and involve the financial sector in the costs of the financial market crisis. In the longer run, it is possible to have some negative macroeconomic effects because it is likely that ultimately it will be paid by customers' of the financial sector. FTT also have some broader benefits for clients of the pension and investment funds due to moving them in direction of responsible investments and longer-term strategies and which reduces de-stabilising elements such as high frequency traders while not significantly harming liquidity. Considering the idea of imposing a tax on financial transactions in EU is still facing large political and economic discussions, it is clear that FTT introduction is uncertain. Certainly, since it is not the only mechanism against future financial crises, improving financial market operations should be set as far more consensus among EU member countries.

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## USING MARKOV CHAINS IN PREDICTION OF STOCK PRICE MOVEMENTS: A STUDY ON AUTOMOTIVE INDUSTRY

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### ABSTRACT

*Stock price prediction is on the agenda of most researchers based on the uncertainty of its nature. In past two decades, the literature on the development of prediction models for stock prices has extended dramatically. These studies mostly focused on specific industries such as banking and finance, petroleum, manufacturing, and automotive. In line with prior studies, the aim of this study is also to provide a means for investors helping them predict price movements of stocks from automotive industry by using Markov Chains as it is one of the most commonly applied models. Automotive industry is not only a major and industrial force worldwide, but also is a locomotive power that serves to many other industries. Daily closing stock price data of all 13 automotive companies listed in Borsa İstanbul (BIST) are collected for the calendar year of 2015. By defining three possible states (decrease, increase, and no change), individual state transition probability matrixes are formed for each company. Then, using the probabilities provided with these matrixes, different investment strategies are evaluated in the first five working days of 2016. According to the results of analysis, it is concluded that applying Markov Chains generates a positive income or at least minimizes the loss.*

**Keywords:** Automotive Industry, Markov Chains, Stock Price Prediction

### 1. INTRODUCTION

Demanders and suppliers of capital meet in stock markets with different aims. Capital demanders desire to gain additional funds, whereas the aim of capital providers is to invest their excess funds to gather income in terms of capital gains and/or dividends. In other words, stock markets help the capital demanders to gain capital and provide capital suppliers with investment tools (Wu and Duan, 2017). Flow of information is vital for the existence of capital markets, as investors make decisions depending on the available information. In behavioral finance literature, it is proved that any news received by the market, especially in an efficient market, is immediately reflected in the stock prices by investors. While good news creates positive expectations in investors resulting in an increase in stock prices, bad news is perceived as a warning signal for investors to sell their stocks, which decreases the stock prices. What makes the capital provider a successful investor is the success in predicting the direction of news to be received, in other words, predicting the direction of stock price movements (Leung et al., 2000; Kara et al., 2011). Considering the financial market oriented studies, it is possible to suggest that the prediction of stock market movement is the most challenging task in determining an investment strategy. There are numerous studies on stock market movement prediction and there has still been a debate on predictability of stock behaviors. One side of this debate suggests that the stock prices are dynamic and unpredictable (Flietz and Bhargava, 1973; Obodos, 2005; Fama, 1965), whereas the other side, the non-believers of random walk hypothesis, call the stock price prediction as a systematic activity that allows the investors gain future price

information and hedge against the market risks (Balvers et al., 1990; Wang, 2002; Pai and Lin, 2005; Kim et al., 2006). Supporters of predictability have developed many algorithm methods to accurately predict the market movement, with the complexities of methods following the market dynamism. Markov chain model is one of the most commonly applied models to forecast the stock prices' movements using the transition probabilities calculated based on real data. With this study, we aim at testing the accuracy of Markov chain model in predicting the stock market movements in Borsa Istanbul (BIST) by comparing the results for 13 listed firms in automotive industry. To do this two scenarios are considered by comparing the results of using and not using the Markov chains model and efficiency of the model's use is evaluated for BIST automotive industry. Within this frame, the factors that affect the stock prices are explained firstly and it is followed by explanations on forecasting methods developed by academicians and practitioners. Third part of the study is implication part that presents the results on efficiency of Markov chain model application and conclusion and discussions presented in final part.

## **2. BACKGROUND**

### **2.1. Factors Affecting Stock Prices**

According to Abu-Mustafa and Atiya (1996) the difficulty in prediction comes from stock market's chaotic, non-linear, dynamic and complicated nature. Combined with the globalization and changing dynamics of world economy, it has become much more difficult to predict the stock price behavior (Albuquerque et al., 2008; Stock and Watson, 2007; Kara et al, 2011), as changes of internal and external environmental factors in stock markets make the stock pricing mechanism a complex nonlinear system. For an accurate forecasting, investors have to consider many factors resulting from both corporate operational performance and external environment. Many factors are taken into consideration by different researchers via their studies on stock market behavior in last few decades. Some researchers depend the stock market movements on many macroeconomic factors such as political events, firm policies, general economic conditions, commodity price index, bank rates, investors' expectations, institutional investors' choices and psychological factors of investors (Tan et al., 2007; Boyacıoğlu and Avcı, 2010; Wang et al., 2011). Choji et al. (2013) lists the determinants of stock price movements as wrong information, industry participation, business situations and government policies. According to the study, providing wrong information to the users may cause an artificial movement in the stock prices in both directions. Industry participation refers to the volume of trade on a stock, and it is suggested that as the trading volume of a stock increases the price follows it. Firm performance (business situation with the name used in the study) also has direct relationship with the stock prices. As the firm perform better investors will more likely to invest in that firm and this results in an increase in the prices. The last factor listed in the study relates to the governments' economic policies, such as interest rate decisions etc. Changes in economic indicators usually result in changes in investors' willingness to buy/sell stocks. According to Wu and Duan (2017) organizational performance, political environment, interest rate change and economic cycle affect the stock price behavior. In another study, Pierdzioch et al. (2007) analyze 3 different potential macroeconomic determinants of stock market volatility; "growth rate of industrial production", "orders inflow" and "a measure of output gap". Some other studies in the earlier literature also focused on growth rate of industrial production as a measure of business fluctuations (Campbell et al., 2001; Schwert, 1989) which is accepted to be link to stock market volatility (Errunza and Hogan, 1998; Hamilton and Lin, 1996). Abugri (2008) approaches the subject from another perspective, and states that the level of development is important in terms of volatility in stock markets. Emerging markets' stock returns are found to be more volatile compared to the more developed markets. Additionally, similar to prior literature this study also analyzes the relationship between key macroeconomic indicators, such

as exchange rates, interest rates, industrial productivity and money supply, and stock returns. Exchange rate is associated with the market return in that as the local currency appreciates the cost of imported goods, which the emerging markets are mostly dependent on, decreases, and this causes an increase in market returns. Pebbles and Wilson (1996) also states that an appreciating currency is generally accompanied by increases in reserves, money supply and a decline in interest rates (Abugri, 2008). Abugri (2008) uses the Fisher effect to explain the relationship of interest rates with market returns. According to the Fisher effect, nominal interest rates on financial instruments move in the same direction with inflation and discount rates through its effect on risk-free rate. Therefore, interest rates are supposed to have negative relationship with market returns either through inflationary effect or through discount factor effect. Money supply factor may effect market returns in a number of ways. Unless a money supply is backed by foreign reserves and government monetary policies are credible, it is expected to have negative relationship with market returns because of the inflation uncertainty created. However, if it is supported by foreign reserves combined with trustworthy policies, a positive relationship is expected between stock returns and money supply. As the last factor affecting the stock returns, change in industrial productivity is important in terms of influence on future cash flows. Growth in productivity creates an expectation of higher future cash flows in investors and therefore causes increase in stock returns. In other words, there is a positive relationship between change in industrial productivity and stock returns.

## 2.2. Markov Chains

Markov chains or Markov chain analysis is a method of analyzing the current behavior of a random variable to estimate the future behavior of it. This method is developed by Andrei A. Markov at the beginnings of 1900s (Gupta, 2006).

According to Taylor (1996), in dealing with complicated systems based on stochastic processes, Markov chain is very useful. Main concepts of Markov chains are states, transitions, and probabilities representing state transitions. The state of system presents the present situation. The system contains more than one state, which is labeled as set of states, and for the next time period, the system can either keep the current state, or moves through any other state within this set based on corresponding transition probabilities.

Denoting the set of states with  $S$ , which is finite and countable, and random variables with  $X_i$ , a stochastic process fulfills the Markov property if:

$$P\{X_{n+1} = s_{n+1} | X_n = s_n, X_{n-1} = s_{n-1}, \dots, X_0 = s_0\} = P\{X_{n+1} = s_{n+1} | X_n = s_n\} \quad (1)$$

for all  $n$ , representing time indexes, and  $S = \{s_0, \dots, s_n\}$ .

As seen in equation (1), a stochastic process satisfies a Markov property, if the probability that the system is in a future state of  $X_{n+1}$  just depends on the current state  $X_n$ , and is independent from any of the other previous states  $X_0, \dots, X_{n-1}$  (Hillier and Lieberman 2005; Vasanthi et al., 2011).

In a Markov chain, state transition probabilities are denoted with  $p_{ij}$  presenting probability of moving from state  $i$  to  $j$  (Ross, 2014). This probability is mathematically denoted as:

$$p_{ij} = P\{X_{n+1} = j | X_n = i\} \quad (2)$$

By using a matrix notation, where  $i$  and  $j$  respectively show rows and columns, state transition probabilities can be shown as follows:

$$P = \begin{bmatrix} p_{11} & p_{12} & p_{13} & \dots & p_{1j} \\ p_{21} & p_{22} & p_{23} & \dots & p_{2j} \\ \vdots & \vdots & \vdots & \vdots & \vdots \\ p_{i1} & p_{i2} & p_{i3} & \dots & p_{ij} \end{bmatrix}$$

All members of the P matrix satisfies  $p_{ij} \geq 0$ , for each of the row  $\sum_j p_{ij} = 1$  (Lange, 2010; Winston, 2004; Taylor and Karlin, 1994; Howard, 1971).

The steady state probabilities of the Markov chains are denoted with  $\pi_i$  representing the probability of the process being in state i in the long term. Thus, these probabilities are also known as stationary probabilities. Defining  $\pi_i$  as stationary probabilities,  $i = 1, 2, \dots, N$  as elements of a vector  $\pi$ , and P as a stochastic transition matrix including  $p_{ij}$ , the following formulas are derived (Howard, 1971).

$$\pi = \pi P \quad \text{where} \quad \sum_{i=1}^N \pi_i = 1 \quad (3)$$

A Markov chain can have either the form of vector-process or the form of individual process. In the case of vector process Markov chains, where movements of the random variable is considered collectively, the test of homogeneity needs to be carried out after defining states of the process. If vector-process Markov chain,  $[X_t, t = 1, 2, \dots, T]$ , is homogenous, it can be converted to individual process Markov chains having the same state transition probabilities. Individual process Markov chains, where movements of the random variable is considered individually, has the structure of  $[X_{st}, t = 1, 2, \dots, T, s = 1, 2, \dots, S]$ . If  $\{X_t\}$  is not homogenous, then  $\{X_{st}\}$  needs to be analyzed one by one as individual process chains for all  $s = 1, 2, \dots, S$ . For Markov chains, testing the order and stationarity of the transition probabilities are also required (Fielitz and Bhargava, 1973).

By using hypothesis, testing stationarity and order can be tested. For testing stationarity, corresponding null,  $H_n$ , and alternative,  $H_a$  hypothesis are written as:

$H_n$ :  $p_{ij}(t)$  does not depend on t;  $p_{ij}(t) = p_{ij}$  for all  $i, j = 1, 2, \dots, S$  and  $t = 1, 2, \dots, T$

$H_a$ :  $p_{ij}(t)$  depends on t for all  $i, j = 1, 2, \dots, S$  and  $t = 1, 2, \dots, T$

According to Fielitz and Bhargava (1973), the chi-square statistic is calculated as:

$$U_i^2 = \left( \left\{ [f_{ij}(t) / \sum_j f_{ij}(t)] [\sum_j f_{ij}(t)] - [\sum_t f_{ij}(t) / \sum_t \sum_j f_{ij}(t)] [\sum_j f_{ij}(t)] \right\}^2 / \left\{ [\sum_t f_{ij}(t) / \sum_t \sum_j f_{ij}(t)] [\sum_j f_{ij}(t)] \right\} \right) \quad (4)$$

In equation (4),  $f_{ij}(t)$  shows the realized number of movements from state i at time t-1 to state j at time t. Under the null hypothesis, each  $U_i^2$  has an asymptotic chi-square distribution with  $(V-1)(T-1)$  degrees of freedom. Thus, the sum:

$$U^2 = \sum_i U_i^2 \quad (5)$$

has asymptotic chi-square distribution with  $V(V-1)(T-1)$  degrees of freedom.

For testing the order, corresponding hypothesis are represented as:

$H_n$ : Markov chain has a zero order, independent trials sequence

$H_a$ : Markov chain has a first or higher order, chain depends on previous state.

The test statistic is calculated as:

$$U^2 = \sum_{i,j} \left( \left\{ [\sum_t f_{ij}(t) - [\sum_j \sum_t f_{ij}(t) \sum_i \sum_t f_{ij}(t)] / [\sum_i \sum_j \sum_t f_{ij}(t)]] \right\}^2 / [\sum_j \sum_t f_{ij}(t) \sum_i \sum_t f_{ij}(t)] / [\sum_i \sum_j \sum_t f_{ij}(t)] \right) \quad (6)$$

In equation (6),  $U^2$  has an asymptotic chi-square distribution with  $(V-1)^2$  degrees of freedom. Anderson and Goodman (1957) showed that if the value of a specific state is dependent on more than one previous states,  $\alpha > 1$ , the process is said to be  $\alpha$  order Markov chain.

### 3. IMPLICATION

In this study, the main objective is to evaluate the efficiency of Markov chains model in predicting the direction of stock market movements. In this frame, data and data collection process are explained and then stationarity and order tests of Markov chain are presented together with the corresponding state transition probabilities.



### 3.1.Data

Considering the fact that industry specific events affect the predictability of stock behaviors during the time period considered, empirical part of this study is dependent on a specific industry, automotive industry, in order to eliminate these effects. The automotive industry is preferred, because this industry is thought to reflect the entire economy accurately, with the raw materials it provides to many other industries as well as using itself, depending mostly on foreign currencies and petroleum prices. In order to evaluate the effectiveness of Markov chain model in predicting the stock price movements for Turkish capital market, the study focuses on the stocks of 13 automotive companies listed in Borsa Istanbul. Daily closing stock prices data for the year 2015 are collected from Borsa Istanbul internet site and are used in predicting the first five working days' price movements in 2016.

### 3.2.Preliminary analysis

During 2015, there were 253 working days (national holidays, and weekends are excluded). Thus, for each company working on automotive industry, 253 daily closing stock prices were obtained. Stock prices were observed to be vary significantly for each company. In Figure 1, daily closing stock prices are presented



**Figure 1** Daily closing stock prices (TL) of 13 companies

The main descriptive statistics corresponding stock prices were represented in Table 1.

**Table 1:** Descriptive statistics of stock prices (TL) of 13 companies

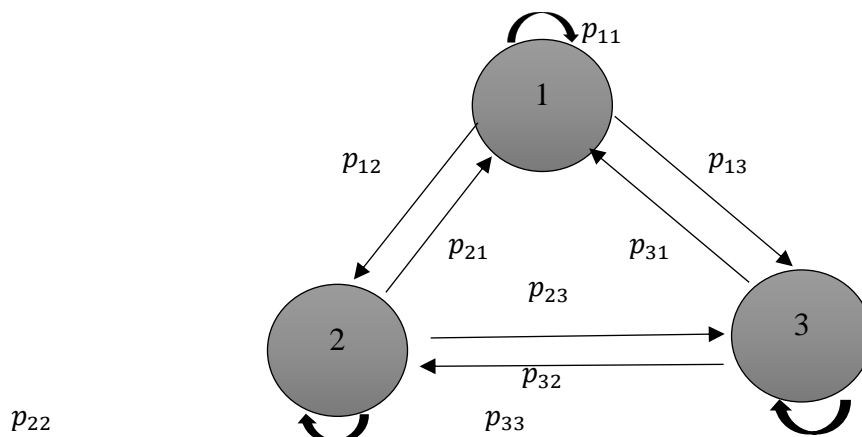
Company	Company	Average	Standard	Range	1 <sup>st</sup> Quartile	3 <sup>rd</sup>
ASUZU	C1	20.18	2.36	8.35	18.05	22.30
BALAT	C2	0.79	0.05	0.38	0.76	0.81
BFREN	C3	154.89	12.82	68.50	145.50	163.50
DITAS	C4	5.71	1.20	4.22	4.83	6.90
EGEEN	C5	243.96	42.40	163.00	213.50	260.50
FMIZP	C6	13.81	1.44	7.10	12.70	15.00
FROTO	C7	33.16	1.64	9.55	32.20	34.20
JANTS	C8	24.87	4.52	15.03	20.75	29.60
KARSN	C9	1.55	0.14	0.69	1.45	1.68
KATMR	C10	4.16	1.60	8.17	3.40	3.85
OTKAR	C11	87.91	7.87	41.00	81.45	95.2
PARSN	C12	5.57	1.06	3.46	4.78	6.72
TOASO	C13	17.61	1.25	5.38	16.55	18.41



As observed in Figure 1 and Table 1, daily closing stock prices highly vary for different companies. Besides, within the companies a deviation exists between daily stock prices. This observation shows that, for the investors (especially who invest with high amounts), there is a high risk of losing money.

### 3.3. Markov chain analysis for data

When data analyzed, it is observed that, for each of the company, stock price can decrease, increase, or remains constant for consecutive days. Thus, in representing the Markov chain three states are defined as increase, remains same, and decrease where each of them are respectively denoted as 1,2, and 3. The movements between states are characterized with transition probabilities of  $p_{ij}$  where  $i = 1,2,3$  and  $j = 1,2,3$ . Transition diagram of this analysis is represented at Figure 2.



**Figure 2:** General representation of states and transitions

To make it more understandable, some examples on transition probabilities are represented in Figure 2. For example,  $p_{11}$  represents the probability of moving through state 1 for the next time period, given the current state of state 1. Since data shows the daily stock prices, the time period is represented in day basis. Since state 1 is the increase state,  $p_{11}$  represents the probability of observing an increase in stock price for the next day, given that current state is 1 (which means that today's stock price was already higher than yesterday's stock price). Additionally,  $p_{12}$  represents the probability of observing no change in the stock price for the next day, given that the current state is 1, where  $p_{13}$  shows the probability of observing a decrease in the stock price for the next day, given that today's state is 1. For other transition probabilities given in the Figure, similar representations follow.

Individual-process Markov chains are considered in the analysis, since the stock prices of the companies significantly differ from each other. Thus, while calculating the transition probabilities, the companies are analyzed individually. In order to calculate individual transition probabilities of each company, 253 working days' data are analyzed separately. There are 252 movements during the study period. The frequencies of increase, remains constant, and decrease movements are calculated. Besides, while calculating the frequencies, Markov chain structure is considered.

At the end, state transition probabilities of each company is calculated as follows:

$$\begin{aligned}
 P_{C1} &= \begin{bmatrix} 0.36 & 0.08 & 0.56 \\ 0.35 & 0.12 & 0.53 \\ 0.50 & 0.06 & 0.44 \end{bmatrix} & P_{C2} &= \begin{bmatrix} 0.18 & 0.32 & 0.50 \\ 0.33 & 0.24 & 0.43 \\ 0.40 & 0.27 & 0.33 \end{bmatrix} & P_{C3} &= \begin{bmatrix} 0.47 & 0.05 & 0.48 \\ 0.56 & 0.06 & 0.38 \\ 0.43 & 0.08 & 0.49 \end{bmatrix} \\
 P_{C4} &= \begin{bmatrix} 0.54 & 0.08 & 0.38 \\ 0.60 & 0 & 0.40 \\ 0.46 & 0.06 & 0.48 \end{bmatrix} & P_{C5} &= \begin{bmatrix} 0.47 & 0.03 & 0.50 \\ 0.63 & 0 & 0.37 \\ 0.53 & 0.04 & 0.43 \end{bmatrix} & P_{C6} &= \begin{bmatrix} 0.42 & 0.07 & 0.51 \\ 0.48 & 0.16 & 0.36 \\ 0.46 & 0.12 & 0.42 \end{bmatrix} \\
 P_{C7} &= \begin{bmatrix} 0.43 & 0.07 & 0.50 \\ 0.43 & 0.14 & 0.43 \\ 0.53 & 0.04 & 0.43 \end{bmatrix} & P_{C8} &= \begin{bmatrix} 0.38 & 0.04 & 0.58 \\ 0.58 & 0 & 0.42 \\ 0.44 & 0.07 & 0.49 \end{bmatrix} & P_{C9} &= \begin{bmatrix} 0.44 & 0.11 & 0.45 \\ 0.40 & 0.21 & 0.39 \\ 0.42 & 0.18 & 0.40 \end{bmatrix} \\
 P_{C10} &= \begin{bmatrix} 0.45 & 0.04 & 0.51 \\ 0.42 & 0 & 0.58 \\ 0.44 & 0.07 & 0.49 \end{bmatrix} & P_{C11} &= \begin{bmatrix} 0.42 & 0.02 & 0.56 \\ 0 & 0 & 1 \\ 0.49 & 0.02 & 0.49 \end{bmatrix} & P_{C12} &= \begin{bmatrix} 0.43 & 0.11 & 0.46 \\ 0.36 & 0.12 & 0.52 \\ 0.48 & 0.09 & 0.43 \end{bmatrix} \\
 & & P_{C13} &= \begin{bmatrix} 0.48 & 0.08 & 0.44 \\ 0.53 & 0.05 & 0.42 \\ 0.44 & 0.08 & 0.48 \end{bmatrix}
 \end{aligned}$$

When Asuzu is considered, C1; during the study period, there were 39 days in which stock prices moved through state 1 to state 1 (increase to increase), 9 days in which stock prices moved through state 1 to 2 (increase to remain constant), and 62 days in which stock price moved through state 1 to 3 (increase to decrease). Since total number of increase movements was 110, the respective probabilities of  $p_{11}$ ,  $p_{12}$ , and  $p_{13}$  were 0.36, 0.08, and 0.56 respectively. Similarly, during 6, 2, and 9 days stock prices respectively moved through state 2 to 1, state 2 to 2, and state 2 to 3. Since total number of remains constant (state 2) movements were 17, respective probabilities were obtained as  $p_{21} = 0.35$ ,  $p_{22} = 0.12$ ,  $p_{23} = 0.53$ . Finally, during 64, 7 and 56 days stock prices respectively moved through state 3 to 1, state 3 to 2, and state 3 to 3, where total number of decrease movements were 127. Thus respective probabilities were calculated as  $p_{31} = 0.50$ ,  $p_{32} = 0.06$ ,  $p_{33} = 0.44$ . For all of the other companies similar analysis were done based on their own data set, and transition probabilities were calculated as summarized above. Based on equation (3), the steady state probabilities of each state 1, 2, and 3 were calculated for each of the companies. These probabilities are presented in Table 2.

**Table 2: Steady state probabilities of stock price movements**

Company ID	$\pi_1$	$\pi_2$	$\pi_3$		Company ID	$\pi_1$	$\pi_2$	$\pi_3$
C1	0.43	0.18	0.39		C8	0.42	0.09	0.49
C2	0.41	0.14	0.45		C9	0.36	0.11	0.53
C3	0.35	0.28	0.37		C10	0.41	0.25	0.34
C4	0.34	0.15	0.51		C11	0.51	0.07	0.42
C5	0.38	0.12	0.50		C12	0.47	0.14	0.39
C6	0.41	0.12	0.47		C13	0.43	0.13	0.44
C7	0.52	0.16	0.32					

In order to test the stationarity of Markov chains chi-square test statistics can be obtained based on equations (4) and (5). Since chi-square distribution is asymptotically normal for more than 30 degrees of freedom, the normal distribution tables are used. Based on the normal distribution table with 1512 degrees of freedom ( $V = 3, T = 253, (V)(V - 1)(T - 1) = 1512$ , no sufficient evidence existed to reject null hypothesis of stationarity at 95% confidence interval. This shows that, transition state probabilities for stock prices were stationary. Thus, the steady state probabilities presented at Table 2 were valid. For testing the order, chi-square distribution table with  $(3 - 1)^2 = 4$  degrees of freedom is used. For stock prices of all companies, test statistics were calculated based on equation (6). At the end, there were significant evidences to reject the null hypothesis order test at a 95% confidence interval. Thus, models correspond to 1<sup>st</sup> or higher order Markov chains.

#### 4. RESULTS

In order to test the performance of Markov chain based decisions, the first week data of 2016, 4<sup>th</sup> January to 8<sup>th</sup> January, was collected. By Markov chain based decision, we mean given the current state, the investor makes his decision based on the highest probability of the chain for each of the company. To clarify it, we consider C1, Asuzu. If the current state of this company is 1 (which means stock price increased today when compared with yesterday's), since the highest probability is 0.56, which is the probability of moving state 3 for the next period, the investor expects a decrease in the stock price of this company. So he does not invest his money to this company for the next day. During the five working days of test period, number of days, in which Markov chain based decisions were successful for each of the company, are presented in Table 3.

**Table 3:** Number of days (between 04.01.2016-08.01.2016) Markov chain probabilities were successful

Company ID	# of days	Company ID	# of days
C1	2	C8	4
C2	4	C9	3
C3	5	C10	5
C4	4	C11	3
C5	2	C12	4
C6	2	C13	3
C7	4		

In Table 3, we observed that Markov chain probabilities were very successful for 7 companies (Balat, Bfren, Ditaş, Froto, Jants, Katmr, Parsn), where at least 4 days out of the 5 days, Markov chains let the investor to give the right decision. In 3 of the companies (Karsn, Otkar, Toasa), Markov chains could still be considered as successful, since they let the investor to give the right decision for 3 days. However, for the remaining three companies (Asuzu, Egeen, Fmzip), the Markov chain based decisions were not really successful. In testing the performance of Markov chain based decision, two scenarios are considered in this paper. The first scenario represents the investors who behave more stable. This type of investors are assumed to choose a company to invest and then stays constant in this stock. Thus, these are not allowed to shift his money from company to company. The second scenario represents more active investors. These type of investors are assumed to change his company every day. Under the first scenario, we develop and compare two decisions. The first decision is labeled as without Markov chain, where at 31<sup>st</sup> of December, 2015, the investor invests his money to any of the company, and waits until the end of 8<sup>th</sup> of 2016. The second decision is labeled as Markov chain based. In this one, based on the probability values of Markov chain, the investor keeps his money on hand (does not invest any company), if he expects a decrease. Here, if Markov chain works, it protects stable investor from losing money. To simulate this scenario for each of the company, we assumed that the investor puts his money of 1000TL to companies at 31<sup>st</sup> of December. Based on the two decisions, the values of the investor's money were calculated and Table 4. According to Table 4 values, we concluded that for this type of investors who choose to invest his money to any of the companies of C1, C5, C9 (Asuzu, Egeen, Karsn), Markov chain based decision were decreased the loss of investors. Similarly, for any of the companies of C3, C8, C10 (Bfren, Jants, Katmr), Markov chain based decision protected the investor against a significant decrease in his money. For the investors of the three companies C2, C7, and C12 (Balat, Froto, Parsn), Markov chain based decision did not only protect the investors from a significant loss, but this decision also let the investor to make a profit. For the investor of the company C4 (Ditaş), the Markov chain based decision increased the investor's profit significantly.

However, for the investors of the remaining three companies of C6, C11, and C13 (Fmzip, Otkar, Toasa), the Markov chain based decision failed to succeed as well as the other alternative.

**Table 4:** Results under scenario 1, for stable investor

Company ID	Markov-chain based decision		Without Markov
	The value of 1000	The opportunity	The value of 1000 TL
C1	964.55	1.69	956.67
C2	1028.57	14.49	972.97
C3	1000	0	943.88
C4	1121.15	0	1100
C5	999.97	2.55	960.85
C6	1025.25	23.92	1065.80
C7	1004.63	1.98	991.41
C8	1000	1.52	947.24
C9	966.84	0	960.26
C10	1000	0	882.29
C11	1058.73	15.59	1070.71
C12	1008.54	0	957.92
C13	1004.69	24.03	1016.89

Under scenario 2, we assumed that, at the end of each day, namely observing the current state of the system, the investor updates his decision of which company to invest by considering the state transition probability matrixes. According to this rule, a rational investor invests his money to any of the alternative in which he expects an increase with high probabilities. Similarly, assuming the investor has 1,000 TL at the end of 31<sup>st</sup> of January, we simulate all possible different investment alternatives following Markov chain probabilities. The results are represented in Table 5.

**Table 5:** Markov chain based results, under scenario 2

Invested companies					End-value
4 <sup>th</sup> of January	5 <sup>th</sup> of January	6 <sup>th</sup> of January	7 <sup>th</sup> of January	8 <sup>th</sup> of January	
C4	C4	C7	C13	C11	1298.81
C7	C4	C5	C11	C12	1030.51
C4	C4	C1	C11	C11	1269.81
C5	C5	C13	C13	C12	1012.44

As seen in Table 5, for all possible alternatives, the investor increases his money if he bases his decision according to Markov chain structure.

## 5. CONCLUSION

In an investment decision, it is the expectations traded in the market. This means that as the investors can predict the market movement accurately, they can generate more profit. However it is the most difficult task in an investment to predict it. In order to help them solve this problem, many researchers have studied this subject and developed some models getting more complex as the time passes. Markov chain model is a very commonly applied model in the prediction of market movement. In a Markov chain, current states are used in predicting the direction of transition to next state. In testing the performance of Markov chain based decision, two scenarios are considered in this paper. The first scenario represents the investors who behave more stable. This type of investors are assumed to choose a company to invest and then stays constant in this stock. Thus, these are not allowed to shift his money from company to company. The second scenario represents more active investors. These type of investors are assumed to change his company every day. The results concluded that in the first scenario, using Markov chains either increased the profit or minimized the loss amount realized

compared to actual price changes. Under scenario 2 under which the decisions are updated everyday, again investor is in a better situation when Markov chain is applied. These results make it possible to conclude that Markov chain model is appropriate for predicting the stock market direction and helps investors to increase the profit or at least decrease any possible loss. This study has some limits in application as it is focused on automotive industry, rather than the whole market, assuming that the automotive industry is a good mirror of economy. By extending the dataset to include more than one industry, or even to include the whole market, the results may be more generally acceptable. Another study may be to use Markov chain in forming a portfolio and evaluating the results, instead of a single stock performance, in terms of increased profitability or risk minimization.

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## EXPORT IN FRAGMENTED INDUSTRIES IN POLAND – ANALYSIS OF THE TOP EXPORTERS IN SELECTED FRAGMENTED INDUSTRIES

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### **ABSTRACT**

*Fragmented industries are a crucial element of the economy of the developed countries. In Poland they can be identified in such areas as trade, services or manufacturing. The natural development direction for companies in fragmented industries is international expansion, and the main method of entering foreign markets is export. The aim of this paper is to present the role of export in the growth of Polish companies from fragmented industries. Based on the literature on management, the article presents the issues related to exports as a form of enterprise internationalization. A review of studies on enterprise internationalization and the role of exports in the enterprise growth process taking place on foreign markets is performed as well. On the basis of the literature on the subject, the article outlines the results of the most significant studies dealing with the issue of fragmented industries.*

*What follows is the presentation of the author's own research on the function of exports in the development of Polish companies from fragmented industries. Central Statistical Office data was used to provide examples of such industries. This is followed by an analysis of the largest exporters in the fragmented industries conducted on the basis of the ranking of the largest companies in Poland (The List of 2,000 Polish Enterprises). The observations made it possible to identify export leaders as well as to present the role of exports in the growth of companies in fragmented industries. The results of the studies serve as a basis for the formulation of general conclusions.*

**Keywords:** *export, internationalization, fragmented industries, development strategies*

### **1. INTRODUCTION**

In the literature on management the issues connected with export are analyzed from various perspectives. The theoretical and the empirical approach are both used in the process. Scholars such as: Johanson & Wiedersheim-Paul (1975), Johanson & Vahlne (1977), Oviatt & McDougall (1994), Knight et al. (2004), Rialp et al. (2002), Hessels & Terjesen (2010), Khemakhien (2010), Hollensen (2011), Meissner (1990), Pietrasieński (2005) or Jarosiński (2013) see exports as a fundamental form of internationalization. However, Albaum et al. (1994), Westhead et al. (2002), Suárez-Ortega & Àlamo-Vera (2005) are more interested in the causes of this international expansion of enterprises. In the literature on the subject, the issue of fragmented industries is analyzed predominantly in the light of Porter's concept (1998, p.: 189 and further). Porter distinguishes the following types of generic industry environments: fragmented, emerging, mature, declining and global. They reflect the industry attractiveness and determine the way the enterprises within it operate. According to Porter, a fragmented industry is *an industry in which the total market share of four largest enterprises does not exceed 40% of the revenues generated by all the firms in the industry. Usually fragmented industries are populated by a large number of small- and medium-sized companies, many of them privately held. It is an industry in which no firm has a significant market share or can strongly influence the industry outcome* (1998, pp.: 191-192). The notion of fragmented industries is also a subject of the research conducted by Sosnowska (1998, p.: 119 and further).

When analyzing the market concentration processes and enterprise behaviours, scholars emphasize that firms in fragmented industries are faced with barriers appearing as a result of market saturation. Ansoff (1987, p. 110) in turn, highlights enterprise growth opportunities and stresses that international expansion is a means of overcoming limitations to growth existing on domestic markets. A survey of research reveals that only few of the available studies (Porter, 1998; Sosnowska, 1998) address the issue of fragmented industries. Their research undoubtedly contributes to the extension of knowledge about the functioning of enterprises. Nevertheless, the theoretical analysis conducted in this article reveals a research gap. The existing studies do not investigate the role of international expansion in the growth of fragmented industries comprehensively enough.

*The aim of this paper is to present the role of exports in the development of companies from the fragmented industries. The theoretical part* of the paper, based on the literature on the subject, presents the main definitions of internationalization and discusses the issues related to exports. It describes the findings of research on internationalization and the use of export as a form of international expansion of companies. Moreover, a review of the most significant studies investigating the issue of fragmented industries is conducted as well.

Since in the available research on internationalization and the studies concerning fragmented industries, the question of international expansion of companies from fragmented industries is only touched upon, a decision was made to carry out more in-depth analyses of these subjects. **The empirical part** of the paper presents the research methodology. It describes the methods adopted to perform the study and carefully explains why given firms were selected for its purposes. In order to illustrate the role of exports in the growth process of enterprises in fragmented industries, a *panel study* method was chosen. Detailed analyses of the largest exporters from seven fragmented industries in Poland were conducted. The exporters exemplify phenomena connected with seizing opportunities for international growth. The panel studies involving the largest exporters from fragmented industries resulted in the formulation of conclusions and final remarks which are consistent with the world trends described in the literature. What is more, they support the results of the previous research on internationalization and fragmented industries.

Export is a fundamental form of international expansion of companies. When entering foreign markets, enterprises search for more favourable conditions for their operation.

The innovative character of the author's own research presented here consists in the fact that it concerns export leaders from fragmented industries in Poland. The analyses of exporters from particular industries reveal growth opportunities available on international markets. The research conclusions and final remarks may trigger a discussion about export activities of enterprises from fragmented industries. The deliberations presented in this paper support the assumption that there is need for further and more comprehensive research investigating the aforementioned matters.

## 2. LITERATURE REVIEW

### 2.1. Export as a fundamental form of internationalization

In the literature on the subject discussed here, export is perceived as a form of expansion to foreign markets which in turn leads to the internationalization of enterprises. Feenstra & Taylor analyze exports in the context of foreign trade and emphasize that *export is sales of goods from one country to another* (2012, p. 3). Internationalization in turn is associated with the process of gradual transition to conducting company activities abroad. Johanson & Vahlne (1977, p. 33) define internationalization as *a firm's or an industry's level of commitment to conducting international operations*.

Welch & Luostarinen (1988, pp.: 34-55) consider internationalization to be *the process of increasing involvement in international operations*. Also Havnes (1994, p. 15) associates internationalization with the process of engagement in international activities. The view is shared by Pierścionek (2011, p. 359) as well, who defines internationalization as *any form and scope of relations between various activities of a firm and foreign markets*. Another scholar, Rozkwitalska (2007, pp.: 121-122) points out that internationalization signifies *international expansion of a company which involves every type of economic activity undertaken by a company abroad or in cooperation with foreign partners*.

Also Pietrasieński associates internationalization with forms of conducting activities abroad and his definition emphasizes exports and production on foreign markets. The author defines internationalization as *the process of exporting goods and more and more often the transfer of production to other countries* (2005, p. 15).

The definitions of internationalization provided above suggest that exports are one of the forms of international expansion and involve carrying out company activities abroad. Stage approaches to internationalization presuppose that it is a process involving several stages. The most widely adopted model of enterprise internationalization is the so-called Uppsala Internationalization Model, see: Johanson & Wiedersheim-Paul (1975, pp.: 305-322), or: Johanson & Vahlne (1977, pp.: 23-32).

The stage approach to enterprise internationalization created by Johanson & Wiedersheim-Paul (1975, p. 307) involves the following four stages: 1) no regular export activities, 2) export via independent representatives (agents), 3) establishing a sales subsidiary abroad and 4) creating a manufacturing establishment abroad. The investigators concluded that the process of internationalization follows growth on the domestic market. When a firm decides to launch its operations abroad, it tends to expand its operations on the neighbouring markets first and then to gradually penetrate the more distant ones. Moreover, the researchers reasoned that exports are a primary form of entering foreign markets. A sales subsidiary or a manufacturing establishment is usually created a few years after exporting begins.

At this point it is worth mentioning the results of research conducted by Oviatt & McDougall (1994, pp.: 50-61). These scholars consider internationalization a natural evolution process of a firm and differentiate four forms of international commitment: *Export/Import Start-ups, Multinational Traders, Geographically Focused Start-Ups and Global Start-Ups*.

Interesting observations were also made by Knight et al. (2004, pp.: 645-647), who analyzed the scale of internationalization in Europe and the USA. The authors emphasize that the firms which do have sufficient equity and production potential may engage in expansion on foreign markets in the sectors which provide the opportunity of achieving competitive advantage. The firms search for markets with conditions more favourable than those on their domestic ones. Internationalization allows them to avoid the barriers resulting from domestic market saturation. The most attractive direction of internationalization of business activities are those markets on which it is possible to relatively quickly gain considerable market share. This type of internationalization takes place in the case of small and medium-sized enterprises which engage in international expansion relatively soon after they are set up (*born-global firms*).

Oviatt & McDougall (1994) as well as Knight et al. (2004) identify the forms of international expansion of enterprises leading to their gradual internationalization. The results of this research confirm that export is a fundamental form of international expansion of firms.

Different ways of growth on foreign markets are analyzed also by Meissner (1990, p. 47), who considers export, license agreements, franchising, joint venture arrangements, establishment of subsidiary companies and setting up production abroad to be forms of international expansion. Exports, in contrast to a joint venture or a subsidiary set up abroad, allow companies to avoid the cost of carrying out these undertakings. Moreover, they pose lower risk and require less equity and human resources.

Albaum et al. (1994, p. 31) highlight the motives for engagement in exports and differentiate between the *proactive* and *reactive* ones. The *proactive motives* of export include: profit and growth goals, managerial urge, technology competence (unique product), foreign market opportunities (market information), economies of scale, tax benefits, while the *reactive* ones are: competitive pressures, domestic market (small and saturated), overproduction, unsolicited foreign orders, extend sales of seasonal products, proximity to international customers (psychological distance).

The *proactive motives* of export trigger changes in a firm's strategy stemming from the possibilities of exploiting unique competences such as specific technological knowledge or market opportunities. The *reactive motives* in turn mean that a firm's reacts to the risks existing on its current markets (domestic or foreign) and adapts its operations accordingly. Interesting research on the subject of motives for expansion on international markets was conducted by Westhead et al. (2002, pp.: 51-68). Specifically, it concerned the expansion motives of small British firms. The analyses showed that the main reasons for commencing export activities were: being contacted by foreign customers that place orders, one-off orders, availability of information about foreign markets and interest of foreign customers. The study concluded that the bigger the firm, the more likely it is to have the proactive export motives.

Another pair of scholars, Suárez-Ortega & Àlamo-Vera (2005, pp.: 258-279) carried out research by means of which it was proven that it is the external environment of a company that influences the internationalization activities in the first place. The aforementioned academics are of the opinion that export promotion programs, which are supposed to increase export involvement of firms, should guide managers in such a way as to present them the benefits of exports. Exports tend to be the initial step into internationalization and are followed by engagement in conducting company operations abroad. Hollensen (2011, p. 335) distinguishes between *indirect export*, *direct export* and *cooperative export*.

When a company is involved in *indirect export*, it does not have to undertake any actions resulting from the fact that the goods cross the border. This is the responsibility of an intermediary. There is no need for the company to create an export department, set up a sales network or conclude contracts with foreign partners. Indirect export poses less commercial risk. *Direct exporting*, on the other hand, means that a company independently takes care of the cross-border activities and the sales of its goods abroad. In this case it is necessary for a firm to set up an export department, create its own shipping warehouse, distribution centres or even departments located in the customers' countries. In comparison to indirect sales, direct export requires more equity and carries greater risk.

*Cooperative exporting* means that an enterprise conducts export activities based on agreements with other companies (export marketing groups). Such collaboration involves agreements concerning the performance of particular exporting functions. Interesting research on the subject of forms of expansion on international markets was conducted by Rialp et al. (2002, pp.: 133-155).

The researchers point out that on the continuum between the two forms of export, i.e. the indirect export, characterised by the lack of control over product marketing, and export through a firm's own subsidiaries or foreign departments, where the control is quite close, there is space for a number of other solutions such as exports through agents or distributors and other intermediate forms by means of which an exporter may take over some of the activities conducted by foreign intermediaries.

Also Hessels & Terjesen (2010, pp.: 203-220) investigate the ways companies enter international markets. In the course of analysis of the expansion processes of small and medium-sized Dutch exporters, the authors analyze exports involving intermediaries, without regard to whether they are domestic or foreign ones. The view is shared by Khemakhien (2010, pp.: 223-244), who emphasizes that direct export can not only be realized by a company's own export department or its own branches, but also by foreign distributors.

Foreign expansion is associated with internationalization and more and more often it becomes a subject of interest also to the Polish researchers. A survey of research on internationalization of Polish enterprises completed in the years 1990-2010 concludes that Polish firms engage in internationalization more and more often but that a majority of them employ the less advanced foreign market entry modes such as the indirect and direct export (Jarosiński, 2013, pp.: 173-179). Still only a relatively small number of enterprises engages in foreign direct investment or uses other forms of activity such as licensing or franchising.

The observations described above are confirmed by research involving a sample of 241 Polish enterprises (Jarosiński, 2013, pp.: 295-310). The study dealt with forms of internationalization and concluded that when companies enter foreign markets, they do it primarily by means of direct exports (86% of the cases). Other forms include the establishment of commercial (13%), manufacturing and commercial (6%) as well as manufacturing subsidiaries (4%). The remaining forms of activity on international markets were reported by only a few enterprises. The international activity of Polish firms is a slow but a promising process.

## **2.2. Growth opportunities for enterprises in fragmented industries**

Some of the most significant research available in the world literature and dealing with the subject of fragmented industries was carried out by Porter (1998, p.: 191 and further). It is a strategic analysis of the industry (sector) and the structure it has in the economy of the USA. The study showed that fragmented industries are present in such areas of the economy as: services, retail trade, metal and wood processing or agricultural production. The researcher found that effective implementation of the competitive strategy (*cost leadership, differentiation and focus on a specific niche*) decrease the intensity of competitive forces in the industry. However, in his papers, Porter does not define the growth strategies implemented in fragmented industries. He only provides examples of actions which might make it possible to adapt the competitive strategies described in the management theory literature to the specific conditions of fragmented industries. The steps he proposes lead to the strengthening of a firm's competitive position in its industry. Fragmented industries are also a subject of research carried out in Poland. For instance the studies by Sosnowska (1998, pp.: 119-135) on production concentration and market behaviour of enterprises analyzes the processes of organizational concentration. They present the changes of production concentration as well as their influence on the strength of the competition. What the research also describes are the reactions of enterprises from industries of varying levels of concentration. The studies reveal that in Polish economy, fragmented industries exist in such areas as: services, trade or industrial processing.



Both aforementioned studies show that fragmented industries can be found in the USA and Poland as well. A great majority of companies within these industries are small and medium-sized ones operating primarily on local markets. Characteristic features of fragmented industries are: growing market requirements and fierce competition. A considerable number of very small firms and frequently also their low level of competitiveness are the reasons why a relatively small number of entities records increasing sales dynamics. The studies conducted by Porter and Sosnowska conclude that the firms in fragmented industries are faced with various barriers to growth associated with market saturation. However, the possibilities of overcoming these limitations in fragmented industries were not the primary objective of these studies.

It should be noted that operation in a fragmented industry affects a company's competitive behaviour and its growth strategy as well. The classic enterprise growth model created by Ansoff (1957, pp. 114-115) adopts the directions and the pace of conducting activities in the product-market area as the criteria for differentiating strategies. When discussing growth opportunities, Ansoff differentiates the following strategies: *market penetration*, *market development*, *product development* and *diversification*. These growth strategies reflect different expansion directions taken throughout the stages of enterprise development. The proposed strategic options presuppose that development on a new market may compensate for the unfavourable conditions on the current markets of a given firm.

The growth strategies focus more on new markets as new groups of clients than on new markets in the geographical sense. The geographical aspect of market development is strongly expressed in a modified version of Ansoff's organization growth concept (1987, p. 110). His perception of development in the geographical sense regards the existing and the new regions or domestic markets. When an enterprise enters new markets, including the foreign ones, it extends its geographical scope of operations. This consists in the expansion of the firms' sales territories. Geographical expansion is therefore a natural way of development for an enterprise which encounters barriers to growth on its current local market. Crossing geographical borders, especially the state ones, eliminates or at least limits the influence of these barriers to growth. The sales of a considerable part of a firm's production outside its country of origin leads to internationalization.

The strategies involving entering foreign markets seem to be a natural element of the growth process of a company operating in a fragmented industry. This view is confirmed also by research conducted in Poland. The work on corporate group development (Janiuk, 2011, pp.: 83-102) as well as the studies focusing on market concentration of enterprises (Janiuk, 2014, pp.: 36-40) describes growth opportunities available to companies in such fragmented industries as meat and milk processing. The analyses reveal that apart from using industrial diversification as a growth strategy, the strategic behaviours of firms reflect their interest in international expansion. The motives for engagement in operations on foreign markets follow the need to overcome barriers caused by domestic market saturation.

In the literature on management the issues connected with international expansion are analyzed both from the theoretical and the empirical perspective. The studies cited in this paper undoubtedly expand the knowledge about the process of enterprise internationalization and about the opportunities of finding more favourable conditions on foreign markets. They do not, however, provide enough details on the opportunities arising as a result of conducting export activities by enterprises from fragmented industries. *The aim of this paper is to present the role of exports in the development of companies from the fragmented industries.*



### 3. METHODOLOGY

The research concerns the industries and entities classified within the Polish Classification of Activity (Polska Klasyfikacja Działalności, PKD/NACE)<sup>1</sup> (Section C - Manufacturing). The proposed level of industry analysis is the third level of the classification, namely - the group. In this study, a group will be considered an industry. According to the data of the Central Statistical Office, Section C - Manufacturing includes 95 groups (industries), which are characterized by different levels of concentration/fragmentation. Fragmentation is a characteristic feature of an industry indicating the level of concentration of the entities within it as well as the competition level on a given market. Fragmentation means that no company has a significant market share. What is needed to determine the level of market fragmentation is an appropriate method of measurement. The most commonly accepted of such measures is the *Herfindahl-Hirschman Index* (HHI), see e.g. (*Leksykon zarządzania*, 2004, pp.: 623, 638). This concentration index (HHI) is calculated by squaring the market share of each firm competing in a market. The *HHI* is a measure of market concentration combining two issues: the number of enterprises in a given industry and the inequality of market forces. It proves to be a good measure in the case of a number of companies of various sizes. A market with an  $HHI \leq 1000$  is considered to be a fragmented one, whereas with  $HHI \geq 1800$  to be concentrated (U.S. Department of Justice, 2015). The research used the data provided by the Central Statistical Office about the 10 industries in the case of which HHI was  $\leq 1000$  in 2015. The NACE identification of these fragmented industries is the following: 10.1; 10.3; 10.7; 14.1; 17.2; 22.2; 23.6; 25.1; 25.6; 33.1.

The subsequent part of the research drew on the data published in the *List of 2,000 Polish Enterprises and Exporters* (*Lista 2000 Polskich Przedsiębiorstw i Eksporterów*), which contains information on the sales revenues generated by the largest firms in the years 2012-2015. The data was analyzed in terms of the engagement of these companies in exports. The criterion used for the sampling of industries and enterprises was the level of sales revenues generated through exports exceeding 10 million EUR. This allowed for the elimination of the industries and firms whose engagement in exports is marginal. As a result, the sample included seven fragmented industries and their largest exporters. The NACE identification of these industries is the following: 10.1; 10.3; 17.2; 22.2; 25.1; 25.6; 33.1.

The research took the form of a *longitudinal study* which makes it possible to observe a phenomenon over an extended period of time. Its particular design was a *panel study* which consists in an analysis of repeated measures from the same sample (panel) at different points in time. The longitudinal study method involved the observation of changes occurring over time and described in newspaper editorials (Babbie, 2009, pp.: 123, 544, 545). The study examined the role of exports in the growth of companies from fragmented industries. Both the industry and the enterprise analyses took the form of a panel study. In accordance with the grounded theory, a *panel study* is a method providing the most comprehensive set of data on changes over time (Babbie, 2009, p. 126). In this research the panel study offered a picture of the largest exporters from the seven following fragmented sectors (the number in brackets indicates the number of companies in a given industry): NACE 10.1 Processing and preserving of meat and production of meat products (9); NACE 10.3 Processing and preserving of fruit and vegetables (2); NACE 17.2 Manufacture of articles of paper and paperboard (4); NACE 22.2 Manufacture of plastic products (11); NACE 25.1 Manufacture of structural metal products (7); NACE 25.6 Treatment and coating of metals; machining (1); NACE 33.1 Repair of fabricated metal products, machinery and equipment (3).

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<sup>1</sup>PKD (Polish Classification of Activities) is coherent and comparable with NACE - the Statistical Classification of Economic Activities in the European Community, therefore in the source materials published by the Central Statistical Office the abbreviation NACE is used.

The use of the panel study method allowed for the formulation of detailed conclusions concerning the fragmented industries and their largest exporters. In terms of the role played by exports in the growth process of enterprises from fragmented industries, the analyses were carried out not only at the industry level but also at the company level. They involved all the seven fragmented industries and their largest exporters. The firms exemplify the phenomena connected with the role of exports in the growth process of companies from fragmented industries. The entities subjected to the panel study are the most active international marketers from fragmented industries. Preliminary observations made in the meat processing industry revealed that the companies had been conducting international activities for many years (Janiuk, 2011, pp.: 93-97). Considering the high level of domestic market saturation characteristic of the fragmented industries, which was pointed out in the theoretical part of this paper, it can be generally assumed that in the cases of the firms selected for the study, international expansion positively affects their growth process. Therefore, the entities sampled for the purposes of the study are worth the attention given to them in the process of investigating the importance of exports for the growth of firms from fragmented industries.

In accordance with the growth model created by Ansoff, the research presented in this paper follows its assumptions regarding the geographical aspect of market growth. Geographical growth means entering new markets in the geographical sense, including the foreign ones. The sales of a considerable part of a firm's production outside its country of origin transform the enterprise into an international entity (internationalization). It was assumed in this research that, in accordance with the Uppsala model, the process of internationalization follows growth on the domestic market and that export is the primary method of entering international markets. The work carried out in the course of the study involved the identification of 10 fragmented industries in the Polish economy out of which seven were sampled for the panel study which consisted in the analysis of the data concerning the export leaders among them. Summaries presenting the largest exporters were drawn up for the seven fragmented industries. What was subsequently described were the export revenues and the share of exports in the firms' total sales revenues. A pooled analysis of the panel study results made it possible to present the significance of exports for the growth of companies from fragmented industries as well as for the formulation of final remarks.

#### 4. FRAGMENTED INDUSTRIES IN POLAND

The statistical source data obtained from the Central Statistical Office (CSO) presenting the HHI for 2015 shows that there were 10 fragmented industries in Poland at that time. The names of these industries, the number of enterprises in each of them (NACE Group) as well as the number of exporters and non-exporters in 2015 is presented in Table 1 below.

*Table 1: Fragmented industries in Poland, the number of enterprises in an industry (NACE Group) and the number of exporters\**

*(Source: author's own work on the basis of the data obtained from the CSO)*

NACE	Industry (sector) in Section C – Manufacturing	Exporters	Non-exporters	Total number of entities in NACE
10.1	Processing and preserving of meat and production of meat products	316	462	<b>778</b>
10.3	Processing and preserving of fruit and vegetables	204	59	<b>263</b>
10.7	Manufacture of bakery and farinaceous products	124	428	<b>552</b>
14.1	Manufacture of wearing apparel, except fur apparel	252	141	<b>393</b>
17.2	Manufacture of articles of paper and paperboard	253	147	<b>400</b>
22.2	Manufacture of plastic products	960	316	<b>1,276</b>
23.6	Manufacture of articles of concrete, cement and plaster	128	310	<b>438</b>
25.1	Manufacture of structural metal products	543	393	<b>936</b>
25.6	Treatment and coating services of metals; machining	389	290	<b>679</b>
33.1	Repair of fabricated metal products, machinery and equipment	209	402	<b>611</b>

\* Concerns firms employing over 50 persons.

The next step of the research was an examination of the export activities of the enterprises from the 10 fragmented industries. The observations of the exporters operating in fragmented industries were based on: the *Ranking of Exporters of 2015* in: (*The List of 2,000 Polish Enterprises and Exporters*, 2016, pp.: 7-10). In effect, three industries, namely: (10.7) Manufacture of bakery and farinaceous products, (14.1) Manufacture of wearing apparel, except fur apparel, and (23.6) Manufacture of articles of concrete, cement and plaster, were excluded from the study as their sales revenues generated through exports did not reach 10 million EUR. It might therefore be assumed that export activities conducted in the industries mentioned above, if any, are of marginal importance.

## 5. PANEL STUDY OF THE LARGEST EXPORTERS (RESEARCH RESULTS AND CONCLUSIONS)

The aim of the panel study is to present the role of exports in the development of companies from the fragmented industries. The results of the previous analyses as well as the data published in the *Ranking of Exporters of 2015* in: (*The List of 2,000 Polish Enterprises and Exporters*, 2016, pp.: 7-10) was used as a basis for further detailed analysis of the enterprises whose export revenues in 2015 exceeded 10 million EUR.

The analysis was of observational character and focused on the available data concerning export leaders. Observations at the company level delivered data on export revenues and the share of exports in the firms' total sales revenues. The analyses regarding the largest exporters from the seven fragmented industries are summarised in Tables 2–8 below<sup>2</sup>.

Table 2: Top exporters in Poland (10.1) Processing and preserving of meat and production of meat products  
(Source: author's own work on the basis of the *Ranking of Exporters*. In: *The List of 2,000 Polish Enterprises and Exporters*. Special Supplement to *Rzeczpospolita*, 24 November 2016. pp. 7-10)

Company	Share capital	Export revenues in 2015 (m EUR)	Export in sales (percentage share)				Sales revenues in 2015 (m EUR)	No. of jobs in 2015	2015 ROE %
			2015	2014	2013	2012			
ZDM Superdrob SA, Karczew	mixed	95.95	56.23	54.00	51.00	43.00	170.67	1,897	22.92
Indykpol SA, GK, Olsztyn*	domestic	67.65	23.61	20.68	18.50	18.60	286.59	1,203	12.14
Polski Koncern Mięsny Duda SA, GK, Warsaw*	domestic	47.40	13.74	13.79	14.12	14.30	345.16	1,260	4.0
Pamapol SA, GK, Rusiec*	domestic	34.03	34.80	34.24	27.56	21.51	97.64	966	0.59
Zakłady Mięsne Skiba, Chojnice	domestic	33.00	29.49	21.82	29.74	14.37	111.93	no data	11.73
Zakłady Mięsne Łmeat, Łuków SA	mixed	26.42	18.97	19.64	15.99	19.14	139.23	2,101	3.30
Rzeszowskie Zakłady Drobiarskie Res Drob, sp. z o.o., Rzeszów	domestic	19.08	31.56	no data	no data	no data	60.47	437	10.85
Przedsiębiorstwo Drobiarskie Wyrębski, Wróblew	domestic	17.81	24.36	23.27	no data	no data	75.10	565	43.32
ZM Henryk Kania SA, Pszczyna*	domestic	12.13	5.03	4.83	6.36	no data	241.10	827	18.85

\* WSE listed company.

<sup>2</sup> For the purpose of comparing the values of total sales revenues and the values of export revenues are expressed in Euro €. The National bank of Poland (NBP) exchange rate was applied to convert the values of sales revenues from PLN to EUR. For the 2015 data: 1 EUR = 4.2615 PLN.

*Table 3: Top exporters in Poland (10.3) Processing and preserving of fruit and vegetables  
(Source: author's own work based on the same source as in the table above)*

Company	Share capital	Export revenues in 2015 (m EUR)	Export in sales (percentage share)				Sales revenues in 2015 (m EUR)	No. of jobs in 2015	2015 ROE %
			2015	2014	2013	2012			
MC Cain Poland, sp. z o.o., Strzelin	foreign	57.42	73.00	no data	no data	no data	78.68	250	7.89
Hortino ZPOW, sp. zo.o., Leżajsk	mixed	11.05	51.18	60.40	63.00	47.20	21.61	376	no data

*Table 4: Top exporters in Poland (17.2) Manufacture of articles of paper and paperboard  
(Source: author's own work based on the same source as in the table above)*

Company	Share capital	Export revenues in 2015 (m EUR)	Export in sales (percentage share)				Sales revenues in 2015 (m EUR)	No. of jobs in 2015	2015 ROE %
			2015	2014	2013	2012			
MMP Neupack Polska, sp. z o.o., Bydgoszcz	foreign	44.63	43.66	no data	no data	no data	102.24	532	18.59
DS Smith Polska, Warsaw	foreign	32.90	18.38	19.00	20.00	22.33	179.02	1,161	13.31
TFP sp. z o.o., Kórnik	domestic	15.18	12.08	10.84	9.54	10.20	125.78	680	11.69
BSC Drukarnia SA, Poznań*	domestic	13.07	26.38	24.77	22.94	11.57	50.78	438	13.85

\* WSE listed company.

*Table 5: Top exporters in Poland (22.2) Manufacture of plastic products  
(Source: author's own work based on the same source as in the table above)*

Company	Share capital	Export revenues in 2015 (m EUR)	Export in sales (percentage share)				Sales revenues in 2015 (m EUR)	No. of jobs in 2015	2015 ROE %
			2015	2014	2013	2012			
Rawplug SA, GK, Wrocław*	domestic	94.97	60.16	58.10	60.10	57.60	157.85	1,927	6.41
Ergis SA, GK, Warsaw*	mixed	88.23	55.90	53.46	50.44	51.90	158.42	830	-8.49
Grupa Oknoplast, Ochmatów	domestic	86.24	70.00	70.00	65.00	60.00	123.19	1,226	no data
Hanplast, sp., Bydgoszcz	mixed	55.61	75.90	72.60	72.23	69.88	73.33	195	17.61
Supravis Group, Bydgoszcz	domestic	45.56	48.80	44.16	37.79	42.05	95.39	585	16.70
Zakłady Lentex, SA, GK, Lubliniec*	domestic	41.30	43.07	38.06	55.95	40.32	95.88	1,425	20.74
Decora, SA, GK, Środa Wielkopolska*	mixed	30.95	66.64	75.45	76.33	74.90	46.44	465	2.41
Multilayer Pipe Company, sp. z o.o., Pęcz	foreign	30.25	73.40	71.00	no data	no data	41.18	189	12.31
Stella Pack, sp. z o.o., GK, Lubartów	domestic	19.57	41.32	36.00	32.00	27.00	47.38	776	no data
PWMasterchem, sj. Przylep	domestic	13.09	62.38	59.21	59.05	no data	21.00	150	no data
Nicator, sp. z o.o., Karczew	domestic	11.59	56.16	54.00	49.00	54.00	20.63	no data	no data

\* WSE listed company.

Table 6: Top exporters in Poland (25.1) Manufacture of structural metal products  
(Source: author's own work based on the same source as in the table above)

Company	Share capital	Export revenues in 2015 (m EUR)	Export in sales (percentage share)				Sales revenues in 2015 (m EUR)	No. of jobs in 2015	2015 ROE %
			2015	2014	2013	2012			
Johnson Controls, Sp. z o.o., Siemianowice	foreign	130.07	71.37	79.38	80.12	81.73	182.24	1,094	13.92
Aluprof SA, Bielsko-Biala	domestic	65.99	33.75	no data	32.00	28.00	207.23	1,139	31.29
Vistal SA, Gdynia*	domestic	50.98	52.90	42.70	52.90	42.40	96.28	318	6.89
MFO sp. z o.o., Sochaczew*	domestic	21.61	42.52	40.00	40.41	27.59	50.85	190	15.80
Projprzem SA, Bydgoszcz*	domestic	19.95	65.11	51.19	54.25	60.81	30.58	390	-8.43
DAM-ROB SA, Zalewo	domestic	12.86	87.05	90.08	90.00	79.00	14.78	186	no data
Promostal sp. z o.o., Czarna Białostocka	domestic	10.58	75.57	50.54	58.90	94.20	14.01	no data	no data

\* WSE listed company.

Table 7: The largest exporter in Poland (25.6) Treatment and coating services of metals; machining  
(Source: author's own work based on the same source as in the table above)

Company	Share capital	Export revenues in 2015 (m EUR)	Export in sales (percentage share)				Sales revenues in 2015 (m EUR)	No. of jobs in 2015	2015 ROE %
			2015	2014	2013	2012			
Aplisens SA, GK, Warsaw	foreign	11.40	55.00	60.00	no data	no data	20.81	405	no data

Table 8: Top exporters in Poland (33.1) Repair of fabricated metal products, machinery and equipment  
(Source: author's own work based on the same source as in the table above)

Company	Share capital	Export revenues in 2015 (m EUR)	Export in sales (percentage share)				Sales revenues in 2015 (m EUR)	No. of jobs in 2015	2015 ROE %
			2015	2014	2013	2012			
Goodrich Aerospace Poland, sp. z o.o., Krosno	foreign	91.63	99.70	no data	no data	no data	91.91	872	no data
Stocznia Remontowa Nautia, SA, Gdynia	mixed	68.05	68.70	71.27	40.00	42.00	99.01	434	no data
Newag SA, Nowy Sącz*	domestic	14.92	6.20	no data	no data	no data	240.71	2,000	7.60

\* WSE listed company.

The above summaries provide data collected in the course of the panel studies of the largest exporters from the fragmented industries. They concern the seven sampled industries with the number in brackets indicating the number of companies in a given industry: 10.1 Processing and preserving of meat and production of meat products (9), 10.3 Processing and preserving of fruit and vegetables (2), 17.2 Manufacture of articles of paper and paperboard (4), 22.2 Manufacture of plastic products (11), 25.1 Manufacture of structural metal products (7), 25.6 Treatment and coating of metals; machining (1), 33.1 Repair of fabricated metal products, machinery and equipment (3) - see Tables 2-8 above. The international marketers listed above are good examples of using exports as a form of international expansion. The analyses carried out during the study were followed by the formulation of general conclusions concerning the growth of enterprises operating in fragmented industries. What the research shows is that the largest exporters from fragmented industries are well-established competitors on international markets. They are mostly large and medium-sized Polish companies taking advantage of the opportunities arising from international development. International expansion positively affects their growth. The largest of the exporters operate as stock exchange quoted companies listed on the Warsaw Stock Exchange (WSE).



The study reveals that the enterprises sell their products on international markets and then gradually increase the share of exports in their total sales revenues. In the case of a majority of exporters (both Polish and foreign) exports account for at least 40% of the total sales. Some companies record over 90% share of exports in their sales. Good examples of such exporters can be found in the following industries: 22.2 Manufacture of plastic products - see Table 5, 25.1 Manufacture of structural metal products - see Table 6, and 33.1 Repair of fabricated metal products, machinery and equipment - see Table 8.

Moreover, it may be concluded that export activities bring benefit to the companies in terms of their economic condition. In the case of exporters ROE tends to be high, mostly exceeding 10%. What it means is that the companies generate profit from their equity greater than the interest on banking deposits or treasury bonds. Following the observations of the enterprises from the fragmented industries, it might be assumed that the fact of entering international markets implies that a firm seeks a more favourable environment for its operation. Therefore, international expansion becomes a natural element of growth of the enterprises from fragmented industries. Undertaking activities on international markets creates opportunities compensating for the adverse conditions of a fragmented industry. Development on international markets may also offer an enterprise a chance to effectively utilize its resources. The basic limitation of this panel study is its lack of representativeness. The research showed the engagement of the companies operating in fragmented industries into activity on international markets. The findings presented here can be of use to entities possessing sufficient financial and organizational potential which they can leverage to launch their activities abroad. In addition, the results may serve managers in the decision-making process concerning growth on international markets. What is more, the analyses carry implications for further research, which may examine the issue of the implementation of various strategies to ensure growth of firms from fragmented industries and take into account the effectiveness of these strategies.

## 6. CONCLUSION

International expansion of enterprises may take various forms. The Uppsala model presupposes that it usually begins with exports which require relatively smaller equity involvement. It is only later that we witness the more advanced, in terms of equity and logistics, forms of expansion (commercial and manufacturing subsidiaries). The analyses revealed that exports are the most common form of international expansion. Firms begin internationalizing their activities for example as a result of domestic market saturation. The study presented only the leading exporters operating in fragmented industries. They are mostly large and medium-sized companies taking advantage of the opportunities created by international development. The analyses emphasize the importance of exports for the growth of these firms as well as confirm the need to conduct even more comprehensive research. Expansion to international markets viewed from the perspective of the companies functioning in the fragmented industries raises a number of issues which the entities have to face if they wish to enter the global market and keep their position on it. Polish companies seem to enter international markets in a more and more dynamic way, even despite the limitations and conditions they need to face in the process. Nevertheless, it should be noted that they are only in the early stage of expansion to international markets, which can be attributed mainly to the existence of equity limitations.

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## **GROWTH PROSPECTS AND CLAIMS RATIO AS TRIGGERS OF MERGERS&ACQUISITIONS IN POLISH INSURANCE MARKET**

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### **ABSTRACT**

*This study attempts to assess differences in the (non)financial characteristics of target and non-target insurance companies in the Polish insurance industry as well as to find the motives for becoming a takeover target. The analysis is conducted on the period 2000-2015 using logit regression analysis employing seven variables that capture the unique features of insurance companies' operations. These are size based on gross written premium, market share, gross written premium growth rate, loss growth rate, claims ratio, ownership and age. The empirical results indicate that target insurance companies are characterized by low premium growth prospects and high claims ratio.*

**Keywords:** *Polish insurance market, triggers of M&A, logistic regression*

### **1. INTRODUCTION**

Mergers and acquisitions have become increasingly common activity in both developed and emerging markets. Therefore, it is of crucial importance to understand why such activities occur. The reasons why mergers and acquisitions take place have been subject of numerous analysis. Academic research (e.g. Palepu, 1986; DePamphillis, 2010, Tichy, 2001) has generated a number of common motivations for mergers and acquisitions where the most prominent theories include synergies, diversification, strategic realignment, size and market power, managerialism to name a few. Most analysis of the factors that affect M&As in insurance industry refer to the US market (e.g. Cummins, Tennyson and Weiss, 1998; Cummins and Xie, 2007) and to a much lesser extent, to the European markets, especially for the Central and Eastern European countries. Therefore, the authors decided to find out which firm-specific factors made particular insurance companies targets in M&A activities in Poland. According to Szymanski, Gorton and Hubbard (2007, p. 434), Poland is the largest of the CEE states which joined the EU in 2004, when measured in terms of land area, population and economic size. Beside the fact it belongs to the group of CEE countries, Poland was chosen because it represents a large and an important European insurance market. Despite recession, its insurance market registers continuous growth and, based on the volume of gross written premium, Poland holds a leading position in comparison to other CEE countries. Moreover, it has even surpassed some of the old EU member states. Among the studies located during the literature review stage regarding Central and Eastern European countries, Bernat (2009) only dealt with mergers in the Polish insurance market but from the performance effectiveness perspective. There have been many M&As in the Polish insurance market in the recent years which enables the effective analysis. Considering its future prospects, this issue becomes even more important. Specifically, Polish insurance companies are facing not only fierce local

competitors but also rivalry from the single EU market. In the context of implementing changes in regulation, insurance companies will seek different ways to perform better with M&As playing important roles. Therefore, taking into account the above set theories as well as considering the availability of data, the authors will try to find out what triggers M&As in the Polish insurance market or to determine which factors make certain companies attractive takeover targets. The rest of the paper is organized as follows. After the Introduction and a Literature Review in Section II, Section III gives an overview of the main characteristics of the Polish insurance market in the period observed. Data sampling and description of variables are given in the fourth part. Empirical research and methodology are provided in the fifth part. The final, the sixth section, concludes.

## 2. LITERATURE REVIEW

The question of why are firms taken over has been of interest in both political and academic circles. The literature has, therefore, examined a number of possible takeover motives. Palepu (1986, p. 18) indicate firm size as an important explanatory variable in M&As suggesting smaller firm are more likely to become acquired. Size hypothesis implies that cost associated with acquisition (such as costs of adopting to the acquirer's culture) should be smaller when acquiring smaller firms. Financial leverage hypothesis indicates that firms with high unused debt capacity are regarded as attractive merger targets because low leverage reduces the risk of default and increases the debt capacity of the joint firm (Palepu, 1986, p. 24). Liquidity hypothesis argues that cash rich companies are attractive candidates for acquisitions because excess liquidity gives the bidder the opportunity to finance the acquisition with the target's own resources (Song and Walkling, 1993, p. 448). The growth-resources imbalance hypothesis implies that a firm that has low liquidity, but good growth prospects, should be an attractive merger target for a company with the reverse features, while a firm that has limited growth prospects, but has high liquidity should be an attractive merger target for a company with low growth and high liquidity (Palepu, 1986). One of the popular motives of takeover in the literature is, as suggested by Brealey et al. (2011, p.816), the inefficient management hypothesis. As the authors indicated, while all firms, even those with good management could be improved by better management, the potential for improvement is evidently greater in firms that perform poorly. Therefore, such firms seem viable candidates for takeover activities. Numerous empirical studies have tested the inefficient management hypothesis (Mandelker, 1973; Ellert, 1976; Smiley, 1976; Dodd-Ruback, 1977; Asquith, 1983; Martin and McConnell, 1991; Kini et al., 1995), however, many of them failed in providing strong evidence that targets underperform prior to takeover. Empirical studies generally use discriminant analysis and logistic regression to test the hypotheses of M&A target attributes and show contradictory findings. Using the data from 1988 to 1995, Cummins et al. (1999) examined the relationship between mergers and acquisitions and efficiency of insurance companies in US life insurance industry. The authors results provide strong evidence that acquired firms achieve greater gains in technical, cost, and revenue efficiency than non-M&A firms. They also provide support for the hypothesis that firms characterized by non-decreasing returns to scale are significantly more likely to become acquisition targets than firms operating with decreasing returns to scale, suggesting that insurers have generally acted rationally by avoiding acquisitions of firms that are already too large. The authors also provide evidence that financially vulnerable insurers are more likely to be acquired than financially stronger firms. Akhigbe and Madura (2001) examined the effect of M&A announcement between two listed companies from 1985 to 1995 and concluded that the positive significant valuation effects for publicly traded acquirers and targets are explained by the signalling theory. Bidding by acquiring firms indicates that the value of targets is undervalued since bidders have special information about target companies that are not available to the public with signals being more pronounced for insurance companies

with similar size and located in the same region as the target company. Cummins and Weiss (2004) compared the value of cross-border and within-border mergers and acquisitions in Europe with results indicating that M&A creates value for target company shareholders but does not necessarily mean value destruction for shareholders of cross-border bidder companies. Cummins and Rubio-Misas (2006) show that a large number of small, inefficient and underperforming firms were eliminated from the Spanish insurance market through M&A activities. According to their empirical results, simply increasing the size of firms does not provide efficiency of firms, but increases the possibility of being eliminated from the market. Using 150 acquirers and 96 targets from 1994 to 2003 in the US property-liability insurance industry, Cummins and Xie (2008) tested various rationales for M&As. Their conclusion is that M&As in the US property-liability insurance industry have been value-enhancing activities with acquirer achieving more revenue efficiency while targets experience cost and allocative efficiency. The authors also find that the corporate control theory expects financial vulnerable firms to be targets. Kim and Park (2015) analysed all within-border M&As during 2003-2012 where either or both of the acquirer and target were US insurance carriers. The authors found that insurance M&As have positive valuation effects on acquiring firms, especially for the cross-industry M&As. As can be seen from the aforementioned empirical studies, the examination of the triggers for M&A per se, is still rather poor and quite ambiguous. As for the Polish insurance market in particular, though, one can find empirical research regarding the subject of Polish insurance market in general (see: Ručková, Borda and Ronka-Chmielowiec, 2011; Kozak, 2010; Kozak, 2011a; Kozak, 2011b; Manikowski, 2012; Pukala, 2012; Ortyński, 2016), the topic of M&A triggers in the Polish insurance market is still under investigated implying the importance of the proposed research.

### 3. MAIN CHARACTERISTICS OF POLISH INSURANCE MARKET

Level of development of a particular insurance market is most commonly measured with three indicators, i. e. by the share of premium in GDP, premium per capita as well as by the share of life insurance in total premium. These are shown in Table 1 for both Polish and EU insurance market.

*Table 1: Indicators of Development of Insurance Market*

	Polish Insurance Market			EU* Insurance Market		
	Share of total premium in GDP (%)	Total premium per capita (€)	Share of life premium in total premium (%)	Share of total premium in GDP (%)	Total premium per capita (€)	Share of life premium in total premium (%)
2004	3.0	169	46.09	7.9	1.628	61.29
2005	3.1	191	49.46	8.1	1.754	63.09
2006	3.5	231	56.24	8.3	1.889	63.03
2007	3.7	270	58.33	8.4	2.015	64.78
2008	4.6	364	65.75	7.6	1.871	61.17
2009	3.7	316	58.98	8.1	1.911	61.96
2010	3.7	334	58.01	8.0	1.950	61.74
2011	3.6	349	56.06	7.5	1.889	59.87
2012	3.8	382	59.12	7.4	1.877	59.16
2013	3.5	352	55.24	7.5	1.922	59.74
2014	3.2	335	53.35	7.6	1.993	60.93
2015	3.0	329	52.15	7.4	2.010	60.87

Source: authors' calculation and data from *Insurance Europe* and Annual bulletins Part II - Information on insurance companies and Annual Reports published by the *Polish Financial Supervision Authority* (and its legal predecessors) available at: <http://www.insuranceeurope.eu/members/poland-pl?section=Related%20statistics> (Accessed 10 February 2017), <http://www.insuranceeurope.eu/insurancedata> (Accessed 10 February 2017), [https://www.knf.gov.pl/en/about\\_the\\_market/Insurance/index.html](https://www.knf.gov.pl/en/about_the_market/Insurance/index.html) (Accessed 10 February 2017) and Insurance Europe, <http://www.insuranceeurope.eu/insurancedata> (Accessed 10 February 2017)

\*including Switzerland, Iceland, Liechtenstein, Norway and Turkey



Comparing the values of shares of premium in GDP and total premium per capita in Poland with that of the EU, the significant lacking of the Polish insurance market is evident. However, in terms of share of life insurance in total premium, Poland performs equally well as average EU insurance market. The year 2006 was a crucial for the development of the Polish insurance market because since that year Poles have started to spend more money on life insurance than on property insurance (Borda and Ronka-Chmielowiec, 2011, p. 23).

*Table 2: Basic information on the Polish insurance market*

	Premium growth rate (%)	Number of insurance companies	Concentration ratio of four leading companies
2000	12.71	66	58.08
2001	7.42	69	55.73
2002	3.37	70	58.01
2003	6.91	73	58.98
2004	11.55	68	65.75
2005	12.15	67	58.33
2006	21.15	64	56.24
2007	16.52	67	49.46
2008	35.58	65	46.09
2009	13.41	64	45.08
2010	5.48	63	42.76
2011	5.47	61	41.37
2012	9.64	59	39.99
2013	-7.60	58	40.67
2014	-5.07	57	42.30
2015	-0.20	57	44.21

Source: authors' calculation based on the data from *Annual bulletins Part II - Information on insurance companies* and *Annual Reports* published by the Polish Financial Supervision Authority (and its legal predecessors), [https://www.knf.gov.pl/en/about\\_the\\_market/Insurance/index.html](https://www.knf.gov.pl/en/about_the_market/Insurance/index.html) (accessed 10 February 2017)

The 2000-2015 data do not show uniform premium growth rates, but unlike many other European countries, Polish insurance market registers positive growth rates until 2012, although at slower pace. However, negative growth rates were registered in the 2013-2015 period mostly due to significant decrease in life insurance segment. According to the Insurance Europe, based on the total gross written premium achieved in 2015, Polish insurance market is European's 12<sup>th</sup> largest. As shown in Table 2, in the whole observed period the number of insurance companies ranged between 57 and 73 with the tendency of decreasing. There were periods when the number of insurance companies increased due to the new entries in the market, whereas the decrease in the number of insurance companies occurred due to the liquidation processes as well due to the M&A transactions.

However, the latter has not impeded effective competition, especially since 2005. As it can be seen from the Table 2, concentration ratio of four leading insurance companies in the Polish market fell below 40% in 2012 suggesting the presence of strong competitors, although it has increased slightly recently. Moreover, since the integration of the Polish insurance market with European Union, its insurance market has no barriers to entry for companies from other member states, and rivalry is intense as a result. The research conducted by Kozak (2011b, p. 4) indicates the decrease in concentration in Polish non-life insurance sector in 2002-2009 period due to the increase of foreign investment in the sector's primary capital. It also indicates an increase of the market share of medium-sized firms, the growth in sales through the establishment of banks and other financial institutions and reduction of direct sales by the companies' establishment and the favourable state of the economy.



However, the new minimum capital requirements introduced with the implementation of Solvency II, might raise competition concerns since some companies might not be able to meet the stipulated requirements. This might squeeze out some of the insurance companies currently operating in the market through M&A transactions resulting in an increased concentration. However, the European Commission has the duty to assess mergers and acquisitions involving companies with a turnover above certain thresholds and to prevent concentrations that would significantly impede effective competition in the EEA or any substantial part of it.<sup>1</sup> The vast majority of notified mergers do not pose competition problems and are cleared after a routine review.<sup>2</sup>

#### 4. DATA SAMPLING AND VARIABLES DESCRIPTION

In this paper, we have examined M&A activities in Polish insurance market in the 2001-2015 period. M&A activities occurred in the whole observed period with the exception of the year 2008. Therefore, the analysis covered 2000-2014 period since we analyzed insurance companies' characteristics in a year prior to the acquisition. In this way, their characteristics in the year  $t-1$  are associated with what occurs during the acquisition year. The insurance companies that were involved in M&A activities that represent internal restructuring were not covered by the analysis. This is done in accordance with methodology applied by Cummins, Tennyson and Weiss (1998, p. 11). Finally, the total of 33 M&As, i.e. target companies were identified. Moreover, insurance companies that were targets in two consecutive years were also not covered by the analysis. This elimination was done in accordance with methodology applied in Cummins and Xie (2007, p. 13) paper that eliminated the companies that were involved in another transaction within two years before or two years after the recorded transaction.

The other sample consisting of non-target companies was made of total of 863 companies. Following the methodology applied in Cummins and Rubio-Misas (2001, p. 329) companies that registered negative premium were excluded from the sample.

The variables included in the model are initially based on data availability and appropriate theories or motives for acquisitions. These include size based on gross written premium, market share, gross written premium growth rate, losses growth rate, age and ownership. **Size variable ( $\ln\_GWP$ )** is calculated as natural logarithm of total gross written premium. According to Palepu (1986, p. 18) the likelihood of acquisition decreases with the size of the firm. The size hypothesis is based on the premise that there are several size related 'transaction costs' associated with acquiring a firm. These include the cost associated with the absorption of the target into the acquirer's organizational framework as well as the costs associated with fighting a prolonged battle that a target may wage to defend itself. These costs are likely to increase with the target size and hence the number of potential bidders for a firm is likely to decrease with size. Therefore, the negative sign of this variable can be expected. However, according to DePamphillis (2010, p. 6) the acquirers are conducting takeover activities with the aim of improving the range of their services as well as with the aim of entering the new markets which leads to the improvement of their competitive position on the market.

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<sup>1</sup> Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, available at <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32004R0139>

<sup>2</sup> Similar was the case with acquisition of HDI Poland by Talanx and Meiji Yasuda Life Insurance as well as with acquisition of joint control over Polish insurer Warta by Talanx and Meiji Yasuda Life Insurance both in 2012; available at [http://europa.eu/rapid/press-release\\_IP-12-1235\\_en.htm](http://europa.eu/rapid/press-release_IP-12-1235_en.htm) and [http://europa.eu/rapid/press-release\\_IP-12-355\\_en.htm](http://europa.eu/rapid/press-release_IP-12-355_en.htm)

By taking over insurance companies with higher values of gross written premium, the acquiring companies also increase their portfolio and consequently increase their market shares. Consequently, we can say that there is ambiguous influence of this variable on becoming a takeover target.

**Market share (MS)** variable is calculated based on growth written premium. The value enhancement or synergy hypothesis about the effects of M&As on targets and acquirers state that value-enhancing motivations include, among others, gaining market power (Cummins and Xie, 2007, p. 1). Therefore, this variable was introduced in the model according to market power hypothesis stating an increase of market shares and price-setting power is the dominant motive for M&As. The authors predict a positive relationship between the market share variables and the probability of being targeted.

**Gross written premium growth rate (GWP\_growth)** is calculated as percent change in premiums. Targets with high growth rates are likely to be more expensive to acquire, but high growth also makes such firms more attractive. However, we expect that insurance companies with low growth prospects are vulnerable to takeover (Cummins and Xie, 2007, p. 9).

**Losses growth rate (losses\_growth)** and **claims ratio (claims\_ratio)** are introduced in the model on the basis of corporate control hypothesis. Corporate control theory predicts that poorly performing firms are more likely to be acquired and that the performance of targets will improve after the takeover (Cummins and Xie, 2007, p. 6 citing Jensen, 1988 and Shleifer and Vishny, 1988). Therefore, we assume insurance companies with higher losses growth rate, i. e. financially vulnerable insurance companies to become takeover targets as well as those insurance companies with higher claims ratio. Losses growth rate (loss\_growth) variable is calculated as  $\text{gross claims paid}_t - \text{gross claims paid}_{t-1} / \text{gross claims paid}_{t-1}$ , while claims ratio is calculated as gross claims paid over earned premium.

**Age variable (ln\_age)** equals the natural logarithm of the number of years since the insurance company started its operations. The influence of this variable on likelihood of becoming a takeover target is unclear. On one hand, we can expect that bank's age positively affects performance due to longer experience and tradition, which will make them desirable targets. However, as stated by Coad, Segarra and Teruel (2010, p. 24), older firms may be less capable to convert employment growth into growth of sales, profits and productivity. Furthermore, Loderer and Waelchli (2010, p. 1) state that corporate aging could reflect a cementation of organizational rigidities over time. Accordingly, costs rise, growth slows, assets become obsolete, and investment and R&D activities decline. In addition, older firms are more likely to have a rigid administrative process and more bureaucracy. Therefore, in accordance with inefficient management hypothesis, such insurance companies are likely to be acquired.

**Ownership variable (OWN)** is employed in the model as a dummy variable taking the value one if an insurance company is domestically owned and zero if it is in foreign ownership. The authors expect that domestically owned companies are more likely becoming takeover targets since foreign companies usually have superior access to technical and financial resources. If acquiring firms have superior management and/or better technology, they may be able to improve the performance of merger targets (Cummins and Rubio Misas, 2001, p. 3).

The financial characteristics of insurance companies were obtained from the *Annual bulletins Part II - Information on insurance companies* and *Annual Reports* for the respective years published by the Polish Financial Supervision Authority (and its legal predecessors). The same documents comprise information on shareholders of insurance companies. Comparing these data for two consecutive years, changes of ownership, and consequently M&A activities were identified.

## 5. METHODOLOGY AND EMPIRICAL RESULTS

In this research, logistic regression model was used to check if the Polish insurance companies are characterised by distinctive features that make them potential targets. Logistic regression is statistical classification model used to predict the outcome of categorical dependent variable. In our case, dependent variable is binary – the insurance company is merged or not. Value 1 is assigned to the insurance companies that were acquired, and value 0 to those that were not. Logistic function is defined with  $p(t) = \frac{1}{1+e^{-t}}$ , where  $t$  is a function of independent variables, whereas the results  $p(t)$  are always between 0 and 1. The independent variables that provide the outcome of categorical dependent variable in this research are size, market share, premium growth rate, loss growth rate, claims ratio, ownership, and age.

Descriptive statistics of all independent variables are presented in Table 3. Descriptive statistics are given for target insurance companies making group 0, non-target insurance companies represented by group 1 and then for all insurance companies altogether.

Table 3: Group statistics

0 – target 1 – non target		Obs.	Mean	Std. dev.	Min	Max
0	Size (ln_premium)	33	17.229	2.822	10.111	21.547
	MS (Market Share)	33	0.773	0.978	0.003	3.990
	Premium growth rate	33	16.737	78.081	-42.675	440.827
	Loss growth rate	33	10.636	63.066	-44.110	351.737
	Claims ratio	33	48.399	164.655	-733.318	468.878
	Ownership (domestic 1)	33	0.364	0.489	0.000	1.000
	ln_age	33	2.192	0.760	0.693	4.522
1	Size (ln_premium)	863	17.147	3.238	1.165	23.295
	MS (Market Share)	862	1.637	3.925	0.000	34.247
	Premium growth rate	827	8.718	98.394	-69.196	2,534.694
	Loss growth rate	810	80.336	2,082.429	-72.533	59,230.590
	Claims ratio	847	935.221	22,399.980	0.000	647,868.100
	Ownership (domestic 1)	863	0.297	0.457	0.000	1.000
	ln_age	862	2.267	0.789	0.000	7.606
Total	Size (ln_premium)	896	17.14985	3.222	1.1654	23.2945
	MS (Market Share)	895	1.605554	3.859	0	34.2465
	Premium growth rate	860	9.02567	97.668	-69.196	2534.694
	Loss growth rate	842	77.68666	2042.506	-72.533	59230.59
	Claims ratio	880	901.9646	21976.15	-733.318	647868.1
	Ownership (domestic 1)	896	0.2991071	0.458	0	1
	ln_age	895	2.263871	0.788	0	7.6064

Source: author's research

Using several independent variables can lead to distorted and unrealistic assessment of contributions of individual independent variables when trying to explain the dependent variable. This problem is created by high collinearity of two or more than two independent variables. Before the logistic regression was conducted, multicollinearity between the independent variables was investigated. Table 4 shows the correlation matrix between independent variables.

Table 4: Correlation matrix

	Size	Market share	Premium growth rate	Loss growth rate	Claims ratio	Ownership	AGE
Size	1.0000						
Market share	0.3508	1.0000					
Premium growth rate	-0.0944	0.0115	1.0000				
Loss growth rate	-0.0298	0.0322	0.5541	1.0000			
Claims ratio	-0.1227	-0.0164	-0.0053	0.0000	1.0000		
Ownership	-0.0501	0.1995	0.0556	0.0533	-0.0250	1.0000	
ln_age	0.1220	0.4088	-0.0534	-0.0421	-0.0025	-0.0199	1.0000

Source: author's research

Table 4 shows that there was no problem of multicollinearity between independent variables. Therefore, all independent variables were included in the next step of research. After testing if there is a multicollinearity problem logit regression was conducted.

Classification results are shown in Table 5. Discriminant analysis accuracy is 73.2% suggesting that 73.2% cases were well classified in an appropriate group. From total number of target companies, (32 cases) this model classified 12 cases in matching groups indicating the accuracy of 37.5%. In non-target group, i.e. group 1, the model classified with accuracy of 74.6%, or 602 of 807 cases in appropriate group. Overall, the results of our empirical analysis suggest that the proposed model predicts takeover targets with relatively high accuracy

Table 5: Classification results

Target – 0 Non target – 1			Predicted Group Membership		Total
			0	1	
Original	Count	0	12	20	32
		1	205	602	807
	%	0	37.5	62.5	100.0
		1	25.4	74.6	100.0
73.2% of original grouped cases correctly classified.					

Source: author's research

The results of logit regression model are presented in Table 6. The findings suggest that logit regression model is statistically significant. Moreover, variables premium growth rate and claims ratio are statistically significant when predicting takeover targets in an Polish insurance industry.

Table 6: Logit regression model

Log likelihood				Number of obs =	839	
				LR chi2(7) =	12.94	
				Prob > chi2 =	0.0735	
				Pseudo R2 =	0.0476	
0 - target 1 non target	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
Size	-0.0434	0.0706	-0.6100	0.5390	-0.1817	0.0950
Market share	0.1928	0.1539	1.2500	0.2100	-0.1088	0.4944
Premium growth rate	-0.0099	0.0048	-2.0500	0.0410	-0.0193	-0.0004
Loss growth rate	0.0001	0.0007	0.1000	0.9230	-0.0012	0.0014
Claims ratio	0.0040	0.0022	1.8000	0.0720	-0.0003	0.0082
Ownership	-0.3577	0.3890	-0.9200	0.3580	-1.1202	0.4048
ln_age	-0.0119	0.3126	-0.0400	0.9700	-0.6246	0.6008
_cons	3.7087	1.4308	2.5900	0.0100	0.9043	6.5131

Source: author's research

The results of the analysis show that the likelihood of being acquired is significantly and negatively related to premium growth rate while it is significantly and positively related to claims ratio. The findings suggest that the acquirers were oriented on slower growing and financially vulnerable targets. The literature on corporate control has examined a number of potential motives for takeover. A prominent motive for takeovers suggested in the literature is the replacement of poorly performing managers (Agrawal and Jaffe, 2003, p. 721). In our research, more vulnerable insurance companies in terms of higher claims ratio were targets that are more desirable. This is aligned with the corporate control theory (Cummins and Xie, 2007, p. 6) stating that financially vulnerable firms are more likely to become takeover targets due to the possibility of improving their business activities after the merger. Furthermore, as suggested by the same authors, it is proven that insurance companies with low growth prospects are vulnerable to takeover. To sum it up, the main findings from the logit regressions is that poorly performing firms are more likely to be takeover targets. Thus, firms with adverse underwriting experience tend to become takeover targets. The same is found by Cummins and Xie (2007).

## 6. CONCLUDING REMARKS

With the goal of exploring the desirable characteristics of Polish target insurance companies as well as the motives for acquiring particular insurance company logistic regression has been employed. Analysing M&A activities in Polish insurance market in the 2001-2015 period two subsamples were identified, the first one consisting of target and the second one made of non-target insurance companies. In order to estimate the impact of different factors on the likelihood of becoming a takeover target in the insurance industry seven variables were introduced in the model consisting of size based on gross written premium, market share, gross written premium growth rate, loss growth rate, claims ratio, ownership and age. These variables were chosen based on the data availability but also having in mind the specific nature of insurance activities.

Although many studies have tried to reveal what makes certain insurance companies favourable takeover targets, no researchers have paid attention to finding out the triggers of the M&As in the CEE insurance market. This study therefore aims to fill this gap by specifically investigating the factors that influence M&A activities in Polish insurance market.

As expected, the results of the analysis suggest that, in accordance with the corporate control theory, the likelihood of becoming a takeover target is negatively associated with premium growth prospects whereas it is positively related to claims ratio. As stated by Agrawal and Jaffe (2003, p. 721), financial economists seem to believe that takeovers are partly motivated by the desire to improve poorly performing firms. Our empirical evidence supports this inefficient management hypothesis.

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## BUDGETARY ECONOMY OF PUBLIC SECTOR UNITS IN TRANSITION IN POLAND AND THE CONCEPT OF DEVELOPMENT ECONOMICS

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### **ABSTRACT**

*The main purpose of the text is to present selected problems of the budgetary economy of organizational units of the public sector. In particular, the main focus is to explore the relations between the principles of the budgetary economy of the public sector units against assumptions of new concepts of economic development. The paper also refers to the assumptions of development economics because the transition in Poland required reconstruction and the creation of new political, economical, organizational and social structures. In the study there were applied analytical methods relating to the gathered empirical data and also analytical methods related to the finances of the public sector. Research methods referred to the theoretical analysis of literature and empirical analysis of the relations between phenomena occurring in the real economy and in the public sector. Preliminary studies showed that it was not possible to conduct economic policies and maximize tax revenue, particularly by escalating tax burden. Budgetary economy should therefore be conducted according to the principles of rationality and efficiency of resource use. The maximizing of the budgetary revenues of these units in the public sector must lead to negative phenomena, and in particular to increasing of the range of the shadow economy.*

**Keywords:** *budgetary economy, local and regional development, public finance, taxation*

### **1. INTRODUCTION**

The system transformation in Poland brought far-reaching systemic changes, focused on versatile changes in the functioning of the state, economy and society. On the one hand, a number of reforms was initiated, aimed at democratization of public life, and on the other hand, the process of changes in the economy's systemic character started. Among these changes, the most important issue were problems related to the reconstruction of elites which could effectively implement the said systemic reforms. Switching the economy to the market tracks involved not only determining the new rules of functioning of economic entities, but was also connected with the establishment of a new social consensus which was the biggest challenge; reforms brought about a number of negative phenomena which, for a part of the society, were not understandable and led to deterioration in the society's living standards.

Socio-economic transformations were also related to the public sector entities and organizational units. In these new economic conditions, entities being a part of the public sector, due to the special character and many differences of technical, organizational, spatial as well as financial nature required identification of a new functioning framework and development of adequate management methods, taking account of the special character of public service provision process. One of the most important features of entities' and units' activities in the public sector is provision of services and long-term character of activity, on a current basis, for the benefit of local and regional communities. Such a long-term character resulted from the need for the sector entities to fulfil the obligations resulting from legal norms, which clearly constituted the material scope of tasks, principles for their implementation as well as principles of organization and financing of these tasks.

The long-term or strategic scope of goals to be met by local government units of various levels seems to be most vital and, at the same time, most difficult problematic scope. Long-term, or rather unlimited character of local government units' activities means that proper performance of tasks and achievement of goals involves highlighting a considerable number of variables which arise both during the current activities as well as in the course of formulating future goals, including new investment projects on local and regional levels. Such an approach to development processes remains a key problem; it is possible to combine and correlate individual goals of inhabitants, economic goals of entities functioning in market economy conditions, social goals of the state and goals of other units functioning in the public sector. An important difficulty of long-term perspective on development processes is uncertainty as to the events for future periods and difficulty related to expectations or forecasting of phenomena which are always burdened with risk elements affecting possible achievement of the set goals. It is particularly important to make a reference to the future budgetary income of the public sector entities and units, which in the long term perspective, is customarily connected with financing of the investment and indebtedness service, if a given unit is liable for past periods.

The main purpose of the study is thus to present the selected budget economy problems of organizational units in the public sector, in particular to examine relations between principles of generating revenue for budgets concerning the said units as part of the optimum taxation concept. The main research problem is the issue concerning gathering public income and thus generating revenue for budgets of organizational entities and units in the public sector, on the basis of the existing tax system, responsible for the implementation of long term budget economy embedded in the provision of broadly understood public services at the state level and at the level of local government units; whether we are threatened by a long-term maximization of budgetary income and, therefore, whether it is possible for tax burdens to grow. Supporting local and regional development can not ignore the main principles of the concept of development economics. Indeed, the economy of development puts the main emphasis on seeking ways to improve the economic and social situation in poor and developing countries, bearing in mind the evolutionary changes in theoretical approaches to the development. It is therefore proposed to use a wider recognition of the concept of development economics, which in some areas may also have a positive influence on the processes taking place in Poland. This especially concerns the allocation of own public resources and the European Union public resources provided to Poland in the form of support. It is therefore necessary to expect and strive for the best use of resources and to follow the principles of optimization in economic decision-making.

## **2. REGIONAL AND LOCAL DEVELOPMENT AND THE CONDITIONS OF THE BUDGETARY ECONOMY**

It seems that, in the market economy conditions, it is not possible to implement a socio-economic policy which could be expressed by the maximization of budgetary income, in particular through the increasing of tax burdens of local and regional communities. Such a development scenario could not be socially accepted due to the possibility to distort balance between incomes in the private sector and personal incomes of citizens in the market economy conditions (Mirrlees, 2006, pp. 23-35). Social expectations are oriented rather towards the growth in importance and growth in benefits in the private sector. However, an important question still remains: what relations should be shaped in the future to make it possible to assume that the subject scope and streams of income in the public sector aim at socially acceptable values, that the state budgetary income in the public sector is connected with tasks and financial needs for these purposes, as well as that the tax burden can aim at optimum values (Boadway, 2012, pp. 185-202).

The budget economy of the public sector entities and units should be carried out according to the principles of rational and effective utilization of possessed resources. Such an approach makes it possible to achieve relatively better results, maintaining the present volume of budgetary income. Maximization of budgetary income of discussed units in the public sector can lead to negative phenomena, in particular to negation of implemented economic programs, aversion to take risk, drop in entrepreneurship as well as to avoidance of taxation and growth in the range of grey market. Optimal taxation should be understood as seeking a level of taxes which would ensure an appropriate level of income of budget entities in the public sector and, at the same time, would not cause negative effects on the part of household budgets as well as negative effects on the economy (Tuomala, 2016, pp.1-14). Seeking such an optimum taxation should be a generally adopted principle leading to improvement in the effective utilization of public resources and to a greater surplus in the real economy which could be used for development purposes (Stiglitz, 2010, pp. 11-28). Alternative outlook on the problems of effective use of public resources and budget economy of organizational units in the public sector is to draw the attention to management efficiency in the public sector which directly involves better use of possessed resources and, as a consequence, may lead to the reduction of the pressure on the growth in budgetary income and demand for the external funds of refundable character justified by the need to search for sources of financing for increasing tasks, including especially investment tasks. In the public sector, including local government units, like in the whole economy, the taxation problem plays a key role. Usually, a natural trend is to seek methods leading to the improvement in the income situation of the units which, under such direction of activities, seek possibilities to strengthen their economic and social position. It seems that such direction can be considered completely justified, the more so that units in the public sector, including also local government units at the regional and local level, are still undergoing implementation of their scheduled development paths which involves the need to provide proper financing sources. Practice and conducted research prove that the main barrier for the fulfilment of many tasks of local government units are insufficient resources of own budgetary funds. Therefore, very often such units turn to other external sources of financing their tasks including, both those of refundable character, but also such of non-refundable character. It is also possible to observe adverse effects concerning the excessive use of credits or loans during financing of tasks, including investments. As a result of use of such solutions, we can identify a new problem related to excessive deficit, both at the state budget level and at the level of the abovementioned local government units at various levels.

It can be stated that one of the methods to solve the problem of budget funds' deficiency may be a growth in taxation rate which could, over a short time, result in a clear improvement in the income situation. If such reference to taxpayers' income may effectively improve the budgetary situation in the long term, which is important during the implementation of various development investments. It seems that the question formulated in this way can be answered affirmatively. A growth in the tax rate may result in a short-term income effect, however, in the long term, the maintenance of stable higher budgetary income is not possible, for various reasons. In the long run, a clear drop in budgetary income is to be expected, which would be caused by economic and non-economic factors. This phenomenon can be analysed in theoretical terms, referring to the theory proposed by A. Laffer. According to the study conducted by this researcher, a growth in tax burdens can lead to growth in income only to a limited extent. In the first phase, a growth in a tax rate actually leads to a growth in budgetary income both for the state budget and the budget of local government units. From a certain moment, however, despite further growth in tax rate, budgetary income will not be growing, it is even possible that it will face stagnation or absolute drop. The course of this phenomena may be illustrated graphically in Figure 1.

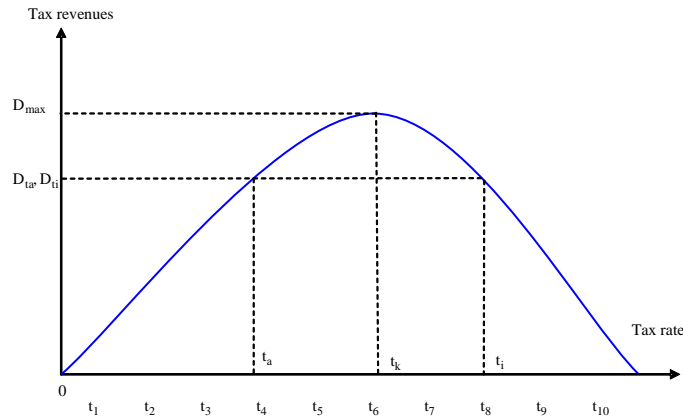


Figure 1: Tax rates and the tax revenues, the Laffer curve (Wanniski, 1996, pp. 221-233)

According to the course of the Laffer's curve, the initial growth in income taxation rate leads to a systematic growth in tax revenue which in point  $t_k$  achieves their maximum, namely the condition in which tax income are the largest compared to all possible combinations of the tax rate amount. In the range  $t_0$ - $t_k$  we can observe a constant growth in tax revenue. However, starting from point  $t_k$ , regardless of the further growth in tax rate amount, the growth in tax revenue is no longer observed. We are facing a reverse phenomenon, the tax revenue upon exceeding this item is gradually reduced. This phenomenon reflects the behaviour of taxpayers in the event of continuous growth in tax rates. The natural reaction of taxpayers is the aversion towards making efforts to gather revenue, with simultaneous limitation of economic activity and entrepreneurship for the benefit of other behaviours. A potential and particularly unfavourable phenomenon can be a shift of business activities in whole or in part to the "grey market", which, in turn, leads to the reduction in the effective tax rates with respect to a particular entrepreneur. It is beyond doubt that such a situation may result in shaping and popularizing fixed behaviours of taxpayers, who may not respond to system changes with regard to taxation. Bearing in mind the correctness in the sphere of tax effectiveness implied on the ground of analysis of the theory proposed by Laffer it is necessary to refer to key problem which is associated with tax division of surplus and further allocation of public goods. The question is whether, in a future perspective, is it possible to observe systematic growth in budgetary income of the state and local government units, according to the needs and social expectations related to the willingness to fulfil designated public tasks; and whether it is possible to seek adaptation of the budgetary income size which would be conducted through the growth in tax burdens, even if it takes place on the basis of the economic growth. Therefore, is it possible, in the market economy conditions, to arrange such a proportion for division of total surplus in the society where the dominant position would be occupied by subsequent expenses related to financing of various public tasks. Contemporary tax systems may cause major risks for the economy and social sphere, especially in the situation of a need to seek maximization of tax revenue. These phenomena are currently observed; it seems that through the growth in tax burdens it will be possible to balance cash income streams and expenses implemented under budget economy at the level of the state and local government units. Difficulties in income and expense balancing become the first symptom of irregularities which, in the long run must, lead to broader negative phenomena. They may cover initially growth in budgetary deficit and following growth in taxes and, in the longer perspective, problems related to the excessive debt and difficulties with the current indebtedness service can appear (Carlberg, 1988, pp. 45-62). As a result, a number of negative external effects may appear in the economy, leading to the reduction in investment attractiveness. Such effects can emerge relatively quickly



in the condition of open economy and such conditions appear within the structures of the European Union as well as in economic organizations having much broader, global dimension. It seems that the concept of optimal taxation in general, as well as with respect to selected public and private sector taxes, is in essence a proposal to make efficient use of the resources available and to reduce excessive fiscal burden. It is also fully compatible with the concept of development economics, where in certain situations entrepreneurs and individuals are not able to accept high taxes level created in a systemic form in the past. According to the concept of development economics, it is advisable to seek alternative solutions that would allow higher efficiency of the allocation of resources while reducing tax burdens. It is also important whether, according to the concept of development economics, it is possible to shape new economic conditions in the long run. Therefore, can we expect acceptance of excessive tax burdens which would be justified solely by the need to implement development investments in the public sphere over a relatively short period of time. This phenomenon is a complex problem against a dilemma which is difficult to solve: should we consume more today or should we postpone the consumption in time and increase public investment rate, financed under increased budgetary income, both at the state level and under conditions of the regional economy and local government units. This complex problem could be solved through determination of such tax burdens which, on the one hand, would be accepted by the society and economy and on the other hand, would satisfy demands related to financing of development projects. In such a situation, it would be possible to seek an optimum tax level. Bearing in mind funds disbursed for the implementation of public tasks, it would be necessary to determine and monitor the material and qualitative scope of services and goods delivered to the society under the adopted consensus in the sphere of tax burdens. Such a solution should be referred to the tasks assigned to the central administration in the state and tasks performed by administration units at the regional and local level within the local government structures. Owing to the complexity of financing of public tasks in the market economy conditions, seeking and pursuing the implementation of the best solutions possible in the tax sphere is a continuous process, subject to cyclical verification by long term efficacy of used solutions. Seeking optimum taxation, considering many years of experience, is a relatively new phenomenon. The continuous mismatch of the tax system to the possibilities of economy and society and, at the same time, fast growth in the public sphere expenditures, reaching often beyond own possibilities of financing are becoming the reason why problems of macroeconomic or even structural character are observed, which is reflected in the excessive budget deficit appearing not only in poorly developed countries, but also in the largest economies of the world (Messere, de Kam, Heady, 2003, pp. 47-51). Seeking optimum taxation has become a new direction in research, along with seeking fair goods redistribution. The problem of a mismatch between the tax system and the effects related to it was emphasized by N. G. Mankiw, M. Ch. Weinzierl and D. F. Yagan, with a conclusion that a well-built tax system should guarantee maximization of social welfare. Therefore, social welfare would be achieved both within personal income, enterprises' income, but also under the provision of public services provided by entities and organisational units in the public sector, namely under income originating from taxes. This issue seems logical, covering even elements of choosing the best solutions possible (Mankiw, Weinzierl, Yagan, 2009, pp. 147-174, Heady, 1993, pp. 17-41). Taxes in the market economy remain an important sphere of activity of private entities, as well as different entities and organizational units of public sector. Tax revenues are an instrument for development of effective demand, as well as an important instrument for the financing of projects in the framework of various forms of state intervention. It is believed that these streams are an important field of activity in the conditions of the social market economy in Poland.



### 3. BUDGETARY ECONOMY OF LOCAL GOVERNMENT UNITS IN EMPIRICAL STUDIES

In practical terms, we can encounter numerous conditions concerning construction of the tax system, ensuring fulfilment of social welfare maximization. Growth in the wealth level cannot proceed without development investments, both in the sector of enterprises of the real sphere as well as in the sphere of entities and organizational units in the public sector. This sector requires provision of funds for financing the investments under tax system. Long-term financing of investments in the public sector is, in fact, necessary. It leads to the removal of development barriers in changing socio-economic conditions; an important role here is played by local government units as the entities responsible for the creation of conditions and support for development (Ruśkowski, Salachna, 2007, pp. 98-102). The scope of responsibility and support from local government units is considerable. At the same time, it is limited and focuses on cases of public nature, excluding the possibilities to conduct business activities in such a form of enterprises operating on the open market. The provision of public services also includes the support of economic processes and the development of widely understood good business conditions for private sector entities. Local government units must focus their attention on correctly conducted long-term budget management and implementation of recognized and hierarchized development purposes. It means the need to provide sources of financing for goals both in the current perspective, as well as strategic goals. In local government units, the scale of the problem is extensive and includes a number of issues related to new investment projects. The activities of planning and design character must be followed by preparing the financing path, including the indication of sources (Siuda, 2009, pp. 136-144, Jarosiński, Opałka, 2014, pp. 13-28).

At this point, it is worth noticing the changes in budget income situation of local government units, with changes in the situation of population's income which occurred in Poland in the years 2002-2015. This comparison aims at analysing changes which took place in Poland in the market economy conditions it personal income per capita as well as in budgetary income of communes, districts and local provinces. As it is shown in Table 1, personal income per capita, in the years 2002-2015, grew by 108.7%, whereas at the same time, local government units' budgetary income per capita grew by 142.4%. At that time, budgetary income of communes per capita grew by 148.0%, budgetary incomes of districts per capita grew by 88.4%, while budgetary incomes of provinces per capita grew by 303.4%. The presented results indicate that in the period of 2002-2015 personal income of the population per capita was characterized by lower growth rate than income of local government units at the local level per capita.

*Table 1: Personal income, total budgetary revenues of gminas, poviats and regions per capita in Poland in the years 2002-2015 in thous. PLN (own calculation based on data from Local Data Bank, Central Statistical Office, retrieved 11.04.2017 from <https://www.bdl.stat.gov.pl/BDL/start#>)*

Specification	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Personal income per capita	0.66	0.71	0.74	0.76	0.83	0.93	1.05	1.11	1.19	1.23	1.28	1.30	1.34	1.39
Total budgetary revenues of gminas per capita	1.66	1.66	1.89	2.15	2.43	2.73	2.93	3.02	3.28	3.44	3.62	3.75	3.97	4.11
Total budgetary revenues of poviats per capita	0.49	0.44	0.49	0.54	0.59	0.64	0.71	0.79	0.87	0.91	0.87	0.89	0.92	0.92
Total budgetary revenues of regions per capita	0.11	0.12	0.18	0.19	0.25	0.30	0.33	0.51	0.37	0.39	0.40	0.42	0.46	0.44
Total budgetary revenues of self-government units per capita	2.26	2.22	2.56	2.88	3.27	3.66	3.98	4.32	4.51	4.74	4.89	5.06	5.35	5.48

It should be noted that, apart from the growth rate of budgetary income in the abovementioned groups, we have noticed significant differences in sizes of these incomes. In 2002, the budgetary income of communes per capita was higher by 150.0% than personal income of population per capita. In 2015, the difference between compared income categories was even higher and amounted to 196.8%. These numbers indicate that in the market economy conditions in Poland, the income situation of natural persons improved, however, in comparison with budgetary incomes of communes per capita, it relatively deteriorated. Therefore it can be concluded that, according to the tax system adopted in Poland, income redistribution was oriented towards objectives and tasks of the local government units as a part of the public sector. A slightly different situation was observed when it comes to budgetary income of districts and provinces per capita. A graphic illustration of changes in the level of personal income per capita comparing to total budgetary revenues of gminas per capita and comparing to total budgetary revenues of all levels of self-government units per capita are presented in Figure 2 and Figure 3.

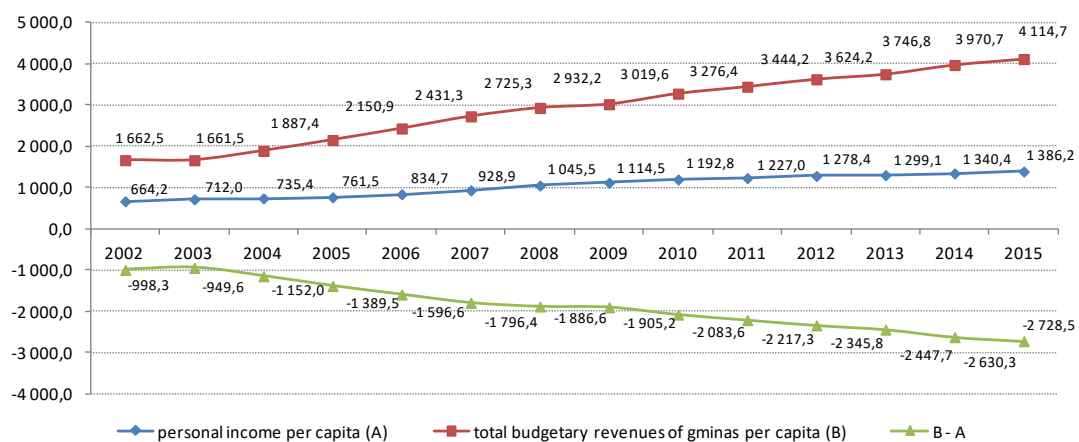


Figure 2: Personal income and total budgetary revenues of gminas per capita in Poland in the years 2002-2015 in PLN (own based on data in Table 1)

Throughout the whole discussed period, the level of budgetary income of districts per capita as well as the level of budgetary income of local provinces per capita was lower than the level of personal income per capita. Over that time, we observed the growth in differences in the level of income. When it comes to the income situation of local government units per capita in comparison with the income situation of inhabitants, in the case of local government units, the discussed income category grew by 142.4% with the comparison to personal income growth per capita (108.7%).

In the market economy conditions, we can expect that the income situation of population will undergo faster improvement than the income situation of local government units in public finance sector. The collected data prove, however that we were dealing with a reverse trend. It covered two groups of factors. The first one covers applicable principles of gathering budgetary income as well as the system for their state redistribution which can be considered as preferences of system character in relation to the public sector. The second covers low level of social and technical infrastructure development which was maintained in Poland and the related development disproportions. The only way to reduce the differences and mitigate disproportions could be investments at the beginning of the concerned period as well as on a current basis. Therefore, it can be assumed that the tax system was logically subordinate to higher investment needs which occurred in the local public finance subsector.

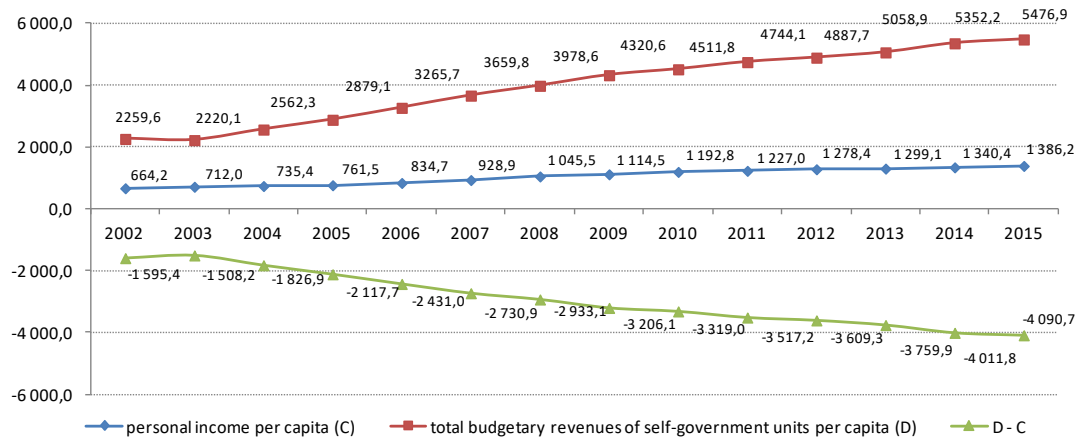


Figure 3: Personal income and total budgetary revenues of self-government units per capita in Poland in the years 2002-2015 in PLN (own based on data in Table 1)

The above arguments prove that we have been dealing with clear fiscal orientation of the state which should have temporary character. It should be stated that the removal of the discussed development barriers will create real grounds to mitigate tax burdens and will open a way towards the construction of an optimum tax system, where proportions of income redistribution will be slightly different and more inclined towards personal needs of inhabitants. The current situation may be considered as a temporary condition which should evolve towards mitigation of tax burdens and a gradual withdrawal from the maximization of budgetary income at the level of state and at the level of local government units.

Using the notion of temporary condition, it is necessary to bear in mind the economic and social preferences related to the elimination of the abovementioned development barriers which assumed the form of low level and low quality of social and technical infrastructure. The change in this condition may cause permanent, long term and positive effects to reduce the demand for investment capital in the public sector. The obtained effects may contribute to the maintenance of development impulses in the long term and create new possibilities of income redistribution. Therefore, it can be assumed that with regard to budget economy of local government units, significant changes may occur, consisting in the reversal of the trend observed in the years 2002-2015, involving maximization of budgetary income for the reduction of tax burdens and seeking an optimum tax system.

According to the above thesis, we can also assume that in the future the budgetary income of local government units may be stabilized, slightly grow or, in some cases, even reduce. Such scenarios may be reflected in the evolution of the scope of tasks and changes in needs in the area of public services, in the stabilization of budget economy to a greater extent oriented towards quality changes and oriented towards new investments and quantitative changes as well as in increased rationality and improved effectiveness of resource allocation and increased management quality, both in the current and the strategic perspective. Therefore, we can make a hypothetic assumption that the target model of optimum taxation in Poland will create conditions to change the tax revenue redistribution. As a part of the study a simulation was conducted consisting in verification of the existing system of generating revenue for budgets of local government units, assuming different assumptions with regard to some tax burdens. As a result, hypothetic cash flows were adopted which, upon aggregation, gave final results of budgetary income which may be achieved after 2019. Expected changes in relation to the situation observed in the period of 2002-2015 are presented in Figure 4.

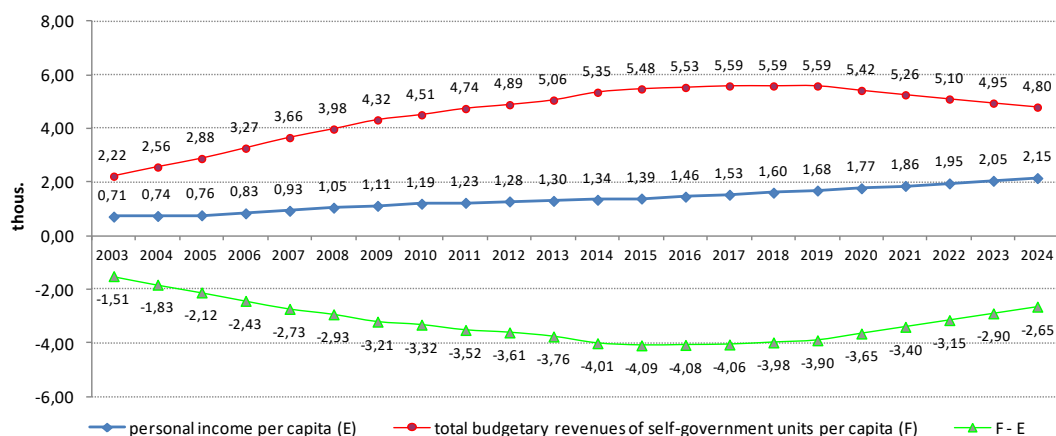


Figure 4: Personal income and total budgetary revenues of self-government units per capita in Poland in the years 2002-2024. Changes in the level of budget revenues to the optimization of the tax system in thous. PLN (own)

The calculations covered personal income per capita in Poland as well as total budgetary income of local government units. We can suppose that in the period covered by the prospective analysis until 2024, the improvement in the income situation of population per capita will take place, with the simultaneous reduction in level of budgetary income of local government units per capita. We should remember that the above considerations are of hypothetical and general character. Expected changes in the level of income can appear only after the change of the tax system in Poland. Such changes require the implementation of a complex legislative process, assuming that that tax burden optimization will be approved by various business, social and political environments.

#### 4. CONCLUSION

In the examined period, financing of public tasks in Poland was set in particular situations and consisted in various changes and new conditions. Firstly, it is necessary to point that in the period of 2002-2015 broad investment program in public finance sector was implemented. For this purpose, possible sources of investment financing were implemented, which became available as a result of the system transformation in Poland as well as towards integration processes in Europe, in which Poland took part. Apart from own sources, which usually constitute the basis for investment financing, significant external funds of refundable and non-refundable character were introduced to the public sector. Such conditions appeared especially after 2004 when Poland accessed European Union, which made it possible to activate stable support mechanism for investments in the public sector which, in the period of 2004-2015, made it possible to increase quantitative and qualitative effects. It should be pointed out that such a situation in the future prospect will not be permanent, and it is necessary to remember that development investments will have to be implemented only on the basis of own budgetary sources.

It is also vital to consider the need to depart from the maximization of budgetary income in local government units resulting from limitation of the demand for cash sources. This phenomenon may be associated with the growth in effective use of own resources, changes in tax system as well as moving towards the limitation of possibilities to generate budgetary income as a result of planned tax reforms. There is no doubt that in the long term according to concept of development economics, the countries covered by the European Union's support program, including Poland, will have to work out and consolidate their own development path in the form of sustainable development.

If, from the economic point of view, changes in redistribution of budgetary income have real grounds, taking into account a wider context, introduction of changes may be difficult and, under adverse circumstances, even impossible. It is not a question of examining the real character of changes of tax character which would allow optimization of a tax system, but rather indicate actions aimed at improving effective use of public resources. The presented scenario of a possible course of phenomena in the future refers to possibilities of stabilization or even reduction in the demand for budgetary resources under conditions of removal of the existing barriers and development limitations. Changes in redistribution of state income do not imply the loss of resources and may only involve the shift between entities operating in the market economy conditions.

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## THE VISEGRAD GROUP AS AN INSTRUMENT OF REGIONAL AND EUROPEAN POLICY OF CENTRAL EUROPEAN STATES

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### ABSTRACT

*The Visegrad Group, also called the Visegrad Four, or V4, is a cultural and political alliance of four Central European states, i.e. the Czech Republic, Hungary, Poland, and Slovakia. The reasons for establishing close cooperation as part of a regional union included: geographical proximity, similar historical backgrounds and compatible foreign policy goals. In the early 1990s, joining the European Union and NATO were considered top priorities. Initially, the political and economic initiative was launched by three countries: Czechoslovakia, Poland, and Hungary. Since the 1993 division of Czechoslovakia into the Czech Republic and Slovakia, the group has consisted of four countries. The name of the organisation refers to the place of meeting of presidents of Poland and Czechoslovakia and the prime minister of Hungary – a castle in Visegrad, located north of Budapest. The event took place on 15<sup>th</sup> February 1991. In October of the same year, at a summit of prime ministers in Krakow, it was agreed that the cooperation would cover areas such as foreign policy, economy, transport, environmental protection and science. After the success of the Visegrad Four's members in integrating with the European Union and NATO, the group set new directions for itself. Cooperation with the closest neighbours, i.e. Ukraine, Croatia, Slovenia, Lithuania, and Austria, was extended. Contacts were also established with institutions of Western European states, including the Benelux and the Nordic Council states. However, it seems that the most important goal of Visegrad Group today is to have a more significant and consistent influence on the policy of the European Union. In particular, this includes opposing authoritarian inclinations of the German and French politicians to force their points of view on others. Successes in this respect have made V4 a permanent and important driver of European policy and an effective instrument of regional policy of Central European states.*

**Keywords:** *economy, european policy, region, Visegrad Group*

### 1. INTRODUCTION

The idea to create the Visegrad Group since the very beginning was based entirely on a concept originating in the heads of politicians; in no measure was it ever a bottom up initiative stemming from a societal need. The cooperative movement was conceived in the beginning of the 1990s, when, during a complicated socio-political situation, an entirely new geopolitical architecture was being established in the Old Continent. The peaceful unification of Germany and the tumultuous break-up of the Soviet Union have created difficult challenges for the countries of Central and Eastern Europe (CEE) and a need for them to define their place in the new system. Thus, obviously, the paramount goal for the nations united within the Group was to integrate with the structures of the UN and the EU. Convergent goals, similar historical experience and geographical vicinity gave politicians the reason to create a new regional union. The V4 of today was originally an agreement between three countries: Czechoslovakia, Poland and Hungary. On 15<sup>th</sup> February 1991, a meeting took place in Visegrad, Hungary, attended by the president of Czechoslovakia Vaclav Havel, the prime minister of Hungary Jozsef Antall and the president of Poland Lech Walesa. These statesmen have signed a mutual declaration of cooperation on the European integration, thus laying the foundation for acting under the so called Visegrad Triangle. Later that year, on 5<sup>th</sup> and 6<sup>th</sup> October, during the meeting of the leaders in the Royal Castle in Cracow, Poland, it was established that the cooperation between



the three countries would entail areas such as foreign politics, economy, transport, environmental protection and science. On the second day of the proceedings, i.e. 6<sup>th</sup> October 1991, the Declaration of Cracow was signed, entailing among other notions the facilitation of trade liberalisation agreements between the member states – which included major reduction or altogether dispensation of tolls on certain goods and services. The Declaration laid the foundations for the Central European Free Trade Agreement (CEFTA), enacted on 1<sup>st</sup> March 1993. (Wrobel, 2008). The structure of the group underwent a change on the 1<sup>st</sup> January 1993 when, after the so-called Velvet Divorce, Czechoslovakia broke up into two independent states: the Czech Republic and Slovakia. Incidentally and somewhat curiously, the division of this federation which existed since 1918 was done in spite of the majority of the public opinion to the contrary. Thus the triangle of nations became the quadrilateral of today. The following meetings of V4 leaders shifted the majority of their focus from the Group's internal problems, instead concentrating on international issues and especially on dynamising the efforts of individual V4 countries to attain membership in the European and Euro-Atlantic structures. These efforts yielded the expected results: three of the four countries – Poland, the Czech Republic and Hungary – joined the United Nations on 12<sup>th</sup> March 1999 and Slovakia became a member on 29<sup>th</sup> March 2004. As for the European Union, all four countries joined it on 1<sup>st</sup> of May 2004, along with Cyprus, Estonia, Lithuania, Latvia, Malta and Slovenia. This significantly reinforced two of the UN's important flanks – the 'eastern' one and the one located in the Mediterranean Basin.

## **2. ATTEMPTS TO INTEGRATE CENTRAL EUROPE FROM A HISTORICAL PERSPECTIVE**

From a historical perspective, attempts to unify Europe have been made ever since antiquity. The earliest example which could be cited is the Roman Empire, which, during its peak, ruled the Old Continent lands stretching from Spain to the Caucasus Mountains, as well as the west coast of the Caspian Sea, and from most of Britain to the Mediterranean Malta. Of course, vast territories in North Africa and in the Near East were also under Imperial rule. In 395 AD Emperor Theodosius I divided the Roman Empire between his two sons and as a result two separate nations were born: the Western Roman Empire with its capital in Rome, and the Eastern Roman Empire, whose capital was Constantinople. The former stretched across Western Europe and the western coast of the Mediterranean Sea, while the latter included the Balkan region and – approximately – the Near East along with today's Egypt. One may wonder at the lack of Roman expansion in the region currently known as Central Europe, to the east of the Rhine line and to the north of the Danube line. As some modern authors maintain, these lands must have been home to strong nation-states which proved a resilient barrier against new territorial conquests by Rome and Constantinople. Sources claim that areas to the east of the Rhine were inhabited by ferocious and brave Germanic tribes and territories to the northwest of Danube were under the jurisdiction of a country which was named European Scythia (Bieszk, 2015). Official historiography remains sceptical of these claims, instead falling in line with the official historic doctrine promoted by German scholars, which proclaims that the territories of modern Poland, Belarus, Ukraine and the Baltic countries were originally inhabited by tribes of Germanic origin. The next attempt at unifying Europe was undertaken by the Holy Roman Empire – the self-styled successor to the Western Roman Empire, an entity which existed from the 10<sup>th</sup> century AD until 1806, when Napoleon made it a French protectorate. In its peak, i.e. between 962 and 1378 AD, the Holy Roman Empire consisted more or less of the territories of modern Austria, Belgium, the Czech Republic, the Netherlands, Luxembourg, Germany, Slovenia, Switzerland, eastern France along with Corsica, northern Italy along with Sardinia, southwest Poland, and a tiny fragment of modern Croatia (Istria). The next unification attempt was made in the time of Napoleon Bonaparte.

This Corsica-born general, exceptionally skilled in the art of war, crowned himself Emperor of France in 1804. His empire, apart from France itself, included several subordinate lands, among them: the Kingdom of Italy, Confederation of the Rhine (i.e. the confederation of German countries), the Warsaw Pact, the Kingdom of Spain, the Kingdom of Naples and the Batavian Republic (a puppet state located in what is currently Netherlands). Napoleon's fall put an end to this amalgam of countries, which at the time had over 60 million residents and stretched from the Baltic Sea to the Atlantic and from the Mediterranean to the North Sea. Yet another attempt at creating a Europe with common principles and values was the creation of the Third Reich. After World War II, however, in order to prevent German industrial power and militancy from manifesting again, as it had already started a global conflict twice, governing bodies were appointed to control actions of this country situated over the rivers Rhine, Elbe and Danube. The solution to the problem of Germany was to be France controlling the again rising German economic potential, while at the same time integrating the Rhine country into the economic structures of Europe currently rebuilding itself. Steps towards integration began with the signing of the Treaty of Paris in 1951, which established the European Coal and Steel Community and was effective starting July next year among its six signing countries: France, the Federal Republic of Germany, Belgium, the Netherlands, Luxembourg and Italy. The agreement was signed to be in effect for fifty years, its final date set to 2002. Also, under two international agreements signed in the capital of Italy in 1957 called the Treaty of Rome, two organisations started functioning beginning 1<sup>st</sup> January 1958: the European Atomic Energy Community (Euratom) and the European Economic Community (EEC). Six countries became members of these organisations: France, Germany, Italy and the countries of Benelux. The duties of Euratom were to peacefully cooperate in the area of nuclear research and simultaneously to develop nuclear industry. The main goal of the European Economic Community was to create a common market within the following 12 years, which would operate under unified agricultural, transport and customs policies. The projected changes progressed relatively slowly, however, with high unemployment rates and impeded economic growth in the 1970s and 80s being the main deterrents of the integration community. A lack of a dominant political idea, powerlessness of administrative structures and economic stagnation were commonly felt. Radical reforms started to be considered as a chance to escape it. They were supposed to be centred on uniting in a common market and introducing a single currency to it. However, the turning point was only in the last decade of the 20<sup>th</sup> century. The process of change began in the Dutch city of Maastricht with the signing of an agreement commonly referred to as the Treaty on European Union (EU). It was an international agreement, initialled in December 1991 and signed in the following February. The treaty was signed by Belgium, Denmark, France, Greece, Spain, the Netherlands, Ireland, Luxembourg, Portugal, the Federal Republic of Germany, Great Britain and Italy. The treaty transformed the existing European Economic Community into the European Community (EC) and also established the European Union (EU) which in the future was to be a voluntary, economic and political union of the democratic European nations. On 1<sup>st</sup> December 2009, the European Union replaced the European Community as an international organisation, assuming its duties and authority. The ever-growing organisation, constantly accepting new countries, included 28 members as of January 2007. A united Europe, stretching from the Atlantic to the Black Sea and from the Mediterranean to the North Sea, became a reality. One may imagine that it was always the West that proposed initiatives to unify Europe into a single close organism. It is indeed necessary to counter this narrative. At the same time when in the West of the Old Continent efforts were being made towards unification, Eastern Europe was undergoing the same processes – and on a comparable scale, too. It is only because of the dominance of Western European historians – especially German – and the focus on them, that this approach to the question of European integration prevailed.

Aside from the already-mentioned example of the half-legendary European Scythia, the first serious attempt at creating a major state organism was the Great Moravian Empire with its capital in the Czech city of Mikulčice, a state which existed from the beginning of the 9<sup>th</sup> century until the 10<sup>th</sup> century AD, after which it dramatically disappeared from the map of Europe, invaded by the nomadic Hungarians. The Great Moravian Empire united mostly Slavic nations living over an enormous stretch of land including the territories of the modern Czech Republic, Slovakia and Hungary, southern Poland (Zerelik, 2002), a significant portion of western Ukraine, northern Croatia, the northern part of Slovenia, a portion of western Germany and western Austria, a fragment of western Romania and a small chunk of northern Serbia (Davis, Moorhouse, 2002). In terms of time, the Great Moravian Empire proved to be fairly short-lived, but when it comes to spirituality and religiousness, it established the attitude of tolerance for other Christian denominations in countries such as Poland and the Czech Republic; this tolerance has lasted for centuries (Polek, 1994). It also introduced the principle of dynasticism and became an exemplar of modern administrative structure for many nations all over the region. Another Central European state organism uniting a number of nations while maintaining religious tolerance for denominations other than non-Roman Catholic was the Polish-Lithuanian Commonwealth. A treaty signed in 1569, known today as the Union of Lublin, established a state comprised of the territories of the Crown Kingdom of Poland and the Grand Duchy of Lithuania (Przygoda, 2013). The countries were in a real union which established a common ruler, coat of arms, parliament (sejm) and currency. It also ensured that the nations maintained foreign and defensive policy together while keeping separate treasuries, administrative offices, armies and judiciary systems. The Polish-Lithuanian Commonwealth occupied over 1 million km<sup>2</sup> of land, making it the largest European Christian nation of its time. Its territory stretched from the shores of the Baltic Sea to the area of Crimea in today's Ukraine. During its peak, the Commonwealth was a place of religious tolerance, popularisation of arts and sciences, as well as civil liberties for the gentry (szlachta). The common nation created by the Poles and Lithuanians lasted for over two centuries until 1795, when – partitioned by Austria, Russia and Prussia – it disappeared from the maps of Europe. Until its fall, the Commonwealth was home to over twenty nations and welcomed adherents to all denominations of the main three monotheisms. In this light, the country is comparable to the modern European Union in its cultural, political and civilisational potential and its integrativeness (Samsonowicz, 2012). From 1092 to 1541 the Kingdom of Hungary was one of the most important countries of Central Europe. In 1400, its borders extended from western Ukraine and Transylvania in central Romania to the Dalmatian coast and from western Poland to northern Serbia. The Crown of the Kingdom of Poland and the Kingdom of Hungary were in a personal union under the Habsburg dynasty between 1370 and 1382, making it the largest state organism of the 14<sup>th</sup> century Christian Europe. Much later, in 1867, as a result of a treaty between Austria and Hungary, a federation was created through the transformation of the Austrian Empire. It was a dualistic monarchy comprised of two member states in a real union under the rule of the House of Habsburg. The two countries were also in military, monetary and customs unions. The Austro-Hungarian Empire was a multinational constitutional monarchy and until its fall in 1918 it was not only the greatest military and political force in Central Europe, but also one of the most significant powers in the world. The area of the territories of the Empire was 677 000 km<sup>2</sup> and before World War I it was inhabited by almost 53 million people of over a dozen main nationalities, several dozens of languages and many diverse faiths. To counteract the ossification of its monarchical and bureaucratic structures, as well as perilous centrifugal tendencies well evident in the beginning of the 20<sup>th</sup> century, reforms were planned and attempts made to modify the structure of the nation. Far-reaching analogies to the European Union can be drawn here. One currently long-forgot idea was to transform the dualistic Austro-Hungarian monarchy into a trilateral Austro-Hungarian-Polish one.

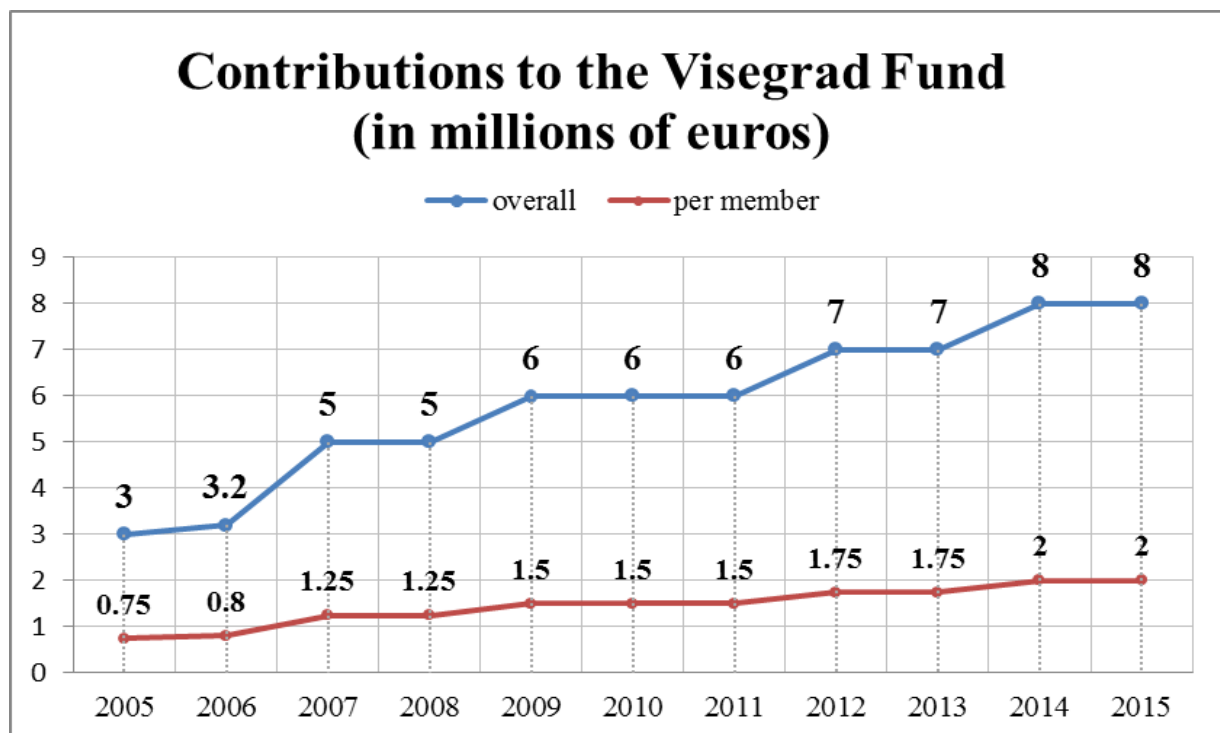
However, Hungarians would not hear of the third member and torpedoed halted Emperor Francis Joseph I's willingness to meet the demands of Poland in this regard (Ziemkiewicz, 2017). One must hope that history will not repeat itself today and Brussels's inability to understand the very clear Polish stance on political and economic matters will not contribute to the dissolution of the European Union. After the end of World War I, fully independent nations arose from the ashes of three great powers of the Old Continent – the Austro-Hungarian Empire, Prussia and the Russian Empire. Central Europe had no state organism large enough to inspire and conduct the process of integration of the many small countries. However, Soviet Russia proved an ideological and military danger for the entire region and so did the recently developing aggressive fascism in Germany. Central Europe's enormous eastern neighbour, under fanatical rule, was openly attempting to impose itself upon the newly created countries. Similarly, both the Weimer Republic and later Hitler's Germany were open about their aspirations to power and territorial claims towards their closest neighbours. This situation begot a need to join forces and resources of Central Europe to protect its interests and decisively counteract the two inconvenient and aggressive neighbouring powers' attempts against it. At the start of the 20<sup>th</sup> century, a political and military alliance between Czechoslovakia, Yugoslavia and Romania was formed, called the Little Entente. In the later years of its existence, its goals were to coordinate the short- and long-term foreign policies of the signing members, as well as to raise the importance of the alliance's motions on the international arena. As such, the aims of the Little Entente are convergent with those of today's Visegrad Group. In the second half of the 1930s, as a result of hostile and ever-intensifying actions of the Third Reich and Italy, the alliance fell apart nearly entirely, truly ending in September 1938 with the signing of the Munich Agreement. Despite dramatic attempts to endure, Czechoslovakia – the subject of the agreement – lost a large portion of its territory as well as sovereignty. The Polish concept of *Miedzymorze* is also somewhat popular. The Polish name 'Miedzymorze', (Polish: *miedzy* – between, among, *morze* – sea, literally 'between-seas'), was rendered into Latin as 'Intermarium' (Piesakowski, 1999). This concept was a plan pursued after WWI by a Polish leader Jozef Pilsudski (Billington, 2004), for a federation of Central and Eastern European countries. Baltic states (Lithuania, Latvia, Estonia and Finland) were invited to join the proposed federation, as well as Belarus, Ukraine, Hungary, Romania, Yugoslavia and Czechoslovakia (Roshwald, 2001). This union was supposed to emulate the Polish-Lithuanian Commonwealth, which, stretching from the Baltic Sea to the Black Sea from the end of the 16th century to the end of the 18th, had once united the Kingdom of the Crown of Poland and the Grand Duchy of Lithuania, as already mentioned. However, the desired union, which was to help the united Slavic nations dominate, never came to pass. The only faint echo of the idea of the alliance was the post-WWII national anthem of the Socialist Federal Republic of Yugoslavia, uncannily similar to the Polish anthem. In the 1930s, success in this regard was halted by the stance of the government and the president of Czechoslovakia – unfavourable towards any Polish offers of closer cooperation. This was in conjunction with their very good political relations with Germany. No deal was made despite interest for a Warsaw-Prague agreement from Budapest as well. History seems to repeat itself again in this case: the modern Visegrad coalition is grounded mainly in the initiatives and activities of Poland and Hungary with relative inertness of Slovakia and even greater lack of engagement on the part of the Czech Republic, the latter perceiving Germany to be its historically more important political and economic ally instead. The outbreak of WWII and the German aggression put an end to any plans of agreements or short- and long-term alliances between the countries of Central and Eastern Europe, and the matter became even more complicated after the war. Central Europe was inducted for decades into the area of influence of the Soviet Union, which included territories from the river Elbe to the eastern coast of the Black Sea and from the southern part the Balkans all the way to the lands past the Arctic Circle bordering Norway.



### 3. THE STRUCTURE AND ORGANISATION OF THE VISEGRAD GROUP

The Visegrad cooperation is not structured in a complex manner. Rather, it is based solely on the principle of periodical meetings of its member states' representatives. The backbone of the collaboration is the mutual contact on different levels – from the top-level political summits to meetings of experts and diplomats, non-government organisations operating within the region, think-tanks, research bodies and cultural institutions and numerous networks of individuals (Visegrad Group, 2017). Official summits of V4 prime ministers take place annually, between which one of the V4 countries holds presidency and is – among other responsibilities – tasked with drafting a one-year plan of action. It must be noted here, however, that due to a emerging political and economic crisis in the European Union, V4 representatives have begun assembling more frequently in the last three years. Currently the top-level meetings are almost cyclical, occurring on a monthly or bimonthly basis, mostly in the capital cities of the V4 countries. To face the new responsibilities, the creation of new organisational structures is planned in order to institutionalise the group's structures in a greater degree. Currently, the only true organisation within the V4 platform is the International Visegrad Fund. It is an international financial institution established on 9<sup>th</sup> June 2000 by governments of the four Visegrad Group countries. The fund is tasked with supporting the development of cooperation in culture, scientific exchange, research, education, student exchange and the development of cross-border cooperation and promotion of tourism – it represents the civic dimension of V4 cooperation. In the majority of cases, the Fund finances activities of non-governmental organisations and individual citizens. Apart from grant programs, the Fund awards individual scholarships and artist residencies which contribute to the exchange of views in the V4 region and the neighboring countries. The Fund's budget consists of equal contributions from the V4 governments. The annual contributions tend to increase, as shown in Figure 1.

*Figure 1: The annual contributions to the Visegrad Fund from the governments of the V4 Group countries (2004–2015)*  
(adapted from <http://www.visegradgroup.eu/about/aims-and-structure>)



One can ascertain from Figure 1 that the Visegrad Fund, the joint effort of the V4, constantly expands and in all likelihood fulfills the useful task that it has been set. However, from the perspective of the amount of resources it has been granted, it remains a rather minor political and economic, as well as practical influence. It has to be added that the fund also utilizes in form of subgranting or co-financing, contributions from some other governments and different governmental organizations from the following countries (About the Fund, 2017):

- Canada,
- Germany,
- Japan,
- the Netherlands,
- South Korea,
- Sweden,
- Switzerland,
- the United States.

The Fund's governing bodies are the Council of Ambassadors and the Conference of Ministers of Foreign Affairs. The executive body of the fund is made up of the Executive Director and the Deputy Executive Director. The administrative body of the Visegrad Fund is the secretariat, based in Bratislava (About the Fund, 2017). It seems that the benefits of the practical efficiency of these governing bodies in managing the Fund should encourage the group's decision-makers to appoint further institutions within the structure of the V4.

#### 4. THE ECONOMIC POTENTIAL OF THE V4 GROUP

The four member countries of the Visegrad Group have a combined population of nearly 64.3 million, which accounted for 12.7% of the population of the European Union in 2015. In terms of population, the entire V4 is smaller than UE's leader – Germany – by nearly 18 million.

*Table 1: Fundamental information and statistical data about the V4 (2015)*  
(<http://ec.europa.eu/eurostat>)

No.	Country	Political system (government)	Population (in m)	Total area (in km <sup>2</sup> )	Capital (population in m)	Currency
1	Czech Republic	<u>unitary</u> <u>parliamentary</u> <u>constitutional</u> <u>republic</u>	10,553	78,866	Prague (1.280)	Czech koruna (CHZ)
2	Hungary	<u>unitary</u> <u>parliamentary</u> <u>constitutional</u> <u>republic</u>	9,830	93,030	Budapest (1.760)	Forint (HUF)
3	Slovakia	parliamentary republic	5,426	49,035	Bratislava (0.433)	Euro (EUR)
4	Poland	<u>unitary</u> <u>parliamentary</u> <u>republic</u>	38,454	312,679	Warsaw (1.750)	Zloty (PLN)

Slovakia is the only country of the Visegrad Group which joined the euro area. The euro (EUR) is the official currency there since 1<sup>st</sup> January 2009. The European Union admitted Slovakia into the Eurozone on 19<sup>th</sup> June 2008 at the summit in Brussels. The Slovak Republic adopted the euro after 16 years of using their currency – the Slovak koruna (SK). The other countries remain hesitant about the single currency. Currently the Czech Republic uses the Czech koruna (CZK), Poland uses the Polish Zloty (PLN) and Hungary uses the Hungarian forint (HUF). The



Czech Republic's coalition government announced that it will not undertake action to participate in the ERM II mechanism, which is seen as the euro area's 'waiting room'. Before the next Czech parliamentary election in October 2017, if the coalition remains in power after the elections, by 2020, it will probably draw up a 'road map' for the adoption of the common European currency. In connection to Prague's position, the government of Viktor Orban in Budapest also represents a Eurosceptic approach. The National Bank of Hungary announced the issuance of a new series of forint banknotes – it is expected in 2018. The government is not taking any action in order to join the euro area, but – as opposed to the Czech Republic and Poland – most Hungarians are actually in favour of the single currency: according to the Eurobarometer data survey from April 2015, the adoption of the European currency was supported by 60% of Hungarians, while only 35% were against it (Gadomski, 2016). The most important economic partner of all of V4 countries is Germany, whose participation in both the export to and import from the countries of the Visegrad Group is typically several times larger than that any of the other partners. Germany accounts for 25% of Poland's trade turnover, 27% for both Hungary and the Czech Republic, and 20% for Slovakia.

Table 2: Basic economic indicators in the countries of V4, Germany and UE (2015)

(<http://ec.europa.eu/eurostat>, <http://pl.tradingeconomics.com>

<https://www.ecb.europa.eu/home/html/index.en.html>)\*

No.	Economic indicator	Czech Republic	Hungary	Poland	Slovakia	Germany	European Union
1	<b>GDP</b> (EUR billions)	167	108.7	427.7	78.1	3 032.8	14 693
2	<b>GDP</b> (annual growth in %)	4.5	2.9	3.6	3.7	1.7	2.2
3	<b>Unemployment rate</b> (in %)	5.1	6.8	7.5	11.5	4.6	9.4
4	<b>Inflation rate</b> (in %)	0.3	0.1	-0.7	-0.3	0.1	0.0
5	<b>Public debt</b> (% of GDP)	41.1	75.3	51.3	52.9	71.2	85.2
6	<b>Budget deficit</b> (% of GDP)**	-1.1	-2.6	-3.1	-2.7	-0.7	-2.9
7	<b>Rating by Fitch</b>	A+ (stable)	BBB- (stable)	A- (stable)	A+ (stable)	AAA (stable)	AAA (stable)
8	<b>Average month salary</b> (in €)	979	800	915	883	3 612	1470
9	<b>Minimum wage</b> (in €)	331	380	417	332	1 360	N/A
10	<b>GDP (PPP) per capita</b> (in \$)***	33,231	27,481	27,764	31,338	41,110	36,198
11	<b>Exports</b> (EUR billions)	142.8	88.9	178.7	68	1198.3	4849.3

\* from: Gadomski W., (2016,) *The Visegrad Group countries are closer politically than economically*, <http://www.financialobserver.eu/poland/the-visegrad-group-countries-are-closer-politically-than-economically/>).

\*\* from: Drews A., (2016), *Comparison of the economic business conditions in the Countries of the Visegrad Group*, Sheet: Zarzadzanie – XLIII - Nr 1 (2016), [http://apcz.umk.pl/czasopisma/index.php/AUNC\\_ZARZ/article/viewFile/AUNC\\_ZARZ.2016.006/9685](http://apcz.umk.pl/czasopisma/index.php/AUNC_ZARZ/article/viewFile/AUNC_ZARZ.2016.006/9685)

\*\*\*from: *Table of sovereign states in Europe by GDP (PPP) per capita based on current international dollars* (2016)

The four countries generated a combined GDP (at current prices) of EUR 781.5 billion – 5.3% of the GDP of the European Union and nearly 4 times less than Germany. The total GDP of the V4 at current prices from 2015 is only a little larger than that of the Netherlands, and – after adjusting for purchasing power of the currencies – it is more or less equal to the GDP of Spain. The exports of the V4 group (both inside and outside the European Union) amounted to EUR 484.4 billion – 9.9% of the exports of all the countries of the European Union. While in terms of the population the V4 group could be compared with Germany, their combined exports are 2.5 times lower than that of the economic leader of Europe. Poland is by far the largest country of the V4 group. It accounts for 60% of the population of the Visegrad Group and 55% of its combined GDP. In this sense, Poland is the economic frontrunner of the V4 (Gadomski, 2016), but the power and political initiative are clearly in the hands of Hungary and its charismatic Prime Minister – Viktor Orban. In its early stage, an important instrument to dynamise economic activity of the Visegrad Group was CEFTA (Central European Free Trade Agreement). The agreement was signed on 21<sup>st</sup> December 1992 in Cracow, initially by the three countries of the Visegrad coalition: Poland, Hungary and Czechoslovakia. In the subsequent years, more countries joined: Slovenia (1996), Romania (1997), Bulgaria (1999), Croatia (2003), Macedonia (2006), Albania (2007), Bosnia and Herzegovina (2007), Moldavia (2007), Serbia (2007), Montenegro (2007) and Kosovo (2007), the last overseen by UNMIK (United Nations Interim Administration Mission in Kosovo). As for the reasons for CEFTA, the Visegrad Group countries were all but forced to found it, mostly due to the post-1990 drastic decline of trade in Central Europe, which was a result of political systems changing in the Autumn of Nations. Another important factor was the dissolution of previous economic structures of the former Eastern bloc, especially of the Comecon. The aim of the agreement was to abolish tolls on trade between the member countries. All participating states had previously signed Association Agreements with the EU, and so CEFTA served as a sort of preparation for full European Union membership. The group's configuration changed several times, since CEFTA members were no longer to be part of the agreement once they joined the European Union. The original founders – the Czech Republic, Slovakia, Poland and Hungary – ceased to be members in 2004, when they permanently aligned themselves with European structures administrated from the capital in Brussels. As they were now realising economic goals within the European Union, the main focus area of the Visegrad Group became the strategic and political goals concerning Central Europe.

## **5. THE DIRECTIONS OF POLITICAL EXPANSION OF THE V4 GROUP**

15<sup>th</sup> February 2016, marked a quarter of a century since the Visegrad Group was founded. Today, from the perspective of almost 26 years since the organisation came to life, it can be ascertained that the V4 is an institution which operates on a merely symbolic scale in the area of economy, fairly efficiently in terms of cultural and scientific exchange, and very actively in the political sphere. The activities of this unique regional organisation are still performed without unnecessary institutional structures. The Group representatives can still speak emphatically as one if political will for a particular cause is there in the upper echelon of ministers and prime ministers. The V4 proved it is capable of swift, decisive and efficient action both in the past and recently. In its beginnings, the main strategic goals of the Visegrad organisation was to integrate with the Euro-Atlantic and Western European structures. The effort to join the UN was successful after just eight years (in 1999) for the Czech Republic, Poland and Hungary and after thirteen years (in 2004) for Slovakia. All four members joined the European Union's structures simultaneously in 2004. It may have seemed that the highly institutionalised EU would render the Visegrad Group's activities obsolete, but the last dozen or so years have proved that the presence of an organisation of Central European countries is still necessary for the economy and politics of the region. The Group, very flexible in the sphere

of organisation, is very well equipped to cooperate with neighbouring and foreign countries and regions outside the group. The union's four core members always participate in all initiatives, but in many spheres the cooperation is in the form of V4 plus 1, V4 plus 2, V4 plus 3, V4 plus 4 and even V4 plus 5 or 6. The Group cooperates the most closely with the Republic of Austria and Slovenia (Wyrzykowska, 2017). The collaboration with Austria was in fact so close that its incorporation into the Group was even considered. Norbert Hofer, a member of the Freedom Party of Austria (FPÖ), a nationalist candidate for presidency, was an outspoken proponent of such a motion. However, his defeat in the 2016 elections put an end to all plans in this regard (Krzeminski, 2016). In Central Europe, the countries who are the most engaged in infrastructural cooperation with V4 are Bulgaria and Romania; Slovenia and Croatia are often welcomed as well. In the sphere of internal affairs, cooperation often takes place on the so-called Salzburg Forum, which, apart from the V4 countries, includes Austria, Bulgaria, Croatia, Romania and Slovenia. In military and regional defense affairs, negotiations are conducted regularly with the cooperation of Baltic countries: Lithuania, Latvia and Estonia. In 2013, for the first time, negotiations with Brazil were opened on air forces and special military units. Meetings of V4 leaders concerned with collaboration in the field of health care will often see guest representatives from Croatia and Lithuania (Wyrzykowska, 2017). When it comes to Western Europe, Germany and France together have the most influence upon the V4 countries. However, official summits with Benelux countries are not rare, and nor are meetings with a group of countries of the so-called Nordic Council: Denmark, Finland, Iceland, Norway and Sweden. The closest Eastern European V4 partners are Ukraine and Moldavia. Under the eastern partnership, several other countries are part of Visegrad's area of influence: Belarus, Azerbaijan, Armenia and Georgia. Recently, North America, and within it the USA and Canada, as well as Central Asia with its dominant Kazakhstan and the Far East with China, all expressed interest in potentially establishing mutually beneficial cooperation with V4 countries. 2017 can easily be dubbed 'the year of the Visegrad Group opening up to the Near East': in the span of two weeks in July, meetings were held between leaders of V4 and the president of Egypt and after that – with the prime minister of Israel. The meeting between the heads of governments of Poland, Hungary, Slovakia and the Czech Republic and the Egyptian president Fatah Al Sisi was organised in Budapest during the Hungarian V4 presidency. Among the matters discussed were: combating terrorism and illegal migration, the threat of the Islamic State, building an open and democratic society in the Arab Republic of Egypt, ensuring local safety in the member states, cooperation in the field of power engineering, development of trade and investment plans based on V4's potential, as well as broadly defined economic cooperation. The meeting of Group leaders with the Israeli prime minister Benjamin Netanyahu, which also took place in Budapest, concerned technology collaboration, EU-Israeli relations, the changing situation in the Near East and safety in Europe, the immigration crisis and food quality standards. During the proceedings, prime minister Netanyahu proposed the idea to create a working group for combating terrorism. The motion was accepted. The group would be financed from the Visegrad Fund (Turczyn, 2017). As can be seen, today the Visegrad Group's political arena covers main economic areas and the world's most significant regions. Only Australia and its satellite country New Zealand, located roughly in the antipodes of Central Europe, are currently outside its area of influence. However, there is little doubt that V4's far-reaching diplomatic offensive will extend to the world's smallest continent soon enough.

## **6. THE VISEGRAD GROUP'S POLITICAL PRIORITIES**

Over the last several years, the Visegrad Group faced two serious problems which set them in opposition to the European Union's leading decision-making centres in Berlin and Brussels. An unequivocal stance on both of the issues has created a duo of priorities – guiding principles for the leaders and government officials of V4 on the international arena. They were as follows:

- Priority 1: To oppose the idea of two-speed Europe.
- Priority 2: To contend Brussels's decision concerning forced relocation of immigrants.

In both matters there were serious tensions between the Visegrad Group and the European Union. They led to exacerbation of relations and conspicuous mutual aversion between the two conflicting sides.

### **6.1. Priority one**

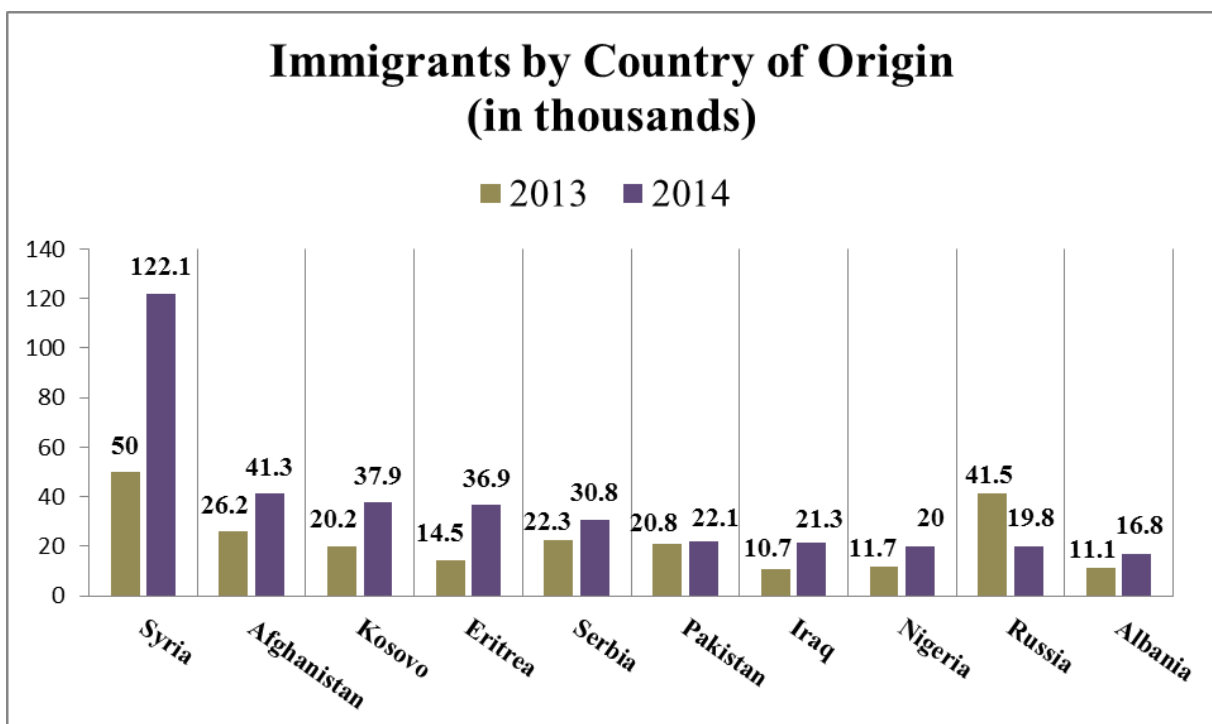
The incorporation of thirteen new member states between 2004 and 2013 did not prove to be a panacea for the problems with which the European Union had struggled since the 1990s. It was predictable that since eleven of the countries were from the former Eastern bloc, they may have had different views on how to lead and shape the 'common European home' than its former inhabitants. There was a common idea uniting the minds of leaders of both the 'new' and 'old' part of the Union – the need for reforms. However, the idea of the future united Europe was different from the point of view of the Berlin-Paris axis than from the perspective professed by governing bodies of the Visegrad Group. Leaders of Germany and France have long been maintaining that in order for the European Union to break out of stagnation, further intergration of the Old Continent countries is needed. Individual countries must surrender much of their political and economic sovereignty for prosperity and unification of legal and political systems. In practice, this would mean dividing the EU into 'a Europe of two speeds', whose 'firm heart', comprised of the wealthiest countries, would be under the rule of Brussels – and effectively Berlin – reducing the role of their parliaments and thus their lawmaking capacity, and forcing them to abandon their national ambitions in favour of large funds from a specially created, Eurozone-only budget, give up the common fiscal policy and separate defence policies, assume uniform cultural norms and educate young people in the ideals of the left. In light of these ideas, the V4 countries' priority became to fight at any cost to retain Europe's current cultural arrangement and the member states' sovereignty, historical differences between cultures, a common budget and the essential role of individual parliaments in lawmaking. V4 leaders would stress at the end of virtually every summit that they would not agree to a Europe of a center and outskirts, with better and worse, rich and poor countries (Sawkiwicz, 2017). Sadly, despite the V4 camp's protests, the direction for European Union was chosen with no regard for their opinion. On 6<sup>th</sup> March 2017, during the summit in Versailles near Paris, the leaders of France, Germany, Italy and Spain spoke out in favour of two-speed Europe. Angela Merkel, the Chancellor of Germany, stated 'Europe can only profit from this division; united does not mean uniform', while after the decision, Budapest, Bukarest, Sofia and Warsaw voiced warnings against the domino effect, whose first fallen piece in the current situation was Brexit. Thus, V4's first priority – reforming the European Union based on a system of sovereign nations united through a common goal – has failed to be realised.

### **6.2. Priority two**

As a result of protests against the authoritarian governments of the Near East, many countries there experienced the so-called Arab Spring: a spontaneous series of civil movements with the goal of introducing Europe-like democratic changes and overthrow dictators, who had for many years exercised undivided authority. The demonstrations began in Tunisia in 2010 and in January 2011, the example inspired Egyptians to also protest in the streets. Unfortunately, the forces for progress did not manage to take over everywhere. The attempts to overthrow the current regimes led to bloody civil wars in Syria and Libya and a dangerous conflict in Lebanon. Regional ethnic and religious skirmishes, as well as the destruction of administrative structures in many regions, led to the most dangerous Islamic parties on the border of Syria and Iraq becoming radicalised, which resulted in the birth of the so-called Islamic State. The Near East

became the site of unprecedented human tragedies, ethnic cleansings, persecutions, violations against civilians and unparalleled plundering. Beginning in 2013, the number of casualties soared, reaching hundreds of thousands in no time. The persecutions and killings led to masses of people fleeing the blood-soaked regions on a scale never before encountered in world history. Exact data is unavailable, but it is estimated that since 2006 between 2.5 million and 3.2 million people came over to Europe illegally. They were not only refugees from the war-torn regions, but also economic migrants from the Sub-Saharan Africa and Asia. The most developed countries of the European Union started being flooded by not only refugees from Syria, Tunisia, Libya, Eritrea or South Sudan, but also immigrants from Nigeria, Morocco, Iraq, Yemen, Gambia, the Ivory Coast, Niger, Albania, Kosovo, Pakistan, Afghanistan, Russia, Serbia, Mali and even Bangladesh.

Figure 2: Ten most common countries of origin of immigrants to the European Union  
(adapted from <http://pl.blastingnews.com/polityka/2015/07/kim-sa-uchodzcy-uciekajacy-do-europy-00488503.html>)



Humanitarian motives led Greece and Italy, as well as to a lesser degree Spain, to take in refugees. The immigrant problem, until that point local, quickly spiralled out of control due to the immeasurable numbers of people coming in to Europe every day. The situation was made even worse by the statement made in 2015 by Chancellor Merkel, who said that 'Germany is ready to take any number of refugees'. Since then, instead of calling it the 'inflow' of immigrants, the media started calling the phenomenon 'waves' of immigration flowing over the European Union. The German Chancellor's proclamation proved to be misguided and empty bragging, since the Federal Republic of Germany quickly discovered that they could not take in every person who wished to begin their life anew there. By conservative estimates, between 2014 and 2016, over 2 million people came to Germany. Incidentally and rather interestingly, German immigration offices cannot account for over 120 thousand immigrants, who seem to have vanished into thin air. To regain control of the situation, German politicians – using the EU's structures – decided to relocate excess immigrants into other EU countries. The European Commission obliged each member state to take in a particular number of people in need.



For larger countries, these were anywhere from a few thousand to several hundred thousand. Should a member state refuse this, they would have to pay the European Union 250 thousand euro per rejected person. The European Commission's idea was unanimously criticised by the Visegrad Four. In 2016, the V4 countries proposed that each member state should decide on its own on their form of participation in the European Union's immigration policy. They supported this stance with several significant arguments:

- The proposed programme was entirely ineffective in stopping the conflicts or problems of the Near East.
- Immigrants from Muslim backgrounds would prove problematic to assimilate into predominantly Catholic countries.
- There existed no adequate residential or educational infrastructures for the great masses of migrants.
- Germany would practically single-handedly dictate the approach to the immigration problem.
- Immigrants directed to V4 countries were reluctant to move there, as Western European countries were more attractive in terms of their social benefits.
- The native citizens could not be protected against Islamic terrorists and ISIS fighters slipping through the immigration vetting process.
- Germany, specifically Chancellor Merkel, made irresponsible declarations without consulting the matter with other countries.
- Having caused most of the problem, Germany wanted to distribute the burden among other EU countries.
- The Visegrad Group countries have already donated millions to assist the humanitarian cause in Syria, Lebanon and Iraq: rebuilding schools, hospitals and housing, as well as restoring industrial and social infrastructure.

As it soon turned out, the 2015 modified refugee relocation programme did not succeed as much as expected, either. It assumed 160 thousand people from refugee camps across Italy and Greece would be distributed among member states. So far, new homes were found for 18.5 thousand people and 15.5 thousand more remain in the camps. This means that a realistic distribution quota until May 2017 was a mere 34 thousand rather than 160.

Table 3: Relocation (as of 12<sup>th</sup> May 2017) - (<http://www.easo.europa.eu>)\*

Member state	Relocated from Italy	Relocated from Greece	Member state	Relocated from Italy	Relocated from Greece
Austria	X	X	Lithuania	8	267
Belgium	121	430	Luxembourg	61	216
Bulgaria	X	29	Malta	47	79
Croatia	13	36	Netherlands	565	1211
Cyprus	18	55	Poland	X	X
Czech Republic	X	12	Portugal	299	1003
Denmark	X	X	Romania	45	523
Estonia	X	122	Slovenia	35	137
Finland	653	790	Slovakia	X	16
France	330	3074	Spain	144	742
Germany	2048	2430	Sweden	39	X
Hungary	X	X	Liechtenstein	X	10
Ireland	X	459	Norway	679	468
Latvia	27	281	Switzerland	579	317

\*18 418 people have been relocated since the launch of the scheme



The European Union, using its executive institution – the European Commission – has now initiated the procedure of penalising three of the V4 countries by political means and by financial coercion. These countries are the Czech Republic, Poland and Hungary, which so far have not accepted any refugees and have taken a firm stance against doing so. Slovakia did not qualify for a penalty since it has taken in 16 immigrants from Greece. Both Austria and Denmark have provisions in their Association Agreements, leaving them in full control over matters of migration, which explains why they were not penalised by the EU despite having taken in no refugees. The second priority of the V4 – the refusal to perform the relocation of immigrants as per Germany's dictation – is a natural consequence of the first one, which was the idea of Visegrad countries' independence in matters regarding the safety of their own citizens, autonomy in shaping their migration policy and sovereignty of national parliaments in making internal laws.

## 7. CONCLUSION

The founding and political and economic activities of the Visegrad Group is a historical consequence of similar administrative and economic entities in the recent and distant past, which would focus and integrate such activities, as well as Central Europe citizens' will to cooperate. Another reason why such large, multinational countries, federations and unions existed in the region was the need to counteract attempts by powerful nations – such as Germany, France or Great Britain – to dominate others. In official statements, the V4 leaders stress that currently, the Visegrad Group is only a political platform representing the views of the member states' societies. However, given the international political activity of the group, the decrease in trade between V4 and the EU in favour of third party countries, as well as their open political conflict with the authorities in Brussels, it would appear that the matter is more significant. It seems that should the announced two-speed Europe create a schism within the European Union, the Visegrad Group would become the foundation of a structure which would counterbalance the Berlin-Paris axis. The final shape of such an entity would probably be the realisation of the idea of Trojmorze (Polish: *trój* – 'tri-', *morze* – sea, literally 'Three Seas'), which has long been promoted by Poland and also received support during Donald Trump's visit to Warsaw in July 2017. And, should the European Union as we know fall and the twelve members of the Three Seas Initiative begin to form a coalition, the first step towards this goal would be to draw upon the Visegrad Group's invaluable experiences and accomplishments in the area of international integration.

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## RESEARCH IN THE FIELD OF TAX REFORM IN SLOVAKIA

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### ABSTRACT

*The tax reform is a complex of changes in the existing tax system or a creation of completely new tax system with precisely defined objectives, which are implemented on the basis of a compromise between economic and political decisions with an effect from a precisely defined date. Tax reforms play a key role not only in the development of a tax system but also in the overall economy of the state. Recently, a tax reform has been implemented in Slovakia. It aimed to increase revenues to the state budget, to make the business environment more attractive and to reduce the administrative burden on entrepreneurs. The reform of the tax and customs administration and the unification of the tax collection system, duties and insurance levies were also projected to achieve these goals. The aim of the paper is to describe various reform steps in Slovakia and to examine and evaluate the tax reform in the selected period. The theoretical basis for the paper are relevant regulations, book publications, scientific papers and secondary data available from statistical sources. As for the analysis of secondary data appropriate mathematical and statistical methods were selected. Based on the evaluation of the results of research, conclusions were drawn and suggestions were presented as well.*

**Keywords:** *tax, tax reform, tax administration*

### 1. INTRODUCTION

Taxes are an important economic, financial, social and political instrument of the state. For each country taxes are one of the most important sources of income. Through taxes the state affects many microeconomic and macroeconomic variables such as unemployment, economic growth in the country, inflation, foreign investments, consumption, and so on. In the literature, we encounter different definitions of tax. According to Kubincová (2009, p. 40), taxes are non-repayable, enforceable and, in general, non-purposeful and recurring payment paid by natural and legal persons, levied under specific laws by the state and local authorities in favor of public budgets and special-purpose funds to cover public expenses at a predetermined amount and with a specified maturity date. James (1997) defines taxes as a mandatory fee paid by the public for which it does not receive anything specific back. Harumová (2002, p.8) and Grůň (2001, p. 35) define taxes from two points of view - formal and economical. From a legal point of view, the tax is a mandatory, legally determined non-purpose and non-equivalent payment, which taxable persons pay in a form of money at a specified amount and within the set deadlines to the relevant public budget. From an economic point of view, tax is a fiscal (financial) relationship between a taxable person (ie a taxpayer) and a state governed by law that is being used by the government to meet its objectives. It follows from the above definitions that taxes are mandatory and irrecoverable payments levied by the state or municipality on a due date to cover public needs. A summary of taxes that are levied on a particular territory over a given period is called a tax system. From the legal point of view, these are individual taxes stipulated

by tax laws. The tax system of Slovakia consists of direct taxes and indirect taxes. Direct taxes are divided into income taxes (corporation tax and personal income tax) and property taxes (local taxes and tax on motor vehicles). Indirect taxes include value added tax and excise duties. According to Grúň (2001, p. 38), Kubincová (2009, p. 41) and Suhányiová (2011, p. 223) the tax systems consists of the following:

- tax system
- a legal, organizational and technically constituted system of institutions that administer, collect and levy taxes and provide supervision over the aforementioned steps
- the system of instruments and methods applied by these institutions in relation to tax subjects or other persons.

In order to achieve the stated goals of the state (political, social, economic, international, etc.), a change in the tax system may take place or a completely new tax system may be formed. This process is called a tax reform. Jankovská (2012, p. 72) states that any tax reform must have a precisely defined objective, appropriate tax instruments and their exact, understandable and workable content and date of validity. Tax reform may be one-time, gradual, complete or partial. The concept of tax reform must be based on the principle of whether it will focus more on income taxation or consumption taxation (sale). Kubátová (2010, p.152) states that the prerequisite for each tax reform is its positive impact on the economic growth and a more equitable distribution of the tax burden.

## **2. REFORM OF THE SLOVAK TAX SYSTEM**

Slovakia (the long form of the Slovak Republic) is located in the Central Europe. It is a pluralistic state with a unicameral parliament and president. Until 1 January 1993, Slovakia had been a part of the Czechoslovakia, then a separate Slovak Republic was formed. It has an area of 49,036 km<sup>2</sup> and has about 5.43 million inhabitants. The country shares borders with Czech Republic, Austria, Hungary, Ukraine and Poland. The capital is Bratislava. Slovakia is a member of NATO, OECD, UN. It joined the EU in 2004. Since 2009, Slovakia is a member of the European Monetary Union - the Eurozone and the official currency has become the euro which has replaced the Slovak crown.

Tax reforms are of a key importance not only for the development of the tax system but also for the whole Slovak economy. In the following part of this subchapter we outline important reforms of Slovakia's tax system since the establishment of the independent state up to now.

### **Tax reform of 1993**

A significant reform of the tax system was carried out after the transition from a centrally planned to a market-oriented economy following the establishment of Slovakia in 1993. The tax system law was introduced to simplify the tax system and accept the principles of the market economy in the country. The tax system then consisted of direct taxes (personal income tax, corporation tax, property taxes) and indirect taxes (value added tax and excise duties). The rate of personal income tax was set as progressive and the corporate tax had only one rate. A non-taxable portion of the income tax base has been introduced in three forms – per taxpayer, wife, child.

### **Tax reform of 2004**

The tax reform was launched the year of Slovakia's accession to the European Union (2004) and was part of the wider reform program of the then Slovak government. The program also included public finance reform, social and retirement reform, labor market reform, health and public administration reform. The successful implementation of this reform program has led to Slovakia becoming one of the fastest growing European economies. The objective of the tax reform was to create a favorable business and investment environment and thus eliminate

weaknesses and deformation effects of tax laws, to achieve a high degree of tax justice and more equal taxation. This new tax system was based on 5 key measures (Mikloš 2005, p. 12):

- the introduction of an equal tax rate of 19% for both physical and legal persons,
- consolidation of VAT rates at 19%,
- cancellation of dividend and profit tax,
- abolition of the tax on donation, inheritance and transfer and real estate transfer,
- removal of most exceptions, deductions, and special modes.

The tax reform not just introduced equal taxation, but its implementation was used to make the tax system more simple and transparent. According to Mikloš (2005), a flat tax rate (together with other reforms) contributed significantly to the fact that Slovakia was able (as the second post-communist country) to accept the euro.

### **Tax reform of 2013**

The aim of the reform was to increase revenues to the state budget by increasing the progressive tax rate on individuals' income and as well as the corporate tax rate. Major changes that have occurred since 2013 are as follows:

- progressive taxation of personal income was introduced again,
- for natural persons, it is possible to apply lump-sum expenses from the tax base of 40%, but not more than 5,040 EUR per year,
- income of the constitutional officials of Slovakia is taxed at a special rate of 5% in addition to the normal taxation,
- increase of corporate tax rates,
- for VAT, a measure was adopted under the Action Plan to Combat Tax Frauds,
- electronic communication of VAT payers with the Slovak Financial Administration,
- from 2017, dividends and profit shares are again taxed at a rate of 7%; if the beneficiary of dividends and profits is a non-contracting state (with which Slovakia has not entered into a double taxation treaty), the tax rate is 35%,
- from 2017, the lump-sum payments for natural persons have increased from 40% to 60% of the total revenue, up to a maximum of 20,000 EUR.

### **3. REFORM OF THE TAX ADMINISTRATION OF SLOVAKIA**

By 2012, 207 Tax and Customs Administration Offices had been operating in Slovakia. The tax section was managed by the Tax Directorate of the Slovak Republic, which had its workplaces at the headquarters of the higher territorial units. There were 101 tax offices under the Tax Directorate. The tax office for selected tax subjects was independent. With regard to customs administration, the Customs Directorate of the Slovak Republic managed 9 Customs offices, 62 branches of Customs Offices and 23 Customs Stations. In addition to these offices, the Customs Criminal Bureau also worked in this field. In January 2012, a comprehensive tax and customs reform was launched in Slovakia. Its aim was to unify taxes, duties and insurance levies. The reform is being carried out through the program UNITAS. Its benefits should be as follows: cost savings, a better and more comprehensive overview of public finance developments, a reduction in tax and customs leaks, a reduction in bureaucracy, and an increase in performance. Since January 2013, the tax and customs administration has been in the process of reorganization. The Tax Directorate and the Customs Directorate merged, creating a Joint Managing Authority for both sections - the Financial Administration. The Financial Administration currently consists of the following (Ministry of Finance SR, 2010):

- Financial Directorate,
- Tax Authorities (8 Tax Offices, 1 Tax Office for Selected Tax Bodies, 39 branches of the Tax Office, 25 contact points of the Tax Office),



- Customs offices (9 Customs Offices, 62 branches of the Customs Offices, 18 Customs Stations),
- Criminal Office of the Financial Administration.

Another goal, to be achieved by 2020, in terms of streamlining tax and duty collection is to continue in the efforts to implement the government's reformist conclusions related to the process of unifying tax and duty collection, possibly also with the collection of insurance contributions, including efforts to make the Financial Administration more effective.

#### 4. THE ANALYSIS OF THE SELECTED TAX INDICATORS

Developments in tax revenues in the country have influenced several factors in the period under review, including tax reform, changes in tax planning as well as the global financial crisis.

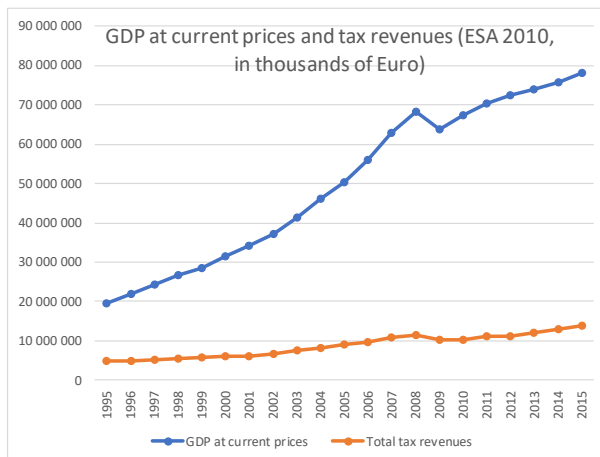


Figure 1: GDP at current prices and tax revenues of the public administration in ths. of euros (Statistical Office of the Slovak Republic, 2017)

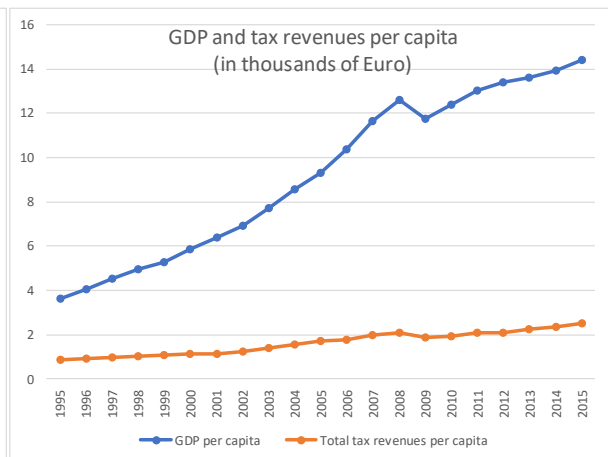


Figure 2: GDP and tax revenues per capita in ths. of euros (Figure 1)

Gross Domestic Product (GDP) of Slovakia in the monitored period increases year-on-year, with the exception of 2009, when GDP dropped by 4,504,041,000 EUR compared to 2008, ie the year-on-year decrease of 6.59%. Since 2009, GDP has been rising again, but at a slower pace than in the period between 1995-2008. The highest year-on-year increase in the monitored period occurred in 1996 - 2,351,393,000 EUR, in 2006 it was 5,856,408,000, in 2007 it was 6,777,458,000 EUR. In all three cases, year-on-year increase reached 12%.

Much like with GDP, we also see a year-on-year increase in tax revenues, however, its increase is more moderate. The exception is 2009 and 2012. In 2009 tax revenues decreased by 1,288,357,000 EUR in comparison with the previous year (decrease of 11%) and by 48,512,000 EUR in 2012 (decrease of 1%). The highest year-on-year increase occurred in 2003 when tax revenues grew by 14% compared to 2002.

Table 1: Share of tax revenue excluding sanctions and social contributions on GDP in % (Ministry of Finance SR, 2016)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Tax revenue together	24,4	22,1	21,4	21,1	20,6	19,3	18,2	17,9	18,4	18,1	18,3	17,2	17,2	16,7	15,9	15,4	16,0	15,5	16,4	17,1	17,6
Direct taxes	10,2	8,9	8,6	8,4	8,4	6,9	7,0	6,5	6,6	6,0	5,9	6,0	6,2	6,4	5,5	5,3	5,4	5,5	5,9	6,4	6,8
Indirect taxes	14,4	13,2	12,8	12,7	12,2	12,4	11,2	11,4	11,8	12,1	12,4	11,2	11,0	10,3	10,4	10,1	10,6	10,0	10,5	10,7	10,8
Income tax of natural persons	3,6	3,9	4,2	4,3	4,2	3,3	3,5	3,2	3,2	3,0	3,0	2,9	2,9	3,0	2,8	2,7	2,8	2,9	2,9	3,1	3,2
Corporate income tax	5,9	4,2	3,6	3,2	3,1	2,6	2,6	2,5	2,7	2,5	2,6	2,8	2,9	3,1	2,5	2,4	2,4	2,4	2,8	3,1	3,4
Tax deducted	0,7	0,8	0,8	0,9	1,1	1,0	0,9	0,8	0,7	0,5	0,3	0,3	0,4	0,3	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Value added tax	8,2	7,5	7,1	7,3	6,7	6,9	7,2	6,9	7,3	7,6	7,7	7,3	6,6	6,8	6,6	6,2	6,7	6,0	6,4	6,6	6,9
Excise duties	3,5	3,2	2,9	2,9	3,0	3,1	2,7	2,9	3,1	3,3	3,6	2,8	3,5	2,6	2,8	2,9	2,8	2,7	2,7	2,7	2,7
Other taxes	2,7	2,5	2,8	2,5	2,5	2,4	1,3	1,6	1,4	1,2	1,1	1,1	0,9	0,9	1,0	1,0	1,1	1,3	1,4	1,4	1,2



After examining the share of tax revenues on GDP, it can be said that over the period 1995-1999 this share exceeded GDP by 20% each year. Between 2000 and 2005, this share was around 18%, from 2006 the share was slightly decreasing until 2012, when it accounted for 15.45%. From 2013 onwards, the share of tax revenue on GDP started to rise again to 17.65% in 2015. This can be attributed to the tax reform, which has again introduced progressive income taxing in order to increase the revenue of the state budget.

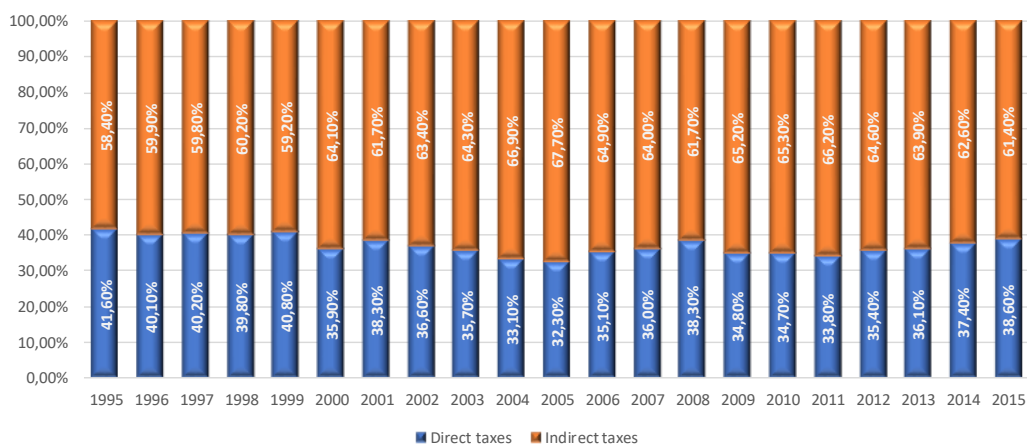


Figure 3: Share of direct and indirect taxes on total tax revenues in %  
(Ministry of Finance of the Slovak Republic, 2016)

The largest part of tax revenues in the period under review was generated by indirect taxes. The highest figures are reported for 2004 and 2005, namely 66.9% and 67.7%, respectively. The lowest figures were achieved in 1995 – just 58.4%.

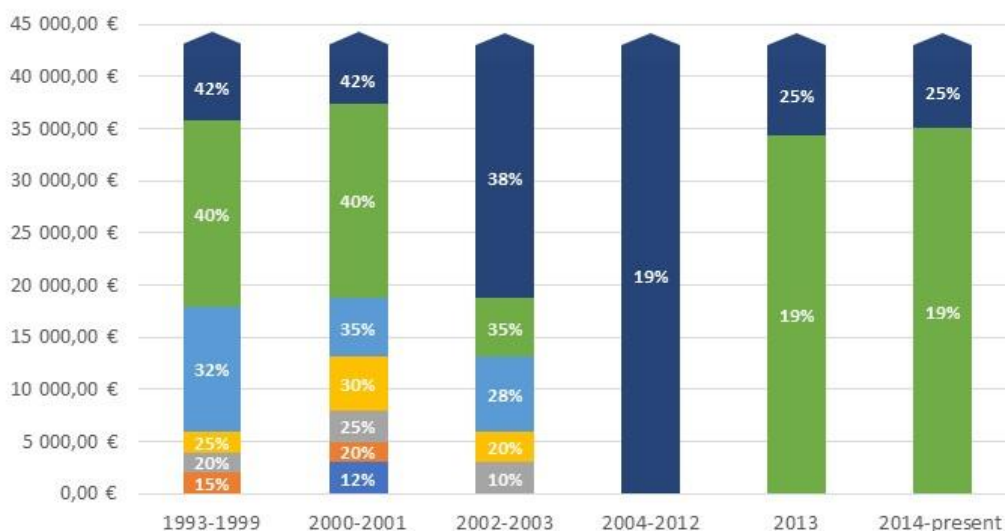


Figure 4: Development of the personal income tax rate between 1993 and 2017 in % (Own processing in accordance with the Income Tax Act no.286/1992 and no. 595/2003)

The income tax rate of a natural person is used to calculate the income tax imposed upon employees, freelancers and other self-employed persons. From 1993 to 1999, revenues were classified into individual tax classes that were in turn taxed progressively using tax rates ranging from 15% to 42% depending on the amount of income. In 2000-2001, tax rates ranged from 12% to 42%. Effective from 2002, the progressive taxation system has been simplified for two years.

Tax classes have been reduced from seven to five with a new adjustment to the tax ranges which ranged from 10% to 38%. From 2004 to 2012, the so-called "equal tax" was in force - the personal income tax rate was set to 19 %. In 2013, the progressive taxation of natural persons' income has been introduced. The basic tax rate of 19% is used to calculate the tax on the tax base which was less than or equal to 34,402 EUR in 2013. Since 2014, this threshold has been raised to 35,022 EUR. An increased tax rate of 25% is used to calculate the tax on income which tax base exceeds that limit. Since 2013 there has also been a so-called "special tax rate" of 5%, paid by constitutional officers (President, Members of the Government, Members of the National Council of the SR, Chairman and Vice-Chairman of the Supreme Audit Office) in addition to the above-mentioned taxes.

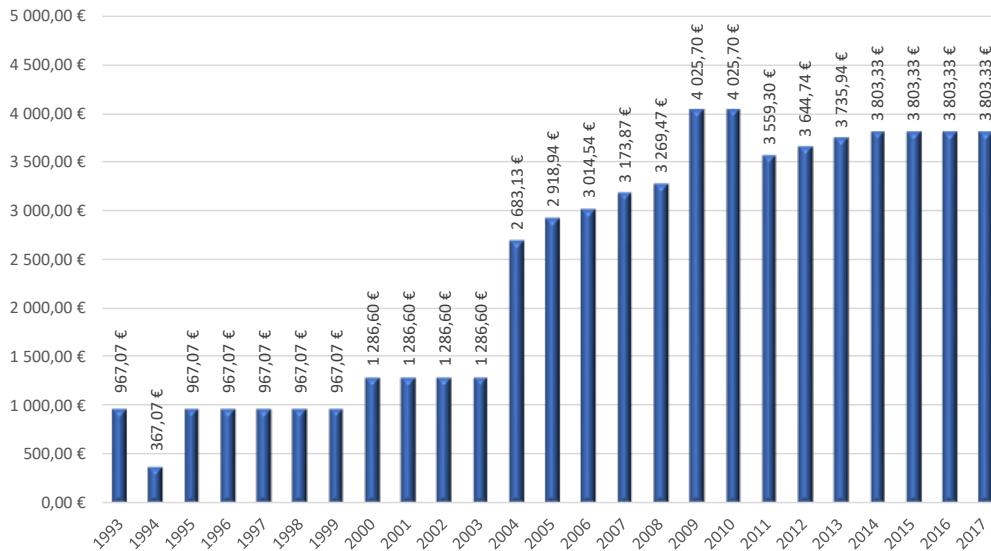


Figure 5: Development of a non-taxable portion of the tax base of a natural person between 1993-2017 in EUR (Own processing in accordance with the Income Tax Act no.286/1992 and no. 595/2003)

In the period between 1993 and 1999, the non-taxable portion of the tax base had not been adjusted. A significant change occurred in 2000, when the non-taxable portion of the tax base got increased by 33%. In 2004, the non-taxable portion of the tax base increased by 108.54%. After 2004, the non-taxable portion of the tax base slightly increased, in line with the increase in the minimum subsistence level in Slovakia, which serves as the basis for determining the non-taxable portion of the tax base (19.2 times the subsistence minimum). During 2009 and 2010, a transitional provision was in place that modified the method of calculating the non-taxable portion of the tax base. This provision was introduced as part of the anti-crisis package and remained valid for 2 years.

The provision changed the non-taxable portion of the tax base into 22.5 times the amount of the applicable subsistence minimum. In 2011, the amount of the non-taxable portion of the tax base was again reduced to 19.2 times the amount of the applicable subsistence minimum. The minimum subsistence level has not changed in Slovakia since 2014, so there has been no change in the amount of the non-taxable portion of the tax base in the last four years. From 2007 onwards, the total amount of the non-taxable portion of the taxable person's tax base may be deducted only up to a certain amount of the taxable amount. If a natural person reaches a higher tax base than the statutory limit, the non-taxable portion of the tax base is gradually decreasing down to zero.

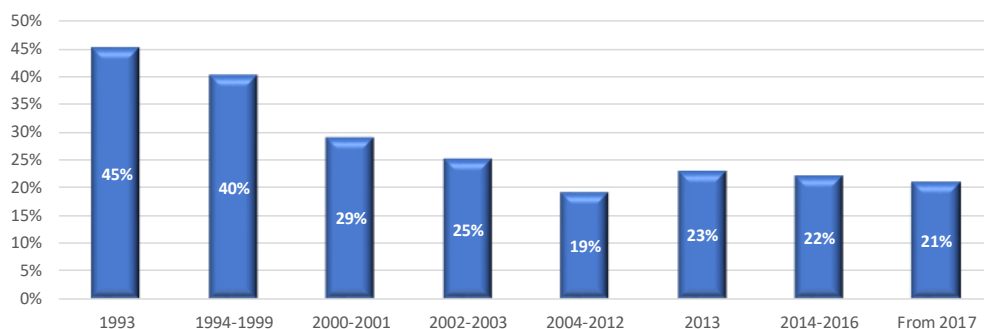


Figure 6: Development of corporate tax rate between 1993 and 2017 (Own processing in accordance with the Income Tax Act no.286/1992 and no. 595/2003)

Income tax on legal persons is usually referred to as corporate tax. Since the introduction of the new tax system in 1993, a number of changes have been made to the tax rate. In the first year, the 45% tax rate applied was changed to 40% in 1994. In the years 2000-2001 the tax rate was 29%, in 2002-2003 the rate fell to 25%. Following the introduction of an equal tax in 2004, the rate of corporate tax was set to 19%. This rate has been valid until 2012. In 2013 the rate rose to 23%, in 2014 to 22% and from 2017 it is 21%.

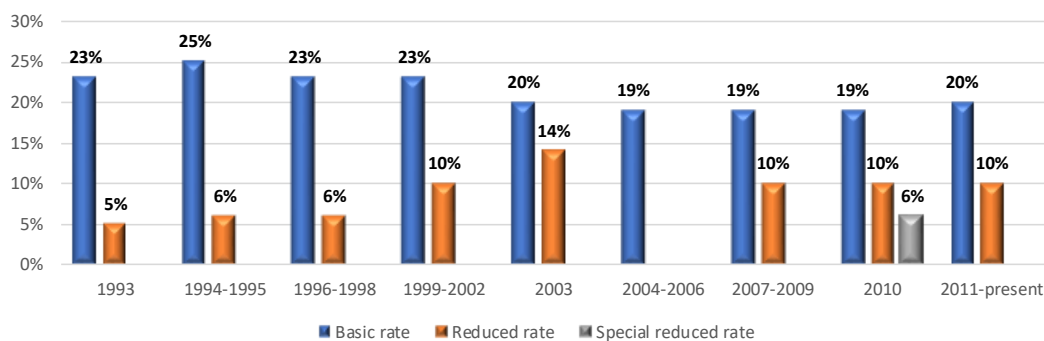


Figure 7: Evolution of the VAT rate between 1993 and 2017 (Own processing under the 14. Value Added Tax Act no. 222/1992 and 222/2004)

Since 1993, the first Value Added Tax (VAT) modification introduced in Slovakia the basic VAT rate of 23% and a reduced VAT rate of 5%, which was adjusted several times by 2004. Reduced rates applied mainly to food, medicines, energy, building supplies, construction works, books, newspapers, magazines, hotel and restaurant catering. Since the tax reform of 2004, the VAT rate has been unified to 19% for all goods and services. Since 2007, a reduced VAT rate of 10% has been introduced on books, medicines and some medical devices. In 2010, selected products sold from yard (small farmers) are to be sold at the reduced rate of 6%. Therefore, there were two reduced rates, 6 % and 10%. The basic tax rate has increased from 19% to 20% since 2011, and at the same time the reduced rate of 6% has been abolished.

#### 4. CONSLUSION

Between 1993 and 2003, the income taxation system was de facto uniform in Slovakia. However, there were a number of exceptions and conditions and different tax rates depending either on the type of tax base amount or on the type of taxed income. Different types of tax subjects (eg, favoring only some investors, some sectors, etc.) were treated differently as well. The laws have been amended many times. The fiscal reform made in 2004 was undoubtedly the right step. It has shifted the tax burden from direct taxes to indirect taxes, eliminating a large number of tax exceptions and lowering tax rates.

There has been no paradigm shift since 2013. Due to increased tax revenues, progressive income taxation, re-taxation of dividends and other changes were introduced. The reform was not as crucial as that of 2004. At present, the tax system of Slovakia comprises a total of 9 tax laws that define 18 existing types of taxes. The long-term effects of these changes will be reflected in the economy over the next few years. The continuing challenge of tax collection is a major problem of the current tax system. Since 2013, the institution of tax administration and customs administration has been incorporated into one institution under the heading of the Financial Administration, which has made communication with taxpayers much easier and eliminated a large number of bureaucratic processes. In the second phase of the reform, all insurance contributions (health and social insurance) were to be unified and collected by one institution, but due to lack of funding for the implementation of these plans the second phase was suspended. The transfer of social and health insurance contributions payments to the central financial administration has the potential to bring more efficiency, simplify the tax system, and reduce the administrative burden placed upon tax subjects.

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## THE RELATIONSHIP BETWEEN POTENTIAL ECONOMIC GROWTH AND LEGAL PROCEDURE ENACTMENTS IN CROATIA

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### ABSTRACT

*Economic utility and political efficiency are closely related fields within macroeconomic management for domestic/international and political/economic institutions and their policy-making strongly varies in their actions towards encouraging growth, remedying structural imbalances, ensuring equitable distribution of income and wealth, and etc. This paper analyzes the relationship between economic expectations and procedure of the adoption of new laws in the Croatian Parliament. The main objective of this study is to show whether there exists a relationship between expected, i.e. potential economic growth and the way in which the new laws are passed. In that manner, we will explain the dynamics of procedure enactments and evaluate whether that procedure has an impact on the potential GDP. Empirical assessment is based on a simple regression model and spectral analysis. Results suggest that there indeed exists a strong bond between the observed variables, so that the adoption of new legislation has a major impact on future economic expectations.*

**Keywords:** *potential GDP, economic growth, legislative procedures, distributed lag regression, spectral analysis, Croatia*

### 1. INTRODUCTION

Economic utility and political process, encircled in institutional efficiency, are closely related fields within macroeconomic management for domestic/international and political/economic institutions and their policy-making strongly varies in their actions towards encouraging growth, remedying structural imbalances, ensuring equitable distribution of income and wealth, addressing social features and human capital as well as environmental features and natural capital, implementation of different sustainable strategies, and etc. Legal institutions have an enormous effect on social and economic conditions for their inactivity lead to reinforcement of disastrous inequalities that could serve as a tool of domination of specific interest groups. They can shape and manipulate social behavior as they can alter substantive rules that were initially aimed towards socioeconomic growth and development. Underlying the notion of development or growth is not pointed towards/against (in)discrimination of state intervention or proliferation of state-owned enterprises or even regulation of different (effective) forms of competitive markets. It is pointed towards elimination of economic policy disappointments. Many members of distinct social groups often stress the importance of speedy enactment of legislations on some economic issues for such promulgation could give a fresh impetus for economic growth, and in general, national development. Following such statement, this paper analyzes the relationship between economic expectations and procedure of the adoption of new laws in the Croatian Parliament. The main objective of this study is to show whether there exists a relationship between expected, i.e. potential economic growth and the way in which the new laws are passed in Croatia. In that manner, we will explain the dynamics of procedure enactments and evaluate



whether the urgent procedure has an impact on the potential national output. Empirical assessment is based on a distributed lag regression model which was additionally reassessed with the spectral analysis. Annual data are collected from the Information and Documentation Department of Croatian Parliament (INFODOK) and International Financial Statistics (IFS), covering the period from 1996 to 2015.

## **2. THEORETICAL EVALUATION AND THE EMPIRICS**

This section presents a short introduction to the conceptual background of the topic with introspection into some practical issues, and in addition offers an empirical background on related studies.

### **2.1. Conceptual background of the research**

The laws in the Croatian Parliament are adopted in two ways: by (1) regular and (2) urgent procedures. The law-making process is initiated by submitting a legislative proposal to the Speaker of Parliament. The President then forwards those proposals to the presidents of all committees, members of the Parliament (MPs) and the Prime Minister, when the Government is not a proponent. A right to propose laws has every MP, parliamentary party clubs, committees, and the Government. Before discussing the proposal at the plenary session of the Parliament, the chairman of the specific committee and the Legislative Committee are obliged to include the bill or the draft law on the agenda of the session and conduct the debate. The committees are concerned with all the elements of the bill, whereas the Legislative Committee, in particular, on the constitutional grounds of the law. The discussion on the bill is carried out in two readings. The first reading is the first part of the law-making process that is being carried out at the sessions of the Parliament. It includes: introductory presentation of the proponent, general discussion on the bill, discussion on the details of the text, discussion of the positions of the committees that considered the proposal, and the adoption of a conclusion on the need to pass the law. The proposer is obliged to submit the final bill of proposal within six months from the date of the adoption of the bill. Otherwise, it will be assumed that the process has been suspended. The discussion on the final proposal will be regarded as the second reading, which includes: discussion of the text of the final bill of the law, a discussion of the positions of committees, discussion of the submitted amendments, decision on amendments and adoption of the law. In cases where a larger number of amendments have been submitted, or when the amendments are of such nature that they substantially change the content of the final bill proposal, the third reading will be conducted.

In exceptional circumstances, the law can be passed by an emergency procedure. These situations relate to the defensive interests and other legitimate state reasons, or when it is necessary to prevent or eliminate major economic disturbances. For example, by way of derogation, the Speaker of Parliament may, when it is necessary to enact specific legislation under urgent procedure or when this is required by other particularly justifiable reasons, convene Parliament within a period shorter than 8 days, and propose the agenda for that session at the session itself ([www.sabor.hr](http://www.sabor.hr)). Along with the proposal on the urgent procedure, a final bill is also submitted. An urgent procedure can be initiated by a party club with 15 or more members or clubs with a total of 15 or more members. If the proposal is submitted by an MP, then it must be supported (with a signed document) by at least 25 other MPs. The proposal must be submitted to the Speaker of Parliament no later than 24 hours prior to the defining of the agenda for the session. Given the fact that the urgent procedure differs greatly from the regular adoption of the laws, i.e. there is a very short time available for the study of the proposed law, this paper will be focused on the study of the impact of the laws that are adopted by an urgent procedure on economic growth in Croatia.

Namely, a very definition of a law-making through urgent procedure is that these laws are only adopted in exceptional cases. However, for the laws passed within the Croatian Parliament, such a definition could be inappropriate as most of the laws are passed by an urgent procedure. The question then arises whether such a way of adopting the law is appropriate and whether it has a specific effect on the economic expectations. Laws adopted by the urgent procedure are less analyzed by the MPs and there is a less time for serious remarks and amendments (i.e. there is a limited time frame for the enactment of laws, misuse of the procedures, questionable quality of adopted laws, unsatisfied general public, etc.), therefore the question, of whether the these laws in some way can have a negative impact on the expectations of economic growth, could be put forward<sup>1</sup>.

## **2.2. A short review of stylized facts and empirical literature**

There is a general stance that the urgency characterized procedures give Governments power that is unnecessary and can be abused. Such a procedure can fuel the mistrust in the political system too. However, if we follow the experiences from other legislatures bodies in other countries, we can see that such quick enactment of legislation has been frequently used almost as a standard way for the politicians to rush new laws without public scrutiny. For example, in Lithuania between 1992 and 2004 an average of 22.8% of legislation was enacted using urgency or so-called 'special urgency' procedures. In Latvia between 1993 and 2002, the rate was even higher at 39.1% (Arter, 2007). In Serbia between 1991 and 2014 an average of 48.03% of all laws were passed as urgent. In the period from 2011 to the present, a total of 583 regulations were adopted. Out of the total number of adopted regulations in this period, 337 regulations were passed under urgent procedure, which makes 58%, while 42% of laws were adopted by regular procedure (Open Parliament Initiative – Serbia, 2015). Croatia especially stands out as the country in which 1383 laws in total were adopted in the period from 2003 to 2011, of which 1140 were adopted by urgent procedure. In New Zealand, in the ten years leading to June 2011, Parliament sat under urgency for 18.1% of its time, on average (Mueller, 2011). A lot of countries do use urgency procedures but in some cases, countries such as Canada and Australia do not recognize a technical definition of emergency legislation. But those countries do have some specific categories of parliamentary responses to urgent situations. The overall institutional framework of each country presents a content that is really a response to political and not public requirements. We can say that the urgent procedures are generally seen as an adequate operational support for implementing necessary political actions. There is still insufficient transparency in the work of legislative bodies so that the potential danger of corruption and/or hidden neglect of important socioeconomic question within such institutional bodies could be high. When we turn to the empirical base<sup>2</sup> that relates to the urgent enactment of laws – economic growth and development nexus in Croatia, we find rather small number of relevant studies<sup>3</sup>. We also have to be very careful in interpretation of some studies for not all new laws are directly related to economic performance of a country. This could be seen as a major drawback of the paper. None the less, it enables us to see a wider picture within political-social-economic framework.

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<sup>1</sup> 'The literature on the rule of law and economic growth has been one of the more dynamic areas of theoretical and empirical work in political science, economics and law, joining an interest in institutions and fundamental economic processes. For economic growth to occur the sovereign or government must not merely establish the relevant set of rights, but make credible commitments to them' (Haggard and Tiede, 2010). As Doyle (2014) puts it, 'The rule of law is vital when creating robust social and economic environments that will be able to stand strong during the natural social and economic ups and downs that every country must weather'.

<sup>2</sup> Interesting papers on topic: Bellucci and De Angelis (2013), Durr, Gilmour and Wolbrecht (1997), Franzese (2002), Rogoff and Sibert (1988) Tannenwald (1997), Davis and Trebilcock (1999), Tsay (2012), and etc.

<sup>3</sup> We have to accentuate that the importance attached to the state and legal institutions in theories of economic development has fluctuated dramatically over time.

We found three distinct papers that are partially associated to our topic. Mačkić (2014) examines the existence of the political budget cycle at the local unit level in Croatia. The research was focused on a sample of 19 county centres and two cities for the period 2002 -2011. During that time three parliamentary and two local elections were held and all the results are calculated at the level of the selected cities. The results do not confirm the existence of opportunistic political budget cycles, either when the analysis takes in all five elections or when it considers only the parliamentary polls. They do however indicate the restructuring of total expenditures based on second-best strategies and institutional constraints. Vučković (2010) on the other hand, examines the political business cycles theory by presenting detailed insight into different political business cycle models and by econometrically testing whether fiscal policy cycles existed in Croatia in the period 1995-2008. Vučković finds some evidence of opportunistic cycles, however concludes that a solid proof for the existence of political cycles, cannot be found. Another interesting, and conceptually related, research was conducted by Piplica and Čovo (2011) who found a strong negative impact of corruption on economic growth in Croatia. They suggest that the relationship between the corruption and economic growth is mostly direct and occurs without significant time delay. Let us move now to the analytical part of the paper.

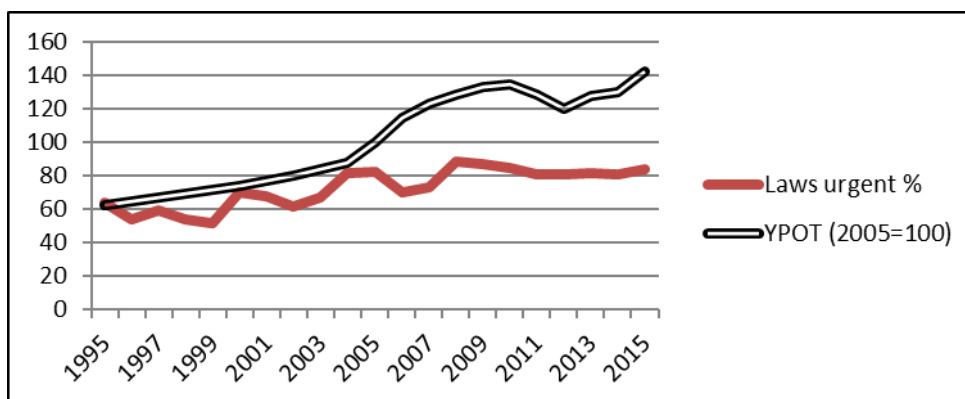
### 3. THE RESULTS

In the first part of the analysis, we will focus on how legislations are passed, regularly or urgent, how many laws have been passed and how many have been rejected, and those that have been adopted in what way they have been adopted. In that manner, we will try to explain the link between the majority of votes and the way of decision-making (regular-urgent). In the second (distributed lag regression analysis) and third (spectral analysis) part of the analysis, based on the available data on the urgent procedure and the data on expected, i.e. potential gross domestic product (2005=100), we will analyze the relationship between the urgent procedure enactments and the expectations towards economic growth. Potential gross domestic product is acquired from the IFS and is defined as the level of output that an economy can produce at a constant inflation rate. Although an economy can temporarily produce more than its potential level of output, that comes at the cost of rising inflation; potential output depends on the capital stock, the potential labour force (which depends on demographic factors and on participation rates), the non-accelerating inflation rate of unemployment, and the level of labour efficiency. Annual data for the fourth (2000-2003), fifth (2003-2007), sixth (2008-2011) and seventh (2011-2015) Assembly of the Croatian Parliament were collected from the INFODOK, based on the period of the analysis i.e. from 1996 (includes effects of the third assembly) to 2015 (consequences of the seventh assembly).

#### 3.1. An overview of the enactment processes in Croatia

As we already mentioned, laws in Croatia are mostly adopted through the urgent procedure. This gives us ground for pursuing the main research question of the paper, i.e. the nexus between the urgent procedures in law-making and the potential gross domestic product. Graphical figure that displays the relationship between the percentage of laws passed by an urgent procedure (**Laws\_urgent**) and data on potential economic growth (**GDP\_pot**) suggest a similarity in movements and trend (see *Figure 1*). Such dynamics could suggest a positive causal relationship between the observed variables.

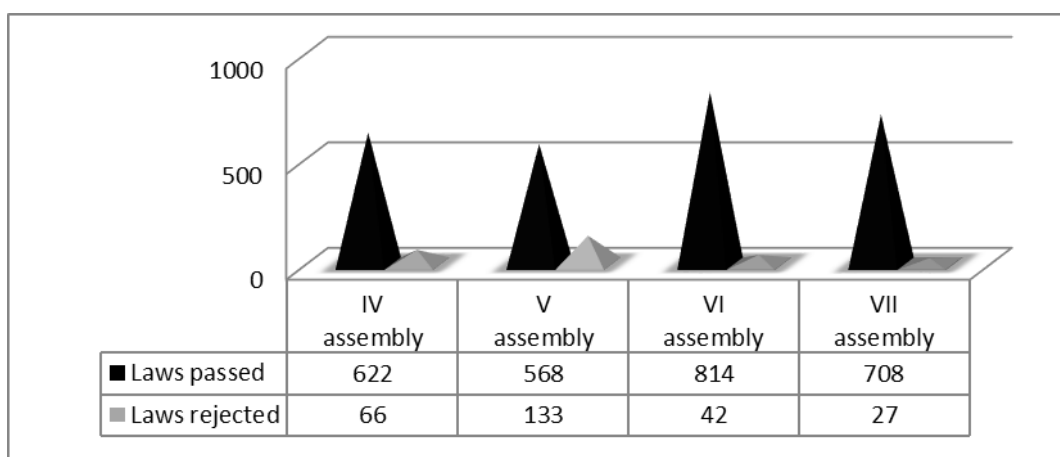
Figure 1. Potential gross domestic product vs. laws issued by an urgent procedure



Source: Authors' calculation based on INFODOK and IFS.

It is also important to evaluate the dynamics of procedure enactments. *Figure 2* displays the ratio between passed and rejected laws (in total) which is in fact decreasing over time (from around 10% in the IV assembly to around 4% in the VII assembly). Namely, there is a small number of rejected laws, i.e. most of the laws are accepted.

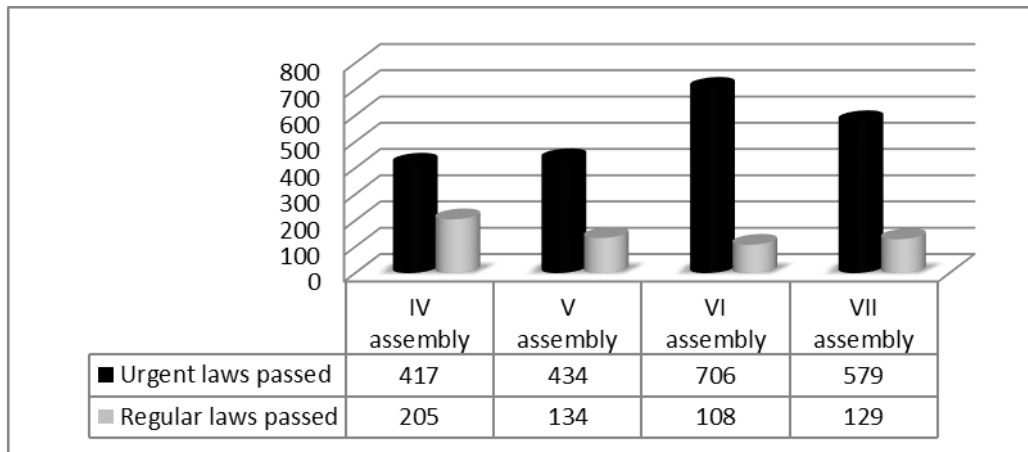
Figure 2. Laws passed vs. laws rejected



Source: Authors' calculation based on INFODOK.

The much more interesting is the ratio of laws that was passed by an urgent procedure against those that are passed by a regular procedure (*Figure 3*). We can track an increase on a yearly base, i.e. from one assembly to another. In the IV assembly, this ratio was 1:2 in favour of the laws passed by an urgent procedure. In the VII assembly, the ratio between the laws passed urgently and laws passed regularly was a staggering 1:7, again in favour of the laws passed by an urgent procedure. The quality of law-making procedure should not be evaluated through the numbers, in this situation the number of laws passed/rejected, however this could indicate insufficient commitment and lack of dialogue between the MPs. This could also lead to a large number of amendments to the law which *de facto* might be anticipated in advance.

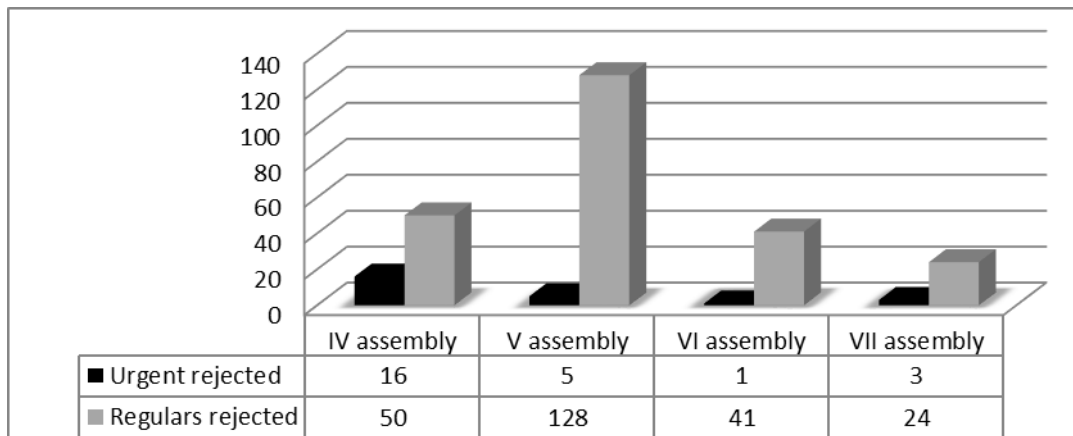
*Figure 3. Laws urgently passed vs. laws regularly passed*



Source: Authors' calculation based on INFODOK.

According to the *Figure 4*, a very small number of laws under urgent procedure are rejected, while the number of rejected laws that entered under regular procedure is much higher. We can deduce that when law enters through regular procedure, MPs have much more (reading) time to study the law, so that those laws are more frequently rejected in comparison to those under the urgent procedure.

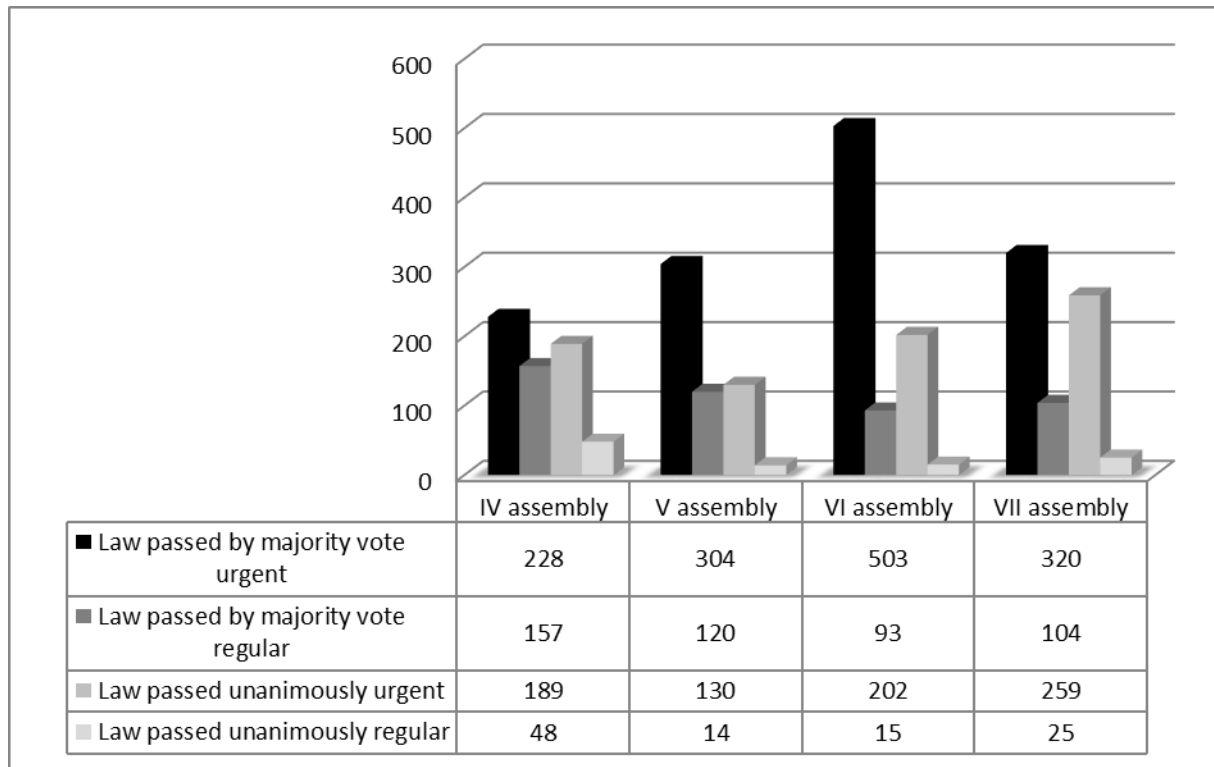
*Figure 4. Urgent laws rejected vs. regular laws rejected*



Source: Authors' calculation based on INFODOK.

From the *Figure 5* we can notice that the majority of laws under urgent procedure are passed by a majority of votes compared to laws under similar procedure that have been adopted unanimously. On the other hand, the laws under regular procedure are unanimously adopted rarely, while in most cases they are adopted by a majority of votes. If we observe the number of rejected acts, the largest numbers of laws rejected by a majority of votes are those under the regular procedure. We find much less rejections for the laws that go under urgent procedure by a majority of votes. There were no rejections with unanimous voting, regardless of the procedure, with the exception of the IV assembly of the Croatian Parliament in 1995. Data also suggest that the only (or in majority of cases) rejected laws, are those laws that were proposed by MPs who are not in the political parties that are in power, at the time of the proposal. Legislation proposed by the Government is usually adopted.

Figure 5. Majority of votes vs. unanimous votes



Source: Authors' calculation based on INFODOK.

### 3.2. Distributed lag time series regression

We have to emphasize that the regression model should be viewed as a suggestive component, i.e. we have to observe its results in the context of overall results together with the conclusions from the spectral analysis. We did not execute any transformations of the variables in order to preserve their intrinsic characteristics and to be able to compare them with the results from the spectral analysis. By performing restricted distributed lag linear regression analysis of the equation (1) we will evaluate the relationship between the dependent variable **GDP\_pot** or the potential/expected gross domestic product and the independent variable **Laws\_urgent** or the laws that were adopted through the urgent procedure in the Croatian Parliament<sup>4</sup>. We used lagged independent variable in order to see whether the lagged effect can have an impact on the expected output.

$$GDP\_pot_t = \alpha + \beta Laws\_urgent_t + \varphi Laws\_urgent_{t-1} + \varepsilon_t \quad (1)$$

Both parameters on the right side of the equation are positive and statistically significant, meaning that those laws that are passed by an urgent procedure have a positive effect on the potential gross domestic output within a distinct time domain (see *Table 1*). Furthermore, dependent variable has also lagged effect, suggesting that legislative changes with urgent procedure could have an effect on national output with one year time delay. Considering that we have an immediate effect as well as the lagged effect, cumulative effect could be even higher. This leads us to the conclusion that speedy enactment of legislation in the past could have had a positive effect on economic growth in Croatia.

<sup>4</sup> The idea for this model came after reading the paper by Durr, Gilmour and Wolbrecht (1997).



Regression exhibits no problem with heteroscedasticity, normality of residuals and regression stability, but a minor problem of autocorrelation, possibly because of the limited number of observations (see *Appendix*)<sup>5</sup>. In order to generate robust conclusions, we will additionally reassess regression results through the spectral analysis.

*Table 1. Linear regression results*

Dependent variable:	(1)
<b>GDP_pot</b>	
Independent variables:	Model (1)
<b>Laws_urgent</b>	<b>1.073***</b>
	(0.323)
<b>Laws_urgent(-1)</b>	<b>1.157***</b>
	(0.276)
<b>Constant</b>	<b>-58.63***</b>
	(13.79)
Observations	20
R-squared	0.819

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Authors' calculation.

### 3.3. Spectral analysis

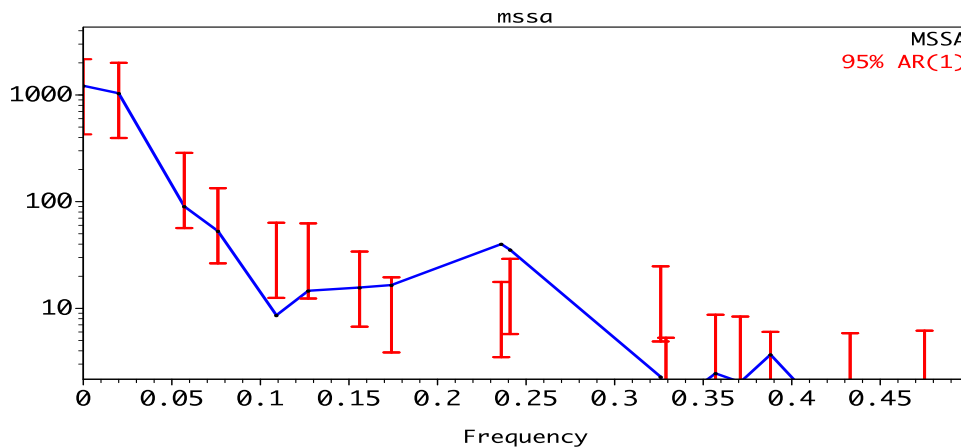
**Multi-channel SSA (or MSSA)** is a natural extension of SSA to a multivariate time series of vectors or maps. In the literature, **extended EOF (EEOF)** analysis is often compared to MSSA. The two methods are both extensions of classical **principal component analysis** but they differ in their emphasis: EEOF analysis typically utilizes a number  $L$  of spatial channels much greater than the number  $M$  of temporal lags, thus limiting the temporal and spectral information. In MSSA, on the other hand, based on the single-channel experience, one usually chooses  $L$  and  $M$ . Often MSSA is applied to a few leading principal components of the spatial data, with  $M$  chosen large enough to extract detailed temporal and spectral information from the multivariate time series. The MSSA allows in the same way as SSA to decompose the time series into its spectral components. Like in univariate SSA, we are thus able to identify trends and oscillating pairs. In contrast to SSA, the MSSA also considers cross-correlations, where MSSA is a combination of SSA and principal component analysis. The individual RCs of the different time series are related as they represent the same spectral part. In this way we are able to identify oscillatory components (e.g. limit cycles) that are intrinsic to all time series (Groth and Ghil, 2011; Vautard and Ghil, 1989).

From the *Figure 6* we can see that trend component in the series is strong, with two SSA components explaining almost 89.9% of the variance in the potential gross domestic product series. Error bands (95% confidence level) are estimated from the surrogate series against the null hypothesis (red noise). Identified spectral components fall into the error band with the SSA 1-2 at the 90% confidence level. Dots (representing evaluated eigenvalues) falling into 5th and 95th red noise percentile are not statistically significant from the red noise. *Figure 6* shows one signal (variable) that is candidate for explaining the behaviour of the potential output. In order to identify eigenvalue pairs that are statistically significant we check their phase dynamics (phase quadrature).

<sup>5</sup> For additional diagnostic tests and their results please contact the authors.

Since the identified eigenvalue pairs meet the phase quadrature test, there is indeed a statistically significant relation between the **GDP\_pot** and variable **Laws\_urgent**. Relationship between potential GDP and identified MSSA components (time series oscillators) is not a consequence of random shocks but related co-movements in the phase space (phase difference). Identified time series (statistically significant at 5% significance level) relate to the shocks in the potential GDP, i.e. oscillatory components relate to changes in potential GDP dynamics through the variable **Laws\_urgent**.

Figure 6. Multi-channel Singular Spectrum/Principal Component Analysis



Source: Authors' calculation.

#### 4. CONCLUSION

The literature on the relationship between legal institutions and economic growth /development has been one of the most dynamic fields, both in theoretical and empirical areas, within political science, economics and other related social sciences, furthering an interest in institutions which form fundamentals of economic processes. No matter what theoretical base we address (modernization theory, dependency theory, different economic theories such as institutional economics, sustainable development theory, etc.) nor what empirical studies we observe, there is a general agreement that legal institutions in every country are dependent on the capacity of government to provide an efficient framework for social functioning. *Ditto*, legal institutions are vulnerable to political influence; therefore, their inefficiency can lead to disastrous political actions that usually serve specific interest groups and alter positive socioeconomic processes. On the other hand, to the public, activities which characterize legislative procedure (deliberation, debate and decision making) cause it to appear quarrelsome, unproductive, and controversial, and thus diminish it in the public eye (Durr, Gilmour and Wolbrecht, 1997). Consequently, this paper analyzed the bond between economic expectations and the procedure of the adoption of new laws in the Croatian Parliament in order to explain the dynamics of procedure enactments and evaluate whether the urgent procedure can have an impact on the potential gross domestic product. Both, distributed lag linear regression model and spectral analysis, lead us to the conclusion that the urgent enactment of legislation through the Parliament does not hamper economic growth in Croatia. Though we can say that Croatian Parliament frequently uses 'urgency' as a way to rush new laws into force, often with limited political consideration and general public involvement, there is no viable evidence that these speedy enactments had conspicuous negative effects on economic expectations i.e. potential national output, at least in their direct implication. Urgent ratifications and enactments are associated with numerous imperfections, for they fuel the mistrust, but the most prominent one is that urgent procedures have become the rule rather than the exception in many Parliaments.

Some say that the number of laws adopted by the urgent procedure should be reduced or that since many countries have a second house of Parliament, it should recommend changes to proposed laws and call for a second assessment by the main Parliament. We share that view, regardless of rather suggestive results of our research. Strengthening of democratic procedures in the legislative processes through the improvement of urgent procedure avocation and/or improvement of the quality of adopted laws would certainly eliminate doubts about the impact of such promulgation on socioeconomic development and growth perspectives. Our approach and deductions made above are just our opinion and could/should be subject to revision in the future.

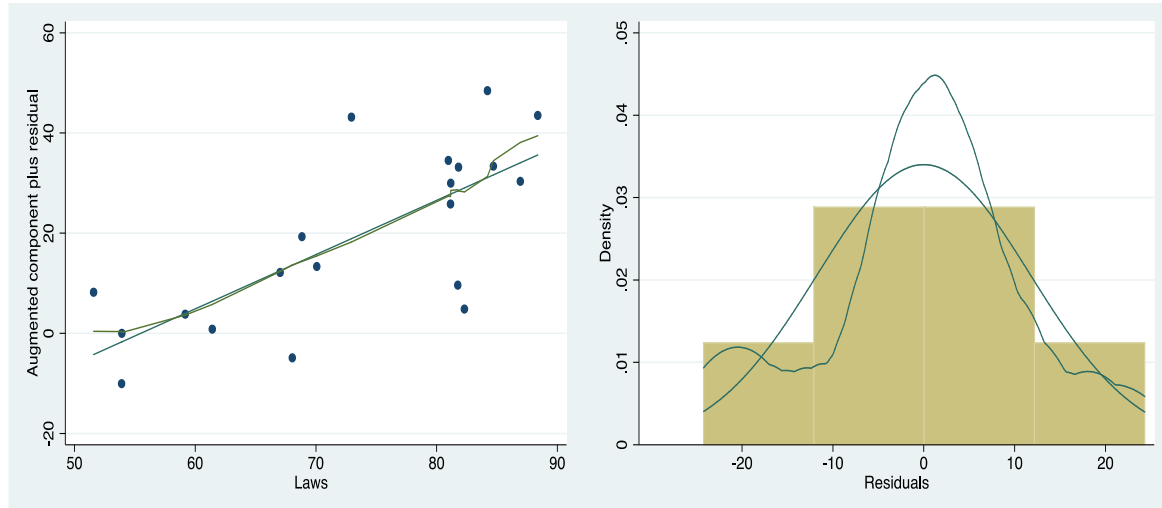
**ACKNOWLEDGMENT:** *This work has been fully supported by the Croatian Science Foundation under the project number 9481 Modelling Economic Growth - Advanced Sequencing and Forecasting Algorithm. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of Croatian Science Foundation.*

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## APPENDIX



### Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance      Variables: fitted values of GDP\_pot  
chi2(1) = 0.22      Prob > chi2 = 0.6416

### Ramsey RESET test using powers of the fitted values of GDP\_pot

Ho: model has no omitted variables

F(3, 14) = 0.49      Prob > F = 0.6923

Source	SS	df	MS	Number of obs = 20		F(2, 17) = 39.87	
Model	11928.3947	2	5964.19737			Prob > F= 0.0000	
Residual	2542.9711	17	149.586537	Adj R-squared = 0.803		R-squared = 0.8243	
Total	14471.3659	19	761.650835			Root MSE = 12.231	
GDP_pot	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]	
_hat	.1446756	1.22617	0.12	0.907	-2.442316	2.731667	
_hatsq	.0043375	.006192	0.70	0.493	-.0087265	.0174015	
_cons	39.51108	57.6429	0.69	0.502	-82.1048	161.127	

## HOME BIAS AND DIVERSIFICATION IN EQUITY HOLDINGS OF EMU-BASED INVESTORS

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### **ABSTRACT**

*Our paper highlights the benefits derived from holding internationally diversified portfolios from the perspective of EMU investors' preferences for home against foreign asset holdings. We determine minimum variance portfolios for EMU investors, constructed with EMU, EU non-EMU and outside EU equities, over a period of fifteen years (2001-2016). The empirical results are contrasted with the effective allocations of foreign equity holdings of EMU investors, reported in the Coordinated Portfolio Investment Survey conducted by the International Monetary Fund. The analysis indicates that EMU-based investors have a significant weight of foreign holdings invested in other EMU equities and to a lower extent in equities outside EU countries, while the lowest allocation belongs to equities from EU non-EMU countries. Consequently, the home bias phenomenon is persistent at EMU group level, with significant intensification during the global financial crisis and the subsequent periods.*

**Keywords:** *European and Monetary Union, Financial crisis, Home bias, Portfolio choice*

### **1. INTRODUCTION**

The global search of investors for risk spreading has fueled the international diversification of portfolio investments in the recent decades. However, the strong process of financial markets' integration, raises undoubtedly the question of whether the benefits derived from international portfolio diversification did not weaken. Empirical evidences generally confirm an upsurge in correlations between capital markets and identify changes in cross country correlations over time and an increase in correlations in times of accentuated integration, but also of high volatility of returns. The European Union (EU) and the Economic and Monetary Union (EMU) have been intensively studied with regard to the benefits they might provide in terms of international or regional portfolio diversification, and results indicate a significant increase of correlations among European markets, both at geographical and industrial level. The introduction of the Euro should have had at least two effects on portfolio's allocations of EMU-based investors: (i) weights in favor of EMU assets should have increased, as a result of the elimination of currency risk; and (ii) assets outside EU should have been given a higher weight, as a direct consequence of increased financial market integration between EU countries and of lower correlations between these countries' financial markets and those outside EU. The global financial crisis that erupted at the end of 2007 in the United States and rapidly spread towards Europe generated significant changes in financial markets and it has somehow diminished both the benefits of international diversification and investors' enthusiasm for holding foreign assets. Our paper highlights the benefits derived from holding internationally diversified portfolios from the perspective of EMU investors' preferences for home against foreign asset holdings.



We determine minimum variance portfolios for EMU investors, constructed with EMU, EU non-EMU and outside EU equities, over a period of fifteen years (2001-2016). The empirical results are contrasted with the effective allocations of foreign equity holdings of EMU investors, reported in the Coordinated Portfolio Investment Survey conducted by the International Monetary Fund. At the same time, we investigate the probable changes in EMU investors' foreign holdings during the years of the financial crisis (2007-2009) compared to the previous and subsequent time intervals. The paper is structured as follows: Section 2 presents a review of the literature, Section 3 discusses the effective EMU-based investors' reallocations at the level of their foreign equity portfolios before and after the global financial crisis, Section 4 outlines our data and research methodology, Section 5 analyzes the main results and Section 6 concludes.

## 2. LITERATURE REVIEW

The case for international diversification has been intensively studied and the basic argument is that “foreign investments allow investors to reduce the total risk of the portfolio, while offering additional profit potential” (Solnik, 1974). However, the strong process of financial markets' integration, easily observable in the higher values of joint movements (correlations) of international financial markets, raises undoubtedly the question of whether the benefits derived from international portfolio diversification did not weaken. Empirical evidences generally confirm an upsurge in correlations between capital markets, but the trend in the last 30-40 years, at least before the global financial crisis, has been less robust than expected – see, for example, Bekaert et al. (2009). The recent global financial crisis has reinforced the research on the time-varying correlations between international capital markets and crisis propagation from one economy to another, i.e. financial contagion. The almost unanimous opinion of researchers in the area of market integration and international portfolio diversification is that in bear markets times correlations between securities traded in different domestic markets increase compared to “normal times” correlations, which significantly diminishes the benefits gained from international diversification – see, for example, Longstaff (2010) and Bekaert et al. (2014). The European Union is one of the most researched areas in the field of economic and financial markets' integration, and results indicate a significant increase of comovements among European markets. The introduction of the euro and the consequent disappearance of currency risk in the EMU area imply that the benefits gained by EMU/EU-based investors as a result of their diversification strategies are under query, particularly when they held diversified portfolios at the European and/or EMU level before the introduction of the euro. However, the theoretical diversification benefits from holding international portfolios are, to some extent, ignored by investors, when they prefer home assets against foreign assets, despite a better risk-return profiles of foreign investments – this is the well-documented already phenomenon of “home bias”, introduced by Feldstein and Horioka (1979). The two authors sustain that investors prefer to invest in their home country instead of going abroad, which shows an inconsistency with the hypothesis of free-flowing capital. The works of French and Poterba (1991), Cooper and Kaplanis (1994) and Tesar and Werner (1995) are among the first to highlight the presence of the “home bias” in international portfolios and, since then, literature has shown that investors are reluctant to include in their portfolios foreign assets, despite the observed and documented benefits resulted from international diversification. Thus, the home-bias effect can be considered a source of inefficiency in the international equity market. At the same time, there is no consensus in the literature with respect to concrete determinants of this phenomenon, which is considered one of the six puzzles of international finance (Obstfeld and Rogoff, 2001), but explanations focus on barriers to international investments, including higher transaction costs -, Stulz (1981), Warnock (2002) -, on investors' behavior in international markets – French and Poterba (1991), Shiller et al. (1996), Karlsson and Norden (2007) -, or on



informational asymmetry induced by informational immobility - Van Nieuwerburgh and Veldkamp (2009). Geographical proximity also seems to play a role in the preference for home assets (Suh, 2005), which confirms the findings of Coval and Moskowitz (1999) and Huberman (2001). Gioré (2008) develops a mean variance optimization model for portfolios of EMU-based investors that employs as discriminatory factors only information asymmetries and concludes that the key drivers towards euro-biased portfolios are the common currency and monetary policies inside the euro area. From the portfolio perspective, the situation of a long-term investor that moves away from the optimal international portfolio and favors higher weights for home assets leads to an inefficient allocation of capital and a worse portfolio performance. The process of financial markets' integration should determine a fall in investors' home bias and this phenomenon should be more pronounced at EMU level, due to the additional benefit generated by the elimination of currency risk after the euro introduction. At the same time, as diversification benefits decline for EMU-based investors, one should hypothetically observe higher portfolio weights for outside EMU and EU assets, which now are in a better position to preserve or increase the previous benefits investors based in EMU area obtained from holding international portfolios. Literature confirms that the level of home bias decreased substantially at the level of EU15 (Balta and Delgado, 2009) and that promising changes are taking place in the preference of EMU investors for domestic companies' shares (DeSantis and Gerard, 2009). Also, Haselmann and Herwartz (2010) find significant declines in holdings of domestic assets of German investors between 1980 and 2003, accompanied by increases of holdings in other EMU and rest-of-the-world assets, which might indicate that the extent of the "home bias" has diminished, at least at the level of German investors. Other authors suggest that the home bias might have been replaced by a "euro bias" phenomenon - a situation where EMU investors tend to hold large proportion of assets issued within the EMU region (Balli et al., 2010), as a result of a decline in default risk and transaction cost. Schoenmaker and Bosch (2008) also conclude that EMU-based investors have switched from holding home country equities in their internationally diversified portfolios to holding equities from other EMU countries, thus introducing the euro-bias phenomenon. The financial crisis and turbulent times effects on the extent of home bias have not been extensively studied so far, but results seem to direct towards a general increase in home bias, as a result of increased uncertainty in global financial and real markets. For example, when investigating the extent of government bond holdings home bias in EMU during the European debt sovereign crisis of 2009-2011, Reinhart (2012) shows that it was on average close to 60% and stronger for banks from troubled countries (Greece, Ireland, Portugal, Spain and Italy). By contrasting the empirical allocations based on market data, on one hand, and the effective allocations of EMU investors between 2001 and 2015, as they emerge from the Coordinated Portfolio Investment Survey (CPIS) conducted by the International Monetary Fund, we want to bring additional evidence on home bias and portfolio reallocations at EMU countries level after the introduction of the euro and during the financial crisis.

### **3. HOME BIAS IN EMU COUNTRIES: EQUITY REALLOCATIONS BEFORE AND AFTER THE GLOBAL FINANCIAL CRISIS**

The Coordinated Portfolio Investment Survey (CPIS) conducted by the International Monetary Fund (IMF) provides information on individual economy year-end holdings of portfolio investment securities - equity and debt securities - valued at market prices, cross-classified by the country of issuer of the securities. Data is available annually since 2001 until December 2015 or June 2016 (depending on the country), which allows us to compare the holdings of EMU countries before and after the global financial crisis of 2007-2009. It is worth mentioning that CPIS data is not perfectly accurate since some countries might be under-reporting and in most cases there is no clear tracking of the end investor, which is particularly disturbing for tax-

heaven-like countries, such as Luxembourg or Ireland. Nevertheless, CPIS offers information that is not easily available from other sources and allows us to observe in a rather convenient manner the changes in investors' portfolio holdings. At the same time, data is able to give insight into the extent of home bias of EMU investors in normal versus turbulent times, as the ones induced by the global financial crisis. We use data on foreign equity holdings for all countries that are currently EMU members, except for Malta<sup>1</sup>, taking into account the date of their accession to EMU<sup>2</sup>, and divide the holdings among the following areas: (1) EMU area; (2) EU non-EMU area<sup>3</sup>; (3) Rest-of-the-world. We analyze the distribution of equity holdings abroad by observing reallocations among areas (1), (2) and (3) between 2001 and 2015, based on holdings at the end of the year<sup>4</sup>. It is important to mention that weights allocated to each of the above-mentioned areas include only the countries belonging to each area, depending on the moment of their EU and EMU accession. We have observed the distribution of foreign equity holdings in other EMU countries, in EU non-EMU countries and in countries outside EU (OEU countries) for the 19 EMU members under scrutiny at the beginning of the time interval they spent in EMU and at the end of it (2015). Also, we have calculated the average of weights between 2001 and 2016, as well as before 2007, between 2007 and 2009, and after 2009<sup>5</sup>. We have split the period under scrutiny in these three sub-periods in order to capture the presumable impact of the financial crisis on EMU investors' equity holdings abroad. All EMU countries, except for Ireland, have increased their exposure to other EMU countries from 2001 or the year when they entered EMU, most likely as a result of currency risk removal. The highest increases in the weights, measured as CAGR (compound annual growth rate) are found in the case of Slovakia (4.44% p.a.) and Greece (4.35% p.a.), while the lowest increases belong to Luxembourg (0.23% p.a.) and Belgium (0.51% p.a.)<sup>6</sup>. When we compare the average of weights allocated to other EMU countries before, during and after the years of the global financial crisis, and for the entire time frame considered in our analysis, interesting patterns emerge. For the vast majority of countries, the average weights increase between 2001-2006, 2007-2009 and 2010-2015, but there are some noticeable exceptions; France's average weights in other EMU countries decline during the crisis times to 51.99% and Cyprus' average weights are lower in crisis times compared to 2010-2015 (34.11% against 30.41%, respectively). At the same time, Germany, Ireland, Luxembourg and Netherlands have higher weights allocated to EMU countries compared to both before and after time periods – 75.15% for Germany, 34.77% for Ireland, 34.67% for Luxembourg and 29.57% for Netherlands -, which might be interpreted as a type of “flight to quality” reaction of investors from these countries in turbulent times. At the EMU members' level, the average of weights increases from 2001-2006 (51.72%) to 2007-2009 (53.98%) and to 2010-2015 (61.52%), following the pattern encountered for the highest number of countries.

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<sup>1</sup> Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Portugal, Slovakia, Slovenia and Spain. Malta has been excluded from this sample due to the significant difference in the reported portfolio holdings abroad recorded since 2013, compared to the previous years, which led to anomalies in the weights of portfolio investments in foreign countries; this is due to the fact that, for the first time, CPIS data in 2013 took into account the activities of Special Purpose Entities (SPEs) – limited companies or limited partnerships created for specific and temporary objectives, registered in Malta, but with very limited local operations. The inclusion of this type of data in CPIS led to figures on portfolio holdings after 2012 that are not comparable with the previous ones and for this reason Malta was excluded from our analysis.

<sup>2</sup> In 2001, Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain were EMU members. The dates of EMU accession for the other countries are 2007 (Slovenia), 2008 (Cyprus and Malta), 2009 (Slovakia), 2011 (Estonia), 2014 (Latvia) and 2015 (Lithuania).

<sup>3</sup> The countries included in this area are Denmark, Sweden and United Kingdom (2001-2015), Cyprus and Malta (2001-2007), Czech Republic, Hungary and Poland (2007-2015), Bulgaria and Romania (2007-2015), Estonia (2005-2010), Latvia (2005-2013), Lithuania (2005-2014), Slovakia (2005-2008), Slovenia (2005-2006), Croatia (2013-2015).

<sup>4</sup> Data for Slovenia is available only since 2009.

<sup>5</sup> All calculations are available from authors.

<sup>6</sup> Although Latvia has the second smallest increase in EMU weights (0.24% CAGR), its membership to EMU is too recent in order to compare it with the other EMU members.

All EMU countries, with the exceptions of Estonia, Slovenia and Ireland, have reduced their exposure to the other EU members; again, this is consistent with the hypothesis that the removal of currency risk within the EMU would discourage investments in countries where currency risk is an issue for an EMU investor, although these countries' financial markets (such as United Kingdom) might be interesting for them. By far, the most dramatic declines in weights allocated to EU non-EMU countries are found in the case of Greece (21.26% CAGR) and Cyprus (18.79% CAGR), while the lowest declines are recorded for Portugal (1.09% CAGR) and Netherlands (1.98% CAGR). Turbulent times also had an impact on equity holdings of EMU investors in other EU non-EMU countries, as indicated by the evolution of average weights before, during and after the financial crisis. For the EMU group, the average weight allocated to EU non-EMU equities is 11.03%, lower than for 2001-2006 (13.66%), but higher than in the 2010-2015 period (8.78%). For what concerns the exposure of EMU members to countries outside EU (OEU), all countries, except for Finland, Ireland and Netherlands, have reduced it during the period under scrutiny, thus confirming our expectations. The largest decline, measured in CAGR, belongs to Estonia (14.66%) and Greece (12.11%), while the smallest is recorded by Luxembourg (0.028%) and Cyprus (0.26%). In 2015, the country with the highest weight of investments abroad in OEU countries was Ireland (61.31%), followed by Netherlands (61.11%), while the countries with the lowest weights to OEU countries were Lithuania (4.69%) and Italy (7.39%). In the case of eight EMU countries, the average weights allocated to other OEU countries increased between 2001-2006, compared to 2010-2015 (Austria, Belgium, France, Germany, Greece, Italy, Netherlands and Spain), while four countries see their average weights increase in 2010-2015 compared to 2001-2006 (Finland, Ireland, Luxembourg, Portugal). Moreover, the average weights recorded during the crisis times are higher compared to the previous and/or subsequent time intervals for some countries (Finland, France, Greece and Luxembourg and Spain), but lower in the case of other countries (Germany, Ireland and Netherlands).

#### 4. DATA AND RESEARCH METHODOLOGY

In order to construct daily minimum variance portfolios (MVP) we use equities from developed and emerging countries that are included in one of the three categories: (1) EU and EMU members – Austria, France, Germany, Netherlands, Spain; (2) EU but not EMU members – United Kingdom, Czech Republic, Hungary, Poland; and (3) non-EU members – United States, Japan, Brazil, Russia, India and China. Countries are represented by the following stock market reference indices: ATX:IND, CAC:IND, DAX:IND, AEX:IND, IBEX:IND, UKX:IND, PX:IND, BUX:IND, WIG:IND, SPX:IND, NKY:IND, BVSP:IND, RTS:IND, SENSEX:IND, NKY:IND, SHCOMP:IND. Daily data on these indices is collected from Wall Street Journal database (WSJ) for the period December 2001-December 2016. The countries returns' variances and cross-country covariances are modeled such as to take into account the nature of volatility time dependence. The time-varying volatility is critical for macroeconomic and financial applications and models of conditional heteroskedasticity for return time series were developed for making financial decisions, including portfolio choice decisions. We derive daily minimum variance portfolios for an EMU-based investor by firstly estimating simple GARCH (1,1) models on the indices returns series denominated in EUR, in order to further generate the series of conditional standard deviations for each country.

GARCH (Generalized ARCH) models were introduced by Bollerslev (1986) and Taylor (1986). If we let  $(Z_n)$  be a sequence of i.i.d. random variables such that  $Z_n \sim N(0, 1)$ , then  $X_t$  is called a GARCH (q,p) process if

$$X_t = \sigma_t Z_t, \quad t \in \mathbb{Z} \quad (1)$$

where  $\sigma_t$  is a non-negative process with the following specification:

$$\sigma_t^2 = \alpha_0 + \alpha_1 X_{t-1}^2 + \dots + \alpha_q X_{t-q}^2 + \beta_1 \sigma_{t-1}^2 + \dots + \beta_p \sigma_{t-p}^2, \quad t \in \mathbb{Z} \quad (2)$$

and  $\alpha_0 = 0$ ,  $\alpha_i \geq 0$ ,  $i = 1, \dots, q$ ,  $\beta_i \geq 0$ ,  $i = 1, \dots, p$ .

The simplest GARCH model of conditional variance, GARCH (1, 1) may be written as

$$\sigma_t^2 = \omega + \alpha R_t^2 + \beta \sigma_{t-1}^2, \text{ with } \alpha + \beta = 1 \quad (3)$$

Second, we apply the Risk-Metrics model (using the value  $\lambda = 0.94$ ) on standardized returns ( $z_{it} = R_{it} / \sigma_{it}$ , where  $\sigma_{it}$  is the conditional volatility of market index  $i$  obtained previously) to get the covariances of the standardized return pair  $E(z_{it} z_{jt})$ .

The RiskMetrics model is a special case of the GARCH (1, 1) if  $\alpha = 1 - \lambda$  and  $\beta = \lambda$ , so that  $\alpha + \beta = 1$ . Also,  $\omega = 0$  in this special case.

We obtain estimates of the conditional covariances  $\text{cov}(R_{it}, R_{jt}) = \rho_{i,j} \sigma_{it} \sigma_{jt}$  by multiplying the covariances of the standardized return pairs with the conditional volatilities of the respective market indices.

Third, using *portopt* function in Matlab, we generate efficient frontiers for portfolios diversified among equities from the three categories mentioned above and we obtain daily weights in the MVP by choosing the portfolio with the minimum standard deviation on the efficient frontier. Furthermore, we generate the countries weights series in order to obtain the cumulative weights for the following groups of countries: (1) EMU countries –  $w_{\text{EMU}}$ ; (2) EU non-EMU countries –  $w_{\text{EUNONEMU}}$ ; and (3) outside EU countries –  $w_{\text{OUTSEU}}$ .

## 5. RESULTS

Table 1 presents the main parameters of the weights series for the countries categories defined in Section 4 during the period December 2001-December 2016 and also during the three sub-periods considered.

*Table 1. Descriptive statistics of weights series in MVP (authors' calculations in Matlab, based on data from WSJ)*

	December 2001-December 2016			December 2001- July 2007			August 2007- April 2009			May 2009- December 2016		
	EMU	EU non-EMU	Outside EU	EMU	EU non-EMU	Outside EU	EMU	EU non-EMU	Outside EU	EMU	EU non-EMU	Outside EU
Mean	0.2003	0.2398	0.5600	0.2616	0.2295	0.5089	0.2035	0.1536	0.6429	0.1522	0.2671	0.5807
Median	0.0506	0.1382	0.5704	0.1629	0.1475	0.4915	0.0262	0.0050	0.7475	0.0000	0.1922	0.6105
Maximum	1.0000	1.0000	1.0000	1.0000	0.9289	1.0000	1.0000	0.9575	1.0000	1.0000	1.0000	1.0000
Minimum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Std. Dev	0.2696	0.2687	0.3309	0.2796	0.2412	0.3069	0.2896	0.2587	0.3608	0.2467	0.2860	0.3356
Skewness	1.2751	0.9443	-0.1259	0.8213	0.8133	0.0973	1.3708	1.8380	-0.5921	1.7348	0.8267	-0.2165
Kurtosis	3.5022	2.8124	1.6768	2.5720	2.5702	1.8259	3.6429	5.1847	1.8512	4.9725	2.5417	1.6661

The highest mean weight is attained by outside EU countries during all three sub-periods considered. This means that, empirically, an EMU investor seeking a minimum variance internationally diversified portfolio allocates, on average, the highest weight of its assets to outside EU equities.

In practice, according to the effective allocations at EMU countries level, for the vast majority of countries, the average of weights allocated to other EMU countries displays increasing values from the first (2001-2006) to the last analyzed period (2010-2015).

Table 1 shows slightly higher standard deviation values for outside EU daily weights as compared to the ones for EMU and EU non-EMU weights. Outside EU weights also display negative skewness in both the crisis and post crisis period, being therefore characterized by an increased probability of negative outcomes. However, the fact that an EMU-based investor would allocate, on average, more than 50% of its MVP to outside EU equities, during all three sub-periods considered, confirms the EU markets increased integration acted as an incentive on searching for better risk-return profiles. This empirical behavior is not found in the effective allocations of EMU investors in the analyzed period, reported in the Coordinated Portfolio Investment Survey conducted by IMF, as for example the average weights allocated to EU non-EMU equities during the global financial crisis is 11.03%, lower than for 2001-2006 (13.66%), but higher than in the 2010-2015 period (8.78). Having a closer look to the main parameters of the countries weights' series during the global financial crisis, we notice that the average weight corresponding to outside EU group of countries is 0.64, a value which is four times greater than the average weight for EU-EMU group of countries and three times greater than the average weight allocated for EMU countries, indicating the fact that in turbulent times the markets outside EU represented interesting opportunities in terms of risk diversification.

According to the effective allocations of EMU, the average weights allocated to outside EU countries increased between 2001-2006, compared to 2010-2015 (Austria, Belgium, France, Germany, Greece, Italy, Netherlands and Spain), while four countries see their average weights increase in 2010-2015 compared to 2001-2006 (Finland, Ireland, Luxembourg, Portugal). Regarding the average weights allocated to other EMU recorded during the crisis times are higher compared to the previous and/or subsequent time intervals for some countries (Finland, France, Greece and Luxembourg and Spain), but lower in the case of other countries (Germany, Ireland and Netherlands). Figure 1 illustrates the mean values of all countries weights series, during all three sub-periods considered.

We notice that in the crisis period, when the average weight allocated to outside EU group of countries attains its maximum value, the EMU-based investor should have allocated, on average, the highest weight of its MVP to assets from China, followed by Japan equities. In the post-crisis period, China also should attain the highest average weight in the MVP of the EMU investor, while Japan equities should have had the highest average weight in the MVP in the pre-crisis period. Thus, overall, the EMU investor's MVP is dominated by outside EU equities, regardless of the considered sub-period. Among EU non-EMU countries, Czech Republic stands out during the post crisis period, when it has the second highest average weight in the EMU-based MVP.

In contrast, Poland has the lowest mean weight among EU non-EMU countries during the pre-crisis period, while UK records the lowest mean weight among EU-non EMU during and after the financial crisis. As with respect to EMU countries, Austria, France, Germany and Netherlands record extremely low average weights values during the crisis period, this fact being explained by the increased correlations at both EU and EMU countries level during the global financial crisis.



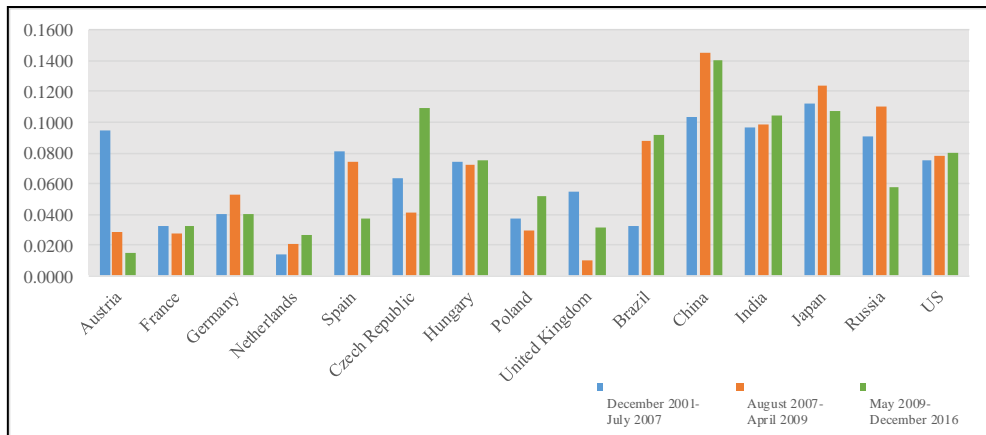


Figure 1. Mean values of countries weights series in MVP, distributed by reference sub-periods (authors' calculations in Matlab, based on data from WSJ)

From Figure 2, which illustrates the evolution of EU non-EMU countries weights in the MVP, it is easily observable that, in recent times, Hungary dominates the EMU-based investor MVP, reaching a maximum weight value of 1 at the beginning of 2016.

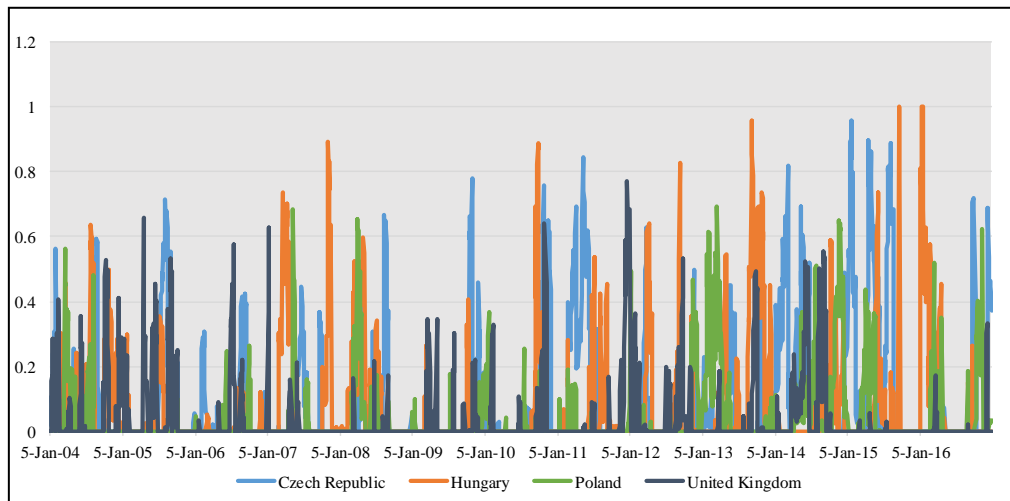


Figure 2. EU non-EMU countries weights evolution in MVP (authors calculations in Matlab, based on data from WSJ)

Figure 3 shows extremely low weight values for all EU non-EMU countries along 2009, as a result of increased correlations among European financial markets. At country level, Poland and UK equities represent a small weight in the EMU investors MVP, while Czech Republic and Hungary allocations are close to 0.

## 6. CONCLUSION

Our paper explored the area of time-varying benefits that EMU-based investors obtain from holding internationally diversified portfolios from the perspective of changing preferences for home against foreign assets holdings, with reference to the 2007-2009 global financial crisis. The empirical results suggest that an EMU-based investor seeking a minimum variance internationally diversified portfolio allocates, on average, the highest weight of its assets to outside EU equities. On the other hand, according to the effective allocations at EMU countries level, for the vast majority of countries, the average of weights allocated to other EMU countries displays increasing values from the first (2001-2006) to the last analyzed period (2010-2015).



The average weight allocated to the outside EU group of countries is more than 0.5 during all three sub-periods, which confirms that the EU markets increased integration acted as an incentive on searching for better risk-return profiles. This result is strengthened by the behavior of the weights series means over the three sub-periods: they decrease from the first to the third period for both EMU and EU non-EMU countries and increase for the outside EU group of countries. In contrast, according to the effective allocations of EMU investors in the analyzed period, reported in the CPIS, the average weights allocated to EU non-EMU equities during the global financial crisis were lower compared to the previous sub-period, but higher than in the 2010-2015 period. At the same time, the average weight corresponding to the outside EU group of countries is four times higher than the average weight for EU-EMU group of countries and three times higher than the average weight allocated for EMU countries, indicating the fact that in turbulent times the markets outside EU represented interesting opportunities in terms of risk diversification.

According to the effective allocations of EMU investors, the average weights allocated to outside EU countries increased for some countries between 2001-2006, compared to 2010-2015 (Austria, Belgium, France, Germany, Greece, Italy, Netherlands and Spain), while four countries saw their average weights increase in 2010-2015 compared to 2001-2006 (Finland, Ireland, Luxembourg, Portugal). The average weights allocated to other EMU countries recorded during the crisis times are higher compared to the previous and/or subsequent time intervals for some countries, but lower in the case of other countries. Taking into account that the data included in the CPIS refers only to foreign holdings of residents of one country and ignores holdings of assets in the domestic markets, we can conclude that the home bias and euro bias effects are both present at the level of EMU investors and they are more accentuated during the global financial crisis and the subsequent periods. At the same time, this acts against the benefits that EMU investors might have obtained during turbulent times, but also in the recovery period after the global financial crisis, from holding more assets in countries outside EMU.

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## TOWARDS A TRANSVERSAL APPROACH TO DEPRIVATION IN EMERGING COUNTRIES: FROM LOW INCOME TO LOW CAPABILITIES

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### **ABSTRACT**

*Inventors of quantitative estimation of national income, which received much attention, attempted to explain that their ultimate and main interest was the wealth of human existence, although what impressed were their indices, rather than their motivations. Yet, such deep and underlying motivation has often been ignored in economic analysis where means of existence are the centre and fruit of research. It is, however, important not to confuse the means and ends. Therefore, one should not focus on the intrinsic importance of income, but rather assess it depending on what it builds, particularly lives that are worthy of living. Having a decent income helps avoid early death. Such an enterprise depends also on other characteristics, especially the organization of society, including public health, medical care, the nature of education and educational system and the scope of social cohesion and harmony, etc. The aim of the present paper is twofold: first it tries to highlight the imperfection of traditional monetary indicators as well as the difficulties to measure the different dimensions of poverty, particularly in emerging countries like Morocco. It shows that poverty is not merely an idea of inadequacy of an individual's economic means, but rather a fundamental shortage that deprivation entails: minimum adequate capability.*

*Second, it relies on capabilities approach to explain the extent to which this approach, rather than that based on resources and focusing on income and wealth, could serve as a basis for the assessment of the level of deprivation.*

**Keywords:** *capabilities, deprivation, ends, inadequacy, means, poverty*

### **1. INTRODUCTION**

The nature of real existence has always been of interest to social thinkers over the centuries. If the current criteria of economic progress, reflected by a swarm of “turnkey” statistics, focused on growth of inanimate “comfort objects” (such as GNP and GDP at the heart of innumerable economic studies on development), this focus can only be justified, if at all, by the impact of the said objects on human lives that they directly or indirectly affect. The interest of replacing them by direct indicators of the quality of life, i.e., the wellness and freedom that human lives enjoy, is more and more recognized. Even inventors of quantitative estimation of national income which attracted much attention and adherence made it clear that the ultimate interest was the richness of human existence, although it is their indices, rather than their motivations which had a great impact. For instance, William Petty, the 17th Century pioneer who provided means to measure national income through the ‘income’ method as well as through that of expenses, formulated his intention to examine whether « *the subjects of the kind* » lived « *in as bad a condition as that of discontented people* ». Based on this, he explained the different determinants of people's conditions, including « *common safety*» and « *the particular happiness of every man*» (cited in Hul (1899)).

The underlying motivation was often ignored in economic analysis, where means of existence were the centre and fruit of research. It is, however, important not to confuse the means and ends. Therefore, one should not focus on the intrinsic importance of income, but rather assess it depending on what it builds, particularly lives that are worthy of living. The fact of having a decent income helps avoid early death. This very fact depends also on other characteristics, such as the organization of society (i.e., public health, medical care, nature of education and educational system, scope of social cohesion and harmony, etc). Focusing only on means of existence or directly observing the type of life people lead constitutes a real difference. These findings reveal a contrast between utility and resources- based approaches and the capabilities-based approach introduced by Amartya Sen (Nobel Prize of economics in 1998).

Sen (2000) suggests that the focus on means of existence should be abandoned in favor of concrete possibilities to live. This will lead to a change in means-oriented assessment methods, namely those laying emphasis on what Rawls (1971) refers to as the « *primary goods* », which are general means, such as income, wealth, powers and prerogatives of functions, social bases for self-respect, etc. The capabilities approach, therefore, attempts to put things right by focusing on the possibility of effective ends and on concrete freedom of attaining reasoned ends, rather than focusing on means. The present paper is divided into two parts. The first part tries to highlight the imperfection of traditional monetary indicators as well as the difficulties to measure the different dimensions of poverty, particularly in emerging countries, such as Morocco. It explains that poverty is not merely an idea of an individual's inadequacy of economic means, but rather a fundamental shortage that deprivation entails\_ minimum adequate capability. The second part relies on the capabilities approach to explain the extent to which this approach, rather than that based on resources and focusing on income and wealth, could serve as a basis for the assessment of the level of deprivation.

## 2. ANTINOMIES OF TRADITIONAL INDICATORS

After World War II, economic growth was the centre in the fight against poverty. In fact, growth was considered as a means to achieve development. The growth of the GDP per capita became the only measure of poverty. Pigou was the first to have relied on income to measure prosperity and welfare. He described economic prosperity as the measurable part of human wellness, the part that can be compared to money standard or benchmark. However, the production and distribution process impacts the income of individuals and households alike. Income is, then, also an indicator of economic activity. Income nationwide, GNP, as it was referred to, was transformed into a measure of the activity of the total mass of produced goods and services, weighted by their respective quantities and prices, rather than a measure of individual welfare.

GNP per capita is obtained by dividing GNP by the country's inhabitants. Consequently, a country's GNP may increase from one year to another, and its GNP per capita may decrease if the population of this country increases more rapidly than its production. For the Organisation for Economic Cooperation and Development (OECD), international trade relations are such that it is necessary to replace GNP by GDP, (i.e., sum of added values created within the borders) whatever the nationality of the people who create them, given that the criteria of residence are prioritized. It should be noted that GNP or GDP indicate a « *production* » and not « *a living standard* ». According to certain stakeholders, in order to obtain a country's standard of living depending on its GNP, it is necessary to apply coefficients ranging from minus three to five as per the weight of capital accumulated in the past, the country's political and economic systems, its geographical and climatic elements, the value of the currency and the weight of the informal sector.

In any event, there exists a certain correlation between poverty and low income. Income is the source of purchasing or spending power, access to consumption and saving. For Milano (1988), societies where market values are dominant, *« a low income restricts access to the market and can determine a less valorized social status; it is a factor of a more or less marked exclusion»*. Nevertheless, one cannot put forward that there exists a high causality between a low GNP per capita and poverty. One cannot claim that a person with low income is automatically poor. On the one hand, income is but the monetary element of the allocation of each individual's resources. Various elements can intensify or attenuate the consequences of low income: self-subsistence, reciprocal counter-services, existence of property and constitution of family or extra-family solidarity networks, etc. Income is not a necessarily determining component of a poverty condition. From the *« resources»* point of view, income level at a given time has no indication as to prospects of future income, which would undoubtedly be more legitimate. Moreover, as Sen (2000) has shown, the same income can have different meanings depending on age, status and aspiration.

The calculation of GNP per capita is subject to many statistical difficulties. Stiglitz et al (2009) ask the following question: *« What significance does the calculation of the importance of a physical production flow take on if account is taken of the conditions of its production and distribution between the concerned persons?»*. It is, thus, necessary to underline that the problem of distribution of national wealth poses major difficulties. In fact, a growth rate of the GNP per capita can give a flattering image on effective development and ultimately on the poverty combatting strategies. Besides, the contradiction between national health and human wellness is very striking. This is clear in countries where income arising from exports increased significantly due to the rise in oil prices since 2003. For many Arab countries, GNP abruptly increases to levels superior to those of the richest of Western States. However, these same countries sometimes have the poorest communities worldwide.

For Robinson (1980), *« Economic growth, when it occurred, rarely solved urgent social problems and, most often, did not cover mass population of emerging countries. By making economic inequalities worse and not solving problems, such as unemployment, malnutrition, diseases and housing deficiency, economic growth always exacerbated social problems and tensions»*. Esteva and Sachs (1996), supporting the same view, argue that *« Since the rise of proletariat and, later in the welfare state, poverty was interpreted as lack in purchasing power, which should be eliminated by economic growth. Under the banner of combatting poverty, forcible transformation into money economies can be conducted as a moral crusade, which could give way to a so justified appeal to economic expansion»*. Besides inequalities concealed by measuring poverty based on GNP per capita, the latter includes all the goods and services produced and marketed, including harmful and noxious products that pollute the atmosphere and affect health. GNP per capita measures production, but provides little information on populations. If deterioration of the environment causes diseases, thus leading to an increase in health expenses and, subsequently, to GNP decrease will be interpreted as a sign of growth and, therefore a drop in poverty, when in fact the population's real conditions and their environment have deteriorated. According to the 2010 world report on human development, there were many attempts to recalculate the figures of national income taking into account the natural capital depreciation. A study carried out in Costa Rica, shows that from 1970 to 1990, cumulative depreciation of its forests and oil reserves amounted to over \$ 5billion, i.e., about 6% of Costa Rica's total GNP for that period. In Indonesia, the same report shows that during the period between 1971 and 1984, cumulative depreciation of forests, soils and oil resources amounted to \$96 billion, i.e., 9% of its GNP for the same period.



The income-based monetary approach to poverty rests on a narrow idea of wellness limits our understanding of this phenomenon to what individuals have and what they do not have. Poverty is a larger phenomenon apparent in different domains, such as various forms of deprivation and unsatisfied needs that prevent individuals from leading a normal and decent life or take part in society's ordinary activities (Dickes, 1989; Alcock, 2006; UNDP, 1997). Adopting multidimensional and direct approaches with a much broader objective can prove more satisfactory in the perception of poverty. It is necessary to distinguish two approaches. First, the approach of situated poverty, which focuses on the prevalence of social construction of poverty since, contrary to what utilitarians pretend, we cannot isolate a phenomenon, such as deprivation, of the environment in which it occurred and developed. This broader concept it applies, as a priority, to developing countries makes it possible to integrate dimensions such as culture, beliefs and social capital in the assessment of poverty, which is not the case with Townsend (1979). The second trend derives from the works of Sen (1980) on the capabilities approach used as the basis for the elaboration by the UNDP of concepts of human development and human poverty. Poverty, here, is defined as a shortfall or deficiency in terms of basic capabilities enabling a person to reach what Sen has called fulfilment or achievements. Sen's aim is to question the relevance of the « *income* » variable in the assessment of poverty. This critical examination holds true for all the different measures which, sharing this vision, perceive poverty in terms of low income.

### 3. SITUATED POVERTY

In order to better understand situations like that of deprivation, we have started with the following question: Can we limit ourselves to the standard market model to understand the underlying nature of poverty ?

Several times, the determinism of Bretton-Wood's strategies of institutions faced the complexity of the studied fields and facts, which translates into wide poverty in the poorest countries of the globe. Suffice it to remember that Sen's works confirm the reductionism of the utilitarian idea of the market: dealing with the nature and causes of the prosperity of nations. Initially, as ZAOUAL (2000) makes it clear, the slogan of all development policies was « *in the name of combatting poverty* ». Poverty, for him, is understood in a simplistic way. For experts of Breton-Woods' institutions, the concern is a simple « *economic category* » that can be calculated from the « *income* » parameter ». However, in an investigation we conducted in the region of Sefrou (Morocco), we came up with the conclusion that poverty is multidimensional by its very nature. The assessment and analysis of poverty requires adaptation to the diversity of the studied individuals and populations. This is incidentally the reason why we have introduced the concept of « *situated poverty* ». Sen (2000) paid special attention to the principle of diversity, as is clear from its recurrence in his arguments. He began his work « *Rethinking Inequality* » and claiming that « *Human beings are different from each other. We are distinguished from each other by characteristics that are not only external ( inherited wealth, the natural and social environment where we live), but also personal (age, gender, vulnerability to diseases, physical and intellectual aptitudes). To determine what equality requires, it is necessary to take into account this human diversity* ». Ibn Khaldoun's remarks clarify this point. Comparing the eating habits of the populations of Hijaz (Saoudi Arabia) and those of Shanhajas (veiled people of the South of the Maghreb), puts forward that famine is a blessing for the life of the former so much from the physical as on the mental point of view. According to Rahnema (1991), Ibn Khaldoun argues that « *people who lack grains and condiments and live in the deserts are in better health than the inhabitants of the plains and heights who lead an easy life : their complexions are purer, their bodies helthier, their huamn types better porportioned and more beautiful, their behaviour not disporportionate, their*



*faculties more receptive and more perceptive in knowledge. It is a remark that has been confirmed for generations». This legitimizes the sitologic approach which postulates that poverty cannot come down to a general and universal formula where sole variable of « income» is taken as a sign of deprivation. The individual's life and environment should also be taken into consideration. It is, therefore, necessary to adapt economic analysis of poverty to the context of each location. According to its « soft relativism» principle, the situated poverty approach states that each location or site, while open to changes, exhibits peculiarities that impregnate people's individual and collective behavior within a given location. « Development policies have made numerous « site errors» in so far as they tend to be dropped on from the summit to the base instead of favouring listening to and free participation of concerned populations » ( Zaoual, 2002). The 2010 world report on human development stresses that « the sectors of media, information and leisure, which, thanks to their considerable means, are present worldwide, can powerfully help eradicate or, at least, reduce poverty. They shape not only information, but also new culture and values. We need values that tolerate cultural diversity and respect dignity of the poor so as to reinforce their solidarity and mobilize individuals and communities, companies and others against poverty»( PNUD, 2011). The same report equally stipulates that « Well-focused strategies are necessary so that the growth model could be beneficial for the poor and so that generated resources could be invested in human potentials. Growth alone is not enough and can be of no importance ( losers find themselves in grinding poverty), without jobs (almost no job is created), without participation (individuals are not associated to decision-making processes), with no future (the environment of future generations is destroyed) and without roots (history and cultural traditions die out ».*

Like Sen, Zaoual (2002) assumes it is necessary that the poor have an area of freedom so that they can better act, since the crowding out will sooner or later end up recurring in the form of non participation, which is detrimental to economic performance and local accumulation of skills through economic projects. The assumed skills of « experts » sustain the site stakeholders' unskilfulness. The poor, thus, are not citizens, but rather customers of institutions and social security. The latter use their expertise without solving the problems that justify their existence (Zaoual, 2002). Therefore, there is a new awareness of the role that local cultures and beliefs can play in combatting poverty, a fact which proves to be the first step towards a new concept of combatting poverty and which claims to be *situated* and therefore open on new anthropological and cultural dimensions of the concerned location. This confirms the contributions of the capabilities for which a better analysis of deprivation assumes a better understanding of the area and populations studied.

#### **4. CAPABILITIES APPROACH**

During the last few years, there has emerged a growing interest in the idea of « capabilities » introduced by Sen (1980, 1985, 2000, and 2003). If the Nobel Prize that Sen obtained in 1998 is a symbolic proof, it is certainly the more and more increasing and widespread use of this approach among researchers and institutions in their understanding of questions related to wellness, poverty and inequalities that is better evidence for this. The capabilities approach is based on ethical concerns related to social equity. In fact, at the beginning of his reasoning, Sen poses the question of what attribute a society should equalize to achieve social equity. Starting from a thorough and well-founded criticism to the proposals of the two dominating ethical approaches at the time, i.e., utilitarianism (Bentham, 1789) and Rawlsian theory of equity (Rawls, 1971), he suggested a space of functionings and capabilities, such as adequate assessment of questions related to welfare, poverty and inequalities. Thus, in the field of social equity, this approach constitutes a new paradigm and a real alternative to utilitarian orthodoxy.

The capabilities approach is an expanded and normative framework for the assessment of issues related to individuals' welfare, social arrangements, policy implementation and societal changes based on individuals' actual ability to do or to be something and the scope of freedom they enjoy to promote and achieve their objectives. This approach starts from the simple remark that an individual's living standard is directly related to the different states and acts they can accomplish or achieve. Sen (1999) uses the terms "*functionings*" and "*achievements*" to refer to these states and acts that individuals effectively attain. For Sen, « *the thesis is that functionings are constituents of the person's existence and that the assessment of their welfare should necessarily be a judgment of these components* ». The ability to function constitutes all the real opportunities the individual is offered and represents the various combinations of functionings (states and actions) that the individual can accomplish. Capability is, therefore, a set of vectors of functionings which indicate that an individual is free to lead this or that type of life.

Conceptually, the main innovation of the capabilities approach is the adoption of an expanded informational space, wider than that of the traditional approach, to deal with a set of normative questions (Farvaque, 2003). As is stressed by Robeyns (2005), the two focal points of this approach are the focus on the distinctions between means and ends, on the one hand, and between real freedom (capabilities) and functionings (outcomes), on the other. Resources are goods and services (commodities), be they mercantile or not, that the individual has at their disposal, as, for instance, food or a bike. These goods have an instrumental value rather than an intrinsic or inherent value, for what really matters is the way we can use them. Also, like Gorman (1956) and Lancaster (1966), Sen (1985a) draws a line between resources and their characteristics which constitute their desirable properties and determine the uses to which the good can be put. It is these functionings that constitute the intrinsic value. A bike enables its owner to move; food does not only make it possible to satisfy hunger, but also brings the pleasure to eat and to create a social support through the organization of meals (Sen 1985). Therefore, the characteristics of goods (bike) provide individuals with the possibility to implement the related functioning (movement).

However, Sen (2003) points out that there is nothing automatic, permanent or inevitable about the relationship between income (and other resources), on the one hand, and individual achievements and freedoms, on the other. In fact, owning a good is different from the ability to benefit from its characteristics. It is not enough to know the quantity of food an individual has to judge the way they are fed. Sen's well-known example is that of an individual suffering from a parasitic disease that makes the digestion of food difficult. This person can suffer from malnutrition, even if they have at their disposal a quantity of food that would enable an individual without such disease to be well fed. Thus, information of goods ownership proves insufficient to judge someone's living standard or welfare, for it does not take into account the relationship between goods and functionings. To be able to take account of such contingent relationship, Sen introduced a set of internal and external conversion factors, which determine the possibility to convert the characteristics of resources into functionings. First of all, such transformation will be influenced by personal conversion factors related to the individual's internal characteristics (physical, intellectual aptitudes, metabolism, etc.). A person suffering from physical disability will not be able to achieve the characteristic « *movement* » that the good has « *bike* ». In the case of food, metabolism, age, gender, activity level or health conditions are conditions that will influence the way the individual will indeed convert resources (food) into functionings (to be well-fed). Besides, age and gender determine specific needs that income does not take account of (young children, old people, maternity, family obligations).

The other conversion factors are external and highlight the influence of social characteristics (politics, social norms, power relationships) and environmental characteristics (climates, infrastructures, public goods) may exert. A country's social rules and traditions may constrain women's behavior, thus reducing all their potential functionings. Likewise, riding a bike may depend on climatic conditions and usability of a country's roads, the ability to be well-fed may depend on drought or flood problems and the ability to be in good health depends on risks of contagious diseases in the region of residence. Therefore, taking account of these different conversion factors will make it possible to consider interpersonal variations, which enables individuals with identical resources may have two different living standards. This last point is particularly important within the framework of the elaboration and assessment of public policies aiming at reducing poverty (Sen, 2003)

It is important to understand the distinction between functioning and capabilities. Functionings are individuals' different states and acts. They form what a person, given a set of conversion factors, can do or be. They can be elementary (i.e., to be well-fed and in good health) or complex, such as the ability to take part in community life, take a rest, be respected, have self-esteem, etc. Assessment of welfare, therefore, takes the form of an assessment of functioning vectors (i.e., individuals' valued states and acts). Reference to functionings makes Sen's approach a direct and multidimensional one. Indeed, although he considers that an individual's welfare should depend deeply on the nature of their existence (i.e., accomplished functionings), he places capabilities, not functionings, at the heart of his approach.

As is highlighted by Robeyns (2003), while a functioning is an achievement, a capability represents the possibility of achievement and refers to all potential functionings. Consequently, Sen's emphasis is not on what people have or do, but on what they have the choice to do or do not have the choice to do. Based on all the characteristics of the resources at their disposal and on the conversion factors, an individual can determine vectors of potential functionings that represent the different combinations of potential functionings they can achieve. This set represents all the individual's capabilities and gives an image of the scope of the choices at their disposal. It, therefore, precedes all functionings which constitute all the states and acts that an individual achieves. The movement from the space of capabilities to that of functionings is shown by the individual's real choice, which, in turn, depends on the individual's history as well as on the mechanisms of preferences; these mechanisms themselves depend on the social context. In Sen's view, functionings are more related to living standards, whereas capabilities result in a dimension of freedom and choice.

In fact, capabilities refer not only to an individual's real freedom and real opportunities, but also to the freedom an individual has to promote or achieve the functioning they would like to enhance. To illustrate the importance of the difference between capability and functioning, we can cite the example of two people who cannot sufficiently provide for their needs in terms of food. However, one is a person suffering from famine where as the other is a person who has chosen to be on hunger strike as a sign of protest. Regarding the commodity "*food*", both people realize the functioning of being "malnourished", but not through the same path; while one of them was forced into such a situation, the other one has made a choice. The notion of choice is not easy to understand. One finds the same questions in works on deprivation and on determining whether choices are forced or deliberate. Based on these considerations, Sen suggests a distinction between living standard, welfare and «agency». For him, the living standard is the broadest notion and is connected with information related solely to the individual. The difference between the living standard and welfare emerges from the possible influence of external sources on a person's welfare.

Thus, pain (joy) caused by sorrow (happiness) of a relative reduces (increases) welfare, but does not affect the living standard. Agency is much broader and rests on the idea that an individual can have objectives and values other than the search of their personal comfort. An example is a person's commitment towards the issues of their community through the participation in anti-globalization protests, being persuaded that this globalization has harmful effects (Robeyns, 2003). The capabilities approach to poverty constitutes a way to move from the analysis of means to the analysis of ends. Sen (2003) considers that « *it is fair to consider poverty as deprivation of the basic capabilities, rather than merely a low of income* ». This definition of poverty refers to a shortfall or deficiency of basic capabilities. The latter constitute a subset of the set of “capabilities” and refer to the freedom to achieve basic things that are necessary to survive and to avoid or escape poverty.

Thus, while “capabilities” can cover a diversified field, “basic capabilities” refer precisely to the real possibility to avoid poverty. They concern the ability to satisfy minimum and adequate levels of certain crucial functionings. The identification of these minimum and acceptable levels constitutes the basis of Sen's approach to poverty. For Robeyns (2005), basic capabilities are crucial to analyze poverty in a more general way and study the welfare of the majority of the population in a developing country, whereas in rich countries, welfare focuses rather on capabilities that are more or less necessary for physical survival. Therefore, from the outset, this definition is broader, but more subtle to render operational.

The capabilities approach is the development paradigm underlying the concepts of human development and poverty introduced by the UNDP (1990, 1997). One of the major changes that this new paradigm offers is the possibility of analyzing the different questions regarding poor countries and individuals within a flexible framework, rather than imposing political or other prescriptions in the name of a rigid neoliberal orthodoxy (Fukuda-Parr, 2003). In this approach, human development is geared towards the expansion of capabilities, whereas human poverty reduction involves ensuring that individuals who should have to primary resources have a set of basic capabilities likely to help them achieve these resources. The main difference between the concepts of human development and human poverty is that the former focuses on the living conditions of all individuals in society while the latter lays emphasis on those of poor individuals. In human development, the disadvantages of the poorest people can, in an aggregated level, be made up for by the gains of the well-to-do ones. The concept of human poverty and poverty indices were introduced in order to focus on the situation of the most underprivileged people. In this case, lack of progress in the reduction of disadvantages of people in deprivation cannot be made up for by the significant progress of the well-to-do.

Subsequently, Anand and Sen (1997) consider that the two approaches are useful for understanding the development process, and that they are not exchangeable. The human poverty approach was introduced by the UNDP's 1997 Human Development Report, which focuses on challenges of poverty eradication and human development. For this purpose, « *It is in the deprivation lives that people may lead that poverty can be seen. Poverty implies not only low income or deficiency in elements necessary to well being, but also denial of and deprivation in opportunities and basic choices for living a tolerable life* » (UNDP, 1997).

Nevertheless, with poverty being a state that everyone one wishes to avoid, its study can disregard this notion of freedom and focus on the individual's real functionings. This approach largely exceeds the physiological model of deprivation, for « *capabilities* » mean, « *to be in good health, have access to knowledge, have access to resources necessary to have a decent standard of living and be able to take part in the community's social life* » (PNUD, 2001).



According to Fukuda-Parr (200), politically, the objective is the « *removal of obstacles in what one can do in life, obstacles such as illiteracy, diseases, insufficient access to resources, or insufficient political and civic rights*. He evokes a five-point strategy for development and poverty reduction: (1) give priority to social development with a spread of opportunities of education and health care, (2) economic growth creating resources for multidimensional human development, (3) social and political reforms in view of establishing a democratic governance to secure all people's rights, (4) foster equality in the three preceding points, namely for the poorest people (5) global political and institutional reforms to create an economic environment where access to markets, technology and information would be easier for poor countries.

The capabilities approach has led to clear conceptual advances in the field of poverty studies, both as to the debate on the absolute or relative aspect of poverty and as to its role in the appearance of the concept of human poverty. These conceptual advances are nevertheless confronted with important operationalization problems, which are partly due to the scope of this approach.

## 5. OPERATIONALIZATION OF THE CAPABILITIES APPROACH

The great riches and complexity of Sen's approach are not easy to express empirically, for the capabilities approach is much more demanding on the informational and methodological level than the monetary level of poverty. If for some people, the problems facing this approach seem to be insuperable, for others they are simply a reflection of the intrinsic and irreducible complexity of the concepts it makes possible to understand. The empirical applications of the capabilities approach require an adequate space for the evaluation of capabilities (or functioning), a pertinent list of capabilities and functionings, a set of indicators for each of the dimensions of wellness taken into account, the way, if necessary, to combine the elementary indicators to obtain an assessment on each dimension of wellness and the way to add information on the different dimensions and achieve a comprehensive assessment of wellness (Chiappero, 2000). Assessment of capabilities requires that, on the one hand, valuable items be selected and, on the other hand, the value of these items be determined (Sen, 2000). In fact, beyond the preceding, there emerges the problem of the list of elements to consider and their relative importance. This question is related to the horizontal imprecision of the capabilities approach. Sen's reference to the different states and acts, which a person has reasons to valorize suggests that this approach is inherently multidimensional and refers to a multitude of functionings/ capabilities, which can impact individuals' wellness. In the case of the study of poverty, confining oneself to a set of basic functionings makes it possible to limit their number. However, even at the level of basic functionings, Sen's capabilities approach does not provide a list of functionings/ dimensions, nor does it provide a clearly defined selection method. This question is of paramount importance and is recursively at the heart of the current debates on the operationalization of this approach (Robeyns, 2005). Indeed, although Sen's theory is theoretically attractive, as long as one does not have clearly defined criteria for the selection of value functionings, one will face a series of criticisms. Absence of a list makes Sen's approach not completely specified. For some researchers, this incompleteness poses a problem. Nussbaum (2003) considers that as long as Sen has not explicitly determined a list, his approach will lack percussion. Alkire (2001, 2002) considers that lack of a procedure for the identification of pertinent capabilities (dimensions) makes the implementation of this approach difficult. These two authors agree that, in this case, the approach may be not understood and may give free reins to all sorts of deviations. In fact, without a list or a transparent selection method, numerous works aligning themselves with this theory may adopt different approaches or steps, which will lead to more confusion than clarity. Other authors leveled stronger criticisms. Townsend (1986), for instance, argues that the absence of scientific criteria for the selection of dimensions is « *scientifically unacceptable* ».

For him, « *one should consider the question of knowing how capabilities are selected and in what way they are absolute* ». In the same vein, Sugden (2004) raises the following question: « *given the large number of functioning that Sen considers as pertinent, given the scope of disagreement between reasonable people as to the nature of what is a decent life and given the unsolved problem of the way in which sets should be assessed, it is natural to raise the question of knowing the extent to which Sen's framework of analysis is operational* ». In reply to these criticisms, Sen admitted that it is necessary not only to identify the capabilities and classify them into the most central ones and the most trivial ones, but also to assess their relative weight. However, he thinks that any subsequent specification on his part would be controversial. In fact, while he is not averse to the idea of determining that, in some specific cases, certain capabilities are more important than others, he refuses to endorse the a predetermined and definite list of capabilities. The reason for this is that the capabilities approach is not confined to a sole objective. It was elaborated as a broad framework of thought. Consequently, Sen believes that each application necessarily depends on its context and it is for this reason that his approach was deliberately incomplete. The selection of capabilities should therefore be geographically contextualized. Thus, from a methodological point of view, « *they are applications to specific questions, context-sensitive and limited by data, which can give birth to a pertinent list* » (Farvaque, 2009). Besides, the elaboration of the list pertains to a value judgment that should be explicitly made through a democratic and participative method. It is not the work of a theorist. It is, therefore, clear that if the malleability of this approach makes it evasive in the eyes of certain people, Sen considers it as an asset and thinks that this approach cannot be made more specific without carrying out a universal assessment, which will make it possible to choose the valuable items and their relative weight. Thus, while this incompleteness is the point which leaves this approach wide open to the most ferocious criticisms, it is one of the reasons of its success. If he refuses to give a list of basic functionings, Sen nevertheless lays tracks that will help understand the scope he intends to give to his approach. These tracks are in the form of domains that one can take into consideration and the form of two selection criteria, based on consensus, which will make it possible to select the set of pertinent, basic capabilities without having recourse to value judgments.

## 6. CONCLUSION

In spite of the incompleteness Sen's approach exhibits, it should be admitted that any poverty reduction policy that does not take into consideration the capabilities of individuals or groups of population increases deprivation. In other words, any person's emancipation and « *well being* » depends on their capability to change their situation. Increase in income does not automatically lead to the improvement of « *well being* » when the individual as well as their environment are not able to develop relying on their endogeneous capabilities. Therefore, the problem lie in the inadequacy and not the lowness of income. Having an adequate income does not mean having an income that is inferior to the poverty threshold set from outside. Instead, it is having an income lower to what a person should have to ensure a specific level of capability. This means that, in order to analyse poverty, one should not confine oneself to data on income<sup>1</sup>; it is necessary to pay particular attention to the diversity of environments and social phenomena. According to Sen, « *Any analysis of poverty based solely on income will only say half the truth* ».

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<sup>1</sup> Instead of measuring poverty based on income, Sen suggests calculating one can achieve with this income, while taking into account the fact that these achievements can vary from one individual to another and from one place to another. Otherwise, how can we explain that there exist poverty pockets inside middle classes in rich countries?



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## THE EFFECTS OF CUSTOMER SATISFACTION, SERVICE QUALITY AND PERCEIVED VALUE ON BEHAVIOURAL INTENTIONS IN RETAIL INDUSTRY

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### **ABSTRACT**

*The retail industry has in the last decades assumed a preponderant role in the Portuguese economy, similar to that of other European countries, and is definitely one of the biggest and more vibrant industries nowadays. The significance of the retail industry for the Portuguese economy, a central sector for its growth and dynamic, and the relationship between service quality and efficiency of business are the motivations for this study. In a highly competitive industry, as is the retailing sector, it is crucial that organizations have a good knowledge of the business aspects that are important to their customers. The purpose of this study is to identify the dimensions of service quality and to evaluate the interrelationships among customer satisfaction, perceived value and behavioural intentions and service quality in the modern retail industry. A multi-level and hierarchical model is used as an instrument to synthesize the effects of customer satisfaction, service quality and perceived value on behavioural intentions of customers at retail stores. The results shown that, service perceived quality significantly influences customer satisfaction. Also perceived value and quality service are the main determinants of customer satisfaction. Additionally, customer satisfaction, retail service quality and perceived value significantly affect behavioural intentions towards the act of buying.*

**Keywords:** *Customer Satisfaction, Perceived Value, Retail Service Quality, Behavioural intentions, Portugal*

### **1. INTRODUCTION**

In the modern economy, based on knowledge and globalization, the organizations develop their activity in an increasingly competitive environment and the numerous changes that have occurred in the business environment, have led them to look for solutions to improve their competitiveness. During this evolution, quality has acquired a very important weight in all industries of the economy and has become a key factor of business survival. Undoubtedly, the term quality is very present in the business segment, where all organizations aim to provide quality to their customers, suppliers, partners and others. But it's not as simple as it sounds, because to benefit from quality, organizations must be ready to meet the expectations of their customers. With this, we can state that, in order to stay in progressively competitive markets, of goods or services, companies from all sectors have already adhered to quality.

The modern retail industry is not indifferent to customer loyalty and satisfaction regarding the service. Although most customers do not immediately associate a commercial surface with a service, the service is one of the main tools in obtaining consumer satisfaction and loyalty (Yuen & Chan, 2010). Retail store must find a way to differentiate itself so it can stand apart from other retailers and drive more consumers to its store. Service quality is one way to accomplish this. Retailers need an efficient way to assess the service quality of their store (Simmers & Keith, Measuring retail store service quality: the disparity between the retail service quality Scale (RSQS) and Comment Cards, 2015). However, the focus on customer retention in this area of business is one of the right strategies to generate profits (Sirohi, McLaughlin, & Wittink, A model of consumer perceptions and store loyalty intentions for a supermarket retailer, 1998). Loyalty is an important step in ensuring that consumers perform something that is beneficial to the firm, whether through purchase or simple word of mouth (WOM). It is believed that satisfaction is a consequence of the quality of the service, and guaranteeing it, increases the likelihood of involving the customer and loyalty. Several studies have shown that there is a positive relationship between quality of service and consumer loyalty (Zaibaf, et al., 2013; Al Khattab & Aldehayyat, 2012; Yuen & Chan, 2010; Mohsin & Lockyer, 2009; Ekinci, et al., 2008). Moreover, in a highly competitive industry, as is the retailing sector, it is critical that organizations have a good knowledge of the business aspects that are important to their customers (Yuen & Chan, 2010). Only with a deep understanding, is it possible to respond positively to the expectations of customers regarding the services offered. In this sense, the main purpose of this paper is to know the effects of customer satisfaction, service quality and perceived value on behavioural intentions in Portuguese modern retail industry. More specifically, this study proposes a conceptual model that allows for the examination of the antecedents and consequences of customer satisfaction, in retailing sector in North of Portugal. Additionally, intend to present a conceptual model is used as a framework to identify the dimensions of service quality and examining the interrelationships among customer satisfaction, value perceived and behavioural intentions and service quality in the modern retail industry. Also, the multi-level and hierarchical model is used as an instrument to synthesize the effects of customer satisfaction, service quality and perceived value on behavioural intentions of customers in modern retail stores. With the purpose of assisting the managers of the modern distribution of the North of Portugal in the pursuit and effectiveness of the competitiveness and sustainability of the modern distribution. In this paper, after this present introduction, a review of the main literature on retail service quality, customer satisfaction, perceived value and their behavioural intention is made, then we propose the conceptual model and research hypotheses, after presented the findings and discussion, ending with the presentation of the conclusion and the contribution of the research.

## **2. THEORETICAL BACKGROUND**

### **2.1. Service Quality**

In these last decades, there has been several research in the area of service quality, and it is discussed lots for the aim that no consensus has been reached thus far on its definition and measurement. Early studies on service quality defined it as a measure to which a service provides customer needs, and implicates a comparison of customer expectations with their perceptions of actual service performance (Parasuraman, et al., 1985; Parasuraman, et al., 1988). Gronroos (1984) definite perceived service quality to be the outcome of consumer expectations of a service and the actual service perceived by them. There are two basic ways to define quality: one from the viewpoint of the service provider and the other from the client's perspective. The quality from the customer's perspective is the central objective of this study because it reorients the retail managers to the customer's needs. Firstly, it should be noted that the measurement of service quality is an important area of academic and scientific interest, which has assumed

special prominence after the contribution of various authors (Parasuraman, Zeithaml, & Berry, A conceptual model of service quality and its implications for future research, 1985). These authors, who represent the American school, have designed an instrument for measuring quality of service, called SERVQUAL. Parasuraman, et al., (1988) suggested five dimensions: Tangibles, Reliability, Responsiveness, Assurance and Empathy. SERVQUAL has higher diagnostic power to help managers with practical decision-making. Researchers have advised the customization of existing service quality scales depending on the industry to which they are applied as retail industry (Schneider & White, 2004; Amin, et al., 2013).

## **2.2. Retail service quality**

The retail industry is settled on actions, such as interaction, negotiation, and supplying that make a combination between services and products during the service meeting process (Mahfooz, Relationship between Service Quality and Customer Satisfaction in Hypermarkets of Saudi Arabia, 2014). The retail service combined a mix between services and goods wherefore it is crucial to look at service quality from the angle of services and from the angle of products, and develop a set of items that correctly measure this construct (Mehta, et al., 2000). This creates the service quality in retailing diverse from any other pure product or pure service setting (Finn, 2004; Mehta, et al., 2000; Vazquez, et al., 2001). Service quality in retail industry has a hierarchical structure with five dimensions: physical aspects, reliability, personal interaction, problem solving, and policy (Dabholkar, Thorpe, & Rentz, A measure of service quality for retail stores: Scale development and validation, 1996). According to Dabholkar, et al. (1996) the Physical Aspects dimension has a wider meaning than does the tangibles dimension of the SERVQUAL. The Reliability dimension is similar to the both scales, SERVQUAL reliability dimension and includes the store's ability to keep promises and do things right. The dimension of personal interaction dimension is a combination of the SERVQUAL dimensions of responsiveness and assurance. Problem Solving evaluate the store's ability to handle possible problems like discards, commercial exchanges and complaints. The Policy is aspects of service quality that are directly influenced by store policy. For the final version of RSQS, 17 items were adapted from SERVQUAL scale and 11 items were created based on literature review and research conducted by (Dabholkar, Thorpe, & Rentz, A measure of service quality for retail stores: Scale development and validation, 1996). The total items in the RSQS scale were 28, which included 6 for physical aspects, 5 for reliability, 9 for personal interaction, 3 for problem solving, and 5 for policy. However the scale offered by Dabholkar, et al. (1996) has a great construct reliability and validity, was tested and was applied in different regions and countries of the world, requires that in its application be adjusted to the reality of each country, because each environment have its particular single set of quality dimensions (Amin, et al., 2013). Therefore, this scale is adopted in this study.

## **2.3. Perceived Value**

Nowadays the retailers are more worried with the pricing strategy attached the effectiveness and the competitiveness of the market. A broad pricing model is largely a crucial requirement for achieving a unique corporate success, this argument has been supported by many researchers as Ailawadi & Keller (2004). These authors proved that the application of a pricing strategy improves the volume of sales and profit margin. Also, the study developed by Hinz, et al. (2011) showed up to 20% rise in revenue due to the execution of a price setting, thus strengthening customers' satisfaction and loyalty. According to Matzler, et al. (2006) the pricing strategy is a main determinant to strengthen and improve the customers' satisfaction and loyalty, indeed in the retail industry, the pricing strategy and the value perceived is as much or even more important than the perceived service quality in the corporate strategy. Therefore, it can be contended that



a suitable pricing model and a favourable perceived value positively strengthen the business's global success in the retail industry (Nikhashemi S. R., Paim, Sidin, M., & A., 2014). Some research have also related that perceived value variation has beyond the close relationship with quality service adopts a significant relationship with product delivery and customers' expectations and loyalty (Hellstrand, 2010). Several authors have also found numerous perceived value influences on quality service. This does not mean that the perceived value will have be low to exist satisfaction, but that the value perceived by the customer will take into account the received and its relationship with the price paid. Previous studies on goods have showed that the perceived value relationship was considered enough important for customer satisfaction (Qin & Prybutok, 2008).

#### **2.4. Customer satisfaction**

Customer satisfaction is the outcome of the customer's perception of the value received in a transaction or relationships, where value equals perceived service quality, compared to the value expected from transactions or relationships with competing vendors (Zeithaml, et al., 1990). Several studies have reported that customers' satisfaction is a crucial requirement for the achievement of customers' loyalty (Cronin, et al., 2000; Sivadas & Baker-Prewitt, 2000; Zeithaml, et al., 1996). Customer satisfaction is a mighty immaterial asset like to service quality and can be attained through the compliance of customer expectations (Homburg, et al., 2006; Jayasankaraprasad & Kumar, 2012). More value for customer incomes great satisfaction, which can benefit the retail enterprise in the long term (Zeithaml, et al., 1996; Cronin, et al., 2000) and generate higher profits. Customer satisfaction is found to be dependent on the quality of service presented to the customer and is one of the instruments to enhanced value for customers (Sivadas & Baker-Prewitt, 2000). The major challenges for service industry are service quality and customer satisfaction (Hung, et al., 2003). As Valdani (2009) points out, enterprises exist because they have a customer to serve. The key to customer satisfaction lies in identifying and anticipating customer needs and especially in being able to satisfy them. Enterprises which are able to rapidly understand and to satisfy customers' needs, make greater profits than those which fail to understand and satisfy them (Dominici & Guzzo, 2010). On the other hand Bennett & Rundle-Thiele, 2002, argued that for customers to escalate their loyalty, their perceived value of the good or service presented need be at par with reality, forming an integral part of the corporate aims of the organization. Additionally, Sirdeshmukh, et al. (2002) reported that customers' satisfaction has close relationship to brand loyalty as well as service quality. Analogous claim is presented by Hoq and Amin (2010) who postulated that customer satisfaction is the emotional tendency of a customer towards repurchase of products and services offered by a retail store. In order to be successful, especially in the retail industry, managers must concentrate on retaining existing customers by implementing effective strategies towards customer satisfaction and loyalty, since the cost of attracting new customers is higher than the cost of retaining existing ones (Dominici & Guzzo, 2010).

#### **2.5. Behavioural Intentions**

The literature suggests behavioural intentions as a construct which permits the evaluation of customer loyalty. These are behaviours related to the intention to repurchase and even to the intention of recommending the product/service (Zeithaml, et al., 1990; Clemes, et al., 2011; Yuen & Chan, 2010; Sumaedi, et al., 2012). Customers frequently develop an attitude toward purchasing based on a prior service experience or, still, this attitude can also be influenced by previous information, based on the image of the retail in the market and even by word of mouth (WOM recommendation). With reference to the previous conception, customer loyalty has been usually defined as occurring when customers repetitively buying goods or services over time and retain positive attitudes towards the enterprise delivering the goods or services (Yuen &



Chan, 2010). Service providers are increasingly developing loyalty, as they consider that it helps to rise income, and leads to largest market share, effectiveness and profitability. In this sense, behavioural intentions can be defined as the customer's judgment about the likeliness to repurchase in this firm or the willingness to recommend the firm to others. We conceptualize behavioural intentions as a higher-order construct consisting of (1) positive word of mouth, (2) willingness to recommend, and (3) intentions to continue buying from a particular service provider. Based on previous definition, behavioural intention in this study may be described as a stated likelihood to repurchase in a retail store in the North of Portugal and to recommend it to family, friends and others in the future. Research has established the many benefits of behavioural intention, such as making it a tendency for retailers to follow, as well as developing and maintaining a loyal customer base (Yuen & Chan, 2010). There is also ample evidence of the influence of service quality on behavioural intentions, a huge body of research has demonstrated the significant relationship between service quality and customers' behavioural intentions (Parasuraman, et al., 2005). Zeithaml, et al. (1996) compiled a list of specific positive behavioural intentions, included loyalty, switching intentions, willingness to pay more, external response, and internal response. Zeithaml, et al. (1996) and Fullerton (2005) find a positive relationship between service quality and behavioural intentions. Moreover, preceding research has demonstrated associations between service quality and particular dimensions of behavioural intentions, like as Parasuraman, et al. (1988) find a favourable relationship between service quality and willingness to recommend the firm, and Boulding, et al. (1993) find a positive correlation between service quality and repurchase intentions, saying positive things, and willingness to recommend. Several authors point out that customers may not necessarily buy the greater quality service and that there may be other factors that define consumer choice, such as satisfaction Wang, et al. (2004) and Ryu & Han (2010). Therefore, we expect customers who perceive the quality of the service as high to be more likely to demonstrate intentions, and we again believe that this relationship will hold regardless of the buyers' collectivist orientation. Loyal customers are main assets to firms, they make proportionally more purchases at their 'first choice' store than customers who shift. It is supposed that positive perceptions of service quality enhances the possibility of customers being dedicated in supporting the company and developing and strengthening loyalty behaviour (Yuen & Chan, 2010). According to this theoretical background, the aim of this study is to, as **Error! Reference source not found.** indicates, propose a model that consists of five major constructs: Retail Service Quality, Customer Satisfaction, Value Perceived and two Levels of Behavioural Intentions (Intention to return and WOM recommendation), as illustrated in **Error! Reference source not found.**.

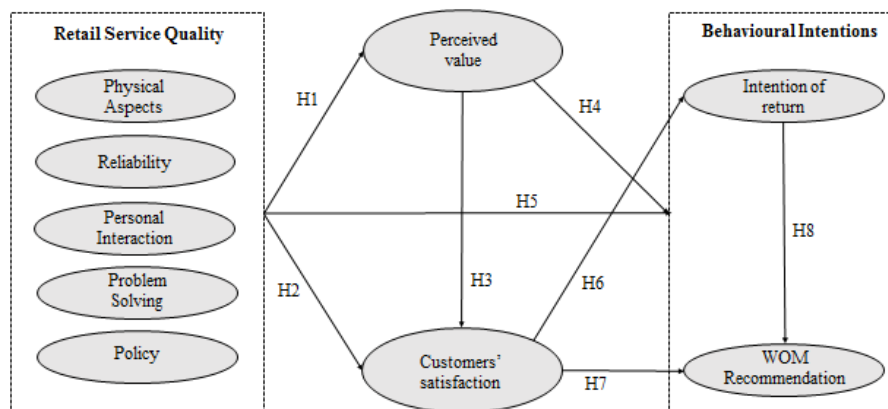


Figure 1 - Research model

The proposed model consists on evaluating the impact of: (1) Retail Service Quality on Customer Satisfaction and Value Perceived; (2) Value Perceived on Customer Satisfaction; (3) Value Perceived on Customer Satisfaction on behavioural intentions (intention to return and WOM recommendation); (4), Value Perceived and satisfaction value on behavioural intentions (intention to return and WOM recommendation) and (5) Intention to Return on WOM recommendation. In line with this aims the following researches hypotheses are proposed in the present study (see table 1).

Hypotheses	Preposition
H <sub>1</sub>	The perceived service quality by the customers has a positive influence on their satisfaction
H <sub>2</sub>	The perceived service quality by the customers has a positive influence on the perceived value
H <sub>3</sub>	The value perceived by the customers has a positive influence on their satisfaction
H <sub>4</sub>	The value perceived by the customers has a positive influence on behavioural intentional
H <sub>5</sub>	Service quality has a positive effect on customer behavioural intentions
H <sub>6</sub>	Customer satisfaction positively influences intention to return
H <sub>7</sub>	Customer satisfaction positively influences WOM recommendations.
H <sub>8</sub>	Intention to return positively influences WOM recommendations

*Table 1. - Research hypotesis*

### 3. RESEARCH METHODOLOGY

A questionnaire was designed which comprise all the constructs of the proposed model, and used to study the researches hypotheses. The questions in the questionnaire were based on a review of the literature in the area of the retail industry. This study was applied to retail stores customers in the north of Portugal during the month of February, 2017. It was used a non-probabilistic sampling using convenience technique. The questionnaires were distributed online and the answers came from several cities and places of the north of Portugal. In this study, respondents were required to fill out a three-page three sections. The first section consisted of a standard demographic profile of respondents. The second section contained the characterization of purchase process. The last section includes the statements of dimensions and their sub dimensions. The measurement items to measure primary and sub-dimensions of service quality were adapted from several researchers (Chen, et al., 2011; Clemes, et al., 2011; Dabholkar, et al., 1996; Wu, et al., 2011) and a series of items focusing on the behavioural intentions, customer satisfaction, perceived value and service quality, which were adapted on the basis of several researchers' results (Brady & Cronin, 2001; Zeithaml, et al., 1996; Wu, 2013). Respondents were asked to use a five-point Likert scale (1 = "strongly disagree" until 5 = "strongly agree") to record their perceptions. Construct reliability was assessed by using the Cronbach's alpha coefficient. Reliabilities ranged from 0,717 to 0,955, suggesting that the construct could be used with confidence. For the descriptive analysis it was used absolute and relative frequency tables. In order to measure the intensity of the linear correlation between variables it was used the Spearman correlation coefficient. Multiple linear regression was used in order to estimate models that could identify the determinants of the behaviour of the variables under analysis. The significance level of 5% was used.

### 4. DATA ANALYSIS AND FINDINGS

#### 4.1. Demographic Profile

The sample of the North of Portugal was composed of total 216 respondents which 50.9% (110) were males. The maximum number of responses was obtained from 35 to 44 years old with 38.4% (83). Most respondents 68.1% (147), were married or unmarried partner.

It is verified most of respondents had higher education qualifications, as 41.7% (90) were graduates. As for the professional occupation mostly, 71.8% (155) were employees. In the activity sector, banking stood out with 41.2% (89) of the respondents, followed by health with 11.1% (24) of the individuals. Regarding the average annual income, it is observed that 30.6% (66) annually earn between 40 001€ to 80 000€.

#### 4.2. Purchase Process

The most popular commercial area among respondents is *Continente* with 56.5% (122) of the individuals claiming that it is the store where they buy, followed by *Pingo Doce* with 26.4% (57) of the registers. The remaining chains have few costumers, the highest is *Lidl* with 14. It was verified that 94.4% (204) of the respondents made purchases in those stores from longer than 12 months. The most popular frequency of purchases registered was weekly, 75.9% (164) of the respondents go to the store once a week and 22.2% (48) do it monthly. Regarding the monthly spending average on purchases, it was found that 29.6% (64) of the respondents spend between 76€ to 150€ and 40.3% (87) spend more than 151€ per month.

#### 4.3. Correlation and Regression Analyses

In the Table 2, it can be verified that the dimensions that constitute the RSQ have strong correlations and in the direct sense with the RSQ, namely the personal interaction dimension and the reliability dimension with very strong coefficient of correlation.

Dimensions	Retail Service Quality
Physical Aspects	0,863
Reliability	0,881
Personal Interaction	0,911
Problem Solving	0,764
Policy	0,822

Table 2. - Spearman correlation between RSQ and its constituent dimensions

The correlation coefficients between the sub-dimensions and their dimensions are strong or very strong in each situation. Namely the sub-dimension appearance with the physical aspects dimension ( $r = 0.928$ ); Doing it right with reliability ( $r = 0.972$ ); Courteousness/helpfulness with personal interaction ( $r = 0.948$ ) and intention to return with customer loyalty ( $r = 0.953$ ). From the analysis of 4, it can be concluded that all the dimensions of the scale have statistically significant coefficients of correlation and in the direct sense. The intensity of the relationship between RSQ versus price; RSQ versus customer loyalty; Customer satisfaction versus price is moderate and among other combinations the correlation is strong (see 0).

	Retail Service Quality	Customer Satisfaction	Perceived Value	Customer Loyalty
Retail Service Quality	1	0,774**	0,540**	0,661**
Customer Satisfaction		1	0,657**	0,755**
Perceived Value			1	0,754**
Customer Loyalty				1

Table 3. - Spearman correlation between dimensions (\*\* Significant at 1% level)

Ordinary least squares regression was used to analyse each path in the conceptual model. Statistical assumption tests were assessed for each of the five regression models prior to the analysis in order to ensure a robust result. Numerous researchers propose that a multi-level and hierarchical model of service quality must be measured-based multiple regression analysis (Chen, et al., 2011, Wu, 2013; Wu, et al., 2011). The results of the hypotheses tests are presented in **Error! Reference source not found.**. In the first regression model which tests the influence of retail service quality and perceived value on the variation of customer satisfaction is tested.

The model obtained is at a statistically significant level of significance of 1% ( $F = 262,043$ ;  $p\text{-value} < 0,001$ ), that is, the variation of customer satisfaction is explained significantly by the estimated model. By the application of the test  $t$ , we conclude that retail service quality ( $\beta = 0,583$ ;  $p\text{-value} < 0,001$ ) and value perceived ( $\beta = 0,341$ ;  $p\text{-value} < 0,001$ ) determine significantly the behaviour of customer satisfaction. The adjusted coefficient of determination reveals that the model presented explains, on average, about 70,8% of the variation of customer satisfaction. Consequently, this model supports the first and third hypothesis.

The second regression model, that relates perceived value to the customer satisfaction and retail service quality, is statistically significant at a 1% level. The determinants of the model that significantly influence the variance of perceived value were the customer satisfaction with coefficient  $\beta = 0,558$  and  $p\text{-value} < 0,001$  and retail service quality with coefficient  $\beta = 0,197$  and  $p\text{-value} < 0,05$ . The estimated model explains, on average, about 52,2% of the variance of perceived value. Consequently, this model supports the second hypothesis. The third regression model that relates Wom with the regressors: customer satisfaction, retail service quality, perceived value and intention to return is at a significance level of 1% statistically significant. The determinants of the model influenced significantly the variation of Wom, as the test  $t$ , customer satisfaction with coefficient  $\beta = 0,179$  and  $p\text{-value} < 0,001$ ; intention to return with coefficient  $\beta = 0,268$  and  $p\text{-value} < 0,001$ ; perceived value with coefficient  $\beta = 0,452$  and  $p\text{-value} < 0,001$ ; are statistically significant. The estimated model explains, on average, about 78,3% of the Wom variation.

The retail service quality regressor is not presented significantly in the variation of Wom. Thus, this model supports the seventh and the octave hypothesis. In the fourth regression model that relates intention to return with the regressors: customer satisfaction, retail service quality and perceived value is at a significance level of 1% statistically significant. The determinants of the model that significantly influence the variation of intention to return are: customer satisfaction with coefficient  $\beta = 0,359$  and  $p\text{-value} < 0,001$  and perceived value with coefficient  $\beta = 0,374$  and  $p\text{-value} < 0,001$ ; the retail service quality regressor was not statistically significant. The estimated model explains, on average, about 61,3% of the variation of intention to return. So, this model supports the sixth hypothesis. The fifth regression model that relates behavioural intentions with the regressors: customer satisfaction, retail service quality and perceived value is at a significance level of 1% statistically significant.

The determinants of the model influence significantly the variation of behavioural intentions, because by the test  $t$  customer satisfaction with coefficient  $\beta = 0,337$  and  $p\text{-value} < 0,001$ ; retail service quality with coefficient  $\beta = 0,137$  and  $p\text{-value} < 0,05$ ; perceived value with coefficient  $\beta = 0,487$  and  $p\text{-value} < 0,001$ ; are statistically significant. The estimated model explains, on average, about 76,2% of the behavioural intentions variation. Therefore, this model supports the fourth and fifth hypothesis.

Dependent variable	Independent variables	Adjusted $R^2$	F value (p value)	Standardized coefficients	t value (p value)
<b>Customer Satisfaction</b>	Retail Service Quality	0,708	262,043	0,583	12,923(<0,001)
	Value Perceived		(<0,001)	0,341	7,071(<0,001)
<b>Value Perceived</b>	Customer Satisfaction	0,522	118,341	0,558	7,071(<0,001)
	Retail Service Quality		(<0,001)	0,197	2,490(0,014)
<b>Wom</b>	Customer Satisfaction	0,783	194,625 (<0,001)	0,179	4,387(<0,001)
	Retail Service Quality			0,091	2,210(0,096)
	Intention to return			0,268	5,206(<0,001)
	Value Perceived			0,452	9,029(<0,001)
<b>Intention to Return</b>	Customer Satisfaction	0,613	114,446 (<0,001)	0,359	4,546(<0,001)
	Retail Service Quality			0,132	1,834(0,068)
	Value Perceived			0,374	6,067(<0,001)
<b>Customer Loyalty</b>	Customer Satisfaction	0,762	229,946 (<0,001)	0,337	5,446(<0,001)
	Retail Service Quality			0,137	2,424(0,016)
	Value Perceived			0,487	10,061(<0,001)

Table 4. - A summary of regression models

## 5. DISCUSSION AND CONCLUSION

The objective of this study was to identify the dimensions of service quality and examining the interrelationships among customer satisfaction, perceived value and behavioural intentions and service quality in the modern retail industry, in additionally to investigate the effect of customer satisfaction, service quality and perceived value on behavioural intentions of customers in the modern retail stores in the North of Portugal. The results from exploratory factor analysis indicate that service quality consists of five dimensions (physical aspects, reliability, personal interaction, problem solving, and policy). For stores in the North of Portugal, personal interaction plays an important role in determining service quality, and are followed by reliability, physical aspects, policy and problem solving. The results of this study add support to using a multi-level and hierarchical model as a framework in order to conceptualize and measure the customer perception of service quality, perceived value, customer satisfaction and behavioural intentions in the modern retail stores. This methodological approach is similar to that used by some researchers, mentioned in the theoretical background to analyse those constructs in other service industries. The results of this study demonstrate that service quality has a direct influence on customers' perceptions of value, which in turn, influence satisfaction. Increased perceived value then results in customer satisfaction based on the positive relationship between perceived value and customer satisfaction. In this study, however, service quality does not have a positive influence on intention to return. But the findings showed that the service quality is an antecedent of customer satisfaction and this is directly influence behavioural intentions. Both customer satisfaction as service quality and value perceived directly influence behavioural intentions. In general, satisfied customers form their favourable behavioural intentions to return or recommend the store while experiencing a high level of service quality that produces a favourable value perceived. However, in this research, retail service quality has less effect on behavioural intentions than customer satisfaction and value perceived. The result is consistent with the contentions of several studies that customer satisfaction and value perceived positively affect behavioural intentions in the retailing industry. Customer satisfaction has a positive influence on behavioural intentions, suggesting that satisfied customers will return or revisit stores to repurchase again and may recommend their favourite store to friends or relatives. Value perceived has been found to have a relatively positive effect on behavioural intentions, implying that customers forming their positive overall impressions of the image of stores are more likely to return or revisit it in the future. Retail management can use the multi-level and hierarchical model developed in this study in their strategic planning process as this model can be used to make an overall assessment of the customer perception of service quality in the retailing industry.



The present research identifies five primary dimensions of service quality in the retailing industry in the north of Portugal. For example, management can use the information from this study to improve their understanding of the factors that create a pleasant purchasing experience and act to increase customers' favourable behavioural intentions. Furthermore, the customers who return or revisit a specific retail store can help management to establish a good reputation through the positive word-of-mouth. In addition, retail management should know and resource the customer-important sub-dimensions to improve their supermarkets' competitiveness in this lucrative market, as the sub-dimensions are similar to the benefit bundle. This information will enable management to accurately measure customers' perceptions of their overall experiences in the retailing industry. Therefore, management should realize that service quality in the retailing industry definitely influences customers' future favourable behavioural intentions through satisfaction and perceived value. As observed in this research, the main purpose was studied the relationships among higher order constructs such as behavioural intentions, customer satisfaction, perceived value, and service quality in modern retail industry in the north of Portugal. Nevertheless, the interrelationships among these constructs and their supporting dimensional structures have not attracted a lot of attention in the retailing literature of Portugal. The findings in this study show that improving customers' perceptions of service quality can effectively increase satisfaction levels through high levels of value perceived. Thus, the findings of this investigation help retailing management to identify that both customer satisfaction and value perceived directly affect behavioural intentions. Consequently, retail management should make more effort to increase perceptions of satisfaction and value perceived in order to build the favourable customers' behavioural intentions.

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## ENERGY MARKET LIBERALIZATION IN ELECTRICITY REGULATORY FRAMEWORKS: A COMPARATIVE ASSESSMENT

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*Following the implementation of privatization policies that is currently in place, Iran's electricity market is undergoing dramatic changes to limit the role of government and increase participation of private investors. Legislative requirements are met and extensive planning and arrangements are being made in order to engage the private sector in Iran's electricity market. As a result, an efficient and effective regulatory body for close monitoring and regulating of the market through the industry's transition is now needed more than ever. Thus the role of a well-organized and effective regulatory framework to attract and sustain private investment as well as promoting competition is inevitably central to successful implementation of privatization policies. This necessitates a comprehensive scrutiny of the existing regulatory framework of Iran's electricity market and assessing its governance in order to evaluate the performance of the regulatory body and identifying its competence or incompetence in maintaining a vibrant environment for private investment along with a healthy competitive atmosphere for participation of various firms in the industry. The electricity industry is in constant transition. From the former wave of market deregulation and liberalization to the current transition towards de-carbonization of the industry, regulatory bodies have been at the core of the efforts for organizing the energy markets and devising policies for achieving the targeted goals. The capability of electricity sector regulators in dealing with challenges of transition largely depends on the underlying regulatory governance mechanisms and this study aims to assess this crucial aspect of electricity sector regulators. Using a regulatory framework index, the governance mechanism of 20 regulatory bodies across the world is evaluated against the determined criteria. These criteria include the legal scope the regulatory body, separation of operational activities from regulatory activities and four distinct characteristics including autonomy and independence, accountability, clarity of role and objectives, and transparency and participation. The results can help governments and agencies in selection of regulatory frameworks for benchmarking.*

**Keywords:** *Electricity regulation, regulatory framework, governance, energy market liberalization*

### 1. INTRODUCTION

Beginning with Chile in the early 1980's, many countries initiated fundamental reforms in the electricity industry in order to restructure the electricity sector towards a more competitive structure. In the 1990's, following the experiment of Chile, other South American countries such as Argentina, Bolivia, Peru and Colombia adopted similar unbundling and restructuring practices in order to deregulate the previously vertically-integrated electricity utilities (Rothwell and Gómez 2003). In Europe, Norway and England were pioneers in developing restructured, deregulated electricity markets. New Zealand, Australia and Canada similarly introduced competition in their electricity markets and by the end of 1990's, about 70 developing countries and many developed countries had taken some steps towards electricity market liberalization (Nepal and Jamasb 2015).



The vast extent and rapid pace of the reforms adopted by countries can be attributed to a variety of political, economic and technological drivers. As a public utility with direct implications on the welfare and economic development, the electricity industry has always been subject to political and economic controversy (Victor and Heller 2009). As the state is pressurized for lower energy costs, electricity utilities exert their monopolistic powers to set higher prices. Furthermore, it was realized that some functions within the electricity industry, such as wholesale generation and retailing of electricity can be carried out competitively. Therefore, a structural reform in the electricity industry was required to bring about lesser end-consumer charges and more efficient conduct of the electricity system (Sioshansi et al. 2006). At the heart of efforts for reforming the electricity sector, lays the establishment of an independent regulator to act as the custodian of public interest (Armstrong et al. 1994). Since the electricity industry is capital intensive and exhibits monopolistic behaviors, the existence of a regulatory framework is required to improve efficiency and reduce costs (Joskow 2006). Moreover, determining whether the electricity utility costs match the costs of an efficient conduct and the opportunities an electricity utility has in order to reduce costs is not always easy. This is due to the asymmetry of information between the regulator and the regulated firm. Public utilities, such as electricity distribution companies, that are active in large proportions of the electricity market usually have far more information regarding the energy market than other agents present in the market. To overcome this asymmetry of information, a regulatory framework should be established to allow efficient cost recovery for the regulated entities and lower prices for the consumer (Chester 2014). This role of guaranteeing the efficient functioning of the electricity market, in other words existence of a regulatory framework, has been highlighted since the restructuring efforts began in the 1990's (Bergara et al. 1998). Since the regulatory framework is at the core of electricity industry reform and has substantial impacts on successful restructuring and efficient functioning of the electricity market, assessing the quality and effectiveness of the electricity regulatory frameworks becomes an important issue. Henisz (2002) used empirical evidence to demonstrate that political and institutional stability can considerably contribute to the investments in public infrastructure. Haney and Pollitt (2011) showed that the existence and experience of an independent regulator is a crucial element in the best practice regulation. Littlechild (1983) also argued that incentive regulation of networks can promote efficiency of a competitive market. Bortolotti et al. (2002) used dummy variables for presence and absence of a regulatory framework in the setting of a privatization process in a telecommunications industry to measure the effects of regulation. Using an econometric mode, Erdogdu (2013) argues that the background of officials and the level of democracy and corruption significantly correlate with the success of electricity market reform in that country and that is why some countries are able to implement more extensive reforms. In a more novel and thorough approach, Gutiérrez (2003) introduced a Regulatory Framework Index in order to assess the regulatory governance in the Latin American telecommunications sector. Although the literature and existing papers on the role of regulation in the electricity industry reform abound, little has been done to independently analyze and assess electricity regulatory frameworks. In spite of the existing literature that focuses on importance and characteristics of electricity regulation, this paper constructs a solid RFI index that allows for assessing and comparing various electricity regulatory frameworks per se by taking into account the major features of an effective regulatory body. The remainder of this paper is structured as follows. Section 2 explores the major elements involved in the electricity market restructuring and implications for electricity market regulatory frameworks. Section 3 discusses the construction of the regulatory framework index by identifying the relevant criteria and provides estimates for each selected regulatory body. Section 4 provides a discussion regarding the significance of the results and ultimately, concluding remarks are drawn in section 5.

## 2. ELEMENTS OF ELECTRICITY INDUSTRY RESTRUCTURING

The standard procedure for the electricity industry reform adopted by Chile and later followed by other countries consisted of specific steps including establishment of an independent regulator, privatization of previously state-owned firms, providing the legal basis for market liberalization, unbundling of activities, incentive regulation, establishment of wholesale market, and introduction of competitive electricity generation (Nepal and Jamasb 2015). This section categorizes the main elements of electricity restructuring.

### 2.1 Vertical separation

The new paradigm of electricity industry is based on the notion that competitive electricity markets are in fact possible. The advent of new technologies has eliminated the former economies of scale associated with electricity generation and new markets emerge as interconnection capacities between regions and countries increase. Therefore, since monopoly precludes competition, network activities (transmission and distribution) must be separated from competitive practices i.e. generation and retail. The unbundling of activities can lead to elimination of cross-subsidies (and consequently bring about lower energy prices) and improve efficiency of operation and planning of the power system. This is achieved by removing conflict of interest by eliminating the capability or incentives to discriminate (Pérez-Arriaga 2013). Fig.1 represents the organization of restructured vertically-integrated electricity company.

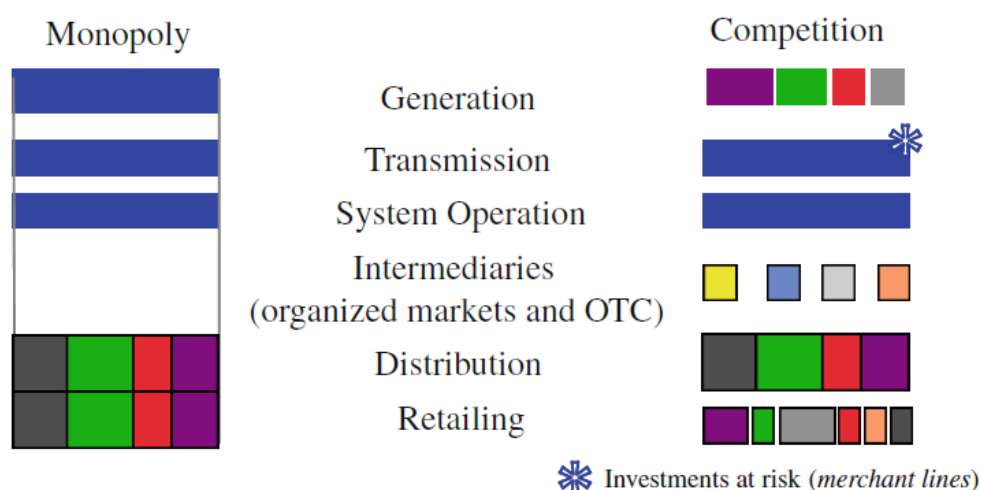


Fig.2 Organization of a restructured vertically-integrated electricity company (Pérez-Arriaga 2013)

### 2.2 Private Ownership

Public or state ownership of electricity industry was faced with crisis during the 1990's. One major cause, in Latin America, for example, was the excessively high electricity demand growths combined with incapability of the State to invest in generation facilities due to large external debts. Furthermore, the new lending policies of international financial institutions such as the World Bank and International Monetary Fund led governments to initiate privatization. Moreover, private owners react to economic and technological transformations more promptly and can more efficiently allocate resources. Therefore, private ownership is a core element in the restructured electricity industry (Rothwell and Gómez 2003).

### 2.3 Institutions and economic regulation

Institutions are constraints designed by humans to structure political, economic and social interactions by creating order and reducing uncertainty in exchange (North 1991). Regulatory institutions can be divided into two elements: institutional environment and institutional arrangements.

Institutional environment or governance is made up of laws, acts, authorities etc. that form regulatory decisions and processes. This is also called the *formal* aspect of regulation. The *informal* aspect of regulation or institutional arrangements (also called substance) is comprised of governance mechanisms such as incentives or tariff levels (Brown et al. 2006). The economic theory of regulation tries to find the optimal arrangement that eventually optimizes social welfare by the means of minimizing social costs and maximizing social benefits. This can be in the form of government ownership of firms and government oversight, or an arrangement such as private ownership with independent regulation (Rothwell and Gómez 2003). Regardless of the optimal institutional arrangement, the characteristics of the institutions play an important role in determining the effectiveness of the regulatory framework (Haney and Pollitt 2011).

The electricity regulation encompasses all dimensions and elements of the electricity sector restructuring. Therefore, the characteristics of the regulatory framework as the main mechanism for formulating rules and overseeing the electricity market plays a crucial role in a successful industry deregulation and efficient functioning of market agents. In short, an effective electricity market restructuring largely depends on its regulatory framework. This paper identifies the major essential features of a regulatory framework and based on the determined characterizations, constructs a regulatory framework index that allows for assessing the governance of a power sector regulator.

### **3. CONSTRUCTING THE REGULATORY FRAMEWORK INDEX**

The process of regulating a network infrastructure, e.g. the electricity industry, consists of two distinct dimensions: governance and institutional arrangements i.e. incentives, tariffs, etc. Regulatory governance calls for design and creation of a transparent framework within which market participants can interact. In other words, regulatory governance means the set of laws, rules and regulations that govern the market. This aspect of regulation is usually sustained over longer-term periods in order to provide a predictable and stable environment for the interaction of agents within the market. The other dimension, institutional arrangements, is the set of instruments that address market issues such as pricing, tariff levels and subsidies. These mechanisms influence the behavior of entities in a way that leads to a more efficient functioning of the market. For example, the regulator may set revenue or price cap for electricity distribution companies to encourage increasing efficiency and consequently lower prices for consumers.

Since institutional arrangements primarily rely on the existence of a regulatory framework, the regulatory governance is of greater significance than regulatory instruments. Moreover, the existence of a regulatory environment can be interpreted as the determination and commitment of the government to provide a safe and credible environment for private investment and elimination of opportunistic behavior. Given the primary role of institutional environments in the effective regulation of the electricity industry, the regulatory framework index constructed and calculated in this paper solely addresses the elements of regulatory governance. Therefore, using the Regulatory Framework Index introduced by (Gutiérrez 2003), this paper investigates the regulatory governance in 20 countries around the world. This regulatory framework index encompasses three aspects, namely the scope of the legal mandate, separation of regulatory activities from operating activities and six distinct characteristics of the industry regulator. This study provides an unprecedented assessment of the electricity sector regulators using the RFI.

#### **3.1 Legal scope of the regulatory framework**

The institutional endowment of a country is a major determinant of the institutional environment and consequently the electricity industry regulatory effectiveness of the country can be measured by the characteristics of the institutions at macro-level (Haney and Pollitt 2011). Therefore, the scope of the legislation that underpins the regulatory framework is a

primary element of the regulatory body. This is because the roles, functions and duties of the regulator are shaped and realized through the legislation and the stronger the legal mandate, the more credible the regulatory body will be. For measuring the strength of the legal mandate, it is investigated whether the regulatory framework is created by parliamentary law or presidential (or royal) decrees. Regulatory bodies established by laws enacted by parliaments comprised of elected representatives are more credible than those created by executive decrees (Gutiérrez 2003). Table 1 shows the corresponding legal mandate of the selected regulatory bodies, the type and the year they were enacted. It can be seen that most regulatory frameworks are established through parliamentary laws.

*Table 1 Establishing legal mandate of each regulatory body*

Country	Name of the Regulatory Authority	Mandate	Year
<b>United Kingdom</b>	Office of Gas and Electricity Markets (OFGEM)	Electricity Act	1989
<b>Canada (Ontario)</b>	Ontario Energy Board (OEB)	Ontario Energy Board Act	1989
<b>Saudi Arabia</b>	Electricity and Co-Generation Regulatory Authority (ECRA)	Decree No. M/56	2005
<b>Republic of Ireland</b>	Commission for Energy Regulation (CEM)	Electricity Regulation Act	1999
<b>United States (Texas)</b>	Public Utilities Commission of Texas (PUC)	Public Utility Regulatory Act	1995
<b>India (Gujarat)</b>	Gujarat Electricity Regulatory Commission (GERC)	Electricity Act	2003
<b>Australia (Southern Australia)</b>	Essential Services Commission of South Australia (ESCOSA)	Electricity Act	1996
<b>Jordan*</b>	Energy and Mineral Regulatory Commission	General Electricity Law	2002
<b>South Africa</b>	National Energy Regulator (NERSA)	National Energy Regulator Act	2004
<b>Norway</b>	Norwegian Water Resources and Energy Directorate (NVE)	Energy Act	1990
<b>Albania</b>	Albanian Energy Regulator (ERE)	Power Sector Law	2003
<b>Armenia</b>	Public Service Regulatory Commission (PSRC)	Law on establishment of a regulatory body for public services	2003
<b>Azerbaijan</b>	Tariff Council	Statute of the Tariff	2005
<b>Croatia</b>	Croatian Energy Regulatory Agency (HERA)	Act on the Regulation of Energy Activities	2012
<b>Turkey</b>	Energy Market Regulatory Authority (EMRA)	Law on the Electrical Market	2001
<b>Nigeria</b>	Nigerian Electricity Regulatory Commission (NERC)	Electric Power Sector Reform Act	2005
<b>Uganda</b>	Electricity Regulatory Authority (ERA)	Electricity Act	1999
<b>UAE (Dubai)</b>	Regulatory and Supervisory Bureau (RSB)	Executive Council Resolution No. 2	2010
<b>Poland</b>	Energy Regulatory Office (ERO)	Energy Law	1997
<b>Pakistan</b>	National Electric Power Regulatory Authority (NEPRA)	Electric Power Act	1997

\* Jordan's General Electricity Law was initially issued by King Abdullah and later enacted by the Parliament

In order to account for the type of legal mandate in the index, for regulatory bodies that are created by parliamentary laws, a value of 1 is assigned and for those regulatory frameworks that are established through executive decrees, a value of 0.5 is assigned. In case of the absence of a regulatory body, the index takes a value of 0.

### **3.2 Separation of regulatory activities from operating activities**

Independence of the electricity industry regulator is a critical characteristic that ensures elimination of conflict of interest. As the regulatory body engages in electricity market activities, it becomes prone to discriminative practices and consequently the effectiveness of the regulatory framework would be lost. Therefore, the regulatory must maintain neutrality. In order to ensure unbiased conduct of the regulatory body, financial interests of the industry regulator in the electricity market should be eliminated. For operationalization of this feature in the index, a value of 1 is assigned if the formal separation of regulatory activities is stated in the corresponding legal mandate and zero if no separation of operating activities from regulatory activities is in place.

### **3.3 Characteristics of a regulatory body**

Autonomy and independence, accountability, clarity of roles and objectives, and transparency and participation are the main four characteristics to be found in an effective regulatory body (Stern and Holder 1999). This section explores the significance of each characteristic and draws quantifiable features for the construction of the regulatory framework index.

#### **3.3.1 *Autonomy and independence***

The electricity industry regulator is usually assigned with the task of preventing the electricity utilities from conducting monopolistic behavior and charging high prices for consumers while ensuring a reasonable cost recovery for the utilities. In general, the regulatory body is in charge of defending the rights of both consumers and electricity companies. Therefore, it is essential that the regulator maintains independence and autonomy. The effectiveness of the regulatory practice depends on the mechanisms that safeguard the regulator from undue political interventions either from the industry or the government. In order to account for the independence and autonomy of the industry regulator in the index, two features are determined and investigated: first, financial and budgetary independence from and second, the appointment or removal process of the regulatory commissioners. If the regulatory body is self-financed through license fees, etc. or parliamentary-set budget, the index takes a value of 1. On the other hand, if the budget is solely determined by executive officials such as minister, etc. the index takes a value of 0. As for the selection of personnel, if no free removal of commissioners is possible, the corresponding index is set to 1 and if the regulatory body commissioners can readily be removed by other non-elected executive officials, the index equals zero.

#### **3.3.2 *Accountability***

Since the regulator is responsible for overseeing the actions of a variety of electricity market participants, the regulator's decisions would consequently affect a large variety of stakeholders. For example, the regulator's decision to decrease revenue caps could alert utility companies. Similarly, allowing companies to increase energy charges will subsequently be faced with opposition from the consumers. Therefore, it is necessary that some sort of dispute resolution exist within the regulatory framework's processes and procedures. The right of challenging the regulator's decisions along with existence of a mechanism for settling these appeals can significantly contribute to the credibility of the regulatory body. This is particularly important for massive investments are required for transition of the current global energy system into the targeted low-carbon industry and the willingness to invest in the energy industry, in each country, largely depends on the credibility of the corresponding regulatory body.



For operationalization of this index, a value of 1 is assigned if some form of dispute resolution mechanism can be found within the regulatory framework. If no such mechanism is present, the index then takes a value of 0.

### ***3.3.3 Clarity of roles and objectives***

The separation of roles between various regulatory bodies acts as a mechanism to reduce regulatory capture by the interest groups and results in improved commitment (Tirole 1994). Therefore, it is most advantageous that the legislation unambiguously indicate the regulatory objectives of each entity and the instances where the regulator has an advisory position and the occasions where its role is more of a policy-making nature. Moreover, in order to establish order and credibility, the regulator should be able to actively engage in market policies and react to professional misconduct. This can be achieved by utilizing institutional arrangements i.e. penalties and incentives. For operationalization of the index, a value of 1 is assigned if some form of penalty and tariff setting mechanism is in place and a value of 0 is allocated for the regulatory frameworks that are unable to set tariffs and impose penalties.

### ***3.3.4 Transparency and participation***

Historically, establishment of incentive-based regulation in the electricity industry has often been accompanied with augmented electricity prices that is followed by the skepticism of consumers (Rothwell and Gómez 2003). In general, regulators are always under suspicion, especially in developing countries (Tenenbaum 1996) and the possibility of collusion between the regulator and electricity companies calls for a transparent regulatory design. The main elements of transparency in a regulatory framework can include clear specification of rules and regulations, implementation of decisions and policies through an open process, and publication of decisions and policies. By requiring the regulatory body to conduct its activities in an open, public environment, it can be refrained from secret arrangements with interested parties or political figures. Similarly, relevant information regarding each decision or the process of reaching a decision can be publicized (Fink et al. 2003). Transparency is a core element of an effective regulatory framework because utilities have abundant resources in order to influence decisions of the regulator and clear, transparent conduct of regulatory affairs can prevent lobbying, communication campaigns and revolving doors (Pérez-Arriaga 2013). For operationalization of this element of the regulatory framework index, the existence of a clear mechanism for publicizing the decisions of the regulators indicates a value of 1 and otherwise a value of 0. It should be noted that since the index takes account of qualitative elements of a regulatory framework, namely aspects of regulatory governance, it is difficult to determine which factor is of greater weight and which factors can be assigned with smaller weights. It is, however, evident that all aspects relating to the governance of a regulatory body significantly contribute to the effectiveness and success of the regulatory framework as a whole. Therefore, in order to calculate the aggregated RFI, all factors are given the equal weight of 0.125. Unlike Gutiérrez (2003) that analyzed the evolution of the RFI in a time period of two decades, this study conducts a static assessment of regulatory frameworks using the index and measures the current status of the selected regulatory bodies. This is mainly because it has been decades since the first electricity industry deregulation efforts took place in the 1980's and the present regulatory authorities are mature now and the regulatory framework index can be utilized to evaluate the effectiveness of full grown regulators. Moreover, this study is not limited to the context of Latin America and has included countries from all five continents primarily because the aim of this paper has been to assess and evaluate regulatory frameworks per se, not the bilateral effects of the regulatory framework and the corresponding economic environment. Although it is beneficial to analyze of the political and economic environment within which a regulatory institution is established, such analysis simply did not fall within the scope of the present study.

Another issue is the magnitude of the RFI. As evident by definition, the index can take a maximum value of 1. This maximum, however, may not reflect that the relevant regulatory body has achieved the perfect framework. It only indicates that the regulatory framework meets the criteria discussed in this paper and many other factors are to be taken into account before a conclusive decision regarding the evaluation of the regulatory framework can be made. Yet despite its limitations, the RFI does in fact provide a preliminary assessment of the regulatory frameworks present in the global electricity industries.

*Table 2 Estimated RFI for the selected regulatory bodies*

Country	Legal mandate	Separation	Main features						RFI
			a	b	c	d	e	f	
United Kingdom	1	1	1	1	1	1	1	1	1
Canada (Ontario)	1	1	1	1	1	1	1	1	1
Saudi Arabia	0.5	1	1	1	1	1	1	1	0.9375
Republic of Ireland	1	1	1	1	1	1	1	1	1
United States (Texas)	1	1	1	1	1	1	1	1	1
India (Gujarat)	1	1	1	1	1	1	1	1	1
Australia (Southern Australia)	1	1	1	0	1	1	1	1	0.875
Jordan	1	1	1	0	1	1	1	1	0.875
South Africa	1	1	1	1	1	1	1	1	1
Norway	1	1	1	1	1	1	1	1	1
Albania	1	1	1	1	1	1	1	1	1
Armenia	1	1	0	1	1	1	1	1	0.875
Azerbaijan	0.5	1	0	0	1	1	1	1	0.6875
Croatia	1	1	1	1	1	1	1	1	1
Turkey	1	1	1	1	1	1	1	1	1
Nigeria	1	1	0	0	1	1	1	1	0.75
Uganda	1	1	1	0	1	1	1	1	0.875
UAE (Dubai)	0.5	1	0	0	1	1	1	1	0.6875
Poland	1	1	0	0	1	1	1	1	0.75
Pakistan	1	1	1	1	1	1	1	1	1

(a) financial and budgetary independence, (b) appointment and removal process, (c) power to set tariffs, (d) power to impose penalties for misconduct, (e) existence of a dispute resolution mechanism, (f) publication of decisions. *Source:* Authors' compilation.

Table 2 shows the calculated regulatory framework index for 20 regulatory bodies across the globe. It can be seen that in general, developed countries have achieved higher levels of regulatory governance as compared with developing countries. This may indicate that the overall institutional environment of a country can substantially influence the quality and efficiency of micro-level institutions within that economy. This conclusion, however, requires further analysis and research. Furthermore, it can be viewed that countries with longer history of electricity market deregulation and liberalization have higher RFI levels. This means that the maturity of a country's regulatory institution can contribute to the quality of the institutional framework and electricity regulation, particularly regulatory governance.

Another consideration regarding the estimated RFI is that the selected regulators have been able to achieve the desirable levels of transparency, accountability, and clarity. Also in terms of separation, no regulatory framework is engaged in both business and regulatory activities. This means that mechanisms of tariff setting, dispute resolution, publicizing the decisions, and enforcement exist in the selected regulatory frameworks. However, it is in terms of autonomy and the scope of the legal mandate that some regulatory bodies fall short of the perfect level. Budgetary or financial dependence and free removal of regulatory commissioners can lead to regulatory capture and consequently prevent the regulatory body from performing its duties. Establishment of the regulatory body through a mandate enacted by a parliament or congress can consolidate the position and authority of the electricity industry regulator. The bar chart of the calculated RFI for each regulatory body is presented in Fig.2.

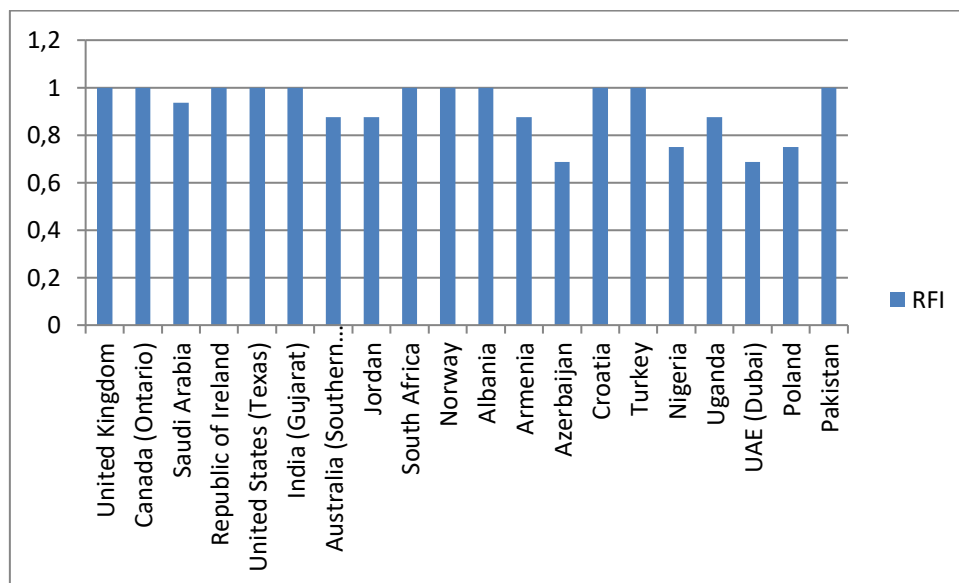


Fig.2 Estimated RFI for the selected regulatory frameworks

#### 4. DISCUSSION

Network infrastructures such as electricity and telecommunications share a set of characteristics that incapacitate the common market mechanisms leading to efficient performance. Primarily, such infrastructures make use of technologies with significant economies of scale. Moreover, the services delivered by these utilities are essential public goods and consequently subject to opportunistic intervention of governments. On the other hand, the monopolistic characteristics of such public utilities may encourage them to charge higher prices or deliver low-quality services. Therefore the existence of a regulatory body is essential in order to preserve the rights of both consumers and private investors and the ultimate efficient functioning of the market (Singh 1997). This role of the regulator is more highlighted in developing countries where energy regulation is a new concept and basically designed to remove previous utility monopolies. The deregulation and liberalization challenges necessitate a robust and functional regulatory framework that can lead the industry from monopoly to competition. Aside from the inherent characteristics of network infrastructures, particularly the electricity industry, that necessitates the existence of a regulatory framework, there are emerging national and global challenges that require immediate, decisive actions from energy regulatory institutions. Competitiveness, energy security and transition into a low-carbon energy industry are the challenges that call for regulatory interventions.

This role of the regulatory bodies can more often be perceived in developed countries where the struggle to further the penetration of renewables and de-carbonization of the energy industry is intense and regulatory bodies lie at the center of this challenge of providing clean, secure sources of energy. Regardless of the nature of the problem regulatory agencies deal with, either in developing or developed countries, the effectiveness and functionality of the electricity industry regulators largely depends on the basic governance framework of the institution. Without a solid, reliable and credible regulatory framework, no institutional arrangements, no matter how mathematically and economically accurate, can effectively be carried out. The governance mechanisms underlying each regulatory agency delineate the frame within which interactions between different participants in the industry is possible. Therefore, assessing the regulatory governance can be helpful in determining the potentials of each regulatory framework. Since benchmarking analyses is common in adopting regulatory policies (Jamash and Pollitt 2003), the present study can help governments and agencies conduct a preliminary evaluation of the regulatory frameworks around the world as part of the process of selecting the best regulatory framework for benchmarking.

## 5. CONCLUSION

Since the 1980's, political and economic ideologies along with technological developments and changing of the lending policy of international financial institutions, many countries have been pursuing deregulation and liberalization of the electricity industry. Deregulation of the electricity market has been accompanied by increased energy prices. Furthermore, privatized electricity utilities have always been prone to undue government intervention that puts their investments at stake. Therefore, the existence of a robust and effective regulatory framework is a must in the new energy business environment. Given the importance of regulatory bodies in the transitional phases of electricity industry, this study aims to assess the governance of electricity industry regulators. Using a regulatory framework index, this paper estimates a quantitative measure of governance for 20 regulatory bodies across the globe. In order to construct the index, major elements involved in the governance aspects of a regulatory framework are identified. These aspects consist of the legal scope of the mandate establishing the regulatory body, the separation of operational activities from regulatory activities and four characteristics including autonomy and independence, accountability, clarity of roles and objectives, and transparency and participation. The results can help governments and agencies in choosing the optimal regulatory framework for benchmarking purposes. The index calculated in this study measures governance aspects of electricity regulatory frameworks. Future studies may investigate construction of an index that takes into account both the institutional arrangements and the institutional environment of the electricity regulation and combines them into a unified, aggregated index.

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## THE IMPACT OF VOTER TURNOUT AND EDUCATION OF COUNCILLORS ON PUBLIC SECTOR EFFICIENCY: EVIDENCE FROM POLISH MUNICIPALITIES

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### ABSTRACT

*The principal-agent relationship is one of the oldest and most common socio-economic interactions. Information asymmetry occurring between actors makes that agent's actions are not fully observed by the principal. This leaves room for inefficient or undesirable behaviour from the agent. Voter turnout and education of councillors can be considered as variables improving agency relationship.*

*Greater voter turnout is often argued to indicate citizens' awareness of public problems and greater interest in politics. That may create a pressure on the effective behaviour of the rulers. While the career concern model indicates that voters attempt to choose the most competent politicians who can provide them with more public goods. The aim of the study is to investigate the influence of these variables on the efficiency of public goods delivery within polish municipalities. Efficiency is measured by the PSE (Public Sector Efficiency) index. On the basis of statistical data published by GUS and PKW, two elections, in 2010 and 2014, are analyzed. Using a linear regression model for cross-sectional data we can estimate the significance of selected explanatory variables. Our results suggest that voter involvement has negative or no impact on efficiency and the education of councillors has positive or no impact on efficiency. This indicates that people's engagement in politics does not foster efficiency of the public sector, however, people may care about the education of candidates.*

**Keywords:** *agency theory, public sector efficiency, voter turnout*

### 1. INTRODUCTION

The principal-agent relationship is one of the oldest and most common socio-economic interactions. It is applicable in a variety of settings, ranging from macrolevel problems (e.g. regulatory policy) to microlevel phenomena occurring between people (e.g. conflicting goals, conflict of self interest)(Eisenhardt, 1989, p.58). Information asymmetry occurring between both parties highlights that the agent's actions are not fully observed by the principal. This leaves room for inefficient or undesirable behaviour from the agent. Especially in public sector, where politicians may act inefficiently when they are unmonitored. Voter turnout and the education of councillors can be considered as variables that improve the agency relationship. Greater voter turnout is often argued to indicate citizens' awareness of public problems and a greater interest in politics. This may create a pressure on the effective behaviour of the rulers (Borge, Falch, Tovmo, 2008, p.483; Geys, Heinemann, Kalb, 2010, p.270-271). While the career concern model indicates that voters try to choose the most competent politicians who can provide them with more public goods (Alt, Lassen, 2006, p.1404; Piwowski 2014, p.547). The aim of this study is to investigate the influence of these variables on the efficiency of public goods delivery by polish municipalities<sup>1</sup>. Efficiency is measured by the PSE (Public Sector Efficiency) index.

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<sup>1</sup> In this study, as municipality we understand the smallest districts in polish administrative territorial division ("gmina").

On the basis of statistical data published by the GUS (Central Statistical Office of Poland) and the PKW (National Electoral Commission), two elections, in 2010 and 2014, are analyzed. Using a linear regression model for cross-sectional data we can estimate the significance of selected explanatory variables. Agency relationship between voters and rulers appears because under a social contract there is a delegation to exercise authority (Alvarez, Hall 2006, p.492-493). Rulers behaviour cannot be fully observed because of asymmetric information. Voter turnout is considered to reflect an increase in citizens' awareness of public problems, so decreasing asymmetry of information and that way creating pressure on effective behaviour of public servants. Research indicates a positive influence of electoral participation on efficiency (Borge, Falch, Tovmo, 2008, p.487; Revelli, Tovmo, 2007, p.130-132; Geys, Heinemann, Kalb 2010, p.273), but when analysing the paradox of plenty L. E. Borge, P. Parmer, R. Torvik obtain results indicating a negative influence (Borge, Parmer, Torvik 2013, p.14-16).

The education level of councillors and its influence on public sector efficiency is analysed by B. Karbownik and G. Kula. They show that it is positive for rural and urban-rural municipalities in Poland, but for urban municipalities and big cities statistically insignificant (Karbownik, Kula, 2009, p.25). We expand the existing research related to the relationship between voter turnout and public sector efficiency on Polish experience. Moreover, we introduce an additional variable, which is: participation of councillors with higher education. Based on the parametric analysis for Norwegian local government units (Borge, Falch, Tovmo, 2008), an analogous analysis for Polish municipalities is conducted. Due to country specific and the availability of statistical data, the PSP and PSE indicators are modified, and a different model specification is used.

## 2. MEASURING EFFICIENCY

Based on research by A. Afonso, L. Schunknecht, V. Tanzi (2003, 2006), L. E Borge, T. Falch, P. Tovmo (2008) and B. Karbownik and G. Kula (2009), an output measure is calculated. It is expressed by the public sector performance indicator (PSP). We calculate the PSP according to the following formula:

$$PSP^i = \sum_{s=1}^S \left( \alpha_s \left( \sum_{j=1}^{I_s} \beta_{sj} \frac{x_{sj}^i}{\bar{x}_{sj}} \right) \right), \quad \sum_{s=1}^S \alpha_s = 1, \quad \sum_{j=1}^{I_s} \beta_{sj} = 1$$

Where:

$x_{sj}^i$  – indicator (j) in sector (s) in municipality (i),

$\bar{x}_{sj}$  – the mean of an indicator in given sector,

$\alpha_s, \beta_{sj}$  – respectively, sector and indicator weights.

Dividing the value of a given indicator ( $x_{sj}^i$ ) by mean (normalization by mean) is intended to facilitate the compilation and interpretation of data. As a result, the average value of indicators is equal to one. Municipalities with index values above one have a bigger than average production. Index values below one indicate lower production than average. Indicators and weights used in the PSP calculation are presented in Table 1.

*Table 1: Indicators and weights in the PSP4 and PSP3 measures*

Municipality service sector (sector weight $\alpha_s$ )	Indicator (indicator weight $\beta_s$ )
Education <i>PSP4 2015</i> (0,506) <i>PSP4 2011</i> (0,510)  <i>PSP3 2015</i> (0,646) <i>PSP3 2011</i> (0,660)	Pupil-teacher ratio in primary education (0,333(3))
	Pupil-teacher ratio in secondary education (0,333(3))
	Share of children 3–6 years in kindergartens per 1000 children (0,333(3))
Social assistance <i>PSP4 2015</i> (0,217) <i>PSP4 2011</i> (0,227)	Share of children 0–17 receiving family help (1)
Environmental protection and municipal management <i>PSP4 2015</i> (0,136) <i>PSP4 2011</i> (0,139)  <i>PSP3 2015</i> (0,173) <i>PSP3 2011</i> (0,180)	Percentage of municipality inhabitants using waterworks (0,33(3))
	Percentage of municipality inhabitants using sewers (0,33(3))
	Percentage of municipality inhabitants using the sewage treatment plant (0,33(3))
Administration <i>PSP4 2015</i> (0,140) <i>PSP4 2011</i> (0,123)  <i>PSP3 2015</i> (0,179) <i>PSP3 2011</i> (0,159)	Investment share in total expenditure (0,5)
	Value of EU funds <i>per capita</i> acquired by the municipality (0,5)

The basic PSP indicator includes four municipality service sectors: education, social assistance, environmental protection & municipal management and administration. Expenditures in these areas cover approximately 70% of total expenditure. Sector weights  $\alpha_s$  were calculated on the basis of the service sector share in total expenditure. We calculate PSP4 for 2011 and 2015. Production in the social assistance sector was reflected by the percentage of children 0–17 receiving family help. The same indicator is used by L. E. Borge, T. Falch, P. Tovmo (Borge, Falch, Tovmo, 2008, p.478). This measure may be outside the direct influence of the local government. It depicts the extent of poverty, which may be region specific, and independent of local authority efficiency. We modify PSP4 indicator to PSE3, by removing the social assistance sector from it. Expenditure in the remaining areas cover approximately 55% of total expenditure. We calculate PSP3 for 2011 and 2015. The PSP indicator shows the output of a given municipality compared to the average. In order to obtain a measure of effectiveness, the PSP indicator is divided by the normalized total income per capita received by the municipality. As a result, we can calculate the public sector performance indicator (PSE).

$$PSE^i = \frac{PSP^i}{\text{normalized total income per capita in the commune } i}$$

We create a PSE indicator for each PSP. Descriptive statistics for the PSE4, PSE3 are presented in Table 2.

*Table 2: Descriptive statistics for the PSE4, PSE3 indicators*

Index (year)	Standard deviation	Min.	Max.	Difference
PSE4 (2015)	0,1941	0,11	3,15	3,04
PSE4 (2011)	0, 2137	0,11	2,62	2,51
PSE3 (2015)	0,22084	0,13	3,19	3,03
PSE3 (2011)	0,25765	0,13	3,77	3,64

PSE4 and PSE3 indicators have similar descriptive statistics, but PSE4 shows that differences in efficiency between the municipalities increased between 2011 and 2015. The opposite is shown by PSE3.

### 3. ECONOMETRIC MODEL, DATA AND RESULTS

Based on two cross-sectional data sets (2011 and 2015), involving 2297 municipalities, the parameters of the econometric model are estimated. The analysis uses the data of GUS and PKW for years 2010-2015. Econometric analysis is based on the following model:

$$PSE^i = \beta_1 + \beta_2 X^i + \varepsilon^i$$

Where:

$PSE^i$ - vector of efficiency indicators for  $i$ -municipality,

$X^i$ - vector of explanatory variables,

$\varepsilon^i$ - error term.

The explanatory variables include: total municipality income per capita in thousand PLN (INCOME\_TOTAL\_PC); voter turnout in percentage (VOTER\_TOURNOUT); participation of councilors with a higher education in municipality councils in percentage (HIGH\_EDU\_COUN); population in thousand (POPULATION); and the unemployment rate in percentage (UNEMPLOYMENT). In order to distinguish the types of municipalities, we introduced dummy variables for: cities, urban and urban-rural municipalities (CITIES; URBAN; URBAN\_RURAL). In addition, a dummy variable is introduced for Kleszczów (KLESZCZOW), which is the richest municipality in Poland. Its income per capita differs drastically from other municipalities.

The use of income as an explanatory variable shows the fiscal capacity of the municipality. We assume that there is a negative relationship between the amount of income and the efficiency. As argued by L. E. Borge, T. Falch, P. Tovmo, this is for two reasons. Firstly, high income municipality usually have high standards in other areas of activity, such as the provision of goods and public services. They do not therefore want to implement special efficiency programs. Secondly, usually with a budget surplus, they are not subject to fiscal pressure (Borge, Falch, Tovmo, 2008, p.483).

The voter turnout and the participation of councilors with higher education in municipality council are factors influencing the agency relationship. Society as the principal tries to control local government (agent). We assume that higher voter turnout means more public interest in politicians' activities, which means a high degree of legitimization of power. This authority seems to follow the social will, which is part of the agency's dependence (the agent acts according to the will of the principal). We used voter turnout data from local elections, which were held in 2010 and 2014. The high level of participation of councilors with higher education means that people would like to choose more competent rulers. According to the theory (i.e. career concerns model), this premise seems to be correct. We assume that a better educated agent is able to fulfill his or her duties better than agent *without* higher education. We use population as an explanatory variable to see if there is kind of 'economics of scale'. In other words; does the size of the municipality, measured by the number of inhabitants, affect the efficiency of public goods provision. The unemployment rate we used is based on registered unemployment data publish by GUS. This rate is usually higher than the unemployment rate measured using interview method. This data is then a proxy of real unemployment rate. We use the OLS method to estimate four models. The results are presented in Table 3.

Table 3: Estimation results

Variable/efficiency	PSE4		PSE3	
	2015	2011	2015	2011
CONST	1,520** * (39,77)	1,456** * (22,62)	1,617** * (37,86)	1,551** * (23,58)
PC	- 0,154*** (-17,19)	- 0,126*** (-5,11)	- 0,138*** (-15,67)	- 0,118*** (-5,05)
T	0,000 (1,02)	0,001** (-2,04)	0,002*** (-4,14)	0,003*** (-4,94)
HIGH_EDU_COUN	0,000 (0,87)	0,0004* (1,65)	0,001** * (6,85)	0,002** * (6,35)
POPULATION	0,000** * (3,91)	0,000 (1,31)	0,0001* ** (3,19)	0,000 (1,28)
UNEMPLOYMENT	0,004** * (4,50)	0,000 (0,43)	0,005*** (-4,79)	0,008*** (-7,08)
CITIES	- 0,085*** (-3,77)	- 0,125*** (-4,11)	- 0,122*** (-4,90)	- 0,135*** (-4,14)
URBAN	-0,018* (9,077)	0,055** * (2,86)	0,021 (1,60)	0,109** * (5,10)
URBAN_RURAL	-0,009 (-1,26)	0,042** * (4,12)	0,000 (0,07)	0,059** * (4,78)
KLESZCZOW	6,168** * (14,96)	4,345** * (4,27)	5,497** * (13,51)	4,097** * (4,25)
Observations	N=229 7	N=229 7	N=2297	N=229 7
R <sup>2</sup>	0,433	0,389	0,325	0,358

Significance level: \* -10%, \*\* - 5%, \*\*\* - 1%; () – Student t-value.



Results show that, in four models, not all explanatory variables come out as significant and are not in line with theoretical assumption. The negative effect of total income per capita is consistent with the hypothesis that high fiscal capacity decreases efficiency. Results are significant for all models. The education level of the councilors positively affects the efficiency in 3 out of 4 cases. This allows us to confirm the existence of an agency relationship, in which citizens try to select highly qualified rulers who can provide more public goods. The negative effect of voter turnout, in 3 out of the 4 models, is inconsistent with the hypothesis that higher voter turnout means more public interest in politicians' activities which can in turn put pressure on the effective behaviour of the elected rulers. Our results indicate that high voter turnout is linked to inefficiency. This seems to be country specific. Electoral participation in the parliamentary elections in Poland is significantly different from the former post-communist countries which are new members of the EU and other existing developed democracies. While average participation in other countries fluctuates between 60-70%, in Poland it is less than 50%. We are outsiders in the region in this area. Beside these facts, *"electoral participation in Poland is unstable - many citizens between elections go from absenteeism to voting or vice versa"* (Cześnik, 2009, p.30). In the case of local elections, the voter turnout is similar, approximately 50%. The instability voter turnout may be explained by some tendency. In light of the survey by A. Kurniewicz and C. Trutkowski, low voter turnout favors current leaders. They note that: *"Clearly there is a negative relationship between the chance of re-election and the electoral participation"*. In their opinion voters are more likely to go to the polls to express their opposition than to appreciate the way in which the municipality is managed (Kurniewicz, Trutkowski, 2015, p.11; Kurniewicz, Trutkowski, 2015a, p.133). In other words, if a municipality is managed well, people are not interested in politics. They often become interested in the case of inefficiencies. However, it does not seem appropriate to argue that low voter turnout results in higher efficiency. Based on this analysis, no cause-effect relation should be drawn up. It is possible that there is another variable (i.e. scandal, corruption, breaking the law), which although not included in the study may affect efficiency and voter turnout.

According to the estimate a population had a positive impact on efficiency in 2015. In 2011 its impact was statistically insignificant. We cannot say, that more inhabitants foster efficiency in the municipality. It appears that cities are less efficient than rural, urban-rural or urban municipalities. Kleszczów, which is the richest municipality in Poland, differs positively in terms of efficiency from the other municipalities. The negative effect of the rate of unemployment is observed only for PSE3. For PSE4 in 2015 it is inconsistent with expectation and statistically insignificant in 2011.

#### 4. CONSLUSION

According to estimates a voter turnout has negative or no impact on public sector efficiency measured by PSE indices. These results are inconsistent with the hypothesis that higher voter turnout means more public interest in politicians' activities, which can create a pressure on the effective behaviour of the elected rulers. The negative correlation between voter turnout and efficiency may theoretically point on electoral activation in the case of poor local authority assessments, and thus the opposition to its further activities. However, it does not seem appropriate to argue that low voter turnout results in higher efficiency. Based on this analysis, no cause-effect relation should be drawn up. It is possible that there is another variable (i.e. scandal, corruption, breaking the law), which although not included in the study can affect efficiency and voter turnout. According to estimates a level of the councilors education positively affects public sector efficiency measured by PSE indices, in 3 out of 4 cases. This allows us to confirm the existence of an agency relationship, in which citizens try to select highly qualified ruler expecting them to provide more public goods. Cities are characterized by lower efficiency measured by the PSE indices than rural municipalities.

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## THE RELATION AMONG EXPERIENTIAL MARKETING, CUSTOMER SATISFACTION, AND BEHAVIORAL INTENTION: A STUDY ON FOOD AND BEVERAGE BUSINESSES

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### ABSTRACT

*The purpose of this study is to analyze the relationships among the basic dimensions which constitute the experiential marketing, customer satisfaction and behavioral intention. In the context of this field research, a one-on-one questionnaire has been applied on 1<sup>st</sup> class restaurant customers in Izmir province based on the judgement sampling method. The data obtained from the customers have been analyzed by structural equation modeling. When the results are evaluated in general sense on the relevant sample, it has been determined that within the dimensions constituting the experiential marketing; feel experience and relate experience are the dimensions affecting customer satisfaction. It has been revealed that the customer satisfaction is influential on repurchase intention, word of mouth intention and willingness to pay more; however it has also been revealed that the effect on the complaint intention is of no significance. Moreover, customer satisfaction acts as mediating variable between some experiential marketing and behavioral intention dimensions.*

**Keywords:** *Experiential marketing, behavioral intention, customer satisfaction, food and beverage businesses, structural equation modeling*

### 1. INTRODUCTION

In the marketing philosophy, the old structure of focusing on the products or the services gave place to the experience paradigm. Schmitt (1999) mentions five types of strategic experiential modules that should be focused in marketing management process of the organizations'. These are sense experience, feel experience, think experience, act experience and relate experience. These five experience dimensions draw the attraction for the businesses to create unforgettable experiences for its customers, in other words providing the customers with unique experiential environments. Marketing researchers have conducted studies on the subject to understand and enlighten the concept of experience which takes an important place in marketing. (Andersson, 2007; Berry, Seiders & Grewal, 2002; Gentile, Spiller & Noci, 2007; Günay, 2008; Hirschman & Holbrook, 1982; Pine & Gilmore, 1998; Schmitt, 1999; Sharma & Sharma, 2011; Torlak, Altunışık & Özdemir, 2007; Tsaor, Chiu & Wang, 2006). The aforementioned studies enabled to mark out the boundaries of the concept "experiential marketing" and to determine a new approach in business-customer relationship as well as contributing to the literature. In the studies, the necessity to apply experiential marketing dimensions to create an experience has been mentioned, as well as pointing out issues pertaining to the businesses such as gaining competitive advantage, creating brand loyalty, revealing loyal and profitable customers, reducing advertising expenses, and pointing out issues pertaining to the customers such as individuals feeling different and happy as a result of the experiences obtained.

The following points are deemed valuable pertaining to the experiences obtained by the customers; different applications in the restaurant appealing to five senses, the emotional bond sustained after the establishment of a relationship between the customer and the business, the events organized, alternative conveniences provided, superior features on product or service base, innovations contributing to the lifestyle and contributions to forming social ideal self-perceptions. (Albayrak & Aksoy, 2008; Bakırtaş, 2013; Günay, 2008; Parasuraman et al., 1991, Schmitt, 1999). From this point of view, it has not been possible to determine any literature regarding a study which considers all variables and sets forth, which experience dimension brings out the sense of satisfaction and affects the positive behavioral intention formed after the purchase within the 1<sup>st</sup> class restaurant customers.

In this study, it has been tried to reveal the effect of experiential marketing, together with its five dimensions, on the customer satisfaction and behavioral intention within the sample group of 1<sup>st</sup> class restaurants in one of the three largest provinces of Turkey. As a consequence, in the context of such objectives the research questions desired to be answered are as follows:

*RQ 1: Do the experiential marketing dimensions applied in 1<sup>st</sup> class food and beverage businesses in Izmir province have any effect on customer satisfaction?*

*RQ 2: Do the experiential marketing dimensions applied in 1<sup>st</sup> class food and beverage businesses in Izmir province have any effect on behavioral intentions of the customers which indicate their post-purchase tendencies?*

*RQ 3: Does the customer satisfaction has any direct or indirect effects on behavioral intentions of the customers of 1<sup>st</sup> class food and beverage businesses in Izmir province which indicate their post-purchase tendencies?*

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

Putting a brand name on a product, owning a logo, advertising and distributing pamphlets is not sufficient for creating an experience. The customers place emphasis on associating all the communication channels with the brand, and this should be conducted in a manner compatible with the customers' day-to-day life. Schmitt (1999), categorized the experiences intended for the customers into dimensions under the name strategic experience modules (SEM). These are classified as sense experiences, feel experiences, think experiences, act experiences and relate experiences. In the service industry, the concept of customer satisfaction is evaluated as the customers' cognitive and sentimental reaction formed as a result of the comparison of customer's expectations of the service and customer's service experience. When the studies in the literature are examined, it is understood that in order to analyze the factors affecting the customer satisfaction, dimensions such as sense experience, feel experience, think experience, act experience and relate experience are taken into consideration. The positive relationship between the experiential marketing and customer satisfaction is mentioned in the researches conducted (Lee et al., 2010; Liu & Jang, 2009; Sheu et al., 2009; Tsaur et al., 2006; Uygur & Dogan, 2013; Wu & Liang, 2009). In the study conducted by Lee et al. (2010) in Tainan, the fourth largest city in China, the positive and significant effects of relate experience and sense experience on customer satisfaction has been determined. In another study conducted by Tsaur et al. (2006) in Taipei zoo, the most popular recreational center in Taiwan, it has been revealed that all dimensions of experiential marketing affects the customer satisfaction positively. Moreover, in the study conducted in food and beverage business either with or without corporate governance management by Uygur and Doğan (2013), the positive relationship between the experiential marketing and customer satisfaction has been revealed. Consequentially, this indicated that within the context of experiential marketing; the different experiences provided by the restaurant other than food increases the customer satisfaction.

An extensive study conducted by Zeithaml et al. (1996) reveals the dimensions of behavioral intentions. The study mentions positive intentions such as; the customers quoting his/her experience with the product or the service via positive wording or recommending it, wish to obtain the same experience again, willingness to pay more for the experience if need, in case of an undesirable situation trying to find a solution with the business seek instead of complaining to others; and negative intentions such as consumers speaking negatively about the business, switching to another business, complaining to other businesses and electing the business less. It is understood that variables such as sense experience, feel experience, think experience, act experience and relate experience are used in order to determine the factors effective on the consumers' behavioral intentions. The positive effects of experiential marketing on the behavioral intentions has been revealed in many studies (Chien & Chen, 2014; Rahardja & Anandya, 2010; Liu & Jang, 2009; Tsaur et al. 2006). In the study conducted by Liu and Jang (2009) in food and beverage businesses in China, the positive effect of sense experience, which represents the five senses, on re-purchase and word of mouth. In the study conducted by Rahardja and Anandya (2010) in Timezone a game center located in Surabaya, the second largest city in Indonesia, the positive effects of all dimensions of experiential marketing on repurchase intention, word of mouth intention and willingness to pay more has been stated.

One of the most important outputs of customer satisfaction process is behavioral intention. It is especially necessary to prevent a decrease in the number of customers, while at the same time trying to gain new customers via many marketing activities. The cost of obtaining a customer is greater than cost of keeping an existing customer; thus resulting in the executives to enhance their efforts to minimize customer dissatisfaction (Spreng, Harrell & Mackoy, 1995). The significant effects of factors such as customer satisfaction and brand loyalty are also mentioned in the literature. (Onaran, Bulut & Özmen, 2013). Considering the significant effects of experience dimensions on satisfaction and loyalty, such dimensions are affecting the behavioral intention both directly and indirectly. (Wang et al., 2004). In the context of this study, the effect of each dimension of experiential marketing on dimensions of customer satisfaction and behavioral intention is analyzed.

Moreover, the effect of customer satisfaction on dimensions of behavioral intention is also analyzed. In this regard hypothesis and research model of the research formed in accordance with the related studies in the literature are stated as follows:

- H<sub>1</sub>: Sense experience has a positive and significant effect on customer satisfaction.*
- H<sub>2</sub>: Feel experience has a positive and significant effect on customer satisfaction.*
- H<sub>3</sub>: Think experience has a positive and significant effect on customer satisfaction.*
- H<sub>4</sub>: Act experience has a positive and significant effect on customer satisfaction.*
- H<sub>5</sub>: Relate experience has a positive and significant effect on customer satisfaction.*
- H<sub>6</sub>: Customer satisfaction has a positive and significant effect on repurchase intention.*
- H<sub>7</sub>: Customer satisfaction has a positive and significant effect on word of mouth intention.*
- H<sub>8</sub>: Customer satisfaction has a positive and significant effect on willingness to pay more.*
- H<sub>9</sub>: Customer satisfaction has a negative and significant effect on complaint intention.*

### **3. METHOD**

The population of the research is formed by the customers purchasing service from 1<sup>st</sup> class restaurant located in Izmir province of Turkey and its counties. Twenty six 1<sup>st</sup> class restaurants have been determined in Izmir, according to the data of Republic of Turkey Ministry of Culture and Tourism's classification of establishments with tourism operation license. It has not been possible to put forth a specific universe due to the difficulties in determining number of customers purchasing services from such businesses.



As a result it has been resorted to using sampling method by obtaining samples from the universe. In order to be able to determine the sample, the sample size criteria advised for structural equation modelling has been adapted. Upon the examination of the studies in the literature, some researchers stated that in structural equation modelling the sample size number should be at least 200 (Hair et al., 1998; Garver & Mentzer, 1999). In this regard, data have been obtained by applying questionnaire method to 370 customers selected by applying judgement sampling method which is one of the non-stochastic sampling methods. Certain amount of questionnaires have been left out of the evaluation due to incomplete or incorrect filling of the questionnaire; leaving 360 questionnaires to be included in the evaluation. In the preparation for the questions in the questionnaire, many studies in the relevant literature were examined. Appendix A presents all the measures and references used in this study. The current study incorporates two phases used to define and confirm the factors that affect behavioral intention. First, confirmatory factor analysis (CFA) was conducted to confirm factor structure of the measurement model and to check both reliability and validity. Second, the structural model was analyzed and the path coefficients are estimated using AMOS 21.0. Variance inflation factor (VIF) scores were calculated to evaluate multicollinearity. The highest VIF value was 2.959, indicating no multicollinearity among variables.

## **4. RESULTS**

### **4.1 Descriptive Findings**

More than half of the participants of the research are between the ages 18-30. The participating individuals are consisting of 55% females and 45% males. It is seen that 60% of the participants are married, 62.2% of the participants have bachelor's degree. 45.6% of the participants are employed in the private sector. 29.9% of the participants have a monthly income of 1000-2000 TL, 26.1% of the participants have a monthly income of less than 1000 TL and the rest of the participants have a monthly income of more than 2000 TL. It has been determined that large part of the (79.4%) participants has been to the related restaurant more than once.

### **4.2 Measurement Model Evaluation**

Before testing the hypothesized relationships, we analyzed the reliability and validity of scales by using confirmatory factor analysis (CFA). First, fit indexes were investigated. The overall fit indices of the measurement model are as follows:  $\chi^2/df=2.082$ , GFI= 0.886, AGFI=0.846, IFI=0.952, NFI=0.911, CFI=0.951, RMSEA=0.055, RMR=0.056, SRMR= 0.042. Table 1 shows the results of the measurement model and Table 2 presents summary statistics. As it can be seen from Table 1, all CR and Cronbach's alpha values higher than 0.7. the result shows that all scales were deemed reliable. To assessed convergent validity, we examined CR and average variance extracted (AVE) values. As for Fornell and Larcker (1981), the lower acceptable value is 0.70 for CR and 0.50 for AVE. As presented in Table 1, CR of each variable are higher than 0.74 (0.745-0.901) and AVE of each variable are higher than 0.58 (0.587-0.813). Additionally, all item loadings were found to be significant and higher than 0.5, which means the convergent validity is achieved. Discriminant validity is established for a construct if the square roots of AVE are above the other correlation coefficients.

*Table 1 Results of Measurement Model*

Variable	AVE	CR	$\alpha$	Item	Item mean	SD	Factor loading
Sense Experience	0.587	0.850	0.824	SENSE1	3.94	0.98	0.808
				SENSE2	3.89	1.05	0.790
				SENSE3	4.05	0.95	0.716
				SENSE4	3.87	0.90	0.747
Feel Experience	0.660	0.853	0.837	FEEL1	3.82	1.07	0.834
				FEEL2	3.91	0.97	0.844
				FEEL3	3.68	1.12	0.756
Think Experience	0.646	0.784	0.736	THINK1	3.23	1.10	0.832
				THINK2	2.95	1.30	0.774
Act Experience	0.731	0.891	0.874	ACT1	3.29	1.14	0.829
				ACT2	3.19	1.12	0.896
				ACT3	2.96	1.17	0.839
Relate Experience	0.594	0.745	0.754	RELATE1	3.70	1.08	0.766
				RELATE2	3.53	1.89	0.775
Customer Satisfaction	0.697	0.901	0.883	SAT1	3.72	1.00	0.855
				SAT2	3.90	0.97	0.881
				SAT3	3.75	1.00	0.878
				SAT4	3.74	1.00	0.714
Repurchase Intention	0.591	0.809	0.773	RI1	3.50	1.15	0.836
				RI2	3.87	0.96	0.841
				RI3	3.13	1.21	0.605
Word of Mouth Intention	0.813	0.897	0.884	WOM1	3.94	0.97	0.895
				WOM2	3.78	1.01	0.908
Willingness to Pay More	0.760	0.869	0.850	WPM1	2.99	1.27	0.887
				WPM2	2.66	1.32	0.856
Complaint Intention	0.690	0.867	0.856	CI1	2.87	1.15	0.644
				CI2	2.91	1.15	0.934
				CI3	2.95	1.22	0.884

*Table 2 Mean, standard deviation and factor correlation values of research variables.*

	Mean	1	2	3	4	5	6	7	8	9	10
DD (1)	3.94	<b>0.766</b>									
DD (2)	3.80	0.702	<b>0.812</b>								
BD (3)	3.09	0.680	0.682	<b>0.804</b>							
FD (4)	3.15	0.669	0.702	0.662	<b>0.855</b>						
SD (5)	3.61	0.693	0.721	0.661	0.702	<b>0.771</b>					
MT (6)	3.78	0.629	0.623	0.739	0.653	0.671	<b>0.835</b>				
RI (7)	3.50	0.723	0.635	0.683	0.698	0.722	0.730	<b>0.769</b>			
AAIN (8)	3.86	0.684	0.633	0.748	0.632	0.677	0.682	0.667	<b>0.902</b>		
DFÖN (9)	2.82	0.565	0.525	0.729	0.683	0.553	0.586	0.683	0.592	<b>0.872</b>	
ŞN (10)	2.90	-0.042	-0.105	-0.053	-0.020	-0.066	-0.091	-0.074	-0.099	-0.016	<b>0.830</b>

Diagonal values represent the AVE between the constructs. Other values are the correlations between the constructs.

To alleviate potential concerns regarding common method bias, following the suggestions of Podsakoff et al. (2003), Harman's (1976) single factor tests was performed. The results reveal five factors with eigen value larger than 1 for experiential marketing and four factors for behavioral intention. A forced one-factor solution was only able to explain 47.30% of the variance for experiential marketing and 41.09% of the variance for behavioral intention. In addition, the first (largest) factor did not account for the majority of the total variance explained. Taken together, these results indicate no evidence of common method bias.

### 4.3 Structural Model and Hypothesis Testing

After validity and reliability confirmed, the structural model was analyzed and hypotheses were tested using path analysis. The structural model exhibited adequate fit to the data ( $\chi^2/df=2.349$ , GFI= 0.858, AGFI=0.824, IFI=0.934, NFI=0.901, CFI=0.934, RMSEA=0.061, RMR=0.074, SRMR= 0.053). Fig.1 displays the standardized path coefficient, path significance, *t*-values, explained variances, and the results of hypothesis tests.

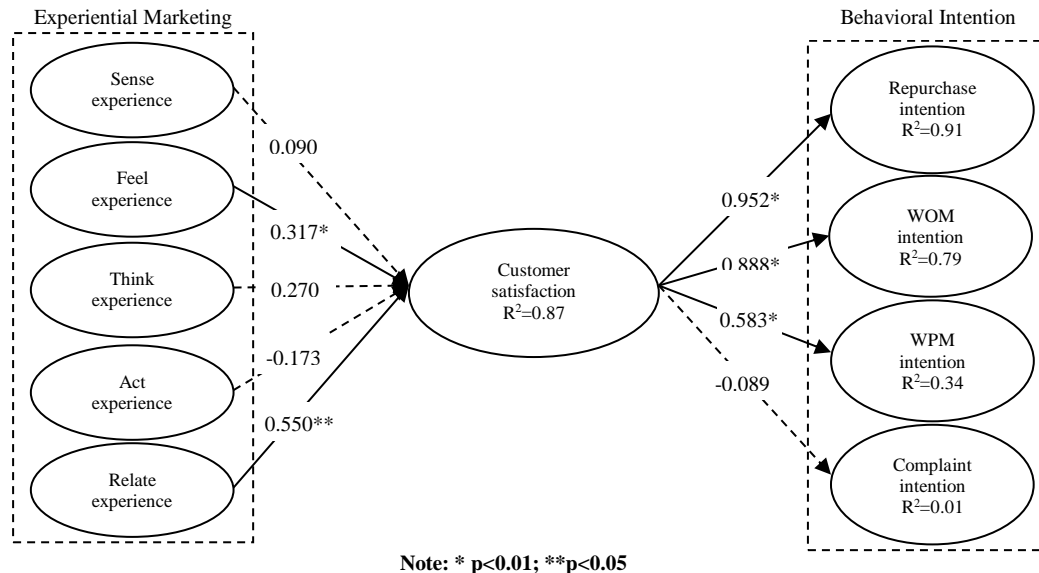


Fig 2. SEM results

The supports of H<sub>2</sub> and H<sub>5</sub> indicate that customers are more satisfied when they experience the food and beverage businesses emotionally ( $\beta = 0.317$ ,  $t=2.890$ ,  $p<0.01$ ) or socially ( $\beta = 0.550$ ,  $t=2.226$ ,  $p<0.05$ ). However, the relationships between sense experience and customer satisfaction ( $\beta = 0.090$ ,  $t=1.011$ ,  $p>0.1$ ), think experience and customer satisfaction ( $\beta = 0.27$ ,  $t=1.496$ ,  $p>0.1$ ) and act experience and customer satisfaction ( $\beta = -0.173$ ,  $t=-0.720$ ,  $p>0.1$ ) were not supported. Thus, H<sub>1</sub>, H<sub>3</sub> and H<sub>4</sub> were not supported.

H<sub>6</sub>, H<sub>7</sub> and H<sub>8</sub> were supported with  $\beta=0.952$ ,  $t=17.432$ ,  $p<0.01$ ,  $\beta=0.888$ ,  $t=17.340$ ,  $p<0.01$ , and  $\beta= 0.583$ ,  $t=9.185$ ,  $p<0.01$ , respectively. These Results indicate that as customer satisfaction increases, repurchase intention, word of mouth intention and willingness to pay more will be higher in the context of food and beverage businesses. However, H<sub>9</sub>, relationship between customer satisfaction and complaint intention was not supported with  $\beta= -0.089$   $t=-1.577$ ,  $p>0.05$ . Overall, the structured model predicted approximately 87% of the observed variance for customer satisfaction, 91% of variance for repurchase intention, 79 % of variance for word of mouth intention, and 34% of variance for willingness to pay more.

### 4.4 Mediation Analysis

In order to analyze the mediator roles of customer satisfaction, we compared the original model with an alternative model which hypothesizes the direct effects of feel and relate experience dimensions of experimental marketing to the behavioral intention dimensions. The estimating result of the modified model indicated good fit with  $\chi^2/df=4.57$ ,  $p<0.001$ , GFI=0.992, AGFI=0.913, IFI=0.994, NFI=0.993, CFI=0.994, RMSEA=0.100. RMR=0.020, and SRMR= 0.019. We tested the significance of indirect effects using bootstrapping procedures.

Unstandardized indirect effects were computed for each of 2000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects. Results of the indirect model supported the mediating role of customer satisfaction on the relationship between feel experience and repurchase intention. As shown in Table 3, feel experience has a positive total effect on repurchase intention, as well as a positive indirect effect through customer satisfaction. The direct effect is also positive, indicating partial mediation. Similarly, relate experience has a positive total effect on repurchase intention, as well as a positive indirect effect through customer satisfaction. The direct effect is also positive indicating partial mediation. As for word of mouth intention, feel experience has a positive in all total, direct, and indirect through customer satisfaction, indicating partial mediation. Although relate experience has a positive total and indirect effects on word of mouth intention, the direct effect is not significant, indicating full mediation. Also, feel experience has a positive total and indirect effects on willingness to pay more through the mediation of customer satisfaction. However, the direct effect of feel experience is not significant. Thus, customer satisfaction is fully mediate the relationship between feel experience and willingness to pay more. At last, the mediation role of customer satisfaction in the relationship between relate experience and willingness to pay more was tested. Results revealed significant total, direct, and indirect effects, indicating partial mediation.

*Table 3 Mediation effects*

Relationship	Direct Beta w/o Med	Direct Beta w/Med	Indirect Beta	Mediation type observed
FEEL→SAT→RI	.536 **	.223 **	.313 **	Partial
RELATE→SAT→RI	.277 **	.117 **	.160 **	Partial
FEEL→SAT→WOM	.603 **	.301 **	.301 **	Partial
RELATE→SAT→WOM	.227 **	.073 (ns)	.154 **	Full
FEEL→SAT→WPM	.319 **	.142 (ns)	.177 **	Full
RELATE→SAT→WPM	.189 **	.099 *	.090 **	Partial

Additionally, we tested the direct influences of experiential marketing dimensions on behavioral intention dimensions. Interestingly, the results of saturated model showed that sense experience has a direct effects on repurchase intention ( $\beta=.234$ ,  $p<.01$ ), word of mouth intention ( $\beta=.282$ ,  $p<.01$ ), and willingness to pay more ( $\beta=.137$ ,  $p<.05$ ). Similarly, think experience has direct effects on repurchase intention ( $\beta=.155$ ,  $p<.01$ ), word of mouth intention ( $\beta=.213$ ,  $p<.01$ ), and willingness to pay more ( $\beta=.295$ ,  $p<.01$ ). Act experience has direct effects only on repurchase intention ( $\beta=.264$ ,  $p<.01$ ) and willingness to pay more ( $\beta=.299$ ,  $p<.01$ ).

## 5. DISCUSSION AND CONCLUSION

The change in demands of the consumers reflected on purchasing behavior is one of the points to be emphasized by the food and beverage businesses for obtaining sustainable competition advantage. The businesses, which can ensure the customer satisfaction, can increase the positive behavioral intentions, which are formed after the purchase and shape the customer's future behavior; such as repurchase, word of mouth, willing to pay and trying to find a solution with the business seek instead of complaining to others. Upon the evaluation of the findings reached in the wake of the data, the hypothesis  $H_2$  and  $H_5$ , which test the effects of feel and relate experience have been accepted, whereas the hypothesis  $H_1$ ,  $H_3$  and  $H_4$  which test the effects of sense experience, think experience and act experience have been rejected. Therefore, it can be stated that the experiences in the related restaurants obtained from sentimental and social aspects will increase the feeling of satisfaction. The findings obtained from the study are partially supporting the other studies in the literature. (Rahardja & Anandya, 2010; Lee et al., 2010; Liu & Jang, 2009; Sheu et al., 2009; Tsaur et al., 2006; Uygur & Dogan, 2013; Wu & Liang, 2009).

The reason for the findings to be varied from the studies in the literature may be due the different expectations of the customers as regards to type and destination of the service provided. Significant positive effect of customer satisfaction on dimensions of behavioral intention such as repurchase intention, word of mouth intention and willingness to pay more has been determined. Therefore the hypothesis H<sub>6</sub>, H<sub>7</sub> and H<sub>8</sub> accepted. The findings obtained from the study are in accordance with the studies conducted by Başar and Hassan (2015), Alagöz and Ekici (2014), Lee, Hsiao & Yang (2010) and Tsaur, Chiu & Wang (2006). However the hypothesis H<sub>9</sub> which test the effects of customer satisfaction on complaint intention has been rejected. Moreover, a significant effect of dimensions of experiential marketing on complaint intention has not been determined. Upon the evaluation of the results, it is seen that the customer satisfaction has a powerful effect on repurchase intention, word of mouth intention and willingness to pay more intention. At this point, it is also important to mention the difficulty to ensure customer satisfaction and sustain such satisfaction. Keeping the existing customers is harder than obtaining new customers nowadays. Considering this fact as well as the number of substitute restaurants, it is obvious that the complaints will come to light even if all the experiences are gained by customers. The majority of the complaints in the restaurants are arising from technical complaints, complaints regarding the service or complaints regarding the employees' behavior. Considering this fact it is beneficial for the business owners to address the sources of the complaints and remedy the negative situations quickly even if they had already provided the experience dimensions. One of the key points in the long run pertaining to the customer- business relationship is awareness for any extraordinary situation and knowledge of solutions for each of the complaint types which could come across in the business. The restaurant managers should consider the fact the intended experiences may be ignored due to the negativity occurring in the presence of the customers.

According to the results obtained from the study, amongst the dimensions forming the experiential marketing, feel experience and relate experience are the dimensions affecting both customer satisfaction and behavioral intention. The feel experience mostly consists of factors such as appreciation of the product or service, feeling comfortable and happy, considering this fact it can be said that the activity of being in a 1<sup>st</sup> class restaurant is under the influence of mostly hedonic factors. In the study conducted by Onaran, Bulut and Özmen (2003), it has been determined that the sentimental value is the most important dimension of dimension which compose customer value, affecting both the customer satisfaction and the customer relations managements and brand loyalty. The relevant findings are supporting the findings of this study. Moreover, factors creating relate experience such as development of social environment and creation of sense of belonging, are prioritized by the consumers when taken into consideration. The feel experience and relate experience which will be created in the customers initially increases the customer satisfaction and such customer satisfaction brings out the positive behavioral intention. This study has been conducted solely on the customers of the Tourism Operation Licensed food and beverage businesses rated as 1<sup>st</sup> class restaurants. A separate study which, will be conducted by increasing the sample size by adding the other restaurants within the scope therefore obtaining more generalizable results, may be recommended. The data may be analyzed more integrally by applying comparative methods to the data collected by qualitative and quantitative means and by examining the dimensions of experiential marketing and the effects of such dimensions on behavioral intentions within the context of both restaurant employees and customers. A study conducted on customers of the 5 star hotels and customers of independent food and beverage businesses may compare the results within the context of two components of tourism industry.



## Appendix A Measures

<b>Sense Experience</b>	Schmitt (1999); Nadiri and Gunay (2013)
This Restaurant has visually attractive foods.	
This Restaurant's menu is visually appealing.	
The internal decoration of this restaurant is attractive.	
The tastes of the foods are in line my expectation.	
<b>Feel Experience</b>	
This Restaurant has intimate atmosphere.	
I feel myself happy in this restaurant.	
Staff behaviors of this restaurant are impressive.	
<b>Think Experience</b>	
This restaurant organize different activities that take my attention	
I follow up the news about this restaurant.	
<b>Act Experience</b>	
This restaurant adds new things to my lifestyle.	
This restaurant reminds me of activities I can do.	
This restaurant causes positive changes in my behavior	
<b>Relate Experience</b>	
My friends that I share the same social environment prefer this restaurant, so this makes me to prefer this restaurant as well.	
At this restaurant I feel myself that I am in the right place that I should be in	
<b>Customer Satisfaction</b>	Wang et al. (2004)
This restaurant's services are always in line my expectation.	
Based on my experience with other restaurants, I am satisfied with the services of this restaurant.	
The services are offered by this restaurant are always at the expected level.	
I can get the service that this restaurant offers for me at the right time.	Zeithaml et al. (1996); Gremler and Gwinner (2000)
<b>Repurchase Intention</b>	
I consider this restaurant my first choice when I need food service again.	
I think I will continue to come to this restaurant in the coming years.	Zeithaml et al. (1996)
I do not intend to go to another restaurant in the same concept in the coming years.	
<b>Word of Mouth Intention</b>	
I say positive things about this restaurant to other people.	Zeithaml et al. (1996); Fullerton (2003)
I encourage friends to gain food and beverage experience in this restaurant.	
<b>Willingness to Pay More</b>	Zeithaml et al. (1996)
I Pay a higher price than competitors charge for the benefits I currently receive from this restaurant	
I accept higher prices if this restaurant's raises its prices	Zeithaml et al. (1996)
<b>Complaint Intention</b>	
I complain to other customers if I experience a problem with this restaurant's service.	
I complain to external agencies, such as the consumer protection association if I experience a problem with this restaurant's service.	
I complain to websites, such as the sikayetvar.com if I experience a problem with this restaurant's service.	

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## MEASURING PRODUCTIVITY OF LIFE QUALITY IN SELECTED POLISH CITIES - APPLICATION OF DEA METHOD

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### ABSTRACT

*The aim of this paper is to analyze and to assess life quality in selected Polish cities. The author received a ranking of cities and identified ways to improve the efficiency. The test procedure used a non-parametric method of Data Envelopment Analysis (DEA). Data for analysis were drawn from the Local Data Bank of the Central Statistical Office. For the input it assumed total budgetary expenditure per capita, and the outputs are illustrated using four indicators that affect the life quality of residents in the areas of health care, housing, entrepreneurship and technical infrastructure. The calculations were made using Frontier Analyst Application software dedicated to the DEA method. The performance results were determined using the BCC model. Based on the test results inefficient units were indicated and proposed directions for changes to achieve full effectiveness.*

**Keywords:** *Data Envelopment Analysis, effectiveness, ISO 37120, life quality, Polish cities*

### 1. INTRODUCTION

Rapid urbanization has caused significant problems in terms of resource availability, environmental pollution, transport and living conditions. Rapid urban development needs extensive natural resources and major governmental budget allocations to maintain the regional environment, but governmental budget and natural resources are limited. Therefore, efficient spending and the exploitation of resources are important factors for achieving sustainable urban development. Improving quality of life can be achieved by optimizing spatial management for the proper location of social services in local spatial development plans. High life quality should be the overriding goal of regional and local development strategies prepared by territorial government units such as studies of conditions and directions of spatial management, local spatial development plans. Actions of local government should not be based on incidental, on-going decisions. All actions should be carefully thought out and planned on a long term basis. The local level acquire particular significance, because the way of perceiving and evaluating life is strongly conditioned by local aspects - city, municipality. Local authorities bear a great responsibility for the optimal involvement and the use of social capital, environmental and economic potential. Local governments tend to increase the effort to conduct life quality research in order to streamline and optimize decision-making process and task performance.

High quality of life and accessibility to public services appear in the documents of spatial development as one of the objects. The degree of Poland's urban areas coverage planning is reached 49.6% and additionally projects of local plans are prepared for 15.6% (for Poland respectively 29.7% and 7%). Unfortunately, cities are characterized by great differentiation, for instance plans cover only 8.7% of Lodz while they reach up 64.8% in Gdansk. In the cities 40.9% of planned local plans have been in preparation for more than three years, which indicates a long process of developing planning documents [Hajduk, 2015, pp. 879-883]. It takes place the longest in voivodship cities, and it arises from its complexity. The study uses a non-parametric method for assessing the effectiveness of Data Envelopment Analysis (DEA). It takes total budgetary expenditure per capita as the input, and the output is illustrated using four indicators that affect the life quality of residents in the areas of health-care, housing, entrepreneurship and technical infrastructure. Basing on the test results, inefficient unites were marked and the directions for changes to achieve full effectiveness were recommended.

## 2. BACKGROUND LITERATURE

The life quality appears in theoretical discourses by representatives of many domains and such disciplines as psychology, medicine, pedagogy, sociology and economics. It shows the complex interdisciplinary nature of this concept. In the source literature plenty of definitions are cited. The synonymous concepts e.g. living conditions, standard of living, prosperity are applied. This all means there is no consensus as to the scope of comprehending the notion. This situation arises mainly from the fact that researchers focus on different aspects of life quality. Among researchers there is lack of agreement as to the understanding of life quality. None of the definitions is so clear and universal in order to be widely accepted. In social studies it is agreed that when describing the concept of life quality the analysis of both objective and subjective determinants is important. The World Health Organization (WHO) defines life quality as individual perception of the position of human life in the context of the culture and value systems in which people live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and the relationship to salient features of environment [World Health Organization, 1997]. Life quality is determined by the satisfaction that people derive from their own life and its conditions [Rutkowski, 1988, pp. 41-43]. Life quality - as the primary objective of the concept of sustainable development - is understood as a balanced appreciation and perceiving of all the wealth of global quality and the coexistence in the human life of well-being (quality features of "have"), welfare (quality features of "be" type) and blissfulness (quality features of "love" type) [Borys, 2008, p. 15]. On the basis of a variety of definitions, some constant elements, such as objective factors, social factors and subjective factors are distinguished for life quality. The objective factors usually reflect the material well-being, average life expectancy, education, economic activity, income, flat area. Social factors are measured by means of social services and available technical infrastructure. However, in the framework of subjective factors presents some fleeting characteristics, such as individual feelings, satisfaction, contentment and happiness [Kędzior, 2003, p. 14]. There are two levels in defining life quality: economic - living standard as well as psychological and sociological - life quality. Between these levels there are relationships of interdependence and penetration. The economic dimension of life quality determines the availability of material goods indispensable for a decent life, which in turn constitutes its psychological and sociological dimension. However, access to wealth, associated with wealth, does not provide a sense of fullness of life, well-being [Borys, 2008, p. 31]. Hard to define life quality seems even more difficult to be measured. Measurement of the life quality should be made both on the basis of both objective and subjective researches. Measurement of the first, objective dimension of life quality describes the actual situation, while in the second, a subjective approach, information is obtained about the perceived life quality in the inhabitants' opinion. Indicators, indexes, rates and other similar measures of material social needs satisfaction are used. A variety of statistical tools are used for this purpose to analyze and visualize the wealth of societies. On the other hand, in the case of studying the subjective life quality research, surveys, questionnaires, focus interviews are used. The synthesis of both identified perspectives sets a holistic approach to life quality research. Consequently, it means a combination of methods specific to the objective research and subjective research of the life quality. Initiatives in the field of life quality studies are undertaken at the international, national, regional and local levels. These include a comprehensive tests that relate to the quality in both objective and subjective dimensions. An example of this type of research can be the ones carried out within the urban audit, conducted at the Member States of the European Union level or the diagnoses of social conditions and quality of life of the Polish people. These are also initiatives implementing research on a narrower range or relating to the specificity of the given area.



An example of such researches may be national prosperity accounts, which are based on the surveys results.

*Table 1: Assessment of city performance in the literature review [Author's elaboration on the basis of ARCADIS, 2015; Giffinger et al., 2007; Institute for Urban Strategies, 2016; ISO 37120, 2014; Kearney, 2016; The Economist Intelligence Unit, 2013; UN-Habitat, 2013]*

Author	Measure name	Aim	Key assessment indicators
International Organization for Standardization (2014)	ISO37120	To examine the management performance of city services and life quality of the city	100 indexes addressing the economy, education, energy, environment, recreation, safety, shelter, solid waste, telecommunications and innovation, finance, fire and emergency response, government, health, transportation, urban planning, wastewater, water and sanitation
Giffinger et al. (2007)	European Smart Cities Ranking	To rank European cities in terms of economy, mobility, environment, people, living, governance	Entrepreneurship, level of qualification, ICT-infrastructure, safe transport systems, pollution, environmental protection, health conditions, touristic attractiveness
Kearney (2016)	Global Cities Index (GCI)	To evaluate a city's current performance in terms of business activities, human capital, information exchange, cultural experience, political engagement	Capital flow, market dynamics, major companies present, education levels, information through internet and other source media, sporting events, museums and other expos, political events, think tank, embassies
Institute for Urban Strategies (2016)	Global Power City Index	To examine the city's global potential and comprehensive power	Economy, research and development, cultural interaction, livability, environment, accessibility
UN-Habitat (2013)	City Prosperity Index	To measure the prosperity factors in terms of economic well-being, social cohesion, environmental sustainability, life quality	Productivity, income, employment, life quality, infrastructure development, environmental sustainability, equity and social inclusion, governance and legislation
The Economist Intelligence Unit (2013)	Global City Competitiveness Index	To rank cities according to their business and regulatory environment, institutions, the quality of human capital, cultural aspects and the quality of environmental governance	Economic strength, physical capital, financial maturity, institutional character and human capital, global appeal, social and cultural character, environmental and natural hazards.
ARCADIS (2015)	Sustainable City Index	To evaluate cities in three dimensions of sustainability: social, environmental, economic	Transport, health, education, income inequality, work-life balance, energy consumption, renewable energy share, recycling rates, greenhouse gas emissions, natural catastrophe risk, drinking water, sanitation and air pollution, ease of doing business, importance in global economic networks, property and living costs, GDP per capita, energy efficiency.

Economic approach of life quality puts emphasis on a variety of indicators reflecting the society wealth, which consists of the conditions in which people should experience pleasure and feel happy [Stanaszek, 2015]. The most commonly used life quality measures are: Living Conditions Index - LCI, Quality of Live Index - QOLL, Human Development Index - HDI, Human Poverty Index - HPI, Better Life Index - BLI, Well-Being Index - WBI, Quality of Life Index - QLI, European Union Statistics on Income and Living Conditions - EU-SILC. Table 1 presents a list of city evaluation indexes, focusing on the purpose, key evaluation dimensions. The city evaluation indexes listed in the table mainly concern data related to economic, social and environmental factors. Some indexes evaluate capital stock such as human capital, infrastructure development. The mission of local government is to satisfy the collective needs of its residents by providing a wide range of public services. Their availability and quality undoubtedly determine the objective conditions of existence, as well as the subjective feeling

of satisfaction with life. The local government affects the improvement in quality of residents' life and takes the challenges of quantifying this quality. Conducting this type of research provides local governments with many benefits such as: (I) recognition of sentiments in the local community and identification of its basic problems; (II) identification of the needs and expectations of citizens, as well as the adjustment of the public services to their needs; (III) more effective creation of local development by taking into account the opinion of the citizens in the formulating or updating the process of city development strategy or in the process of preparing the new city budget; (IV) reliable indication of the strengths and weaknesses of the city in all sorts of applications for financing or co-financing activities for the city [Rogala, 2009, pp.4-5]. The inspiration for conducting this research could be two indicative initiatives: Ranking of Sustainable Development of Local Government Units and the Local Government Research System of the Association of Polish Cities. Description of proposals of life quality testing is also included in the project carried out by the Institute for Market Economy Research called Model regional system of monitoring the quality of public services and life quality [Czerwińska et al., 2014, p. 42]. The methodology of research on the life quality and the quality of public service was handled by many researchers in expert writings such as W. Wańkiewicz, P. Rogala and C. Trutkowski [Wańkiewicz, 2004; Rogala, 2009; Trutkowski, 2011].

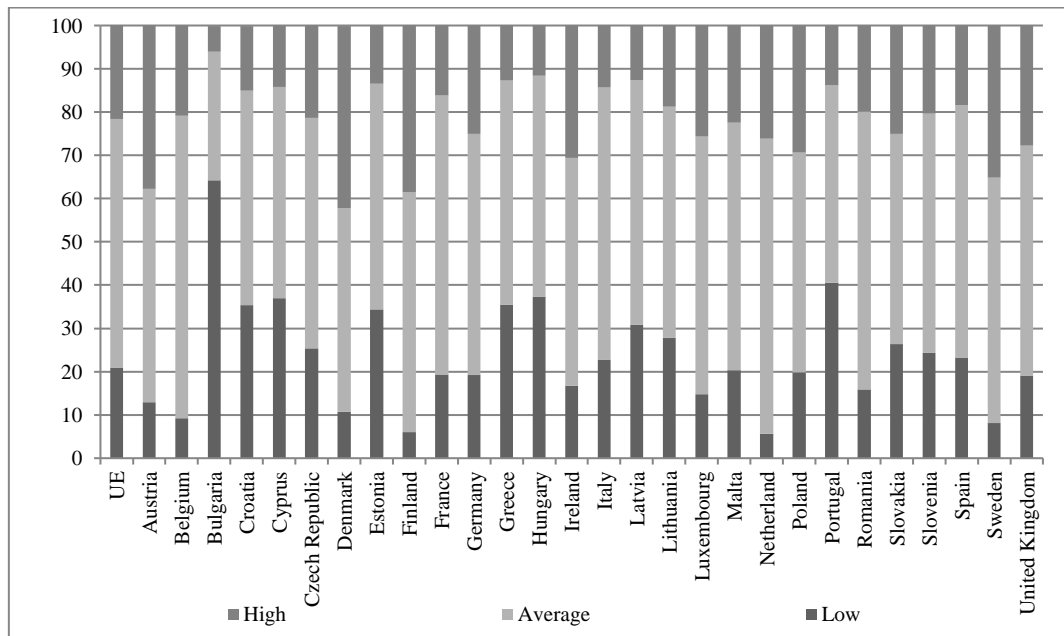


Figure 1. Life satisfaction in the evaluation of European Union residents [Author's elaboration on the basis of <http://ec.europa.eu/eurostat/data/database>, 10.03.2017].

The European Union residents assessed their own feelings about life satisfaction at 7.1 points (in the 0-10 scale). 21.7% of the EU population are highly satisfied with life. The most dissatisfied with their lives were residents of Bulgaria, Portugal, Hungary, Cyprus and Greece. The most satisfied with their lives were resident of the Scandinavian countries - Denmark, Finland and Sweden. In Poland, the average assessment of overall satisfaction with life was slightly better than in the EU and estimated at 7.3 points, where nearly one in five Poles (19.9%) described their lives negatively. Figure 1 shows life satisfaction in the evaluation of European Union residents. The living conditions are one of the smart cities dimensions. The idea and concept of smart cities tend to become increasingly popular worldwide and also in Poland [Hajduk, 2016, pp. 101-116]. It is quite commonly acknowledged that a smart city is the one that uses modern ICT to increase the interactivity and efficiency of urban infrastructure and its components. The concept of smart city is related to different aspects of perceiving the city as

an intelligent city, a knowledge city, a sustainable city, a talented city, a wired city, a digital city, an eco-city [Nam & Pardo, 2011, pp. 282-291]. The National Urban Policy indicates that any action taken by the local municipalities should be considered and evaluated through the prism of human needs [Ministry of Infrastructure and Development, 2015]. As of 2015 to measure municipal services and life quality the ISO 37120 norm is used. In order to assess the cities, 46 primary and 54 optional indicators in 17 thematic areas are applied [Fox & Pettit, 2015, pp. 1-6; Schneider et al., 2016, pp. 1-6]. This allow for a uniform way of reporting the urban development state. The results obtained from the project Mapping Smart Cities in the EU confirmed the upward trend in the intelligence of the city along with an increase in the number of its population. Bigger cities create more favorable climate for the intelligent activity development. In the group of cities with a population over 500 thousand over 88% were those in which at least one dimension of intelligence was identified. Whereas in cities with a population from 100 to 200 thousand people, the occurrence of intelligent cities was only less than 43%. The most common dimension of smart city are environment (affects almost 83% of cities surveyed) and mobility (over 52%) [Manville et al., 2014, p. 54]. The project European Smart Cities identified the most intelligent cities, which include Luxembourg, Aarhus, Turku, Aalborg and Odense [Giffinger et al., 2007, p. 61]. The Eurobarometer survey on urban life satisfaction shows that the residents of the following European cities are the most satisfied: Oslo, Zurich, Aalborg, Vilnius, Belfast. Medical care, unemployment and education are considered the most important issues in urban development. Analyzes of the life quality of the Central Statistical Office prove that the majority of Poles (74%) are satisfied with their lives. Young people, including pupils and students, well-educated people with a high professional standing and good financial situation, are most satisfied with their lives. The lowest percentage of people satisfied with their lives was among disability pensioners, the unemployed, the low-skilled and people living in poverty. The source of biggest satisfaction were interpersonal relations (social, friendly) and the family situation. The lowest level of satisfaction were revealed when assessing satisfaction with the financial situation. The inhabitants of Pomeranian, Silesian and Lubuskie voivodships assessed their lives positively most often. The least satisfied were the inhabitants of: Warmińsko-mazurskie, Lubelskie and Zachodniopomorskie voivodships (67-68%).

### 3. METHODOLOGY OF INVESTIGATIONS

Data Envelopment Analysis (DEA) is a nonparametric method for evaluating relative efficiency based on linear programming. It refers to the construction of the production function as an empirical data envelope, based on the Farell concept [Masternak-Janus, 2013, pp. 111-126]. Determining efficiency consists in solving a mathematical decision-making task. From among the analyzed set of objects, standard observations are assigned and other objects are compared. The investigated objects are Decision Making Units (DMUs) because they affect the level of effort and the achieved results. The DMU efficiency is defined as 1 when it is at the best practice frontier and, from the technological point of view, is best to transform the input to the output [Biørn *et al.*, 2003, pp. 271-283]. In contrast, the effectiveness of the other analyzed properties is less than 1, which proves their inefficiency. DEA allows to create a ranking of objects in terms of efficiency [Chen, & Jia, 2017, pp. 846-853]. In addition, DEA allows to determines the causes of inefficiencies and to identify the directions of changes in inputs or results that allow ineffective units to achieve full efficiency. An important feature of DEA, which distinguishes it from parametric methods, is the ability to test objects that convert multiple inputs into multiple outputs [Gonzalez et al., 2017, pp. 170-181]. The use of DEA does not require the determination of weights that are the measures of the relevance of the individual inputs and outputs, or the assumptions about the functional relationship between the variables [Wu et al., 2017, pp. 38-47]. The data used in the analysis can be expressed in any units, eg.

kilometers, number of procedures. The issue of choosing the right method of assessing efficiency in the public sector is one of the most difficult and controversial. The strengths of the DEA confirm that it is a suitable tool for assessing efficiency of units acting in the framework of public sector specificity. However, the DEA method has many disadvantages and limitations. The DEA method is highly sensitive to untypical data characterizing the efficient units, which can reduce the performance of other objects [Sagarra et al., 2017, pp. 123-133]. The strong correlation between inputs and outputs is unfavorable, as well as within inputs and outputs. The research object in this study are 23 large cities in Poland (DMU). In terms of the number of inhabitants, the units with more than one hundred and fifty thousand are included in this group. According to one of the basic assumptions of DEA, the set of analyzed units should be a homogeneous group in order not to compare different objects. The study was based on expenditure per capita [PLN]. The set of outputs referring to life quality includes four variables:  $Y_1$  - the number of doctors per 10,000 inhabitants,  $Y_2$  - the average usable floor space per person,  $Y_3$  - the REGON entities per 10,000 population,  $Y_4$  - the length of the gas network. Source data are derived from the statistical yearbooks published by the Local Data Bank of the Central Statistical Office and covering the year 2015. The selection of variables for the model was carried out on the basis of literature analysis and was determined by the limited range of statistical data reported in the voivodship section. Prior to testing, it was verified that the variables were characterized by adequate variability. For this purpose, the coefficients of variation were calculated for each of the characteristics ( $V_K$ ) and compared with the accepted critical value  $V_K^* = 0.15$ . It was found that all variables have the appropriate variability ( $V_K \geq V_K^*$ ), and can provide important information about the phenomena studied. The basic statistics present table 2. The Frontier Analyst Application software was used to calculate the technological efficiency of the BCC model.

**Table 2.** Variables available for analysis [Author's elaboration on the basis of <https://bdl.stat.gov.pl/BDL/dane/podgrup/temat,07.01.2017>]

	X	$Y_1$	$Y_2$	$Y_3$	$Y_4$
$\bar{x}$	5 478.25	47.55	26.56	1423.87	415.35
$S_X$	988.50	14.29	2.47	317.47	76.87
$V_K$	18.04	30.04	9.29	22.30	18.51
Max	7736.10	77.16	33.40	2301.00	552.50
	Olsztyn	Lublin	Wrocław	Warszawa	Warszawa
Min	3844.48	24.07	22.30	936.00	298.10
	Sosnowiec	Bytom	Zabrze	Zabrze	Szczecin

The main objective of this study is to assess the technological efficiency of life quality in selected Polish cities. Detailed goals include: (I) creating a ranking of the efficiency of the urban transport; (II) identifying city-benchmarks; (III) identifying areas of improvement in inefficient cities in relation to benchmarks. Variables used in the model and expressed as expenditures were also checked in respect to the existence and the strength of their correlation with the effects. The highest correlation occurred between the REGON entities per 10,000 population ( $Y_3$ ) and the expenditure per capita (X).

#### 4. RESULTS AND DISCUSSION

According to the BCC model, the group of most successful leaders in transforming their inputs into outputs includes: Poznań, Warszawa, Białystok, Bielsko-Biała, Bydgoszcz, Katowice, Kraków, Lublin, Rzeszów, Sosnowiec, Wrocław. The lowest level of efficiency of 78.74% was attained by Gliwice. Cities which were considered in the study display an average technological efficiency of 94.07%. The obtained efficiency ratios and their mean value are shown in figure 2.

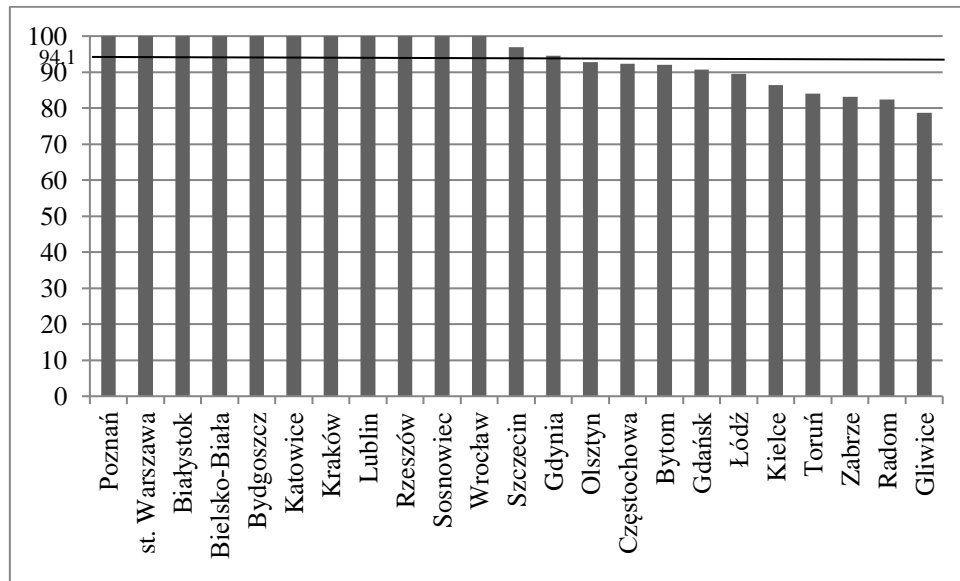


Figure 2. Ranking of city efficiency [Author's elaboration]

For inefficient cities, a combination of technologies from other cities was designed to achieve the same results with lower input. Calculations are based on the values of the linear combination coefficients of the common technology. For instance, Szczecin's level of technology should be equal to the sum of technologies of: (1) Poznań multiplied by 39.4, (2) Bielsko-Biała multiplied by 5.0 and (3) Katowice multiplied by 55.6. Lambda values for inefficient cities present table 3.

Table 3. Lambda values for inefficient cities [Author's elaboration]

DMU	Poznań	Warszawa	Białystok	Bielsko-Biała	Katowice	Lublin	Sosnowiec	Wrocław
Szczecin	39.4	0.0	0.0	5.0	55.6	0.0	0.0	0.0
Gdynia	20.9	0.0	0.0	63.3	0.0	0.0	0.0	15.8
Olsztyn	0.0	6.9	0.0	0.0	0.0	77.4	0.0	0.0
Częstochowa	0.0	0.0	0.0	81.4	0.0	0.0	0.0	18.6
Bytom	0.0	0.0	0.0	32.2	0.0	0.0	67.7	0.0
Gdańsk	34.3	0.0	0.0	19.8	23.8	0.0	0.0	22.1
Łódź	0.0	0.0	0.0	1.1	48.8	7.4	0.0	43.3
Kielce	0.0	33.3	0.0	0.0	8.5	50.7	0.0	7.5
Toruń	0.0	0.0	0.0	58.0	0.0	0.0	0.0	42.0
Zabrze	0.0	0.0	85.4	5.1	0.0	0.0	0.0	9.5
Radom	0.0	0.0	21.0	66.9	0.0	0.0	0.0	12.1
Gliwice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0

## 5. CONCLUSION

The solution to the problems of urban efficiency assessment is the use of multidimensional approach, which distinguishes the non-parametric DEA method. It should be emphasized that the application of the DEA method to the assessment of urban technical efficiency is a novel approach and has been used so far in a few empirical studies in Polish conditions. The use of the BCC model within this publication as a method of assessing effectiveness enables the isolation of technologically effective and ineffective life quality in the cities. The ranking of



cities prepared upon this foundation can be questionable and its application to analyze other variables could perhaps yield different results. However, this ranking has been based on the model having particular specification and should be treated as an impulse for further analysis in order to better understand occurring phenomena, for instance the use of other types and combinations of input and output signals. Quality of life often appears in planning documents. The article presents the evaluation of life quality efficiency on the basis of one input (expenditure per capita) and four outputs (health, housing, economy, infrastructure). The study shows that full efficiency occurred in 47.8% of units. The average life quality efficiency was 94,1% in the BCC model and the lowest efficiency was only 78.7. This means that substantial parts of cities do not use optimal inputs. The analysis shows that life quality of considered cities was characterized by a rather high technological effectiveness. Although the method involved a number of simplifications these results provide a general overview of the level of efficiency of the units surveyed, and can be a starting point for more detailed analysis of the efficiency of individual units. An important advantage of measuring effectiveness with this method is the improvement of identification potential which inefficient units may implement and objects which they could imitate.

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## RURAL ASPECTS OF REGIONAL DEVELOPMENT POLICY IN POLAND

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### ABSTRACT

*Rural areas cover 93% of Poland. Although a decreasing share of population lives in rural areas their viability is crucial for the development of Poland. Moreover, the rural areas lag behind urban areas in their socio-economic development so it is vital to reduce inequalities. The paper aims at analysing the approach applied to rural development in Poland and it answers the question whether the applied approach to rural development catalyses the catching-up processes. The study is based on the analysis of the visibility of rural areas in the Polish regional operational programmes and the instruments dedicated for them as well as on the assessment of rural development programmes (RDPs) in the programming periods 2007-2013 and 2014-2020. The results show that rural areas are hardly present in the regions' development policies. Moreover, there are no substantial differences among regions in the scale and character of including rural areas in the regional development programmes despite the diversity in the level of rural areas development and the extend of disparities between rural and urban areas. Due to insignificant presence of rural areas in ROPs, the key role in tackling the needs of rural areas is played by RDPs. Yet, as the RDPs are agriculture orientated and it only tackles part of the rural areas' developmental needs. Therefore, there is a need to change the approach towards rural areas in regional development policy by creating policy instruments that support the creating of links between rural and urban areas.*

**Keywords:** EU funds, regional development, rural areas

### 1. INTRODUCTION

Development of lagging behind areas is an important issue in the public policy. In the European Union this problem is tackled within the cohesion policy and common agricultural policy. Despite common priorities, set of policy instruments and regulations, the EU member states and their regions have a significant liberty in shaping their own way of dealing with such problems within their programmes co-financed from the EU budget. Despite 13 years of the EU membership, Poland still lags behind the EU average in socio-economic development. The rural areas in Poland are less developed as their urban counterparts<sup>1</sup>. Therefore, special effort is required to catalyse the development of these areas. Rural areas cover about 93% of Poland and about 39% of Poles live in rural areas (Central Statistical Office of Poland, 2017). The situation of rural areas varies depending on the region and the distance from the region's capital city. The differences in the economic development shaped in the past, especially in the case of agricultural sector, are still highly visible in the current state of the regions and their rural areas. The Polish EU accession meant inclusion of the Polish regions into the cohesion policy and the Polish rural areas into rural development policy, i.e. second pillar of the common agricultural policy. Since the accession in 2004, a rapid development of Poland and its regions has been observed. In the period 2004-2015 the distance of all the Polish regions to the EU average shrank (tab. 1). Yet, it is clear that the least developed regions experienced the slightest reduction in the distance to the EU average. This also meant that 5 out of 16 Polish regions remained in the group of the least developed EU-28 regions.

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<sup>1</sup> Rural areas in Poland are defined as areas outside the boundaries of urban areas classified as such based on an administrative decision.

These regions include: lubelskie, podkarpackie, podlaskie, warmińsko-mazurskie and świętokrzyskie (W drodze do spójności Polskie regiony 2007–2013, 2016, p.51). The share of agriculture in the region's GDP is presented to show the importance of agriculture in the regional economy as well as to give a hint on the importance of rural areas in the economy. These figures combined with ones indicating the share of the region in the Polish agricultural policy show the both the development of agriculture in each region as well as its size.

*Table 1: GDP and share of agriculture in the Polish regions (in %)  
(own elaboration based on data of Eurostat and CSO of Poland, 2017)*

Region	GDP per capita in PPS as a share of the EU average		Share in the Polish GDP	Share of agriculture in the region's GDP	Share of the region in Polish agricultural production
	2004	2015			
łódzkie	46	64	6.1	4.8	8.0
mazowieckie	76	109	22.1	3.3	19.8
małopolskie	44	62	7.9	2.0	4.1
ślaskie	56	71	12.4	0.9	3.2
lubelskie	35	47	3.8	7.4	7.6
podkarpackie	36	48	3.9	2.3	2.3
świętokrzyskie	40	50	2.4	5.1	3.5
podlaskie	37	49	2.2	10.4	6.4
wielkopolskie	54	75	9.8	5.5	13.9
zachodniopomorskie	45	58	3.8	4.1	4.2
lubuskie	45	57	2.2	4.3	2.6
dolnoslaskie	51	76	8.4	1.9	4.3
opolskie	43	55	2.1	5.0	2.9
kujawsko-pomorskie	44	56	4.4	5.5	6.8
warmińsko-mazurskie	38	49	2.7	8.2	6.1
pomorskie	49	66	5.7	2.9	4.4

It must be emphasised that there are huge differences within the regions in terms of their socio-economic development. This is best represented by the unemployment rate in poviats of mazowieckie region. This is the biggest Polish region in which the Polish capital city is located. In June 2017 the average unemployment rate in this region amounted to 6.3%, but it was varied depending on the powiat. The lowest unemployment rate was observed in Warsaw, the capital city and it was only 2.5% that is over twice lower than the region's average. The highest unemployment rate was seen in makowski powiat in the north-eastern part of the region. It was 18.7% that is almost three times higher than the region's average and seven times higher than in Warsaw (tab. 2).

*/Table following on the next page*

Table 2: Unemployment rate in mazowieckie region (*Liczba zarejestrowanych ...*, 2017)

Administrative district	Unemployment rate	Administrative district	Unemployment rate	Administrative district	Unemployment rate
CIECHANOWSKI*	12.0	przysuski	19.8	piaseczyński	5.0
ciechanowski**	11.2	radomski	20.4	pruszkowski	4.9
mławski	8.3	szydłowiecki	25.9	sochaczewski	7.2
płoński	10.9	zwoleński	11.9	warszawski zachodni	2.9
pułtowski	18.0	Radom	14.9	żyrardowski	11.7
żuromiński	15.3	WARSZAWA	2.5	PŁOCKI	11.7
OSTROŁĘCKI	11.1	Warszawa	2.5	gostyniński	16.0
makowski	18.7	WARSZAWSKI WSCHODNI	8.3	płocki	13.3
ostrołęcki	12.5	garwoliński	10.2	sierpecki	17.6
ostrowski	10.7	legionowski	9.7	Płock	7.8
przasnyski	10.5	miński	6.0	SIEDLECKI	7.0
wyszkowski	5.8	nowodworski	7.7	łosicki	6.4
Ostrołęka	11.2	otwocki	5.5	siedlecki	6.8
RADOMSKI	15.9	wołomiński	10.2	sokołowski	6.6
białobrzezski	8.5	WARSZAWSKI ZACHODNI	5.0	węgrowski	8.9
kozienicki	11.3	grodziski	3.7	Siedlce	6.3
lipski	10.8	grójecki	2.7	<b>mazowieckie***</b>	<b>6.3</b>

\*names of sub-regions (NUTS3) are written in capital letters; \*\* names of poviats; \*\*\* average for the whole region

Regional operational programmes are meant to boost region's development and its internal cohesion. As rural areas are generally less developed than urban ones, they call for strong support. Yet, the actual question is whether the regional operational programmes should emphasize more strongly the rural development. The answer is not that simple. However, a sustainable regional development and regional cohesion ask for a special treatment of the areas that due to their underdevelopment or peripheral location lag behind and suffer from the process of depopulation. Yet, it is also evident that significant differences will persist and are inevitable, therefore, a full eradication of them should not be expected. It is clear that the impact on rural areas of different EU funds and policy instruments implemented by each of the EU member states varies. Grochowska and Hardt (2009) distinguish four types of the impact of EU support: 1. Direct; 2. Strong indirect; 3. Weak indirect and 4. No impact. However, it is hard to access the actual impact of each of the programmes on the development of rural areas. Yet, it is clear that not only the strictly rural instruments influence rural development and shape the future developmental potential of rural populations and economy. The aim of the paper is an analysis of the approach applied to rural development in Poland at a regional level and it answers the question whether the applied approach to rural development catalyses the catching-up processes. The study is based on the analysis of the visibility of rural areas in the Polish regional operational programmes and the instruments dedicated for them as well as on the assessment of rural development programmes (RDPs) in the programming periods 2007-2013 and 2014-2020.

## 2. RURAL DEVELOPMENT WITHIN THE POLISH REGIONAL OPERATIONAL PROGRAMMES 2007-2013

All the EU co-financed programmes for the period 2007-2013 had to be in line with the Polish National Strategic Reference Framework 2007-2013. Despite some expert opinions, the document mentions as one of its developmental priorities – increasing developmental potential and supporting structural changes in rural areas. A focal point of this priority was to support sustainable development of rural areas.



As rationale for enlisting this priority among strategic priorities for the cohesion policy in Poland was the scale of challenges facing Poland in relation to the rural areas. Poland had the highest number of people employed in agriculture and the highest number of rural settlements in the whole EU. It must also be emphasised that the urban aspects of the Polish regional policy included strengthening the links between metropolitan areas and surrounding them small cities and rural areas. This included creating transportation and telecommunication links as well as economic and cultural ones. As it was typical of this programming period a significant emphasis was also put at developing tourism. It was seen as means to catalysing development of both rural areas and some other areas in need of revitalising. Tourism was also seen as a way for diversification of rural economy and creating new jobs outside of agriculture. Diversification of rural economy was an important priority not only for the cohesion policy as such but also for rural development policy within the CAP. Yet, the share of funds devoted to this target within the Polish rural development programme 2007-2013 was not substantial and CAP was concentrated on supporting farmers (social support types of measures as less favourite areas payments) and agricultural development (Rowiński, 2009, p. 62).

An important issue within the approach towards strengthening the development of rural areas was the problem of tackling the disparities in the scale of development of human capital between rural and urban areas. This was also seen as the way to support the creation of new SMEs in rural areas. To achieve this job advisory system is needed as well as the provision of courses enabling acquiring of new professional qualifications thanks to vocational training and other part-time education. There is not much difference in the SWOT analysis of the situation of the rural areas in each of the Polish regions. This led to similarities in the way the identified problems were to be tackled. The rural areas were generally mentioned as the ones lagging behind so the planned support measures included infrastructure, such as sewage and water management, electricity system, roads, tourist infrastructure and human capital. The approach of the Polish regions in tackling the problems of rural areas did not differ between regions as the problems they were faced with were similar. The rural areas differed in the scale of each of the problems observed. For example, in mazowieckie region the water and sewage systems were much more developed than in other regions, but still in some parts of this region there was need for developing these systems.

Based on the stipulations of regional development programmes for the period 2007-2013 it can be stated that the share of funds planned for rural support varied significantly among the Polish regions (tab. 3). Moreover, the differences were not correlated with the extent of rural areas, importance of rural economy or the scale of developmental needs observed in a given region. It was also not related to the distance in development between rural and urban region. It seems that the share of funds planned for rural areas was just a combination of all the priorities and planned instruments that were to be implemented and did not stem from any presumed goal. On average about 30% of the ROP's funds were to reach rural areas. The largest share of funds for rural areas was envisaged in podkarpackie region. In this region there is a significant share of peripheral rural areas with underdeveloped small holder agricultural activity conducted in less favourite areas (mountainous region). This is combined with underdeveloped infrastructure. Yet, the region has a potential for developing tourism. The other region with a very high share of rural support is opolskie. The rural areas in this region are more developed and the region is seen as a positive example of rural development. The lowest planned share of funds for rural areas was planned in śląskie region where only 21.4% of population lives in rural areas (Regional operational programme for śląskie voivodeship for the years 2007-2013, 2011, p. 9). This low interest in rural areas is therefore well understood.

Moreover, this is a region with a large share of former industrial areas heavily devastated by all types of pollution.

*Table 3: Share of planned spending for rural areas within the Polish ROPs in the programming period 2007-2013 (own elaboration based on Polish ROPs 2007-2013)*

Region	Share of ROP planned for rural areas
dolnośląskie	22.3
kujawsko-pomorskie	32.4
lubelskie	44.1
lubuskie	33.9
łódzkie	n.a.
małopolskie	35.0
mazowieckie	35.7
opolskie	46.1
podkarpackie	48.7
podlaskie	38.4
pomorskie	37.0
śląskie	12.2
świętokrzyskie	n.a.
warmińsko-mazurskie	44.2
wielkopolskie	31.6
zachodniopomorskie	29.0

To sum up, it can be stated that despite the regional differences in the share of planned spending and the diversity of rural needs the approach to tackle these problems was similar among regions. Yet, the differences in the starting point meant that the support led to a different end point.

### **3. RURAL DEVELOPMENT WITHIN THE POLISH REGIONAL OPERATIONAL PROGRAMMES 2014-2020**

The new programming period introduced some differences in conducting EU cohesion policy improving programme architecture (Kah et al., 2015, p. 12). In the case of Poland this also included the change in categorisation of the biggest of the Polish regions. In the programming period 2014-2020 mazowieckie, as the only Polish region, is classified as a highly developed region. At the same time another region – dolnośląskie received the status of a moderately developed region, while all the other regions remained in the group of less developed regions.

Despite some significant changes in the implementation of cohesion policy, like the combination of financing from different EU funds, the key priorities are similar as in the programming period 2007-2013. An important priority for this period is the development of public services in the least developed regions.

The SWOT analysis conducted by each of the regions did not bring any substantial changes in the assessment of rural areas so the policy instruments mostly remained to be the same and to target the same problems and groups of potential beneficiaries. This was characteristic of all of the regions. Yet, the focal point seems to be directed more on economic potential of rural areas and their development as the infrastructure is being installed.

The scale of funds planned for rural areas in the period 2014-2020 varied among regions as in the previous programming period (tab. 4). On average it was about 22% of the programme's funds. Yet, the share of funds planned by each of the regions not necessary matched the situation in the period 2007-2013. Analysing the share of funds envisaged for rural development it must be borne in mind that the total amount resources for ROPs in the period 2014-2020 is on average twice as high as in the previous period. Therefore, the actual impact of support should in almost all regions be higher than in the period 2007-2013.

The only exceptions are podkarpackie and warmińsko-mazurskie. In the previous programming period they were among the regions with the highest share of planned spending on rural areas, while in this programming period they are in the group of regions with the lowest share of funds dedicated for rural development. The increase in these ROPs budgets does not balance the sharp drop in the planned rural spending so the funds that will flow into these regions' rural areas will be lower than in the previous programming period. The programming period is considered to be the one with the highest amount of funds directed for EU cohesion policy in Poland, therefore also the expected impact of this support is supposed to be the largest.

This should generally also apply to rural areas. Despite the insignificant share of funds directly targeted at rural development the priorities of the cohesion policy in Poland are in line with the needs of both rural and urban areas and the funds should act as a catalyst for achieving sustainable development. Yet, the question still remains whether rural communities and citizens should be subject to special treatment in project assessment giving them extra points that could boost their chances of receiving the funds given their worse bidding position due to, inter alia, constraints in own financial resources or distance to large consumer markets.

*Table 4: Share of planned spending for rural areas within the Polish ROPs in the programming period 2014-2020 (own elaboration based on Polish ROPs 2014-2020)*

Region	Share of ROP planned for rural areas
dolnośląskie	15.0
kujawsko-pomorskie	33.0
lubelskie	50.0
lubuskie	10.0
łódzkie	n.a.
małopolskie	25.9
mazowieckie	11.0
opolskie	40.0
podkarpackie	11.0
podlaskie	20.2
pomorskie	30.0
śląskie	13.9
świętokrzyskie	23.1
warmińsko-mazurskie	11.0
wielkopolskie	27.0
zachodniopomorskie	11.0

#### 4. CONSLUSION

In the programming period 2007-2013 the National Strategic Reference Framework mentioned following priorities for the development of rural areas (Ministerstwo Rozwoju Regionalnego, 2007, s. 93):

- development of transport infrastructure (road infrastructure);
- development of environmental protection infrastructure (water and sewage management, municipal waste management, state monitoring and environmental protection - plant and animal species, including Natura 2000 sites, water resources management - melioration);
- development of energy infrastructure (generation, transmission and distribution of electricity and energy from renewable sources);
- development of social infrastructure (socio-cultural infrastructure, monuments, tourist and sports infrastructure);
- development of human resources (training, vocational training and retraining);
- support for structural change (through support for enterprises and undertaking business - creation and development of new enterprises, investments in enterprises and their modernization, promotion of entrepreneurship).
- These priorities were named both for rural development programme and cohesion policy. Carefully tailored demarcation lines were stipulated to decide what types of projects could be supported from each of the EU co-financed programmes.

Despite much progress in reshaping the Polish rural areas they are still suffering from the same problems as the ones identified in the SWOT analysis conducted for the purpose of programming period 2007-2013. This does not mean that the support received by rural areas did not bring any results, but that it was not sufficient. Yet, the question remains whether the structure of funds that reached rural areas has been the most beneficial for shortening the developmental distance between rural areas and urban ones in Poland. The theme of the cohesion policy for the period 2014-2020 is an integrated territorial approach at the local level. It is supposed to contribute to catalysing cohesion processes within the regions. It is to be achieved through support for bottom-up activities conducted by local partners. Support for local development is carried out in a horizontal manner within selected investment priorities. A vital element of the integrated territorial approach is the integration of different actors in implementation of the projects. This is based on the bottom-up approach successfully practiced in the consecutive modifications of the LEADER approach applied within the rural development programmes. Now it is supposed to combine both rural and urban areas. The fact that rural areas in each of the Polish regions are not homogeneous should be taken into account and the support for rural areas should be better targeted to the specific needs of the different types of rural areas present in a given region. It seems that this should be the next step in the regional support for rural areas as the diversity in the socio-economic development of each region is increasing which can act as a hindrance to further growth.

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## THE LINK BETWEEN CONSUMERS' ONLINE SHOPPING BEHAVIOURS AND E-SERVICESCAPE IN C2C E-COMMERCE: EVIDENCES FROM TURKEY

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### **ABSTRACT**

*Consumers' purchase intentions and shopping behaviours are changing and growing day by day. However, not all consumers have the same behaviors in online shopping especially in C2C e-commerce. This study focuses on the impact of consumers' online shopping behaviors factors such as average monthly spend on online shopping, website visit frequency, monthly average amount of online shopping on e-servicescape dimensions. By using a sample of 916 consumers, this study provide a widen and different viewpoint on e-servicescape dimensions. We highlight the effects of online shopping behaviors on customization, entertainment, ease of payment, visual appeal, interactivity, usability, consumer reviews, and originality of website which were defined as e-servicescape dimensions in the relevant literature. Results revealed consumers' online shopping behaviors are associated with some e-servicescape dimensions. In closing, theoretical and managerial implications for marketing theory and managers were discussed while important limitations are recognized.*

**Keywords:** C2C, digital consumers, e-servicescape, online shopping

### **1. INTRODUCTION**

Servicescape is a content-based interface for services. It was first defined by Booms and Bitner as a service environment shaping customer expectations and satisfaction (Bitner, 1990). Traditionally, Servicescape is concerned with matters of physical design, but most importantly, it is the ambiance of “conventional” features influencing customer perception of services (Reimer and Kuehn, 2005). It is also the conveyance of a firm's image and goals to customers. Crane and Clarke (1988) search for hints used when assessing a service and shows that the most frequently used hints are the physical environment and its surroundings along with personal recommendations. An essential way to overcome the feature of being abstract is to make a service tangible, and Servicescape is an important regulator providing service businesses with this opportunity. A firm's understanding of Servicescape typically involves interior space design (spatial organization, equipment, and setting) and the exterior physical environment emphasizing signboards, parking spaces, and landscape features (Bitner, 1990). Later studies aim at demonstrating the impact of music, lighting, smell, and color on customer behavior (Lin, 2004; Tombs and McColl-Kennedy, 2003; Herrington and Capella, 1996). Servicescape influences not only customer perception of a firm's value premises, service functions and service quality but at the same time the meaning customers find in the many tangible hints, signs, and symbols of its services. Servicescape's conventional framework has been proven to be an exploratory service design and to be extremely useful in service processes and in a marketer's service delivery (Ballantyne and Nilsson, 2017).

Some services require the presence of customers in the service area (hotels, airlines, gyms etc.). The Internet provides a unique opportunity for firms to influence customers before they visit their actual physical places. Firms can use e-Servicescape as an online communication tool offering customers information to distinguish between their wide ranges of services. It can also serve as a promotion tool. The fact that the physical environment influences customer behavior and contributes to the development of brand image is quite evident in conventional service businesses, examples of which are banks, retail stores, hospitals, and restaurants. Nevertheless, the developments in internet technology and the emergence of new social media have changed the market and led to virtual markets (Ballantyne and Nilsson, 2017). The Internet has changed the nature of the physical environment. Research shows that the global e-trade volume has been on the rise simultaneously with a growth in the number of online retailers and in online shopping volume. Global e-trade has risen from 630 billion dollars to 1.6 trillion dollars in the past four years. Its share in total retails, on the other hand, has gone up from 4.2 % to 8.5 %. This ratio is estimated to reach 13 % in 2021. The e-trade volume in Turkey is 17.5 billion TL as of 2016. The share of e-trade in total retails has increased from 1.7 % in 2012 to 3.5 % (TUSIAD, 2017). While these developments may seem positive, the fact that the big majority of online shoppers are undecided and unconfident points to the need for better attempts at problem solving. Work has started to analyze efforts to illuminate e-customers' motivations, intentions, and behavior, and the physical environment called "cybermarketscapes," "e-scapes" or "online atmosphere" in online retailing (Harris and Goode, 2010). In services marketing literature, while the environment in which an organization serves is called by the term "Servicescape," the website on which e-trade takes place is named "e-Servicescape" (Hopkins et al., 2009). E-Servicescape is a virtual environment on the Internet, which resembles an actual store and has manageable features and aspects. The present study has been prepared to reveal the relationship between e-Servicescape and the online shopping behavior of customers. For this purpose, it investigates how customers interpret e-servicescape, how they evaluate it in terms of its aspects and how their shopping behavior is affected by it. This way, the study attempts to indicate what kind of a relationship exists between the aspects of e-servicescape as perceived during service delivery and online customer behavior, how this relationship should be, and how it can be improved. It also aims to contribute to theory and be helpful for entrepreneurs working or likely to work in this field.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Since services are abstract, the product to be assessed has no physical aspect. Instead, the tangible hints around help shape customer attitude and behavior. Indeed, when a product's level of abstractness is higher, the influence of these hints in customer assessment is greater, since the product has no physical aspect to be assessed by customers. The physical environment involving physical proofs in services will both increase a service's visibility and lower customers' risk perception before they buy that service. Clow et al. (1996) investigate the link between a service's increased tangibility and the risk reduction strategy at length. Their results indicate that the tangible hints in an advertisement lower the perceived risk of service use, contribute to the perception of a service provider's specialization as high and increase customers' purchase intention. The birth of the Internet has redefined this physical environment and led to the formation of e-servicescape, a new retail and service business. It can be visited by customers to learn about, sell or purchase products without having to go to a physical store. A website has the potential to provide customers with endless information; however, the abstract quality of a service makes it impossible to even show a service picture (Koernig, 2003). Therefore, customers evaluate website presentations looking at the visual quality of services they intend to buy.

E-servicescape conveys the features of the physical environment in a virtual environment like a website. It can stimulate customer sentiment and perception toward a website and thus influence a purchase attempt (Wu et al., 2016). In this regard, organizations need to develop designs suited to an online purchasing environment that can create special emotional effects and encourage shopping. The Internet offers businesses operating with or without a store a unique opportunity to impress customers before they visit the actual physical place. Companies can use e-servicescape as their own online meeting tool for providing customers with abundant information on their services. Using focus group interviews, Wolfinbarger and Gilly (2001) reveal the four aspects customers look at to assess websites: ease, preferences, being informative, and lack of socialization. Harris and Goode (2010) show that e-servicescape consists of three sub-aspects, which are: aesthetic appearance, organization and functionality, and financial security. Aesthetic appearance defines a website's general impressiveness and attractiveness aspect. Organization and functionality indicates its design aspect, involving amusing interactions and experiences. Financial security is defined as a security tool customers use in making payments. The confidence customers feel when making a payment on a website is an important servicescape aspect influencing shopping intentions. Aesthetic appearance is an important way for a website to distinguish itself from its rivals. The effectiveness of a website's functioning and organization is also important. Especially usability facilitates the discovery of important information and improves communication, and it also helps customers search for information easily. The degree of customization available on a website is related to the amount of customized content users see. While this requires compliance costs, it also increases a customer's chance of revisiting a website.

In a study exploring the link between websites and aesthetics, an e-servicescape aspect, Kurtuldu et al. (2010) reveal that readers prefer to read newspapers online since they are free as long as a land internet connection is available, environmentally free, and easy to use; they offer constantly updated news, allow for searches on their archives, have a smart design, and provide a lot of audio and visual material. They conclude that among the aesthetic features, attractiveness, uniqueness, design, style and creativity are the most influential on customer satisfaction. Yavetz and Rafaeli (2006) carry out a study on the impact of the visual attractiveness and professionalism of e-servicescape on customer satisfaction and interaction. They show that the aspect of visual attractiveness (aesthetics) has an influence on mutual interaction. Collier and Bienstock (2006) reveal that factors such as privacy, ease of use, website design, interaction, information accuracy, and usefulness make up service quality in the eyes of customers and this affects customer perception of service outputs in a positive way. Yand and Jun (2002) use two customer groups, internet users and nonusers, to investigate the importance of the factors of reliability, access, ease of use, customization, and security as aspects of e-service quality. According to their findings, customers shopping online stress that reliability, customization, ease of use, and access respectively increase the perceived quality of service. Santos (2003) uses focus group interviews to explore how variables such as ease of use, visuality, links, usefulness, content, reliability, efficiency, support, contact, security, and incentives can be ordered in terms of customer preferences and demonstrates that while reliability, contact, incentives, security, and support make up the priorities, the aspects perceived as less important are appearance, ease of use, links, content, and usefulness. Kühn et al. (2015) conduct a study to investigate e-servicescape aspects as indicators of trust in websites in South African national airline industry and indicate that financial security is the best sign of website trust, followed by, first, organization and functionality, and then, aesthetic appearance. Hakim and Deswindi (2015) take hospital websites to evaluate the impact of e-servicescape on customer intentions.

They look into how factors such as ambiance, design, search help, slogans, and functionality impact service quality perception and find that the most important aspects are interaction, the availability of sufficient information, and the navigation structure. Generally, all e-servicescape aspects have a strong, positive impact on quality perception, and they reach the conclusion that well-designed websites are highly important for service businesses. In a study exploring how the aspects of environment factors (ambiance); spatial organization and functionality; and signs, symbols, and works in the website of B2C, a ticket commissioning firm, providing information about sports and entertainment venues and selling event tickets, Hopkins et al. (2009) reveal that these three aspects have varying levels of impact on the effectiveness of a website's design, both cumulatively and individually. They indicate, however, that the e-servicescape aspect with the greatest impact on customer attitude is the environment conditions. In another study aiming to explore the importance of e-servicescape in the internet environment, Lee and Jeong (2011) study the relationship between e-servicescape, on the one hand, and the navigation experiences, sentiments, satisfaction, and behavior of online customers, on the other. This study, which deals with e-servicescape in hotel businesses in terms of design, environment, and social factors, highlights the importance of websites in influencing online hotel customers' navigation experiences, sentiments, general satisfaction, and reaction, that is, their approach and avoidance behavior.

In this regard hypothesis and research model of the research formed in accordance with the related studies in the literature are stated as follows:

*H1: There is an association between levels of average money spend on online shopping and e-servicescape dimensions.*

*H2: There is an association between consumers' number of online shopping in a month and e-servicescape dimensions.*

*H3: There is an association between the levels of consumers' planned online shopping in C2C and e-servicescape dimensions.*

*H4: There is an association between most purchased product categories and e-servicescape dimensions.*

Depending upon these four main hypotheses, eight sub-hypotheses were developed for each hypothesis representing eight dimensions of e-servicescape.

### **3. METHOD**

A cross-sectional survey was used to determine the relationship between online shopping behaviors and e-servicescape dimensions. The population of the research is formed by the customers purchasing products from Internet using C2C websites. Top 3 C2C companies (tr.letgo.com, gittigidiyor.com and hepsiburada.com) operating in Turkey were selected for the study. Data were collected from online consumers living in Izmir, third largest city in Turkey. Consumers who purchased at least one time in last six months from C2C websites which are selected for the study were included the study. A total of 1000 questionnaires were distributed by using quota sampling technique. The quota sampling was utilized to match the target population structure in both age and gender and then convenience sampling was used to select participants in each group. The quotes volumes were calculated according to the Address Based Population Registration System Results provided by Turkish Statistical Institute. Prior to the main survey, a pilot test was conducted with 40 participants and there were no problems with understanding of statements in survey. Trained pollsters collected the self-completed questionnaires. Among 1000 surveys, 916 were used which had full data on all the measures with a return rate of 91.6 percent.



Potential non-response bias was assessed by comparing early (n=500) and late (n=416) respondents on all constructs. Independent samples *t*-test were performed on variables. No statistically significant differences were identified between early and late responses among any of the variables. In the preparation for the statements in the questionnaire, many studies in the relevant literature were examined. According to Harris and Goode (2010), e-servicescape has three dimensions named aesthetic appeal, layout & functionality, and financial security. These three dimensions covers nine sub-dimensions. Aesthetic appeal covers visual appeal, originality of design and entertainment value. Layout and functionality includes usability, relevance of information, customization/personalization, and interactivity. Financial security has two sub-dimensions: ease of payment and perceived security. We used a shortened 24-item version of the e-servicescape scale recommended by Harris and Goode (2010).

However, the dimension perceived security with 2-items was excluded based on the thought that consumer do not purchase from C2C websites which they do not feel secure enough and the dimension named customer reviews with 2-items was added as a sub-dimension of layout and functionality recommended by Tran (2014). Therefore we used eight dimension from Harris and Goode (2010) and one dimension from Tran (2014). A total of 24-item scale was used in the study in order to measure e-servicescape. Table 1 shows all items related to e-servicescape used in the study. All constructs were measured using 5-point Likert scale, ranging from “1=strongly disagree” to “5=strongly agree”. Gender, age income and frequency of Internet usage were also measured for socio-demographic analysis. At last, money spend on online shopping monthly, monthly average number of shopping online, how much planned of online shopping and favourite products purchasing online were used to measure customers’ online shopping behaviors. A confirmatory factor analysis (CFA) was performed to verify the validity and reliability of constructs. After, Kolmogorov-Smirnov and Shapiro-Wilk tests were run to check normality of data. In order to test hypotheses and sub-hypotheses Kruskal-Wallis H tests were implemented.

## **4. RESULTS**

### **4.1 Descriptive Findings**

Analysis of socio-demographic data indicates that the gender split was approximately equally divided between males (49.0%) and females (51.0%) suitable to the distribution of universe. The final sample consisted of 300 (32.8%) consumer from age between 18 and 34, 342 (37.3%) from age between 35 and 49, and 274 (29.9%) from age 50 and above. More than half of them (52.5%) were married and 57.6 percent of them have less than 500€ monthly income. The proportion of respondents broadly reflects the demographic composition of both Izmir and Turkey residents in terms of age and gender. All respondents were active online shoppers as mentioned before. Many (66.7%) of consumers participated in the study use Internet more than two times in a day and 61.1 percent of them visit shopping websites at least two times in a week. They spent almost 60 € in online shopping on a monthly basis and they shop 2.80 times online in average in a month.

Apparel and sport equipments is the most frequently bought product with 40.5 percent, followed by consumer electronics (17.8 percent) and household goods (13.8 percent) respectively. Almost one third of consumers (32.1 percent) stated that they planned full of purchases before and never purchase something that they do not plan before. Similarly, another one third of them (31.7 percent) stated that they usually plan their online shopping but they rarely purchase something impulsively. Interestingly, 11.7 percent of consumers stated that they always prefer impulse buying in online shopping.

#### 4.2 Reliability and Validity

Before testing the hypothesized relationships, we analyzed the reliability and validity of scales by using confirmatory factor analysis (CFA). First, fit indexes were investigated. The overall fit indices of the measurement model are as follows:  $\chi^2/df=2.945$ , GFI= 0.945, AGFI=0.923, IFI=0.937, NFI=0.908, CFI=0.937, RMSEA=0.046, RMR=0.051, SRMR= 0.043. Table 1 presents summary statistics and Table 2 shows the results of the measurement model. The discriminant validity of the measures was evaluated based on the square root of the AVE values for each construct with its cross-correlation with other constructs.

As shown in Table 1, all squared correlations between distinctive-paired constructs did not exceed the AVE for each of the paired construct. Therefore, discriminant validity was confirmed. As it can be seen from Table 2, all CR and Cronbach's alpha values are higher than 0.6. The result shows that all scales were deemed reliable. To assessed convergent validity, we examined CR and average variance extracted (AVE) values. As for Fornell and Larcker (1981), the lower acceptable value is 0.70 for CR and 0.50 for AVE.

As presented in Table 1, CR of each variable are higher than 0.70 (0.707-0.856) and AVE of each variable are higher than 0.54 (0.545-0.627). Additionally, all item loadings were found to be significant and higher than 0.5, which means the convergent validity is achieved.

*Table 2* Mean, standard deviation and factor correlation values of research variables

	Mean	1	2	3	4	5	6	7	8	9
VA (1)	3.30	<b>0.746</b>								
OOD (2)	2.98	0.256	<b>0.740</b>							
EV (3)	3.10	0.488	0.560	<b>0.759</b>						
USA (4)	3.62	0.408	0.700	0.478	<b>0.738</b>					
ROI (5)	3.68	0.336	0.531	0.369	0.459	<b>0.786</b>				
CUS (6)	3.49	0.394	0.087	0.458	0.555	0.585	<b>0.785</b>			
INT (7)	3.64	0.306	0.315	0.245	0.550	0.426	0.378	<b>0.791</b>		
EOP (8)	3.29	0.445	0.412	0.239	0.510	0.437	0.432	0.372	<b>0.785</b>	
CR (9)	3.74	0.213	0.087	0.218	0.353	0.219	0.197	0.376	0.114	<b>0.792</b>

**Notes:** Diagonal values in bold are square roots of the AVE per construct. Off-diagonal values are the correlations of the variables

To alleviate potential concerns regarding common method bias, following the suggestions of Podsakoff et al. (2003), Harman's (1976) single factor tests was performed. The results reveal nine factors with eigen value larger than 1 for e-servicescape. A forced one-factor solution was only able to explain 25.42% of the variance for e-servicescape. In addition, the first (largest) factor did not account for the majority of the total variance explained. Taken together, these results indicate no evidence of common method bias.

*/Table following on the next page*

*Table 3 Results of Measurement Model*

Variable	AVE	CR	$\alpha$	Item	Item mean	SD	Factor loading
Visual appeal	0.557	0.715	0.651	The way it displays its products is attractive	3.20	1.02	0.735
				I like the way this web site looks	3.40	1.02	0.757
Originality of design	0.547	0.707	0.642	Is conservative	2.69	1.01	0.731
				Is unadventurous ®	3.27	0.97	0.748
Entertainment value	0.576	0.731	0.731	I think that this web site is very entertaining	3.26	1.12	0.764
				The enthusiasm of this web site is catching, it picks me up	2.94	1.14	0.754
Usability	0.545	0.856	0.643	It is not easily navigated ®	3.67	0.97	0.614
				There are convenient ways to maneuver among related pages and between different sections	3.51	1.05	0.739
				Navigation through this web site is intuitively logical	3.52	0.98	0.705
				This web site is difficult to use ®	3.63	0.94	0.855
				This web site is user-friendly	3.74	0.95	0.758
Relevance of information	0.618	0.764	0.762	There is a great deal of irrelevant information	3.70	1.02	0.766
				Technical details about products can be easily accessed	3.66	0.96	0.806
Customization/personalization	0.616	0.764	0.608	This web site is tailored toward me	3.67	0.96	0.770
				If I wanted to, I could customize this web site to what I like (e.g. changing colors, layout, fonts etc.)	3.51	1.03	0.782
				When communicating with this web site I am rarely addressed using my correct name ®	3.51	1.01	0.749
				This web site makes purchase recommendations that match my needs	3.27	1.23	0.835
Interactivity	0.625	0.769	0.767	This web site helps me to compare products and prices	3.60	1.03	0.747
				I believe that this web site is not a very dynamic one ®	3.68	1.02	0.832
Ease of payment	0.616	0.828	0.620	Payment procedures seem to take a long time ®	2.66	1.21	0.815
				Paying for goods is straightforward	3.59	1.08	0.770
				Paying for goods involves entering a lot of details ®	3.63	1.08	0.768
Customer reviews	0.627	0.764	0.729	Customer reviews are helpful when I make purchase decisions on website	3.78	1.08	0.935
				I like to read customer reviews on website	3.71	1.19	0.617

### 4.3 Hypothesis Testing

After validity and reliability confirmed, a test of basic assumption is performed to select the correct hypothesis analysis. In order to test the normality of data, Shapiro-Wilks and Kolmogorov-Smirnov test were performed. It was found that all p values for each constructs were 0.000. It shows that all data of dimensions of e-servicescape were not normally distributed. Starting from this point of view, a non-parametric Kruskal-Wallis H tests were performed to test hypotheses. The statistical analysis is carried out by using SPSS version 23.0. The significant (p) values <0.05 are considered as statistically significant. Table 3 shows the Kruskal-Wallis H test results which are used for examining the differences in e-servicescape scores among customers who have different level of (1) average money spend on online shopping in a month and (2) average number of shopping online in a month.

*Table 3 e-Servicescape dimensions in terms of money spend on online shopping and number of online shopping*

Variables	Mean Rank (1)						Mean Rank (2)				
	p	$\chi^2$	<20€	21-40€	41-60€	>61€	p	$\chi^2$	1	2	≥3
Visual appeal	.350	3.28	450.5	441.1	462.9	479.0	0.001*	18.10	425.2	431.5	503.2
Originality of design	.348	3.29	480.7	462.8	464.3	439.1	0.184	3.38	436.1	476.0	459.1
Entertainment value	.082	6.70	422.5	451.6	458.9	485.2	0.120	4.23	436.3	451.7	479.0
Usability	.066	7.20	447.7	431.0	491.6	476.8	0.001*	19.49	396.9	470.5	490.2
Relevance of information	.166	5.08	449.0	440.2	498.6	464.0	0.006*	10.18	413.9	479.5	471.2
Customization	.882	0.66	454.8	451.1	471.8	461.9	0.298	2.42	439.2	457.0	472.7
Interactivity	.098	6.29	434.2	451.7	505.7	458.0	0.066	5.43	437.4	485.8	450.2
Ease of payment	.507	2.33	443.5	447.9	479.7	467.9	0.260	2.69	454.9	477.9	444.8
Customer reviews	.108	6.06	442.7	443.9	505.7	460.8	0.148	3.81	436.0	454.3	477.1

(1) average money spend on online shopping in a month

(2) average number of shopping online in a month

\* Statistically significant differences in  $p < 0.05$  (Kruskal-Wallis Test)

According to the results, all hypothesized relationships between levels of average money spend on online shopping and e-servicescape dimensions were found statistically non-significant. Therefore,  $H_1$  and sub-hypotheses were not supported. On the other hand, it was found that consumers' average number of shopping online in a month is related to visual appeal, usability and relevance of information of a C2C website. Consumers purchase more times in a C2C website when they perceive the website as visually appeal and usable more than the rivals. Similarly, it is seen that consumers prefer to purchase more times in C2C websites which present more convenient information. Correspondingly, three sub-hypotheses of  $H_2$  were supported.  $H_3$  argued that there is an association between the levels of consumers' planned online shopping in C2C and e-servicescape dimensions.  $H_4$  contends that there is an association between e-servicescape dimensions and most purchased product categories. The results of Kruskal-Wallis H tests are shown in Table 4.

*Table 4 e-Servicescape dimensions in terms of level of planned shopping and most purchased product categories*

Variables	Mean Rank (1)					Mean Rank (2)					
	p	$\chi^2$	1	2	3	p	$\chi^2$	1	2	3	4
Visual appeal	.368	2.00	351.8	366.9	380.5	.711	1.37	465.4	463.4	464.5	442.3
Originality of design	.001*	14.80	338.6	362.3	417.3	.032*	8.81	472.7	458.7	397.6	467.6
Entertainment value	.499	1.389	353.3	367.2	376.8	.251	4.10	464.9	427.9	487.7	454.2
Usability	.001*	15.65	332.6	369.1	416.0	.013*	10.79	481.4	464.1	474.8	413.6
Relevance of information	.004*	11.12	351.8	350.1	415.0	.013*	10.79	470.0	462.6	502.4	417.4
Customization	.143	3.89	349.0	364.7	390.9	.947	0.37	461.4	463.2	460.7	450.1
Interactivity	.828	0.37	365.4	358.2	370.3	.650	1.64	467.6	467.9	446.1	445.3
Ease of payment	.036*	6.64	340.8	372.7	391.5	.274	3.88	473.9	470.3	441.9	436.7
Customer reviews	.062	5.57	382.1	359.3	333.4	.001*	16.43	428.0	448.1	532.9	472.7

(1) level of planned shopping online: 1:high; 2:medium; 3:low

(2) most purchased product categories: 1:apparel and sport equipment; 2: consumer electronics; 3: household goods; 4:others

\* Statistically significant differences in  $p < 0.05$  (Kruskal-Wallis Test)

Results provides strong support for this hypothesized associations in that some of e-servicescape dimensions were found to be significantly linked with level of consumers' planned shopping online. It can be argued that when consumers detect the website more usable, informative, easy to pay, and designed originally, their online impulse shopping tendency increases.

Given these results four sub-hypotheses of  $H_3$  are accepted. Likewise, analyses reveal significant associations between four e-servicescape dimensions and most purchased product categories. Consumers who mostly buy apparel and sport equipments have higher level in perceiving originality and usability of website design. However, consumers who mostly buy household goods in C2C websites place importance on relevance of information and customer reviews. Consequently, four sub-hypotheses of  $H_4$  are accepted.

## 5. DISCUSSION AND CONCLUSION

Previous studies on e-servicescape has revealed the strong influence of many dimensions of e-servicescape on consumer behavior in online environment. However, there are no enough studies in the literature that explain the association between consumers' online purchase behaviors such as time and money spent on online shopping, most purchased products and the level of planned shopping and various e-servicescape dimensions. In this research, the gap was tried to fill. Our results showed that consumers' online purchase behaviors are associated with some e-servicescape dimensions. There are three remarkable fields of interest in the results.

First, when the frequency of online shopping rises, the importance of visual appeal and usability of a C2C website increases. Second, our results showed that consumers' level of planned online shopping decreases when they perceive higher level of originality of design and usability of website. Similarly, higher level of ease of payment enables lower level of planned shopping. Therefore, online C2C companies can canalize consumers towards impulse buying when the design different, consumer-centric websites which has minimum phases in payment procedures. At the same time, it was found that relevance of information can generate immediate purchases which may have advantages to website in terms of presenting products in higher level of prices or more time to delivery. Third, our study strongly supports the evidence that consumers who purchase different products from Internet on C2C websites, perceive e-servicescape dimensions differently. Consumers who mostly buy apparel and sports equipments on C2C websites, perceive originality of design and usability of websites higher than any others who buy other categories of products. On the other hand, relevance of information and customer reviews are more important for customers who prefer C2C websites to purchase household goods.

The findings of this study also have some implications for internet marketers in C2C business model. The results exhibit that managers should consider product categories that consumers prefer to purchase when they develop marketing strategies and websites. As mentioned before customers attach importance to different e-servicescape dimensions. C2C website managers should critically evaluate their websites in terms of design, usability, informations presented and ease of use if they want to target customers who are able to buy impulsively. Especially consumers who are tend to compare prices can be prior target customer for them to appeal their website. There are several limitations to the study that should be mentioned. The participants were chosen only in one city and country because of convenience.

Therefore, the findings should be validated in multiple cities or countries to define possible cultural differences. Another limitation of the study is ignoring some factors that can affect consumer behavior in online marketing. Loyalty, trust and customer satisfaction can be taken into account in future studies. Although limited in scope, the findings of the current study enhance our understanding of several online purchase behavior in C2C websites. The findings also provide managers with strategic directions for rethinking their marketing strategies and consumer targeting.



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## PRIVATE ENFORCEMENT OF COMPETITION LAW: BEFORE WHICH EU MEMBER STATE COURTS?

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### ABSTRACT

*In 2004, when Regulation (EC) No 1/2003 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty entered into force, it replaced the centralised system of competition enforcement and allowed litigation on competition law before courts of the EU Member States in its entirety. An incentive for an even greater private enforcement of competition law has been provided by a more recent piece of legislation - Directive 2014/104/EU on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union, the aim of which is removing obstacles for compensation of the harm sustained as a result of the infringement of competition laws. In a legal environment in which the private enforcement of competition law is encouraged and an increasing number of competition disputes have a cross-border element, establishing which EU Member State courts are competent to discuss the case becomes a crucial matter. Therefore, this paper deals with the issue of establishing international jurisdiction for private competition claims in the EU. Rules on international jurisdiction for civil and commercial cases are contained in Regulation (EU) No 1215/2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (the Brussels I bis Regulation), one of the most important sources of the EU private international law. This paper identifies which Brussels I bis provisions are applicable for establishing international jurisdiction in private competition claims characterised as non-contractual liability.*

**Keywords:** *Brussels I bis Regulation, competition law, European law, international jurisdiction*

### 1. INTRODUCTION

The first major step towards private enforcement of competition rules in the European Union (hereinafter: the EU) was taken by the Court of Justice of the European Union (hereinafter: the CJEU) in *BRT v SABAM* (judgment of 27 March 1974, *BRT v SABAM*, C-127/73, EU:C:1974:25) in which it was established that Arts. 101 and 102 of the Treaty on the Functioning of the European Union (hereinafter: the TFEU) produce direct effects between individuals which must be safeguarded by national courts. Later on, in its landmark judgments, *Courage and Crehan* (judgment of 20 September 2001, *Courage and Crehan*, C-453/99, EU:C:2001:465) and *Manfredi* (judgment of 13 July 2006, *Manfredi*, C-295/04 to C-298/04, EU:C:2006:461), the CJEU granted the right to seek compensation for damage resulting from the competition law infringement to all individuals. Approximately at the same time, Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty (OJ L 1, 4.1.2003, pp. 1-25) entered into force and replaced the centralised system with the directly applicable exception system according to which the provision of Art. 101(3) of the TFEU on block exemptions gained the direct effect and could be applied by national authorities and Member States' courts (Danov, 2011, p. 4). The most recent impetus for private enforcement of competition rules was the adoption of Directive 2014/104/EU of the European Parliament and of the Council of 26 November 2014 on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union (OJ L 349, 5.12.2014, pp. 1-19), for which the transposition deadline expired in December 2016. The Directive seeks to improve coordination between public and private

enforcement of competition law and ensure full compensation to parties who sustained damage as a result of the competition law infringement. Since large-scale infringements of competition law often have an international element (see Danov, 2016, p. 79), international jurisdiction plays an important role in private enforcement of competition law. The main source of rules on international jurisdiction in civil and commercial matters in the EU is the Regulation (EU) No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (OJ L 351, 20.12.2012, pp. 1-32, hereinafter: the Brussels I bis Regulation) which replaced Council Regulation (EC) No 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (OJ L 12, 16.1.2001, pp. 1-23, hereinafter: the Brussels I Regulation). European Commission confirmed in its Notice on the co-operation between the Commission and the courts of the EU Member States in the application of Articles 81 and 82 EC (OJ C 127, 9.4.2016, pp. 13-21) that the Brussels I bis Regulation is applicable to all competition cases of civil or commercial nature. Private actions arising from the infringement of the competition law arise either from cartel or abuse of dominant position (Basedow, Francq, Idot, 2012, p. 3; for more on cartels and abuse of dominant position see Frenz, 2016, pp. 175 et seq and 639 et seq, respectively) and should be characterised as matters relating to contracts or matters relating to tort, delict and quasidelict (Poillot-Peruzzetto and Lawnicka, 2012, pp. 131-157; Danov, 2011, pp. 19-69, 86-104). Due to the length restriction, this paper will focus on the latter category, since these disputes are more frequent. It will outline Brussels I bis provisions and their interpretation applicable in proceedings between private parties arising out of the competition law infringement which are to be characterised as non-contractual liability.

## **2. JURISDICTIONAL BASES**

The rules on jurisdiction in the Brussels I bis Regulation which are applicable in private competition law claims will be inspected in the hierarchical order of jurisdictional bases: submission to jurisdiction, prorogation of jurisdiction, special jurisdiction in torts, general jurisdiction and multiple defendants (Van Calster, 2016, pp. 25, 71-72).

### **2.1. Submission to Jurisdiction**

Hierarchically speaking, the first provision which may be applied for establishing international jurisdiction for private actions arising out of the competition law infringement is the provision of Art. 26 of the Brussels I bis Regulation (formerly Art. 24 of the Brussels I Regulation) on submission to jurisdiction. According to Art. 26, the defendant may tacitly give his or her consent to the seised court's jurisdiction by entering the appearance without contesting the jurisdiction. The provision on submission to jurisdiction represents one of the exceptions to the *ratione personae* ambit of the Brussels I bis Regulation since it is not required that the defendant has his or her domicile in the EU in order for the provision to be applied (judgment of 13 July 2000, *Group Josi*, C-412/98, EU:C:2000:399, paragraph 44). As the CJEU established, contesting the jurisdiction does not mean that the defendant cannot make the assertions as to the merits of the case (judgment of 22 October 1981, *Rohr v Ossberger*, C-27/81, EU:C:1981:243; judgment of 31 March 1982, *C.H.W. v G.J.H.*, C-25/81, EU:C:1982:116; judgment of 14 July 1983, *Gerling Konzern Speziale Kreditversicherung AG and Others v Amministrazione del Tesoro dello Stato*, C-201/82, EU:C:1983:217).

### **2.2. Prorogation of Jurisdiction**

Provision of Art. 25 of the Brussels I bis Regulation (formerly Art. 23 of the Brussels I Regulation) allows to parties to choose the court which will discuss the dispute which may arise from a particular legal relationship. Even though this possibility is more likely to be used by

parties in a contractual relationship, its application is not excluded in matters relating to tort, delict or quasidelict. On 1 October 2015, the Hague Convention of 30 June 2005 on Choice of Court Agreements entered into force in the EU which allows to parties to choose the competent court in civil and commercial cases with an international element. The relationship between the Brussels I bis and the Hague Convention on Choice of Court Agreements is governed by Art. 26(6) of the Hague Convention on Choice of Court Agreements. According to it, with respect to the rules on jurisdiction, the Hague Convention on Choice of Court Agreements will have priority over the Brussels I bis Regulation if at least one of the parties is resident in a Contracting State to the Convention, except when both parties are EU residents or come from third states, which are not Contracting States to the Convention (Proposal for a Council Decision on the approval, on behalf of the European Union, of the Hague Convention of 30 June 2005 on Choice of Court Agreements Brussels, 30.1.2014, COM(2014) 46 final, 2014/0021 (NLE), p. 1.3). Unlike Art. 23 of the Brussels I Regulation which required that at least one of the parties had domicile in the EU, Art. 25 of the Brussels I bis Regulation prescribes that parties, regardless of their domicile, may agree on a competent court. In order for the prorogation clause to be valid, the prorogation must be in writing or evidenced in writing, in a form which accords with established parties' practices or in international trade or commerce, in a form which accords with a usage of which the parties are or should be aware and which in such trade or commerce is widely known to parties to contracts of the type involved in the particular trade or commerce concerned. Besides formal, the Brussels I bis Regulation contains a rule on material validity of the prorogation clause stating that the material validity is governed by the laws of the Member State in which the court whose jurisdiction is prorogated is located.

Private competition claims involve legal persons who often use terms and conditions in their business. Hence, it is important to consider the CJEU's case-law on validity of prorogation clause in terms and conditions. In *Estasis Salotti*, the Italian and German undertaking concluded a contract for the supply of machines. The contract was signed in Milan, on the memorandum of the German undertaking. On the back of the contract, there were general conditions of sale, including a clause conferring jurisdiction to German courts. The text of the contract did not refer directly to those general conditions of sale. However, the text of the contract did refer to the previous offers made by the German undertaking which expressly referred to the general conditions. The CJEU established a principle according to which, in case a prorogation clause is included among the general conditions of sale of one of the parties, printed on the back of a contract, the requirement of writing is satisfied only if the contract signed by both parties contains an express reference to those general conditions. If the contract was concluded by reference to earlier offers, which referred to the general conditions of one of the parties including a prorogation clause, the requirement of a writing is satisfied only if the reference is express and can therefore be checked by a party exercising reasonable care (judgment of 14 December 1976, *Estasis Salotti v Ruewa*, C-24/76, EU:C:1976:177). In *Segoura*, the CJEU further explained that, in the situation in which one of the parties sends the confirmation of the contract to the other party in writing which contains a prorogation clause, the requirement of writing is satisfied only if the confirmation has been accepted in writing by the other party (judgment of 14 December 1976, *Segoura v Bonakdarian*, C-25/76, EU:C:1976:178). As for the form which accords with usage in international trade or commerce, the CJEU clarified that the consent to the jurisdiction clause is presumed to exist where the parties' conduct is in accordance with a usage which governs the area of international trade or commerce in which they operate and of which they are or should be aware. The existence of such usage is to be determined in relation to the branch of trade or commerce in which the parties conduct business. The usage exists if it is generally and regularly followed by operators in that branch when concluding contracts of a particular type.



However, neither it is necessary for such usage to be established in specific countries, nor in all the Member States (judgment of 16 March 1999, *Castelletti*, C-159/97, EU:C:1999:142). In *CDC Hydrogen Peroxide* (judgment of 21 May 2015, *CDC Hydrogen Peroxide*, C-352/13, EU:C:2015:335), the CJEU had the opportunity of discussing the validity of prorogation clauses in private proceedings which are result of competition law infringement, particularly, proceedings for damages instituted as a result of cartel. Following the Commission Decision 2006/903/EC of 3 May 2006 relating to a proceeding under Article 81 of the Treaty establishing the European Community and Article 53 of the EEA Agreement in which the European Commission found that several undertakings supplying hydrogen peroxide and sodium perborate participated in a single and continuous infringement of the prohibition of cartel agreements, a Belgian company, CDC, established for the purpose of pursuing claims for damages of undertakings affected by a cartel, instituted the proceedings against those undertakings domiciled in different Member States. CDC sought from the court to order these undertakings to pay damages jointly and severally and to provide disclosure. CDC instituted the proceedings in Germany and the defendants objected to the jurisdiction of the German court relying on the jurisdiction and arbitration clauses in certain supply contracts. In connection to the prorogation clauses, the CJEU recalled that a prorogation clause can concern only disputes which have arisen or which may arise in connection with a particular legal relationship. The party may not be bound by the prorogation clause with respect to all disputes which may arise with the other party to the contract. Therefore, a clause which refers to all disputes arising from a contract does not extend to a dispute arising from the non-contractual liability. Since the undertaking which suffered the damage could not reasonably foresee such litigation at the time they agreed to the jurisdiction clause and had no knowledge of the unlawful cartel at that time, such litigation cannot be regarded as stemming from a contractual relationship the consequence of which is the fact that a such a prorogation clause cannot derogate from the jurisdiction of the court which is otherwise competent. On the other hand, if the clause refers to disputes concerning liability for infringement of competition law, such prorogation clause may derogate from jurisdiction of the courts competent based on provisions of the Brussels I bis Regulation under the condition that the dispute arises from the non-contractual liability. In addition, the CJEU emphasised that the validity of the prorogation clause cannot be called into question based on requirement of effective enforcement of the prohibition of cartel agreements.

### 2.3. Special Jurisdiction in Torts

A number of private competition law actions are to be characterised as non-contractual liability. A private competition law claim brought by a third party should be characterised as tort, delict and quasidelict, as well as the claim by a contracting party after the prohibited agreement has been invalidated (Danov, 2011, p. 86). Therefore, the provision which will often serve as the basis for establishing jurisdiction is the provision on special jurisdiction for tort, delicts and quasi-delicts. Art. 7(2) of the Brussels I bis Regulation reads that in matters relating to tort, delict and quasi-delict, jurisdiction is conferred to courts of the Member State in which the harmful event occurred. This provision may be resorted to even for the preventative actions. The CJEU clarified in *Henkel* (judgment of 1 October 2002, *Henkel*, C-167/00, EU:C:2002:555) that the provision on special jurisdiction for torts, delicts and quasidelicts may be used for establishing jurisdiction in proceedings the purpose of which is the prevention of the occurrence of damage. Early on in its case law, the CJEU adopted the ubiquity approach in interpreting this provision by stating that harmful event embodies both the harmful act and the damage arising out of it. Hence, in so called “distant tort” cases, i.e. cases in which the harmful act is committed in one state, while the damage arises in another, the plaintiff will have the option of choosing before courts of which Member State he or she will institute the proceedings.

The ubiquity principle was first established in *Bier* in which the CJEU answered in the affirmative to the question referred for the preliminary ruling whether the Dutch plaintiff can institute the proceedings before Dutch courts against the company managing a French mine which released the saline waste into the Rhine in France that subsequently damaged his crops in the Netherlands. If the CJEU had opted only for the place of the harmful act as the jurisdictional criterion, in a certain number of cases, this criterion would coincide with the defendant's domicile. In situations in which the place of the event giving rise to the damage does not coincide with the domicile of the tortfeasor, the decision in favour only of the place where the damage arised, would exclude a helpful connecting factor with the jurisdiction of a court which is closely connected to the harmful event (judgment of 30 November 1976, *Handelskwekerij Bier v Mines de Potasse d'Alsace*, C-21/76, EU:C:1976:166).

### **2.3.1. Place of the Harmful Act in Private Competition Law Claims**

In *CDC Hydrogen Peroxide*, besides the prorogation of jurisdiction in private competition law claims, the CJEU discussed the operation of the provision on non-contractual liability in these proceedings. As for the harmful act as one of the constituting elements of the harmful event, the CJEU identified it as the restriction of the buyer's freedom of contract as a result of that cartel in the sense that that restriction prevented the buyer from being supplied at a price determined by the rules of supply and demand. If there is one place in which the cartel was concluded, the harmful act should be deemed to occur in that place. However, in circumstances like the one in this case, it is not possible to identify a single place where the cartel was concluded because it consisted of a number of collusive agreements in various places in the EU. In such circumstances, the particular agreement which gave rise to damage should be identified and court of the Member State in which that agreement was concluded is competent. In both cases, the court should establish whether several participants in that cartel may be hauled before the same court. In rendering its decision in *CDC Hydrogen Peroxide*, the CJEU decided to depart from the proposal of the Advocate General Jääskinen (opinion of Advocate General Jääskinen delivered on 11 December 2014 in case *CDC Hydrogen Peroxide*, C-352/13, EU:C:2014:2443) who suggested that Art. 7(2) of the Brussels I bis Regulation should not be used as a jurisdictional basis in cases like this one which include a complex, long-operating, horizontal cartel, which consist of series of agreements and collusive practices, and produced effects in many EU Member States. He also pointed out that it might be difficult to determine the place where the cartel agreement was concluded bearing in mind the secret nature of the cartel.

The solution for which the CJEU opted is appropriate from the perspective of close connection between the dispute and the competent court, which is one of the Brussels I bis cornerstones (recital 16 of the Brussels I bis Regulation). The court of the Member State in which the cartel agreement was concluded will be in the best position to conduct the proceedings, collect evidence, hear the witness etc. On the other hand, the argument the Advocate General presented on difficulty in determining the place in which the cartel agreement was concluded is justified, but his proposal might not be entirely acceptable. It does not seem reasonable to deny the victim of the cartel the possibility of bringing a suit in the Member States whose courts are competent based on Art. 7(2) of the Brussels I bis Regulation just because the task of determining the place where the cartel agreement was concluded is complex. The place where the domicile or seat of the undertaking participating in the cartel is located, should not be disregarded. Harmful act, after all, is committed in the Member State in which each undertaking acts with the purpose of applying the cartel agreement (for a similar approach see Mankowski, 2016, pp. 302-303, para. 316).

Furthermore, this criterion would be in line with the CJEU's judgment in *Wood Pulp Cartel* case in which the CJEU identified the place where the agreement is implemented as the relevant place (judgment of 27 September 1988, *Ahlström Osakeyhtiö and Others v Commission*, C-89/85, C-104/85, C-114/85, C-116/85, C-117/85, C-125/85, C-126/85, C-127/85, C-128/85 and C-129/85, EU:C:1993:120). The latter option was also considered by the Advocate General who rejected it on account that it would lead to the fact that only the undertaking who has domicile in a particular Member State could be sued in that Member State based on the harmful act as jurisdictional criterion regardless of the fact that other undertakings, domiciled elsewhere restricted free competition in the territory of that Member State. That argument does not seem too convincing, since the plaintiff will always have the option of suing several defendants based on Art. 8(1) of the Brussels I bis Regulation provided that there is a close connection between the claims (see *infra* 2.5. Multiple Defendants).

The CJEU explained how to determine the harmful act in case of private competition claims which are the result of the cartel agreements. It did not, however, have the chance to discuss the harmful act in case of the abuse of dominant position. Unlike the prohibited agreements, the abuse of dominant position represents a unilateral act on the part of the undertaking that has a dominant position on the market (Butorac Malnar, Pecotić Kaufman, Petrović, 2013, p. 188). Therefore, the harmful act in private competition claims which are the result of the abuse of the dominant position should be located in the Member State in which the domicile or the seat of the undertaking is located (for a similar solution, see Mankowski, 2016, p. 300, para. 311). It is reasonable to presuppose that the decision of the undertaking to abuse the dominant position is made in the undertaking's domicile. Such solution accords with the legal certainty and predictability. Any other approach might lead to a fortuitous and random forum. Furthermore, this is in line with the previous case law in which the CJEU held that the harmful act was committed in the tortfeasor's establishment (judgment of 7 March 1995, *Shevill and Others v Presse Alliance*, C-68/93, EU:C:1995:61; judgment of 25 October 2011, *eDate Advertising and Others*, C-509/09, C-161/10, EU:C:2011:685; judgment of 19 April 2012, *Wintersteiger*, C-523/10, EU:C:2012:220; judgment of 22 January 2015, *Hejduk*, C-441/13, EU:C:2015:28; judgment of 28 January 2015, *Kolassa*, C-375/13, EU:C:2015:37; judgment of 3 April 2014, *Hi Hotel HCF*, C-387/12, EU:C:2014:215; judgment of 16 January 2014, *Kainz*, C-45/13, EU:C:2014:7; judgment of 5 June 2014, *Coty Germany*, C-360/12, EU:C:2014:1318).

### **2.3.2. Place of the Occurrence of Damage in Private Competition Law Claims**

After *Bier*, the next important step in interpreting the provision on special jurisdiction in torts was taken in *Dumez France and Others v Hessische Landesbank and Others*. In it, the CJEU explained that only direct, immediate damage is the admissible criterion for jurisdiction. The case concerned French companies which sued German banks before French courts based on Art. 7(2) of the Brussels I bis Regulation. The plaintiffs considered that the damage was sustained in France where they sustained a loss as a consequence of a damage sustained by their German subsidiaries after German banks cancelled the loans to the main contractor. Since the direct damage is the one sustained by the German subsidiaries as directly injured parties, the French courts are not competent. The reasoning behind such decision is the principle that multiplication of competent courts should be avoided since it increases the risk of irreconcilable judgments (judgment of 11 January 1990, *Dumez France and Others v Hessische Landesbank and Others*, C-220/88, EU:C:1990:8). The principle established with the respective judgment plays an important role in private competition law claims in which the initial damage was passed on to the next undertaking in the supply chain (for more on passing on in competition law see Bukovac Puvača, Butorac, 2008, pp. 34-36).

The place of the occurrence of damage in the sense of Art. 7(2) of the Brussels I bis Regulation for all undertakings in the supply chain is the registered office of the undertaking who sustained the initial damage, since this is the place where the direct damage was sustained. The CJEU already held in its case law that the place of occurrence of the damage is the place where the alleged damage actually manifests itself (judgment of 16 July 2009 *Zuid-Chemie*, C-189/08, EU:C:2009:475). Accordingly, the CJEU established in *CDC Hydrogen Peroxide* that the damage which is the result of a cartel consists in additional costs incurred because of artificially high prices, and is to be located at the victim's registered office. This jurisdictional criterion is justified by the principle of efficacious conduct of proceedings, since the assessment of a claim for damages depends on circumstances of that undertaking. The courts of the victim's registered office have jurisdiction with respect to claim against any one of the participants in the cartel or against several of them for the entire damage sustained by the undertaking. Since the jurisdiction of the court is limited to the damage suffered by the undertaking whose registered office is located in its jurisdiction, an applicant such as CDC, to whom the claims have been transferred by undertakings, needs to institute separate actions for each undertaking before the courts in Member States in which their registered offices are located. First of all, the said courts are best placed to discuss the case due to their proximity to the parties and the dispute. Second, this approach seems to strike the right balance between the interests of the cartel victims and the violators. In the procedural sense, the cartel victims' interests are protected by allowing them to sue before the courts of the Member State in which their registered office is located for the damage they sustained in that Member State and the violators may reasonably predict which undertakings will sustain the direct damage and accordingly before courts of which Member States they may be sued.

In *CDC Hydrogen Peroxide*, the plaintiff claimed for the damage of paying artificially high price for the product. However, if the competition infringement resulted with a damage other than overpaying for goods and services, it seems as if it would be appropriate to localise such damage in Member States whose markets were affected (for a similar solution, see Mankowski, 2016, p. 333, para. 385) and to limit the jurisdiction of the Member State court only to damage sustained in that jurisdiction. This is so because, in cases such as *CDC Hydrogen Peroxide*, the direct damage is the financial one, i.e. paying the artificially high price and it may be considered that it occurs in the victim's registered office. On the other hand, if the competitor who is a victim of a competition law infringement sustains a different kind of damage, for instance is excluded from the market, the direct damage occurs where the market has been affected, i.e. denied to a certain competitor. In the latter case, the undertaking does suffer the financial damage, as well, but this damage is not a direct one. The same approach should be accepted for private competition claims which are the result of the abuse of dominant position. On top of that, jurisdictional basis which confers jurisdiction to Member State whose market has been affected would be in coordination with Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations (Rome II) (OJ L 199, 31.7.2007, pp. 40/49) which contains rules on applicable law for non-contractual liability and uses the connecting factor of state whose market has been affected for determining the law applicable to acts restricting free competition (See Art. 6 (2)).

## 2.4. General Jurisdiction

The rule on general jurisdiction is contained in Art. 4 of the Brussels I bis Regulation and prescribes that the person domiciled in EU Member State may be sued before courts of that Member States. It embodies the principle *actor sequitur forum rei* and, besides being the rule on general jurisdiction, this provision establishes the Brussels I bis personal scope of application.



Pursuant to Art. 62 of the Brussels I bis Regulation, in order to determine whether the natural person has domicile in a particular Member State, the laws of that Member State are to be applied. In case the natural person's domicile is not known, his or her last domicile will be relevant for the purposes of the Brussels I bis Regulation (judgment of 17 November 2011, *Hypoteční banka*, C-327/10, EU:C:2011:745). The domicile of the legal persons is autonomously determined by Art. 63 of the Brussels I bis Regulation; it is located in the Member State(s) in which the legal person has its statutory seat, central administration or principal place of business.

## 2.5. Multiple Defendants

Art. 8(1) of the Brussels I bis Regulation allows for the possibility of suing multiple defendants before the courts of the Member State in which one of them has his or her domicile, provided that claims are so closely connected that it is expedient to hear and determine them together to avoid the risk of irreconcilable judgments. As the CJEU explained in *Freeport*, the fact that claims against defendants have different legal bases does not preclude the application of this provision (judgment of 11 October 2007, *Freeport*, C-98/06, EU:C:2007:595). In the latter case, the claim against one of the defendants was of contractual nature, while the other one was based on non-contractual liability. In another case of a more recent date, the German court wanted to ascertain whether it can establish its jurisdiction according to Art. 7(2) of the Brussels I bis, on the basis that one of the perpetrators causing the damage, who is not a party to the proceedings acted in the jurisdiction. Such “reciprocal attribution to the place where the event occurred” is possible under German law. The parties to the dispute were Mr. Melzer, domiciled in Germany, and MF Global, an English brokerage company holding an account for Mr. Melzer. German company WWH, solicited Mr. Melzer as a client by telephone, managed his file, and opened the said account for Mr. Melzer with MF Global, a brokerage company established in England. After losing his investment, he instituted the proceedings claiming that he was not informed on the risk. The CJEU expectedly decided that the courts of the Member State in which the harmful event, imputed to the perpetrator who is not a party to the proceedings, occurred cannot declare itself competent over another presumed perpetrator of that damage who has not acted within the jurisdiction of the court seised. Still, such attribution of jurisdiction to hear disputes against persons who have not acted within the jurisdiction of the court seised remains possible under Art. 8(1) of the Brussels I bis Regulation if the conditions laid down by that provision are fulfilled (judgment of 16 May 2013, *Melzer*, C-228/11, EU:C:2013:305).

In *CDC Hydrogen Peroxide*, the CJEU was called upon to clarify whether the provision of Art. 8(1) may be applied for establishing jurisdiction of the court in the Member State in which the party against whom the proceedings were discontinued has domicile. Parties to the dispute alleged that an out-of-court settlement was reached between the CDC and one of the undertakings domiciled in Germany before the proceedings were commenced. However, according to these allegations, the formal conclusion of that settlement was intentionally delayed until proceedings had been instituted with the aim of bringing all undertakings before the German court. After initially establishing that separate actions for damages against undertakings domiciled in different Member States who participated in a single and continuous cartel may lead to irreconcilable judgments, the CJEU found that the fact the negotiations were held cannot call into question applicability of Art. 8(1) of the Brussels I bis Regulation. However, the situation would be different if the settlement had been concluded, and concealed so that other undertakings may be sued before the courts of the Member State in which the undertaking with whom the settlement has been reached has his or her domicile.



### 3. CONCLUSION

Since infringements of competition law often have an impact on markets of more than one state, one of the initial issues in private competition claims will be determining which court is competent. The Brussels I bis Regulation, one of the most important sources of European procedural law, contains rules on international jurisdiction in civil and commercial cases. Brussels I bis rules which may be applied in private competition claims based on non-contractual liability are submission to jurisdiction, prorogation of jurisdiction, special jurisdiction in torts, delicts and quasidelicts, general jurisdiction and multiple defendants. Among these jurisdictional bases, the rule on special jurisdiction in torts, delicts and quasidelicts deserves special attention since the courts are confronted with the task of determining the place of harmful event in private competition claims. In *CDC Hydrogen Peroxide*, the CJEU has explained how to localise the harmful event in case of claim for damages which is the result of the cartel. It decided that the harmful act occurs in the place where the cartel was concluded or where one of the agreements which gave rise to damage was concluded. As for the damage, the CJEU held that the place of occurrence of damage is in the Member State in which the cartel victim's registered office is. As for the private competition claims which are the result of abuse of dominant position, localisation of the harmful event has not been the topic of discussion before the CJEU. The latter cases differ from the cartel cases inasmuch as the abuse is a unilateral decision by the undertaking in the dominant position which leads to conclusion that it would be reasonable to consider that the harmful act occurred in the Member State in which the tortfeasor has his or her domicile or seat. As for the damage, if the damage consists in overpaying for products or services due to the cartel agreement as was the case in *CDC Hydrogen Peroxide*, the damage arises in the registered office of the cartel victim. On the other hand, if the damage sustained was other than paying an artificially high price, the damage should be localised in the Member States whose markets were affected. The same should be valid with respect to the private competition claims which are the result of the abuse of dominant position.

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## DIGITAL PRESENCE OF MUNICIPALITIES: EVIDENCES FROM CITY OF IZMIR

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### ABSTRACT

*Local municipalities websites and their social network sites are important mediators for residents and visitors desiring to relate with municipalities' local announcement, building and entities, services, sportive and cultural activities, touristic facilities, etc. It has been already known that rapidly emerging digital platforms such as websites, social network sites represent powerful engagement tools. The main question is; could municipalities use these powerful tools to serve much better or not? The purpose of this study is to investigate how municipalities present themselves on digital platforms. In this context, websites and social network sites accounts of 30 local municipalities of İzmir and İzmir metropolitan municipality are examined. Our findings show that most of local municipalities have efficient and effective websites in some aspects. However most of them have some significant deficiencies such as different language support, broken links, etc. Municipalities use social network sites especially Twitter to enhance transparency and transmission but, they need to extend to other sites too.*

**Keywords:** Website, Social Media, İzmir Metropolitan Municipality, Local Municipalities

### 1. INTRODUCTION

Local governments are the closest units to the public and are administrative units that can personally communicate with the public. Though the management structure of local governments varies from country to country, the characteristic of being a local unit serving to the public is common. The ability of serving in accordance with public demands and needs has a particular importance in terms of the relationship between local governments and public. Providing permanency of local services to the public is one of the main duties of the state. For this reason, public relations aspect of the state has gradually expanded and altered. Looking at the activities of municipality in relation to the public, two dimensions are concerned. The first one is the "recognition" that the municipalities use to determine the structure and opinions of the people; and the second is to "promote" the services that the municipalities are offering. Developments in information and communication technologies have eased the connection between local governments and people, thus have provided them to get closer. Carrying out the services and duties for which local governments are responsible and citizens' duties and services to the state have gained importance in the sense of being fast, economic, uninterrupted and secure electronically. Another effect of information and communication technologies is being able to ensure the flow of information between the local government unit and other institutions (Kocaoğlu, Emimi, 2013, p. 26). The internet puts at the disposal of the public sector, as well as the local administration, a powerful channel of communication that contributes to the establishment of a dialogue between the administration and the public (Gandia & Archidona, 2007, p. 36) Corporate web pages have allowed municipalities to promote their own services

and make people use of municipal services. In recent years, the use of social media tools such as Twitter, Instagram, Facebook, and YouTube has become widespread among both administrative organisations and citizens. Public administrations are increasingly adopting social media, such as Facebook, Twitter or YouTube to interact with citizens (Agostino, 2013, p. 232) Social media has created an effective communication channel between the municipalities and the citizens in terms of the services the municipalities are offering. In particular, the use of mayors' social media accounts allows citizens to interact with both the president and the institution. The aim of the study is to show how municipalities represent themselves in the digital platform. For this aim, web sites and social network sites accounts of Izmir Metropolitan Municipality and 30 district municipalities were examined.

## 2. LITERATURE REVIEW

In recent years, many governments, in an effort to improve service delivery and increase transparency and accountability, have begun to utilize information technologies (Manoharan, et al., 2015, p. 116) . The revolution in information and communication technologies (ICT) has been changing not only the daily lives of people but also the interactions between governments and citizens (Chun, et al., 2010, p. 1). Developments achieved in ICT can help public enterprises to contact easily with their audience and improve long term relationships. Besides, since the middle of the 1990s, the internet has been carrying out for everyone a fundamental role in the access, dissemination and communication of information and knowledge. The internet puts at the disposal of the public sector, as well as the local administration, a powerful channel of communication that contributes to the establishment of a dialogue between the administration and the public (Gandia & Archidona, 2007, p. 35-36) Thanks to the developments in technology, governments have initiated and developed institutional websites for public administration purposes (Karkin & Janssen, 2014, p. 351). In the rising communication environment, selecting effective communication channels, managing the channel and creating the targeted outputs grow in importance. Government agencies should disclose information about their operations and decisions rapidly in forms that the public can readily find and use. Participation encourages the public engagement by increasing opportunities for the public to participate in policymaking and to provide the government with the collective knowledge, ideas, and expertise of the citizens (Chun, et al., 2010, p.2). Web technologies also facilitate government's linkages with citizens, other governmental units, and businesses (Moon, 2002, p. 425). As a far-reaching information tool, websites enables municipalities to inform public comprehensively and real-time. They can present information about services that serves, communication alternatives, electronic tools which help citizens in invoice payments, applications for complaints and suggestions, reading recent news and following upcoming social and cultural activities, etc. The Internet and the World Wide Web offer two main capabilities that can further local governance reform (Ambramson, et al., 1988; Bimber, 1996; Raab, et al., 1996). First, cities may distribute and citizens may receive upto-date information concerning municipal affairs cheaply and conveniently. Internet-based information distribution can dramatically improve citizen and business knowledge of municipal affairs because of the ease of access, its constant availability, and the ability to present it in a visually pleasing and understandable format. Second, through e-mail and chat rooms, the Internet facilitates communication across distances, across time, and across disparate social groups and institutions. This communication channel can also support transactions between government and citizens (Musso et al., 2010, p.3). Since Facebook opened Fan Pages to private and public organizations in 2007, the private and public sectors have jumped to capitalize on the efficient and inexpensive power of Facebook to communicate strategically with their client base (Strecker, 2011, p.3). Social media have opened up new possibilities for organizations to connect with their interest groups by allowing them to receive real-time feedback about



organizational announcements and engage in conversations (Lovejoy, Waters & Saxton, 2012: 313). Social media drive innovation in public service delivery and government operations and can help governments improve communications, both in proactive and reactive (Mickoleit, 2014, p. 5). Sending public messages demonstrates responsiveness and establishes a dialog between users and the organization. Users direct questions and comments to the organization using a public message, and organizations should acknowledge and respond to these messages (Lovejoy et al., 2012, p. 314). This new paradigm makes government more transparent, more accountable, and more trustworthy, since the citizens, government officials and others participate in policymaking, content creation, data collection, knowledge sharing and structuring, and collaborative decision making (Chun et al., 2010, 5-6). In their recent study, Karkin and Janssen (2014, p.356) were measured citizen engagement to understand whether websites employ tools designed for collecting citizen proposals for better local public service provision, citizen satisfaction questionnaires, live broadcasting for council meetings or public procurement procedures or direct communication addresses by the Mayor or Council Members by the presence of Web 2.0 tools directed to citizen engagement was also evaluated as a website feature. Cumbie and Kar (2016, p.15) examines the concept of electronic government (e-government) inclusiveness and evaluates the inclusiveness of local e-government websites. They suggested more inclusiveness on governments websites and offered two strategic options. Eliason and Lundberg, (2006, p.48) identified seven website genres named notice-board, newspaper, brochure, promotion, commercial, portal, and filter. They argued that these genres differ in terms of form content, purpose and users of websites. Liste and Sorensen, (2015, p.733) analysed the websites of Norwegian local governments and implied construction of the users of these websites, with an emphasis on website content and underlying aims of the local governments. From social media perspective, many researchers pointed out that social media allow municipalities to contact their audience faster and interactive. For example, Bonson et al. (2012) highlighted that social media enhance local governments transparency and increase e-participation that opens a real corporate dialog. Similarly, Agostino (2013) found that considering unofficial presences, almost all of municipalities uses Facebook, while only one-third of them uses Twitter and 40 % of them have YouTube account. When considered official presence, Facebook usage falls to 26%, following by YouTube by 19% and Twitter by 14% respectively.

### 3. METHODOLOGY

The sample for this study consisted of 30 Izmir local municipalities and İzmir metropolitan municipality itself. The municipalities and their mayors, populations and internet sites could be seen in Appendix A. As we mentioned before, in this study presence of municipalities on digital platforms has been examined. In this respect, websites of municipalities have been investigated from several aspects. Evaluation criteria in previous studies such as (Karkin & Janssen, 2014; Criado & Ramilo, 2003; Gandía, Marrahí & Huguet, 2016; Royo, Yetano & Acerete, 2013) have been analyzed and to evaluate website efficiency of municipalities of city of İzmir, a new questionnaire has been created. Quantal response criteria have been shown in Table 1.

**Table 4** Website Evaluation Criterias

General Information of the Municipality	News Related to Municipality	Statement about Mission and Vision
Local Buildings and Entities	Information about Traffic	Alerts Option / E-Bulletin
History	Wishes/Complaints/ Suggestions Box	Site Map
Museums, Sights and Buildings	E-Services	FAQ Section
Access to Town	News about Events	Search Engine
Socio-Economic Information	Public Transportation Information	Help Section
City Map (google link)	Strategic Plans	Live Broadcast
City Guide	Forms for Downloading	Digital Newspaper, etc.
Information about Weather	Online Form Completion and Submission	Mobile Compatible

Additional to these criteria, external social media links such as Facebook, Tweet, Instagram and RSS, broken links on website, different language support and smart phone application existence on Google Play Store or IOS are also investigated. Beyond these, municipalities' social network sites -if exists- have been examined to investigate their social media presence. For municipalities' twitter accounts, some criteria such as; number of followers, number of following, number of tweets, number of shared videos/photos, number of likes, date of attendance and confirmation status have been analyzed. Similarly, for Instagram accounts; number of followers, number of following, number of posts, confirmation status and tag usage; for Facebook accounts; number of followers, number of page likes and confirmation status, finally for Youtube accounts; number of subscribers and number of shared videos have been analyzed.

#### 4. RESULTS and FINDINGS

Results of the website evaluation criteria analysis are shown in Table 2.

**Table 5** Website Evaluation Criteria Analysis

Municipality	Quantal Response Criteria Scores (See Appendix B)	External SM Links*	Broken Links**		Different Language Support	Smart Phone Application***
			Number of Broken Link	Broken link Ratio (%)		
İzmir	22	F,T,I,R	31	1,6	Eng	GP, AS
Aliağa	15	F,T,Y	207	10,4	-	GP
Balçova	16	F,T,G+	33	1,8	-	GP
Bayındır	14	F,T,I,Y	31	1,6	-	No App
Bayraklı	17	F,T,I,Y	26	1,3	-	GP, AS
Bergama	13	F,T,I,Y	29	1,5	Eng	GP
Beydağ	12	F,T	5	0,4	-	No App
Bornova	17	F,T,I,Y,G+	26	1,3	Eng	GP
Buca	19	F,T	99	5	-	GP, AS
Çeşme	17	F,T,I,Y	5	0,3	-	No App
Çiğli	15	F,T,I,Y	416	20,8	-	GP, AS
Dikili	14	F,T,Y	33	2,4	-	GP, AS
Foça	10	F,T,Y,G+	11	0,6	Eng, Fr, Ger, Gre	No App
Gazimir	21	F,T,Y,G	206	10,3	-	GP, AS
Güzelbahçe	9	F,T,Y,I	6	0,3	-	GP, AS
Karabağlar	15	F,T,Y,I	156	12,8	-	GP
Karaburun	14	F	24	2	-	No App
Karşıyaka	18	F,T,Y,I,G+	82	0,4	Eng, Es	GP, AS
Kemalpaşa	18	F,T,Y	15	0,8	-	GP, AS
Kınık	15	F,T,G+	5	0,3	-	No App
Kiraz	11	F,T,Y,I,RSS	28	1,4	-	GP, AS
Konak	16	F,T,Y,I	1	0,1	-	No App
Menderes	16	F,T,Y	37	1,9	-	GP, AS
Menemen	14	-	31	6	-	No App
Narlıdere	18	F,T	33	3,4	-	No App
Ödemiş	18	F,T,Y,I,RSS	427	21,4	-	No App
Seferihisar	14	F,T,Y,I,G+,in	107	5,4	Eng	GP
Selçuk	15	F,Y	13	0,8	Eng, Es	No App
Tire	17	F,T,Y	23	1,2	-	No App
Torbalı	16	F,T,Y	344	16,7	-	GP
Urla	15	-	228	7,6	-	No App

\* F: Facebook, I: Instagram, T: Twitter, Y: Youtube, RSS: Rich Site Summary, G+: Google Plus, in: LinkedIn  
 \*\* First 2000 links have been investigated  
 \*\*\* GP: Google Play Store, AP: Apple Store

Considering the quantal response statements, maximum score (22) belongs to İzmir Metropolitan Municipality which could be said usual. On the other hand along the local municipalities belongs to Gazıemir municipality. They have 21 points out of 27 statements. This means Gazıemir municipalities carried out almost 77% of necessities that we specified. The lowest score belongs to Güzelbahçe municipality. They could perform only 9 necessities within 27. It is possible to see other municipalities' scores in Table 2.

Also one can find detailed information on this subject in Appendix B. As for that municipalities' websites in terms of social media links, 2 local municipalities (Urla and Menemen) have no links for their social network sites on their website. On the other hand, municipalities like Seferihisar, Ödemiş, Kiraz, Karşıyaka and Bornova draw attention on this issue. They active on almost every social network sites and they have links to connect them on their websites. When taken into account the broken links of municipalities' websites; Çiğli and Ödemiş websites have the highest number of broken links, 416 and 427 respectively. And also their broken links ratios (20,8% and 21,4%) are also high in a similar way.

This means, one of five links on their websites are broken. On the other side Konak website has the lowest number (1) and lowest ratio (0,1%) of broken links. Çeşme and Güzelbahçe municipalities which are good at this factor. It could be told that local municipalities of İzmir are quite weak respecting different language support on their website. Only 7 out of 30 municipalities have different language support rather than Turkish and 4 of them have just English language. This is a significant weakness for a touristic city such as İzmir. With regard to the smart applications of municipalities, 13 of along to 30 municipalities have no smart mobile application. Results of social network sites analysis in terms of followers, sharing effectiveness, date of attendance, confirmation status, etc. are shown in Table 3 and Table 4. Table 3 contains some statistics on Twitter while Table 4 contains on Facebook, YouTube and Instagram.

*/Table following on the next page*

**Table 6** Twitter Statistics of Municipalities – *(Table ends on the next page)*

	Twitter						
	Number of followers	Number of following	Number of tweets	Number of Videos/Photos	Likes	Date of Attendance	Confirmed or not
İzmir	66371	43	5199	4648	165	July 2012	Yes
Aliağa	932	246	10025	3345	0	Dec. 2010	No
Balçova	1268	18	266	37	29	Feb. 2016	No
Bayındır	563	48	1241	1162	5	April 2014	No
Bayraklı	8432	543	3919	1193	475	May 2012	Yes
Bergama	3355	296	1683	561	143	Jan 2011	No
Beydağ	-	-	-	-	-	-	-
Bornova	26267	42	10175	4374	1875	Mar. 2012	Yes
Buca	9465	106	6410	4611	89	Mar. 2014	
Çeşme	850	2	125	39	13	June 2015	No
Çiğli	2424	60	2833	1710	50	Jan 2013	No
Dikili	-	-	-	-	-	-	-
Foça	-	362	493	46	11	Sep 2014	No
Gazimur	287	21	36	13	13	Feb 2016	No
Güzelbahçe	-	-	-	-	-	-	-
Karabağlar	-	-	-	-	-	-	-
Karaburun	-	-	-	-	-	-	-
Karşıyaka	24346	110	5490	4282	409	Feb. 2013	No
Kemalpaşa	4107	175	4700	376	4966	Sep. 2014	No
Kınık	1072	1	10	8	0	Nov. 2015	No
Kiraz	-	-	-	-	-	-	-
Konak	16636	259	4818	2350	421	Mar.2012	Yes
Menderes	748	8	1152	978	387	May 2014	No
Menemen	-	-	-	-	-	-	-
Narlıdere	281	17	144	81	49	Apr 2016	No
Ödemiş	706	91	1365	65	15	Dec. 2014	No
Seferihisar	4846	3	1946	461	90	Jan. 2013	No
Selçuk	-	-	-	-	-	-	-
Tire	741	261	519	0	0	Mar.2012	No
Torbalı	1171	9	24	20	1	Nov.2015	No
Urla	2081	59	1271	539	30	May 2010	No

*/Table following on the next page*

**Table 7** Instagram, Facebook and Youtube Statistics of Municipalities

	Instagram					Facebook			Youtube	
	Number of followers	Number of following	Number of posts	Confirmed or not	Tag usage	Number of followers	Number of page likes	Confirmed or not	Number of subscribers	Number of videos
İzmir	66231	114	1408	N	Y	122703	119539	N	-	-
Aliaga	-	-	-	-	-	13198	13266	N	937	623
Balçova	-	-	-	-	-	-	-	-	-	-
Bayındır	844	64	1196	N	Y	7355	7372	N	68	28
Bayraklı	2305	727	846	N	Y	12197	12142	N	254	655
Bergama	491	6	340	N	Y	17606	17697	N	141	85
Beydağ						1511	1515	N	-	-
Bornova	16579	167	338	Y	Y	70684	70607	Y	422	793
Buca						28754	28585	N	-	-
Çeşme	1762	7	290	N	Y	8472	8384	N	36	162
Çiğli	1479	4	1991	N	Y	11260	11398	N	80	287
Dikili	-	-	-	-	-	-	-	-	-	-
Foça	-	-	-	-	-	-	-	-	61	66
Gazimir	-	-	-	-	-	13874	13879	N	55	32
Güzelbahçe	-	-	-	-	-	-	-	-	-	-
Karabağlar	-	-	-	-	-	-	-	-	22	99
Karaburun	-	-	-	-	-	-	-	-	-	-
Karşıyaka	17095	16	2400	N	Y	30320	30367	N	211	377
Kemalpaşa	-	-	-	-	-	10157	10242	N	101	136
Kınık	-	-	-	-	-	5042	5056	N	-	-
Kiraz	190	0	194	N	Y	14883	15038	N	-	-
Konak	1927	294	260	N	Y	18384	18529	N	268	53
Menderes	-	-	-	-	-				-	-
Menemen	-	-	-	-	-	4614	4597	N	-	-
Narlıdere	572	18	200	N	Y	2135	2096	N	-	-
Ödemiş	1580	165	1068	N	Y	11037	11061	N	0	0
Seferihisar	-	-	-	-	-	14542	14434	N		
Selçuk	-	-	-	-	-	5778	5828	N	0	786
Tire	-	-	-	-	-	2872	2876	N	3	4
Torbalı	-	-	-	-	-	12104	12556	N	165	75
Urla	2716	23	210	N	Y	12957	13089	N	195	510

When analyzed Twitter statistics of local municipalities, it has been found that, 8 local municipalities have no Twitter (see Table 3). İzmir Metropolitan Municipality have 66371 followers and their date of attendance to Twitter is July 2012. This account has posted 5199 tweets up to now and almost 90% of them are photos or videos. Bornova municipality has the highest followers (26267) considering local municipalities. Urla municipality is the first municipality who has a Twitter account in İzmir. Their date of attendance is May 2010. When it comes to confirmation status, just 4 municipalities have confirmed Twitter account. It could be said it is dangerous in digital platforms, because it could lead to fake accounts.



With regard to other social network sites; for Instagram, Karşıyaka has the highest number (17095) of followers, for Facebook Bornova has the highest number (70684) of followers and for Youtube Aliğa has the highest number of (937) subscribers. It is favorable to see that every municipality who has Instagram account also uses tags to reach related people easily. Detailed information about Instagram, Facebook and Youtube usage of municipalities could be gathered in Table 4.

## 5. CONCLUSION AND DISCUSSION

The alteration and transformation in information and communication technologies have differentiated and diversified the communication of the municipalities with the public. Websites of the municipalities and social media accounts (facebook, twitter, youtube etc.) have created a fast and effective communication channel between the public and the municipality. Another important issue in terms of municipalities is how they adapt to this change in technology. In this study, web sites and social media accounts of 30 district municipalities within the borders of İzmir Metropolitan Municipality were examined. In the research, we've tried to determine how the İzmir Metropolitan Municipality and 30 district municipalities use the digital platforms in communication with the public. Accordingly, web sites and social media accounts of municipalities are effective in promoting municipal services. Nevertheless, citizens come up with issues in terms of application features. Particularly, these issues item from the technical deficiencies of the municipalities. Following the related analyses, it is seen that only İzmir Metropolitan Municipality and other 6 district municipalities support foreign languages on their internet sites. The rest of the 24 municipalities do not have the foreign-language view option on the website. Another finding is related to social media account usage. The finding of the research indicates that social media accounts of municipalities (facebook, twitter, instagram etc.) are not mostly confirmed accounts. This situation may lead to the opening of counterfeit accounts for municipalities. Based on the research findings, recommendations can be made to the municipalities for web sites and social media studies. First, municipalities should use social media tools simultaneously and collectively. Any activity, news, information, content etc. should be announced concurrently to the public. Thus, it can be ensured that target groups using different social media tools are aware of any content without overlooking it. Second; the technical infrastructure of the web sites must be continuously improved, and the content of the web sites must be kept up to date. Especially since it addresses to socially and culturally diverse groups of people, the use of web sites should be facilitated. Besides, considering the growing use of mobile devices in terms of their citizens, municipalities should support mobile devices with applications and accord them with their municipal services. Research is limited to İzmir province. For this reason, the dimensions in this study can be used for similar studies. In particular, it may allow comparison between other metropolitan municipalities and district municipalities.

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## Appendix A. Information on Municipalities

Municipality	Mayor	Population	Website
İzmir	Aziz Kocaoğlu	4.168.415	<a href="http://www.izmir.bel.tr">http://www.izmir.bel.tr</a>
Aliaga	Serkan Acar	87.376	<a href="http://www.aliaga.bel.tr">http://www.aliaga.bel.tr</a>
Balçova	Mehmet Ali Çalkaya	78.121	<a href="http://www.balcova.bel.tr">http://www.balcova.bel.tr</a>
Bayındır	Ufuk Sesli	39.925	<a href="http://bayindir.bel.tr/">http://bayindir.bel.tr/</a>
Bayraklı	Hasan Karabağ	312.263	<a href="http://www.bayrakli.bel.tr">http://www.bayrakli.bel.tr</a>
Bergama	Mehmet Gönenc	101.917	<a href="http://www.bergama.bel.tr">http://www.bergama.bel.tr</a>
Beydağ	S. Vasfi Şentürk	12276	<a href="http://www.beydag.bel.tr">http://www.beydag.bel.tr</a>
Bornova	Olgun Atila	435.162	<a href="https://bornova.bel.tr">https://bornova.bel.tr</a>
Buca	Levent Piriştina	470.768	<a href="http://www.buca.bel.tr">http://www.buca.bel.tr</a>
Çesme	Muhittin Dalkılıç	39.243	<a href="http://www.cesme.bel.tr">http://www.cesme.bel.tr</a>
Çiğli	Hasan Arslan	182.349	<a href="http://www.cigli.bel.tr">http://www.cigli.bel.tr</a>
Dikili	Mustafa Tosun	40.537	<a href="http://www.izmir-dikili.bel.tr">http://www.izmir-dikili.bel.tr</a>
Foça	Gökhan Demirağ	28.647	<a href="http://www.foca.bel.tr">http://www.foca.bel.tr</a>
Gaziemir	H. İbrahim Şenol	132.365	<a href="http://www.gaziemir.bel.tr">http://www.gaziemir.bel.tr</a>
Güzelbahçe	Ö. Mustafa Ince	29.774	<a href="http://guzelbahce.bel.tr">http://guzelbahce.bel.tr</a>
Karabağlar	Muhittin Selvitopu	477.238	<a href="http://www.karabaglar.bel.tr">http://www.karabaglar.bel.tr</a>
Karaburun	Ahmet Çakır	9.403	<a href="http://www.karaburun.bel.tr">http://www.karaburun.bel.tr</a>
Karşıyaka	H. Mutlu Akpınar	333.250	<a href="http://www.karsiyaka.bel.tr">http://www.karsiyaka.bel.tr</a>
Kemalpaşa	Arif Uğurlu	101.693	<a href="http://izmir-kemalpasa.bel.tr">http://izmir-kemalpasa.bel.tr</a>
Kınık	Sadık Doğruer	28.052	<a href="http://kinik.bel.tr">http://kinik.bel.tr</a>
Kiraz	Saliha Şengül	43.615	<a href="http://kiraz.bel.tr">http://kiraz.bel.tr</a>
Konak	Sema Pekdaş	375.490	<a href="http://www.konak.bel.tr">http://www.konak.bel.tr</a>
Menderes	Bülent Soylu	83.331	<a href="http://www.menderes.bel.tr">http://www.menderes.bel.tr</a>
Menemen	Tahir Şahin	156.974	<a href="http://www.menemen.bel.tr">http://www.menemen.bel.tr</a>
Narlıdere	Abdül Batur	64.712	<a href="http://www.narlidere-bld.gov.tr">http://www.narlidere-bld.gov.tr</a>
Ödemiş	Mahmut Badem	132.028	<a href="https://www.odemis.bel.tr">https://www.odemis.bel.tr</a>
Seferihisar	M. Tunç Soyer	36.335	<a href="http://seferihisar.bel.tr">http://seferihisar.bel.tr</a>
Selçuk	D. Zeynel Bakıcı	35.736	<a href="http://www.selcuk.bel.tr">http://www.selcuk.bel.tr</a>
Tire	Tayfur Çiçek	82.102	<a href="http://www.tire.bel.tr">http://www.tire.bel.tr</a>
Torbalı	A. Yaşar Görmez	156.983	<a href="http://www.torbalı.bel.tr">http://www.torbalı.bel.tr</a>
Urla	Sibel Uyar	60.750	<a href="http://www.urla.bel.tr">http://www.urla.bel.tr</a>

## Appendix B. Information on Website Evaluation Criteria

	İzmir	Aliaga	Balcova	Bayındır	Bayraklı	Bergama	Beydağ	Bornova	Buca	Çesme	Çiğli	Dikili	Foça	Gaziemir	Güzelbahçe	Karabağlar	Karaburun	Karşıyaka	Kemalpaşa	Kınık	Kiraz	Konak	Menderes	Menemen	Narlıdere	Ödemiş	Seferihisar	Selçuk	Tire	Torbalı	Urla
Gen. Info. of the Mun.	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Local Buildings and Entities	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
History	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	-	+	+	+	+	+	-	+	+	+	+
Museums, Sights and Buildings	+	+	-	-	+	-	+	+	+	+	+	-	+	+	-	+	-	+	+	+	-	+	+	+	+	+	+	+	+	+	+
Access to Town	+	-	+	+	+	-	-	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Socio-Economic Information	+	+	-	+	-	-	+	-	-	-	-	-	+	-	+	+	+	-	-	+	-	-	-	-	-	-	-	-	+	+	-

City Map (google link)	+	+	+	+	+	+	-	-	+	+	-	+	-	+	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
City Guide	+	-	+	-	+	-	+	+	+	-	-	+	-	+	-	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	
Information about Weather	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	
News Related to Municipality	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Information about Traffic	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Wishes/Comp./Sugg. Box	+	+	+	+	+	-	+	+	-	+	+	-	-	+	-	-	+	-	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	-	
E-Service s	+	+	+	-	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	+	-	+	-	+	+	+	+	+	+	+	+	
News about Events	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Public Transportation Info	+	+	-	+	-	+	-	-	-	+	-	-	-	-	+	-	+	-	+	-	-	-	-	-	+	+	+	+	+	-	+	-	-	-		
Strategic Plans	+	-	+	-	+	+	+	+	+	-	+	-	-	+	-	+	+	+	+	+	+	+	-	+	+	-	+	+	+	+	+	+	+	+	+	
Forms for Downloading	+	+	+	+	-	+	-	+	+	+	-	-	-	+	-	-	-	+	-	-	-	-	-	-	+	-	+	+	+	+	+	+	+	+	+	
Online Form Comp. &Subm .	-	-	-	-	+	+	-	+	-	+	-	-	-	+	-	-	-	+	+	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	-	
Mission and Vision	-	-	-	-	-	+	-	+	+	+	+	+	+	-	+	-	-	-	-	+	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	
Alerts Option / E-Bulletin	-	+	+	+	+	+	-	-	+	+	+	+	+	-	+	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	+	
Site Map	+	-	-	-	-	-	+	-	+	-	+	+	+	+	+	-	-	-	+	+	-	-	+	-	-	-	+	-	-	-	+	-	-	-	-	
FAQ Section	+	-	+	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Search Engine	+	+	+	+	+	+	-	+	+	+	+	+	+	-	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-
Help Section	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Live Broadcast	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	
Digital Newspaper, etc.	+	-	-	+	-	+	-	+	+	-	-	-	-	-	-	-	+	-	+	-	-	-	+	+	+	-	-	-	-	+	+	-	+	-	-	
Mobile Compatible	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

## EUROPE AT THE CROSSROADS – THE EAST–WEST AND NORTH– SOUTH BRIDGE FOR CHINA

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### **ABSTRACT**

*Since 2013 when the Chinese President Xi Jinping initiated the One Belt One Road (OBOR) initiative that includes 'Silk Road Economic Belt' and the '21<sup>st</sup> Century Maritime Silk Road', a comprehensive network of railways, roads, air and sea links, pipelines and transmission grids between China, Euroasia and Africa, Europe is in a position to forge new patterns of cooperation with China. Chinese willingness to participate in post-recession development in the EU is shown also by its contribution to Juncker's investment plan, as well as establishing the Silk Road Fund and joining the European Investment Bank (EIB). Croatia participates in all joint EU programmes of cooperation with China, as well as in 16+1 initiative that has very peculiar, flexible institutional infrastructure. With Poland, Croatia is the leader in the development of alternative way of cooperation within the framework of Adriatic-Baltic-Black Sea Initiative. This development of north to south corridor in Europe, based on the ports of Adriatic, Baltic and Black Sea have been already recognized by the EU, the USA and Chinese partners as a complementary to their strategic projects as a way to interconnect through a longitudinal and intermodal corridor in the heart of Europe, since it is a sort of diversification of transport corridors between the East, West and South that is reasonable to foster and encourage, rather than depending on one or two main existing arteries, be it overland (especially in the Russian sphere of influence) or by sea.*

**Keywords:** *16+1 initiative, Adriatic-Baltic-Black Sea, Intermarium, One Belt One Road (OBOR), Sino-EU relations*

### **1. INTRODUCTION**

China is the EU's 2nd trading partner, after the United States, while the EU is already China's biggest trading partner (expected to grow even to \$650 billion by 2020) and a major source of advanced technology. China is the EU's biggest source of imports and has also become one of the EU's fastest growing export markets. China and Europe now trade over €1 billion a day. EU's imports from China are dominated by industrial and consumer goods: machinery and equipment, footwear and clothing, furniture and lamps, and toys, while it exports mostly machinery and equipment, motor vehicles, aircraft, and chemicals. "And the expectation is that China would assume the largest trade share in the world economy by 2030, distinctly ahead of the US and on par or slightly ahead of the EU. No other BRIC will have reached anywhere near such trade shares, rendering a FTA even more crucial for both the EU and China." (CEPS, 2016, p. 8). Bilateral trade in services, however, only amounts to 1/10 of total trade in goods, and the EU's exports of services only amount to 20% of EU's exports of goods. As a result, the EU records a significant trade deficit with China. China accounts for just 2-3% of overall European investments abroad, whereas Chinese investments in Europe are rising from an even lower base. Europe's trade deficit with China is mainly caused by sectors like office and telecommunication equipment, shoes and textiles, iron and steel. The way to reduce this trade deficit is not importing less, but exporting more through better market access, by removing administrative, institutional and transport barriers. China is also an increasingly important political power.



In terms of geopolitics, to each other, China and Europe are potential counterbalance to present USA's and possible Russian domination in bilateral trade, global and regional political influence and security policy. Therefore the EU is committed to develop stronger trading, investment and political relations with China.<sup>1</sup>

*Table 1: EU-China Trade in goods (European Commission, Trade, Countries and regions, China <http://ec.europa.eu/trade/policy/countries-and-regions/countries/china/>. Retrieved 14.07.2017.)*

Trade in goods 2014-2016, € billions			
Year	EU imports	EU exports	Balance
2014	302.1	164.6	-137.5
2015	350.6	170.4	-180.3
2016	344.6	170.1	-174.5

*Table 2: EU-China Trade in services (European Commission, Trade, Countries and regions, China <http://ec.europa.eu/trade/policy/countries-and-regions/countries/china/>. Retrieved 14.07.2017.)*

Trade in services 2013-2015, € billions			
Year	EU imports	EU exports	Balance
2013	21.0	27.5	6.4
2014	22.9	29.6	6.8
2015	26.4	37.3	10.9

## 2. THE EU – CHINA TRADE AND INVESTMENT RELATIONS

When China joined the WTO in 2001 it agreed to reform and liberalise its national economy. "Since 2004, the EU has become China's largest trading partner and since 2006, China overtook Japan as the world's leading holder of currency reserves, with an estimated stock of nearly 2 000 billion \$, including 1530 billion in official foreign exchange reserves at the end of December 2007." (Lisbonne-de Vergeron, 2008, p.1) Monetary relations between China and the Eurozone have already resulted in a greater diversification of China's reserves in favour of the single European currency. "Such a development also means that no single European country, when taken on its own, can now carry the same weight in bilateral economic relations with China on global macroeconomic and trade issues." (Lisbonne-de Vergeron, 2008, p.1) China interprets its WTO Accession Contract rules to mean that the rest of the world should have started treating it as a market economy from December 2016, and the recognition of market economy status (MES) status for China is to be decided under a qualified majority vote,

<sup>1</sup> For more details about Sino-European relations see: European Commission (2017).

with the possible support from Germany and UK (that already have important trade relations and large industry imports<sup>2</sup> from China) and opposition, from more protective France and Italy. This situation illustrates China's approach to international political and especially trade negotiations; A tendency to give much more importance in bilateral relations with a few key players, that, by the advantages they have negotiated for themselves should be motivated to influence the others in their group, as well as treating separate and unrelated issues as a sort of *quid pro quo*. Finally, to avoid additional internal conflicts and legal disputes about the interpretation of WTO rules, the EU Commission in November of 2016 announced (Hendrych, 2017) it would remove the legal discrimination between market economies and non-market economies and construct a new anti-dumping methodology to secure the same level of protection for European industries. Under WTO rules, if a regulator suspected a non-market economy such as China of dumping goods in Europe, it could use a comparative price of the same products from a third country with market status and set duties to retaliate. Instead of that approach, the Commission will draw up country reports for certain trading partners, listing whether its factors of production are unfairly discounted and to what extent. Those reports will become the new basis for antidumping calculations, as it is already a practice in the USA which does not accept China's claim to market economy status and uses similar methodology of basing retaliatory duties on comparative prices from third countries. Since China has already filed a suit against the EU and put pressure on the U.S. in the WTO for not immediately dropping their old anti-dumping strategy in December, present European Commission goal is to ensure that its new anti-dumping methodology is in accordance with WTO rules. While China has made substantial progress in the last few decades, some problems such as a lack of transparency as well as industrial policies and non-tariff measures that discriminate against foreign companies, especially in the area of public procurement<sup>3</sup>, coupled with strong government intervention resulting in a dominant position of state-owned firms, unequal access to subsidies and cheap financing<sup>4</sup> and protection and enforcement of intellectual property rights<sup>5</sup> are still present. „EU-China bilateral trade relations do specifically need to address several key issues: access to the Chinese market, the defence of European norms and standards, and the respect of intellectual property rights. All taking into account the imperative of securing China's future development as a consumer society.

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<sup>2</sup> Because penalizing low-end imports from China would rise the cost of raw and intermediary products used higher up the value chain of production in EU.

<sup>3</sup> “The EU adheres to the plurilateral WTO Government Procurement Agreement (GPA). In accordance with its WTO Accession Protocol, China started negotiations to accede to the GPA. Essentially, China is closed for foreign competitors bidding for public procurement contracts, except in cases of shortages of technology or otherwise. ... China has concluded 13 FTAs, but in none of them has public procurement been incorporated. Market access for public procurement is not found in any other bilateral, regional or multilateral agreement signed by China. ... EU companies in China are not granted the reciprocal treatment that they understandably wish to enjoy. They face ‘buy-China’ policies in China and are confronted with ‘offset’ requirements such as local content and technology transfer.” (CEPS, 2016, pp.20-21)

<sup>4</sup> “Economically and politically, SOEs are as much a liability as a formidable force. Three SOEs from China rank in the top-ten of the Fortune-500. Many SOEs are giant firms. In some sectors, however, they have created and maintained unbelievable excess capacities (in aluminium, ceramics and, above all, steel; in steel, with suggested loss coverage of many billions, possibly as high as €30 billion a year, if no open markets are found). ... Domestically, European businesses in China are discriminated against – there simply is nothing like a level-playing field vis-à-vis Chinese SOEs, while Chinese businesses in the EU enjoy national treatment, with access to judicial review if necessary. So, EU businesses in China express frustration over the lack of market access as well as the multitude of restrictions they face and long for reciprocity. Internationally, Chinese SOEs are the frontrunners of the country's global investment, helped by guaranteed access to the government coffers [including frequently provincial and local ones] which seem bottomless.” (CEPS, 2016, p. 26)

<sup>5</sup> “Intellectual Property Rights are important to the EU's economic growth. It is estimated that IPR-intensive sectors account for around 39% of EU GDP (worth some €4.7 trillion annually) and, taking indirect jobs into account, up to 35% of all jobs. ... EU businesses in China complain about unpredictable administrative enforcement, the patent linkage practice, uncertain admissibility of supplementary data for pharmaceutical product patent applications, weak enforcement on theft of trade secrets and copyright ownership. ... Chinese enterprises, such as Huawei Technologies and ZTE Corporation, for example, are top patent applicants under the European Patent Office filing system.” (CEPS, 2016, p.22)

On the monetary side, the question of a swifter revaluation of the renminbi remains unresolved.” (Lisbonne-de Vergeron, 2008, p.1) „China should bring its state subsidy programmes into line with the WTO but also improve its social and labour conditions as well as environmental standards to avoid any social/environmental dumping, it should refrain from discriminating against foreign operators and from piling-up technical rules and burdensome conformity assessment procedures that are used as protectionist tools to prevent European producers to put their products on the market. It should guarantee transparency when assessing compliance at the borders and rely on international accredited test reports in order to ease customs clearance.” (S&D, 2016, p. 4)

In 2016 the EU adopted a new strategy on China.<sup>6</sup> The Strategy promotes reciprocity, a level playing field and fair competition across all areas of co-operation, with a strong focus on improving market access opportunities – including negotiations on a Comprehensive Agreement on Investment (European Commission, 2017). The main grounds for a comprehensive Free Trade Agreement (FTA), as well as Investment Agreement between EU and China are: greater economic potential, comparative market access, the link between Chinese reforms<sup>7</sup> and exposure to foreign competition, and strategic and geo-political advantages (CEPS, 2016, p.6). At the 16th EU-China Summit held on 21<sup>st</sup> November 2013 (Ministry of Foreign Affairs, 2013), (European Commission, 2013) they announced the launch of negotiations of a comprehensive EU-China Investment Agreement, as well as the EU-China 2020 Strategic Agenda for Cooperation in which mutual willingness to enhance security consultations on Central Asia, to expand cooperation on infrastructure networks between Asia and Europe, and to explore models of infrastructure cooperation was clearly expressed. They should also create favorable conditions for elimination of restrictions for investors, primarily through simpler and more secure legal framework by securing predictable long-term access to EU and Chinese markets and strong protection to investors’ rights. "Negotiating and concluding such a comprehensive EU-China Investment Agreement will convey both sides' joint commitment towards stronger cooperation as well as their willingness to envisage broader ambitions including, once the conditions are right, towards a deep and comprehensive Free Trade Area, as a longer term perspective.” (European Commission, 2016).

## **2.1. The OBOR initiative**

Since 2013 when the Chinese President Xi Jinping initiated the One Belt One Road (OBOR) initiative that includes the ‘Silk Road Economic Belt’ and the ‘21<sup>st</sup> Century Maritime Silk Road’ consisting of a comprehensive network of railways, roads, air and sea links, pipelines and transmission grids between China, Europe and Africa, Europe is finally in a position to forge new patterns of economic cooperation with China. China’s willingness to participate in post-recession development in the EU is clearly shown in the 17th EU-China Summit Joint Declaration of 2015 (EU-China Summit, 2015) which emphasizes mutual interest in the Chinese Silk Road project, as well as the Chinese will to support the 'EU Infrastructure Investment Plan' (EU-IIP), also dubbed the 'Juncker’s Investment Plan' for Europe. The intention is to improve EU–China relations in several areas; the Connectivity Platform, EU-China High Level Economic and Trade Dialogue, cooperation in the AIIB, EU-China Economic and Financial Dialogue, and the possibility of an EU-China Investment Agreement.

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<sup>6</sup> For more details see: (European Commission, 2016)

<sup>7</sup> “Conscious of this all, top Chinese officials and ministers often suggest that external pressure would be helpful in accelerating domestic reforms. In a FTA, with the EU as a partner, it is possible that this may be realised in an acceptable fashion for both sides.”(CEPS, 2016, p. 8)

In September 2015, during the High Level Economic and Trade Dialogue, China announced its contribution to Juncker's plan to inject €315bn into the EU economy over the next three years, followed by the inauguration of a joint working group to increase cooperation in all aspects of investment, including the Silk Road Fund and the European Investment Bank (EIB) (Duchâtel et.al., 2016). Increased cooperation between China and the European Bank for Reconstruction and Development (EBRD) was further reinforced with China officially becoming a member EBRD (Williams, 2016). Finally, the EU and China issued a declaration on the development of 5G mobile networks (European Commission 2015), showing that both parties expect to harmonise their standards in telecommunications and develop common research.

In the past Europe and Asia had developed various trade and cultural exchange connections until the rise of the Ottoman Empire cut off the ancient Silk Road. Present day Silk Road initiative aims to revive those ancient connections to produce win-win cooperation and to return the center of the world to Eurasia through its revival. OBOR is an entry point for the EU into Asia-Pacific affairs. There will be a greater opportunity for China and the EU to cooperate in markets like West Africa, the Indian Ocean and Central Asia. OBOR transcends the exclusivity of the TPP or TTIP, without the intent to engage in military expansion. Recent decision by France, Germany, Italy and the UK to join the China-led Asian Infrastructure Investment Bank (AIIB) goes in this direction, and represents a major shift in European attitudes towards Asia, and China in particular (Yiwei, 2015).

## **2.2. The 16+1 framework of cooperation**

The '16+1' framework refers to different mechanisms and arrangements between China and 16 Central and South-Eastern European countries (CSEEC's) that were formed after Premier Wen Jiabao's visit to Poland in 2012 (Tianping, 2015). The previous year China launched the 16+1 initiative to promote cooperation in the region, which is becoming more open and supportive to Chinese geopolitical interests and investments, especially in large infrastructure projects related to ports, roads and railways necessary to connect those countries among themselves and speed up transit of imported and exported goods, as well as in the fields of investment, finance, science, education and culture. The '16+1' Framework includes five non-EU members (Albania, Bosnia-and-Herzegovina, FYROM, Montenegro and Serbia), as well as Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. CSEEC are the bridge between Eastern and Western markets where Chinese companies can significantly cut their business costs and integrate into the EU industrial system. Also some CSEEC are situated in the Black Sea region, which has great strategic value because of its proximity to the Caspian region, a vital communication and transportation connection between Asia, Europe, and Africa. For CSEEC the 16+1 initiative is offering an opportunity to forge new economic relations with China like certain bigger EU members like Germany, France, and the UK already have. Since its inception, the 16+1 cooperation framework has developed a flexible institutional infrastructure with each country or entity free to decide whether or not to join certain project within the framework. The China-CEEC Summit, i.e. the China-CEEC leaders' meeting at the prime minister level, is held yearly. The China – Central and Eastern European Countries Economic and Trade Forum is held on an annual basis. Before the summit, a national coordinators' meeting is held to coordinate positions and prepare for the summit. Institutionalization in different areas usually takes the form of an association, a forum, or a networking opportunity, which can facilitate contacts between China and the CSEEC. For example, Hungary hosted the China-CEEC Association of Tourism Promotion, Institutions and Travel Agencies, and Serbia will set up a China-CEEC Federation of Transport and Infrastructure Cooperation. These different federations can serve as a social network capital by which the economic relations between China and the CSEEC, which so far have been developed

in the form of direct lending to governments for key infrastructure projects: roads, railways, ports, power plants, etc; exports to, and imports from the region, and direct equity investments in this region, that can be further strengthened (Tianping, 2015) and (Levitin, Miletić, Sanfey, 2016). China has extensive experience in equipment manufacturing, engineering design, construction and management. CSEECs are in a crucial stage of infrastructure development and reconstruction of industrial systems as well as port facilities with strong demand for construction materials, machinery and other equipment. Croatia, Slovenia, Poland, Latvia and Bulgaria have already proposed cooperation on port development. China has put forward the cooperation initiative involving the ports of the Adriatic, Baltic and Black seas, which will focus on production capacity cooperation among the ports and industrial parks. In ports where conditions are readily available, efforts will be made to build industrial clusters, so that in addition to increased cargo handling capacity, these ports and port areas will also become basis of industrial development (Xinhua, 2016). For those non EU member countries in the region Chinese investments are a welcome complement to EU funds since the access to large EU structural funds for candidate countries is not possible until they join the EU, but in order to make progress towards accession, countries need to improve infrastructure and transport links both within their borders and with neighbours. With the sea shipping being the cheapest route from the Far East to Europe, China plans to establish a rapid transport connection from the Greek port of Piraeus, the first major European container port for ships entering the Mediterranean from the Suez Channel, through the Balkans further to EU markets via the Balkan Silk Road, which will be based on the existing railroad corridor X linking Central Europe with the Aegean Sea via Hungary, Serbia, Macedonia and Greece. The first operational move to realize that plan was made when the Chinese shipping company Cosco Pacific bought a concession in Greek port of Piraeus, with the aim of turning the port into one of Europe's top five container ports. Transit time between Shanghai and Piraeus is approximately 22 days, 10 days less in comparison to the transit time between Shanghai and the North European ports of Rotterdam and Hamburg. To take full advantage of the port, further investments into the transport links across the Balkan region are needed. Railway modernization of the network across the region, such as major improvements to the railway between Belgrade and Budapest, are part of the plan. (Levitin, Miletić, Sanfey, 2016). In 2014, China, Hungary, Serbia, and Macedonia agreed to build a rail link between Budapest and Belgrade, which will be financed by Chinese part and completed by 2017. This rail line will further be connected to the Macedonian capital of Skopje and the Greek port city of Piraeus. While this land-sea project will strengthen cross-border transport between Central and Southeastern Europe by reducing train travel times between Budapest and Belgrade from eight to three hours, it really is designed to enlarge and accelerate the movement of goods between China and Europe (Chen, Mardeusz, 2015). COSCO is also bidding to operate the port of Thessaloniki, linked by rail to the rest of the Balkan Peninsula into Central Europe.

### **2.3. *Trimarium*: Adriatic – Baltic – Black Sea connection**

*Trimarium*, a region between three seas (Adriatic, Baltic nad Black), is the focal point in which global and regional geopolitical and trade interests of the USA, Russia and the EU meet, so it opens up a possibility of greater cooperation and/or conflict.<sup>8</sup> Members of the initiative are Austria, Bulgaria, Czech Republic, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. The Initiative today supports 152 projects, and the total value of mostly infrastructure projects is over 45 billion euros. The bulk of the list refers to energy and investment in new transport facilities, but there are also a list of several projects of system

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<sup>8</sup> "The Baltic-Adriatic-Black Sea Region (BABS) accounts for 28 percent of the EU's territory and 22 percent of its population, but only 10 percent of the European Union's GDP. Nominal GDP per capita is around 14,750 euros, which is only about 51 percent of the nominal GDP per head of EU population..." (Gregorović, 2016)



digitalization and technology development. The main Croatian project, which drew most attention during the recent summit in Warsaw, is the LNG Terminal on Krk. Although the plan for construction of a land-based and expensive terminal for liquefied natural gas has (LNG) been scrapped, cheaper floating LNG is still a respectable project, of about EUR 400 million, of which a third is secured by the European CEF Fund<sup>9</sup> from which energy projects are funded. Other infrastructure development is also tied to the LNG, whereby about EUR 426 million will be invested in gas pipelines connecting Krk with Central Europe. These investments are also supported by CEF Fund (Šunjerga, 2017). Supported also by the present US Foreign Policy this Croatian initiative, when completed, and connected to Polish Świnoujście LNG terminal by planned pipeline along this trimarium route will provide alternative energy source for countries en route, and at the same time reduce their dependence on Russian gas transported over Ukraine or by the new Northern Stream 2 under sea pipeline directly to Germany as a hub for further distribution. When completed this important geostrategic project will directly affect the price of Russian gas and Russian influence in Europe. The connection between the future LNG terminal on Krk and the LNG terminal in Poland, is an alternative<sup>10</sup> to the Russian-German project North Stream 2, currently under US economic sanctions against Russia.<sup>11</sup> This possibility of development of north to south corridor in Europe, based on the ports of Adriatic, Black Sea and Baltic have also been recognized by Chinese partners as a complementary to Silk Road project as a way to interconnect the OBOR through a longitudinal and intermodal corridor in the heart of Europe. All this represent the diversification of transport corridors between the East, West and South that are reasonable to foster and encourage, rather than depending on one or two main existing arteries, be it overland or by sea. On a recent visit to Latvia, Chinese National Development and Reform Commission vice chairman Ning Jizhe voiced his government's interest in boosting the container train traffic from China to the Baltic region and Northern Europe by investing in both the Rail Baltica project and the port of Latvian capital city Riga. Rail Baltica is a high speed rail project, under the Trans-European Transport Network (TEN-T) initiative, that will link Finland, Estonia, Latvia, Lithuania and Poland, with an extension into Germany, with Riga seaport at the northern end of the proposed Baltic-Adriatic Corridor, also within the TENT-T framework. Chinese side have also expressed interest to expand Klaipeda seaport in Lithuania, as well as the Croatian port of Rijeka, the southernmost tip of the Adriatic-Baltic-Black Sea Initiative, as potential connection between the new *Iron Silk Road*, a China-Europe land-sea express line connecting Ukraine's Black Sea port of Illichivsk with Western China via Georgia, Azerbaijan and Kazakhstan, with the Baltic coast. A considerable strategic relevance of that project arises from the fact that it circumvents still relatively unstable area of former USSR (Scimia, 2016).

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<sup>9</sup> For more details see: European Commission – Press Release (17.02.2017) and European Commission 6.5.1-0014-HR-S-M-16 (2017).

<sup>10</sup> Germany is Russia's largest gas consumer via the North Stream, a submarine gas pipeline located at the bottom of the Baltic Sea, by which it transports about 55 billion cubic meters of gas per year through its two pipes. Germany is the largest entrance point for Russian gas inspite the common efforts of EU countries to reduce their 80% dependence on Russian gas in the future. Berlin and Moscow have already concluded a partnership agreement guaranteeing Germany a favorable price of \$ 4 a barrel for mmBtu. For comparison Japan pays \$ 8.13 per mmBtu, based on its long-term contracts, China averages \$ 6.81, and United Kingdom \$ 5.14. (Carić Herceg, 2017)

<sup>11</sup> Northern Stream 2 would double the gas flow from Russia to Germany. Its construction apart from Gazprom also includes big European (German) companies. According to the European Commission's internal documents quoted by the Financial Times, the new US sanctions against Russia would not hit only North Stream 2, but others like the LNG terminal construction project in Finland, the gas pipeline between Russia and Turkey involving the Italian Eni, the CPC gas pipeline Kazakhstan to the Russian Black Sea, where European companies are also participating. (Krasnec, 2017)

### 3. CONCLUSION

China is the EU's 2nd biggest trading partner, after the United States, while the EU is China's biggest trading partner. However, the EU has a significant trade deficit with China. The way to reduce this trade deficit is not by importing less from China, but exporting more through better market access, by removing administrative, institutional and transport barriers, preferably by concluding a comprehensive free trade and investment agreement. Nevertheless, the impact on EU economy and various sectors in different member states should be carefully modelled and assessed, before concluding such agreement. China is also an increasingly important political power. In terms of geopolitics, to each other, China and Europe are potential counterbalance to present USA's and possible future Russian domination in trade, global and regional political influence and security policy. It is mutually beneficial to strengthen Sino-European political and trade relations on level playing field. To make it possible EU should lead single and coherent policy toward China, without letting diverging national policies and interests of different member states to undermine that approach and common goals.

One of the OBOR initiative's objectives is to help redirect the center of geopolitical gravity away from the Atlantic and USA, back to Eurasia. Members as well as non-members of EU among Central, Southern and East European countries cooperate with China within rather open and flexible 16+1 framework of various institutions along the Silk Road initiative, with a huge interest to attract Chinese investments. In that process they are becoming more open and supportive to Chinese interests as well as fresh investments, especially in large infrastructure projects. In that context, with Chinese, US and EU political, technical and financial support, Croatia offers the development of alternative way of cooperation in the framework of Adriatic-Baltic-Black Sea (*Trimarium*) Initiative. This diversification of transport corridors between the East, West and South is reasonable to foster and encourage, since it promotes economic wellbeing and political stability, rather than depending on one or two main existing transport and energy supply arteries, be it overland or by the sea.

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## AN ANALYSIS ON LOCAL ADMINISTRATIONS PROGRAMS IN TURKEY

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### **ABSTRACT**

*Nowadays, presenting local public services and the importance of local governments providing public services within public administration organization is gradually increasing. Diversification and increasing number of urban services provided by local administrations have also increased the need for qualified workforce. As it is known, educating qualified workforce for specific professions is one of the missions of vocational schools in Turkey. Since the beginning of 2000s, the number of local administrations programs has raised either by increasing number of universities in Turkey and increasing "importance" attached to local administrations. In this sense, the Local Administrations Programs providing education in the state and foundation universities and vocational schools of Turkey which provide vocational and technical training and education in local administrations have been analyzed in this study. The purpose of this study is to determine the current situation of vocational education implemented in local administrations field of Turkey and present the quality of education provided to individuals who will be working in this field becoming increasingly important today with its advantages and problems. In this study, the program profile of local administrations programs, structure of academic members, number of students and curriculums has been established by scanning web pages of all universities providing this education. In the analysis, it is seen that the number of Local Administrations Programs has been increasing parallel to new regulations for local administrations in Turkey, while this rise is not proportionally high as the rising number of vocational schools. Furthermore, competences of these programs theoretically vary based on the conditions provided by universities and cause students to be educated at different levels. In addition to this, another finding of this study is the deficiency of practical training which is an important requirement of vocational training.*

**Keywords:** *Local Administrations Program, Vocational Education, Vocational School*

### **1. INTRODUCTION**

Technical training aims not only to offer individuals advanced knowledge but also to give them application-oriented skills and knowhow required in particular professions (Eichhorst, Planas, Schmidl, and Zimmerman, 2015, p. 316). In Turkish Republican history, the 1920s and 1930s saw efforts to bring vocational and technical training under a state policy, to organize them within the educational system, and to define basic concepts and principles in this field (Özgüven, 1987, p. 190). In 1936, the Turkish Ministry of Education issued a report to open Apprentice Schools, Evening Technical Schools, Mobile and Temporary Courses, Vocational Secondary Schools, Technician Schools, and Engineering Schools in order to produce the technical workforce needed in various professional fields and ranks (Gürbüz, 2011). If we look at the course of development of Turkish Vocational Colleges, they were first founded under the Ministry of Education in the academic year of 1974-1975 and then brought under universities and under the Council of Higher Education in 1981 (State Planning Organization, 20; Günay, Özer, 2016, p.3).



They were included within the university system by Decree No. 41, issued in 1982. Today they continue to operate in accordance with the provisions of Legislation No. 4702 of June 26<sup>th</sup>, 2001 (Council of Higher Education, 2007, p. 49). This legislation allows for the establishment of Vocational Colleges without first establishing a university. The Higher Education Act No. 2547 of 1981 defines a Vocational College as “an institution of higher education offering a two-year associate degree, designed to train qualified workforce for particular professions.”<sup>1</sup> Therefore, the system allows for vocational and technical training programs of various kinds. The present study uses content analysis and descriptive analysis, which hold a place among qualitative research methods. It intends to identify the current situation in vocational training in the field of local governments in Turkey. It aims to picture the quality of the training individuals working in this field receive with both its merits and shortcomings. The literature review rests on the websites of the Council of Higher Education, the Student Selection and Placement Center, and universities for data regarding the figures, structure, and nature of the Local Governments Program, offered to a significant number of students in Vocational Colleges every year. It also includes reports and studies prepared under the coordination of the Council of Higher Education, the Ministry of Education, and the Ministry of Development among others.

## **2. AN OVERVIEW OF THE LOCAL GOVERNMENTS PROGRAM**

There were 54 vocational schools in the 27 universities that existed in the academic year of 1983-1984 when these schools were brought under the Council of Higher Education (Engin, Yağcı, 2003, p. 259). Upon the completion of 15 new universities in 2006, their number rose to 401 (Günay, Özer, 2016, p. 3), dispersed over 93 universities, of which 68 were public (Kavili Arap, 2007, p. 18). Today there are 114 public and 65 private universities and 6 private Vocational Colleges, and this makes Turkey home to a total of 964 Vocational Colleges. These figures mean that there is at least one Vocational College in about every provincial district and they were attended by 1.138.095 students in the academic year of 2016-2017, which make up nearly a sixth of the total number of 6.627.505 in the country (The Council of Higher Education, 2017). The reported number of faculty members is 19.171. According to these figures, the faculty to student ratio is 1/59. While this is above the average of developed countries, it is getting worse every year; it was 1/51 in 2013-2014 and 1/55 in 2015-2016 (Council of Higher Education, 2017). Programs with various names and features fall under Vocational Colleges. Although it is advised that criteria such as local needs, development objectives, and employment opportunities be taken into account in the establishment of these programs, this is almost rarely the case. It has been found that when one field becomes popular, many programs immediately open up in that field.

The Local Governments Program offers two years of training for an associate degree in 56 Vocational Colleges in 45 public universities, in the Open University, and in the Vocational Colleges of 7 private universities as of the academic year of 2015-2016. While the evening education option is also available in public institutions, private institutions provide scholarship opportunities. In 2012, Marmara University School of Political Science has opened the first university department by the name of Local Governments in Turkey and become the first institution to offer an undergraduate degree in this field in the country. The department welcomed its first students in the academic year of 2015-2016. The Local Governments Program first became integrated into the system of higher education in Dokuz Eylül University in 1984. As can be seen in Table 2, the program was launched in a small number of institutions in the beginning and was only available in 17 Vocational Colleges from 1984 to 2000.

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<sup>1</sup> While Vocational Colleges were previously defined as institutions offering training over four terms, the regulation enacted in 2011 changed this to “two or three terms a year.” The objective was to encourage applied training in Vocational Colleges. (Article 3/n)

This number rose fastest from 2006 to 2015, thanks both to the increase in universities and thus in Vocational Colleges and to the structural changes in the field of Local Governments. This was particularly true for the legal amendments of 2004 and 2005 concerning Local Governments and the consequent changes in the personnel system. Therefore, the number of students registered in the Local Governments Program has reached 11.520 as of 2016. The number of students successfully completing the program was 2669 in 2014, 2558 in 2015, and 2631 in 2016.

*Table1: An Overview of the Local Governments Program In Turkey*

<b>PUBLIC UNIVERSITY</b>	<b>VS*</b>	<b>YEAR FOUNDED</b>	<b>COURSE OF STUDY</b>	<b>FACULTY NUMBER</b>	<b>STUDENTS REGISTERED</b>	<b>ALUMNI (2016)</b>
<b>45</b>	56	1984-2015	2 YEARS	175	11.520	2631

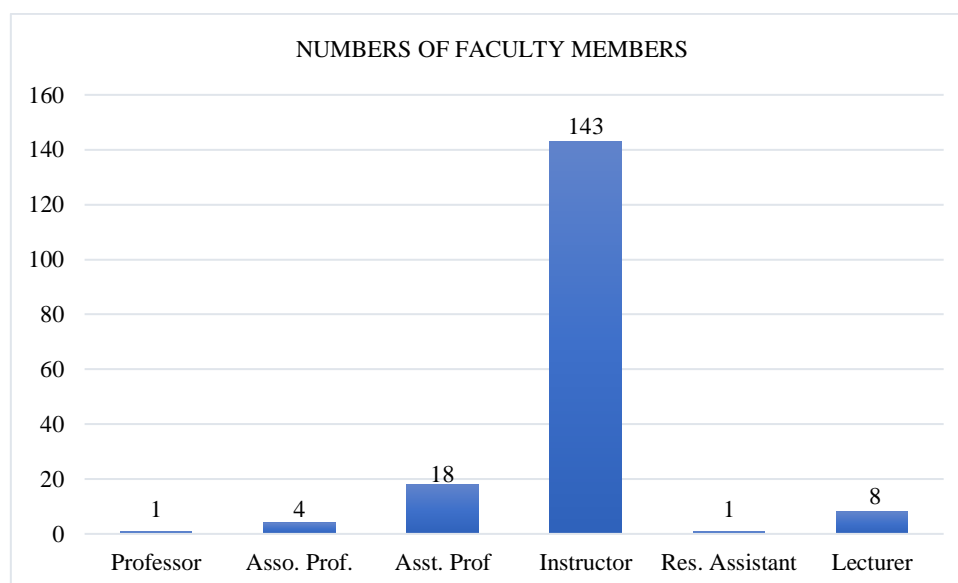
\*VS: Vocational School

*Table 2: The Dates of Establishment of Local Governments Programs In Turkey*

<b>YEAR FOUNDED</b>	<b>LGP</b>	<b>%</b>
<b>1984-2000</b>	17	30
<b>2001-2005</b>	5	9
<b>2006-2015</b>	34	61
<b>TOTAL</b>	56	100

## 2.1. The Number of Faculty Members

A total of 175 faculty members currently work in the Local Governments Program in Turkey. As seen in Figure 1, 143 are teaching assistants and they make up about 81 %. This is because Vocational Colleges tend to recruit faculty members whose primary duty is “to teach and instruct” (Article 3/n of Act No. 2547) in its main cadres. They are followed by assistant professors with a ratio of 10 %. While these 175 faculty members hold permanent positions, additional faculty is employed when new specializations are needed.



*Figure 1: The Numbers of Faculty Members In Local Governments Programs*

## 2.2. The Courses Offered In the Local Governments Program

Since the integration of Vocational Colleges into the system of higher education in early 1980s, important steps were taken from time to time to improve them and to eliminate their issues. The primary solution was updating the curriculum. The first of such arrangements aiming to improve workforce in both quality and quantity was the 1<sup>st</sup> Industrial Education Project, which was sponsored by a loan from the World Bank in 1985. This was followed by the 2<sup>nd</sup> Industrial Education Project in 1989, also sponsored by a World Bank loan. These projects led to a third project by the name of Industry-Based Training, whose goal was to increase collaboration between school and industry. Another program change was to admit students without an examination, introduced in line with Legislation No. 4702 of 2001. The objective underlying these changes was to define Vocational and Technical Training Regions and to encourage industrial, agricultural, and commercial businesses operating in these regions to accept students for training so that educational programs that allow for the transition to the modular system could be developed (Council of Higher Education, 2005: 83-86). The EU-supported Project of Enhancing Human Resources Through Vocational Training in 2006, under which the modular curriculum was prepared and initiated in selected schools, is also worth noting (Kalkınma Bakanlığı, 2014b: 37). The most recent change came when Turkey joined the Bologna process in 2010. In line with the changes that took place in all higher education curriculum for compliance with the Bologna system, significant changes were made in the Vocational College curriculum. General curriculum changes in Vocational Colleges inevitably affect Local Governments Programs. The present study, however, reviews the current curriculums of 56 Local Government Programs in Turkey that only reflect those changes resulting from the Bologna process. The required courses in these programs are courses in the fields of public administration and local governments such as Public Administration, Local Governments, Constitutional Law, Political Science, Applied Municipal Work and Local Services, Administrative Law, and Urbanization and Environmental Issues. The elective courses, on the other hand, display similarities with other programs under Vocational Colleges. Nevertheless, some elective courses are only available in particular institutions (Table 3). Among elective courses offered by Local Governments Programs are: Urban Planning, Online Public Applications in Local Governments, Local Democracy and Urban Rights, and Organizational Behavior. Courses that are ranging in a number of disciplines like Business Administration, Marketing Management, Media and Media Planning, International Business Administration, Brand Management, and Entrepreneurship can also be found as required or elective courses in the Local Governments Programs. In other words, while they are usually offered for less credits than courses in public administration, it is possible to encounter courses in business administration and marketing in the program curriculums. Another point that strikes attention in the Local Governments Program curriculums is the variation in the numbers of courses taken by students in an academic term and in the numbers of credits similar courses are worth in different institutions. For instance, while the Vocational College at Dokuz Eylül University, Izmir offers a total of 39 courses including internships and common required courses over four semesters,<sup>2</sup> this number is 31 at the Şaphane Vocational College at Dumlupınar University,<sup>3</sup> 46 at the Uzunköprü Vocational College at Trakya University,<sup>4</sup> 49 at the Social Sciences Vocational College at Ordu,<sup>5</sup> and 50 at the Afyon Kocatepe University Vocational College.<sup>6</sup>

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<sup>2</sup> [http://imyo.deu.edu.tr/userfiles/file/ogretimiplani/ogrplan\\_1457686914.pdf](http://imyo.deu.edu.tr/userfiles/file/ogretimiplani/ogrplan_1457686914.pdf)

<sup>3</sup> [http://birimler.dpu.edu.tr/app/views/panel/ckfinder/userfiles/65/files/DersPlanIcerik/Yerel\\_Yonetimler\\_Program\\_Ders\\_Plan\\_ve\\_Ders\\_cerikleri\\_Saphane\\_MYO.pdf](http://birimler.dpu.edu.tr/app/views/panel/ckfinder/userfiles/65/files/DersPlanIcerik/Yerel_Yonetimler_Program_Ders_Plan_ve_Ders_cerikleri_Saphane_MYO.pdf)

<sup>4</sup> [http://dosyalar.trakya.edu.tr/umyo/docs/dosyalar/belgeler/2016\\_2017\\_bahar\\_donemi\\_ders\\_programi\\_v5.pdf](http://dosyalar.trakya.edu.tr/umyo/docs/dosyalar/belgeler/2016_2017_bahar_donemi_ders_programi_v5.pdf)

<sup>5</sup> [http://bologna.odu.edu.tr/organizasyon\\_detay.aspx?lang=tr&TR&Mod=0&UstBirim=83&birim=8&altbirim=0&program=256&organizasyonId=250&mufredatTurId=915001](http://bologna.odu.edu.tr/organizasyon_detay.aspx?lang=tr&TR&Mod=0&UstBirim=83&birim=8&altbirim=0&program=256&organizasyonId=250&mufredatTurId=915001)

<sup>6</sup> [http://afyonmyo.aku.edu.tr/wp-content/uploads/sites/64/2016/01/yerel\\_yonetimler\\_2012\\_sonra.pdf](http://afyonmyo.aku.edu.tr/wp-content/uploads/sites/64/2016/01/yerel_yonetimler_2012_sonra.pdf)

*Table 3: Courses Offered In Local Governments Programs*

<b>REQUIRED COURSES</b>	<b>ELECTIVE COURSES</b>
<b>Information and Communication Technology</b>	New Approaches to Public Administration
<b>General Business Operation</b>	World Cities
<b>Public Administration</b>	European Union and Local Governments
<b>Local Governments - I</b>	Online Public Applications in Local Governments
<b>Local Governments - II</b>	Urban Planning
<b>Political Science</b>	License Procedures and Review
<b>Constitutional Law</b>	Local Democracy and Urban Rights
<b>General Accounting</b>	Land Legislation and Expropriation Strategies
<b>Urbanization and Environmental Issues</b>	Elections and Electoral Behavior
<b>European Union and Local Governments</b>	Marketing Management
<b>Local Governments and Media Policies</b>	Entrepreneurship
<b>Social Psychology</b>	Research Methods and Techniques
<b>Administrative Law</b>	Public Relations In Local Governments
<b>Management Science</b>	Local Governments Accounting
<b>Applied Municipal Work and Local Services</b>	Brand Management
<b>Urbanization and Housing Policies</b>	International Business Administration
<b>Environmental Policy and Issues</b>	Popular Culture and Media
<b>Professional Correspondence</b>	Political Marketing Management
<b>Internship</b>	Urban Geography
<b>Urban Economy</b>	Media and Media Planning

Vocational Colleges offer applied as well as theoretical training. The 10<sup>th</sup> Development Plan also states the need to provide program integrity and to place more emphasis on applied training in producing qualified workforce in secondary and higher education (Kalkınma Bakanlığı, 2013, p. 33). From this perspective, while there are application-oriented courses such as Applied Municipal Work and Local Services, Licensing Procedures and Review, Internship, and Local Governments Accounting in the Local Governments Programs, they do not seem adequate in number. In other words, although applied training makes up part of the credit requirements, problems exist in creating real-life application environments for certain social science subjects (Göktürk, Aktaş, Göktürk, 2013, p. 5).

Since in-situ internship opportunities consist of a mere 30 to 40 days and the concerned local government authorities lack a good understanding of their place in learning, students cannot grasp how the systems in local governments work in application in a satisfactory fashion.

### **3. AN ASSESSMENT OF THE LOCAL GOVERNMENTS PROGRAM**

Today the variation in local services supply and the increased importance of local governments in public administration have brought about the need for more qualified personnel. The availability of qualified workforce in local organizations depends on technical training. The Local Governments Program in Turkey, which also lies within vocational and technical training, aims to produce the personnel to be employed in this field. On the other hand, not only does this training come short in developing the ability of students to identify their basic needs, but at the same time students encounter difficulties in seeking employment in their own field. Both experts and official authorities have long summed the reasons underlying such inadequacies in a number of headlines and occasionally also proposed solutions. Among these reasons are: problems in faculty quality and number, problems in the curriculum, problems concerning compliance with the properties of the labor market and finding work, and problems in school technical infrastructure (Ergin, Yağcı, 2003, p. 259; Ministry of Education, 2014, p. 39-45; Kalkınma Bakanlığı, 2014b: 37; Günay, Özer, 2016, p. 7).

If the current developments and changes in the industry are taken into account, it is clear that due to various populist approaches, only limited improvements have taken place and Vocational Colleges continue to receive insufficient attention (Yücebaş, Alkan, Atasağun, Egeli, 2013, p. 48). The changes and rearrangements that have been made over time still fall short in the solution of problems. For instance, while faculty quality and quantity are still low, the faculty to students ratio is getting worse every year. Courses remain inadequate in terms of technical infrastructure and application opportunities. Alumni continue to face issues in finding work in their own professional field. The problems identified above trouble the Local Government Programs as well. The faculty to students ratio is 1/68 and this is above the average of all Vocational College programs. It should be noted that this ratio is not evenly true across Local Governments Programs; while some programs enjoy strong academic faculty, others have to deal with serious shortcomings. In addition, the study report prepared under the Ministry Development (2014b: 38) shows that there are faculty members who do not satisfy all professional requirements. Faculty should, on the other hand, engage in a sustainable interaction with local governments to increase their professional experience, continue to pursue their graduate studies to develop academically, and most importantly, display an active interest in their field.

While the courses are high in number, they still predominantly cover theoretical matters. Students are unable to make contact with local governments except during their internships. On the other hand, a system in which there are far less courses but they are longer and allow for more application of theory will prepare students better for professional life. The rise in the number of Vocational Schools leads to a rise in the number of students and this gives every student less opportunity for application. Students encounter hardships in finding internships, and faculty members in finding businesses for collaboration. Similarly, under-qualified alumni risk unemployment. In this regard, not only do alumni have difficulty finding work, but at the same time local governments still seek a solution to their lack of qualified personnel.



Studies at institutional and academic level have been made to propose remedies. The 9th Development Plan states that an educational policy and planning that respond to the service areas of local governments are needed so that local organizations can make qualified recruits. It has also been suggested that university departments that cater for certain job positions in local governments should be opened to fix the quality issue. For such a policy to be implemented, on the other hand, the establishment of stronger connections between higher education institutions and local governments and the tailoring of training to the needs of the labor market have been put forward (Kalkınma Bakanlığı, 2014b: 75). As suggested by Günay and Özer (Günay, Özer, 2016, p. 7, 9) regarding Vocational Colleges, the concerned parties such as the Council of Higher Education, the Ministry of Education, relevant university departments, local governments, the State Personnel Department, and the Employment Agency should assume responsibility in determining the curriculum, creating application opportunities, and solving issues relating to training, application, internships, and, employment upon graduation in the Local Governments Program. The Council of Higher Education states that downsizing the student body should not be seen as an option in tackling issues. On the other hand, the Ministry Development Restructuring Vocational Training Workgroup Report shows that the majority of the Vocational Schools cannot function effectively due to problems in determining and applying the criteria for opening programs (Kalkınma Bakanlığı, 2014b: 37).

#### 4. CONCLUSION

Vocational College students and alumni make up a significant portion of Turkey's young population. While it is not possible to observe any dramatic increases in the number of Vocational Colleges in Turkish history, the number of Local Governments Programs has still been rising due to the new regulations concerning local governments in 2006, but Local Governments Program students still represent a small percentage among Vocational Colleges today. Nevertheless, Local Governments Programs face the same problems and hardships as Vocational Colleges. Therefore, the solutions suggested for Vocational Colleges are implemented in Local Governments Programs as well. Following the integration of Vocational Colleges into the system of higher education in the 1980s, various regulations and amendments were made to remedy the problems in the Local Governments Programs. The most recent among them is the Bologna process, which has been in place since 2012. One of the most important changes this has brought about is concerning the curriculum. The problems in the Local Governments Programs persist today, however. The number of courses students take in an academic term is still too high due to the existence of core required courses and internships. The programs give the impression of accelerated undergraduate programs. Despite proposals to increase the share of application in coursework, students continue to receive a predominantly theoretical training. The application courses, which have long been considered to be far too low in credit hours, still expect a fair percentage in the curriculum. Furthermore, while differences do exist among Vocational Schools, the average number of students per faculty member is high. Communication and interaction between Local Governments Programs and local governments is not at a level to be effective in education and training, and this prevents students from being taken seriously enough in internships. These general points notwithstanding, theoretical competencies in Local Governments Programs ultimately depend on the circumstances of the city and on the conditions provided by the university and thus students are trained at different levels in different institutions. Owing to all these issues in education and training and the employment practices of local governments, Local Governments Program alumni complain that they cannot practice their profession. They hold the expectation that they should be given preference in especially public personnel recruitment in local governments.

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## FUNDING STUDIES ABROAD AND IN ROMANIA

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### ABSTRACT

*A recent goal of the government is to encourage citizens to take advantage of the globalization of the world economy. This objective aims at improving education policies, at ensuring the quality of the services provided, a more regular and equitable distribution of learning opportunities and stronger incentives to implement effective schooling systems. Most countries monitor student learning and school efficiency, but in a global economy, the benchmark of success is not the improvement of national standards, but the way the education system performs at international standards. Even if better educational outcomes are a strong indicator of economic growth, only rising spending on education does not guarantee the achievement of favorable educational outcomes. Through this article, we want to analyze the budget a student needs to study at a university in the United States of America, at a university in Europe and in parallel the budget of a student at two universities in Romania, from two different university centers.*

**Keywords:** *Education, Budget, Monthly basket, Expenditures /Expenses*

### 1. INTRODUCTION

A study realized by the OECD in 2009 ("PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes (Volume II)", OECD, 2009) shows that there are differences in educational systems both across countries and within some countries. An indicator of improving the performance of certain educational systems is the Gross Domestic Product reported at Purchasing Power Parity. This, however, only influences educational outcomes by 6%, the remaining 94% being dependent on implemented public policies. In principle, the OECD PISA study shows that the image of a world divided into two categories: rich and high-educated countries and poor and low-educated countries is false. This is both a signal and an opportunity. It is a signal for advanced economies that they should not take free of charge that they will always have superior human capital with other countries. If we take a closer look at performing and fast-growing education systems, we can see that they have many common points that transcend the country's history, culture and economic evolution.

First of all, while most states declare their commitment to education, the difficulty arises when this commitment is balanced with others, such as the salary levels of teachers, compared to other higher education employees, how much counts the degree of rank Accreditation of studies compared to other qualifications when a person is considered to be employed etc. In success educational systems, political and social leaders have led their compatriots to choose the principle that education is worth more than other systems. But setting a high price on education depends on whether teachers, parents and citizens generally believe that only a part of the nation's children can reach global education standards. The same OECD report shows that education systems based on the principle that students have different professional guidelines meant to be met with different expectations in different schools tend to be loaded with great social differences.

In contrast, high-performance systems combine diversity in student education, through capacities, interests and the social environment with individualized learning methods. Secondly, performance education systems require clear and ambitious standards to focus on acquiring complex skills with high degrees of difficulty. In this case, students are required to gain a certain qualification to go to the next stage, be it in the workplace or continue their studies further. Thirdly, the quality of an education system cannot exceed the quality of teachers in that system, since the student is the finished product of what is happening in the classroom. Corporations, businesses and national governments must carefully choose the recruitment environment, recruitment mode, the type of initial training a new employee must receive, how to recruit new recruits into the hiring environment, etc. Many of the performance education systems have changed their attitude, from a bureaucratic „command and control”, to one in which first-line employees have much more control over how resources are used.

Finally, the most impressive result of the globalization of learning systems remains that it delivers a higher quality learning system, so that each student has excellent learning opportunities. In order to achieve this, governments invest in educational resources in areas where the biggest differences can be made, attract the most talented teachers for the most ambitious areas and establish the actual level of spending prioritizing the quality of teachers. These policies, however, are not effectively implemented separately and independently of each other. They must be aligned with system requirements and be consistently sustained for defined periods of time.

## **2. THE DEPENDENCE BETWEEN THE SOCIAL ENVIRONMENT AND EDUCATIONAL OPPORTUNITIES**

The analyses of the impact of the socio-economic environment of students and their performance in school have revealed discouraging results, especially at national level. For example, it has been noticed that the development of children's vocabulary begins to diversify quite early and at the time of schooling, the impact of the socio-economic environment on both cognitive skills and behavior is already established. In addition, in the early years of school, children whose parents have low incomes, do not have a high level of education, are unemployed, or are employed on lower positions, are likely not to perform at an academic level, in contrast to the children who are growing up in a more advantageous environment (Datcher, 1982; Voelkl, 1995; Finn and Rock, 1997; Johnson *et al.*, 2001). Instead, the PISA study realized by the OECD ("PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes (Volume II)", OECD, 2009) offers a much more encouraging perspective on equity in education. Even though the relationship between the student's social background and his performance in education indicates inequalities in all countries, the degree of dependency varies depending on the schooling system. Further, PISA shows that some countries simultaneously demonstrate that equity and performance are far from impossible and contrary policies.

While most students with poor outcomes are from disadvantaged socio-economic backgrounds, a large number of students from these environments excel in education. They demonstrate that it is possible to overcome socio-economic barriers. To identify this type of students it has to be compared the performance of each student coming from a disadvantaged environment with the expected average performance of students coming from the same environment. This difference is called the residual performance of each student. It can be said that a student is an elastic performance if it comes from a poor environment and its residual results are in the top 25% of all countries. Even though educational systems differ from one country to another, it is possible to identify these students in most countries.

### 3. THE ESTIMATION OF THE EDUCATION PROFIT RATE

Over time, a whole series of studies have been carried out in this area in an attempt to determine the profitability rate of investment in education, covering both developed and developing countries. Most studies estimate the average of profits that can be interpreted as the profit earned as a result of an additional schooling for an individual ("Schooling and labor market impacts of a natural policy experiment", Patrinos, Harry Anthony & Sakellariou, Chris, 2004). In principle, these studies have shown that the past average profitability of education suggests that profits are higher in developing countries than in developed countries. However, if there is a significant variation in profits compared to revenue distribution, with higher profits for those with high wage levels, then investment in education will generate inequality. This could lead to a change in the perception of investment in education, in the sense that education promotes equality in the long term. Recently, a large number of studies investigate profit modeling for an additional school year using quantum regression analysis.

Estimating education profits using the Smallest Squares Method (OLS – Ordinary Least Squares) does not take into account the variation in profit for workers in the same educational group. On the other hand, quantum regression analysis highlights the variation in profits between different groups with certain degrees of education and measures inequality between groups, while quantum profits represent the salary differential between individuals in the same group with the same level of education.

The increase in profits as a result of the shift from low income to a high level of income can be interpreted as an indicator of education (or abilities), with more qualified human resources benefiting from additional investment in education. On the other hand, a negative relationship between abilities and profits can be interpreted by the fact that education can be substitutable with abilities. Finally, if there is no clear pattern, then the average of profits can be taken as the total profits earned from education.

### 4. THE PERSONAL BUDGET OF A STUDENT IN THE UNITED STATES OF AMERICA

To analyze a student's budget at a university in the United States, we chose Linfield University, Oregon State, U.S.A. Linfield College offers a wide range of courses, most of which specialize in natural science programs. With a 12: 1 specialty student ratio, Linfield offers 111 faculties offering post-doctoral degree programs.

*Table 1: Tuition fees for 2015-2016 year for the license cycle (author from the website <http://www.linfield.edu/catalog/college-costs.html>)*

<b>Tuition fees</b>	<b>Semester</b>	<b>Annual</b>
Tuition fee	\$19850	\$39700
Admission fee in the Student Council	\$135	\$270
Fee for technological equipment	\$50	\$100
<b>Direct Costs</b>	<b>\$20035</b>	<b>\$40070</b>
Health insurance	\$1156	\$2312
Books and supplies	\$375	\$750
<b>Total schooling expenses</b>	<b>\$21566</b>	<b>\$43132</b>



The tuition fee is \$235 per credit, students generally choosing to take 4 credits, and they cannot sign up for more than 5 credits. Health insurance is compulsory for all students, but there may also be a possibility for the student to be covered by parents' health insurance. Over 90% of Linfield College students receive a form of financial aid, depending on eligibility criteria or personal needs. Academic scholarships are available to the best performing students based on academic results and not on other eligibility criteria. Academic scholarships are available for new admitted students in the bachelor cycle, are awarded on a semi-annual basis and are awarded on the basis of a minimum of 12 credits. These financial aids are granted regardless of the personal needs, but on the basis of the student's grades, the selection of high school courses and other standardized admissions tests. Also, the student's potential to participate in the academic environment of the university is also evaluated. The average of the semestrial scholarship can be of \$14,000, up to a maximum of \$22,500, which includes also other financial aid for personal needs.

(<http://www.linfield.edu/catalog/financial-aid.html>)

*Table 2: Estimates expenses of a student in the USA (author from different websites)*

<b>Expenses</b>	<b>Monthly</b>	<b>Semester</b>	<b>Annual</b>
<b>Home</b>			
Rent	450	2700	5400
Electricity/Heating	70	420	840
Water and sewage	20	120	240
Phone subscription	45	270	540
Household products	15	90	180
Internet	30	180	360
Care	200	1200	2400
<b>Food</b>			
Meals	150	900	1800
Exit to the restaurant, bars	65	390	780
<b>Transport</b>			
Public transport	0	0	0
Fuel	200	1200	2400
Car insurance	90	540	1080
Repairing	25	150	300
<b>Fun</b>			
TV cable/Movies	20	120	240
Hobbies	30	180	360
Going out	50	300	600
Diverse expenditures	150	900	1800
<b>Investments</b>			
Economies	40	240	480
<b>Total expenses</b>	<b>1650</b>	<b>9900</b>	<b>19800</b>

As can be seen, the scholarship covers a large part of the expenses for the fees shown in table no. 1, it remains that for the rest of the expenses, that are shown in table no. 2, the student has the financing options shown in table no. 3.

*Table 3: Financing options for a student (author)*

<b>Income</b>	<b>Monthly</b>	<b>Semester</b>	<b>Annual</b>
Work	450	2700	5400
Parents	0	0	0
Other financial aids	1200	7200	14400
<b>Total income</b>	<b>1650</b>	<b>9900</b>	<b>19800</b>

Thus, we have shown the cost of living for a student at a university in the United States, as this cost of living includes the cost of education, but also of resources and textbooks and supplies. Given that we assume that the potential student would have access to a scholarship sufficient to cover the schooling costs in full (school fees and direct costs such as medical insurance or books and supplies), it is necessary for the student also to access a part-time job to cover the personal expenses. The average earnings a student can earn from a part-time service is \$600, since, in principle, his monthly expenses rise to the level of \$1650.

## **5. THE PERSONAL BUDGET OF A STUDENT IN EUROPE (TILBURG UNIVERSITY, NETHERLANDS)**

In Tilburg, the level of spending is lower than in other Dutch cities where there are universities (e.g. Amsterdam, Utrecht, etc.). To support for one year in the Netherlands a foreign student needs €1400- €1450 per month (the amount may vary depending on the adopted lifestyle), as shown in table no. 4.

*Table 4: The budget (part of expenses) for a month as a student at Tilburg University*

*Source: author from different websites*

*(Table ends on the next page)*

<b>Expenses</b>	<b>Amount (euro)</b>
<b>Accommodation</b>	<b>500</b>
<b>Utilities / Subscriptions</b>	<b>235</b>
Phone	25
Electricity	90
Internet	25
Public transport	75
Sports	20
<b>Food</b>	<b>220</b>
Dairy	20
Meat	45
Vegetables	18
Flour / Cereals	16
Fruits	15
Beverages	40
Preserves	3
Coffee/Tee	8
Sweets	10
Others	45
<b>Books and study materials</b>	<b>70</b>

<b>Household</b>	<b>25</b>
Detergent	5
Personal hygiene	20
<b>Clothing</b>	<b>150</b>
<b>Restaurants and leisure activities</b>	<b>190</b>
Dinner	50
Fast Food	30
Beer	15
Coffee	20
Cinema	20
Bowling	15
Others	40
<b>Medical and travel insurance (annual)</b>	<b>37,5</b>
<b>Total</b>	<b>1427,50</b>

Possible sources of revenue:

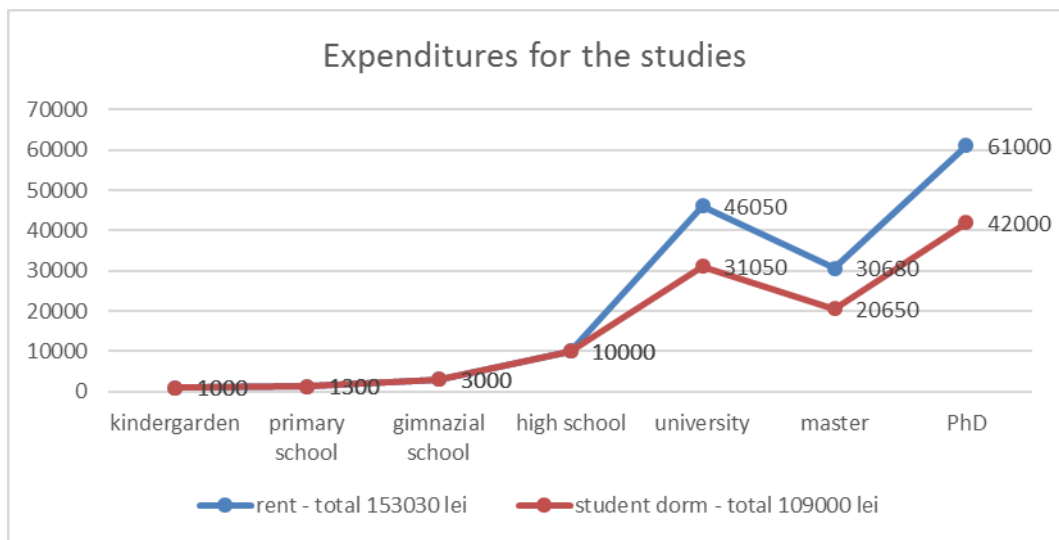
- Scholarship;
- Money from a foundation;
- Money from parents;
- Credit from Romania;
- Credit from the Government of the Netherlands;
- Other institutions;
- Part time job.

Above we analyzed the cost of living for a student in the Netherlands at Tilburg University, assuming no need to pay for the program in which he is enrolled (regardless of the degree or master's degree). If the student has to support also the tuition fee, the Tilburg University costs for one year of a Bachelor or Master program are about €2006 for European Economic Area students (EEA) and between €8400 and €15500 for non-EEA students. Following the study, we learned that a student who opts for a program in the Netherlands would need about 1400 euros per month to support himself. The amounts used in the case study were approximated in plus. We have taken into account rental costs (and utilities), food, leisure activities, city exits, clothes and even other services (eg haircuts). We also took into consideration possible monthly subscriptions (eg public transport or fitness) and study related costs (books, listed materials, etc.). Possible errors could be due to the fact that the prices used in the cost-of-living assessment are not at the level of 2017 year. Moreover, the prices are indicative, being taken from a single supermarket (they are not calculated as average prices).

## **6. THE ELABORATION OF THE LIFELONG LEARNING EXPENSES PLAN OF AN INDIVIDUAL - STUDENT IN ROMANIA**

Generally speaking, it is assumed that for compulsory education, parents have the ability to fund their child's studies, so we are talking about external funding, especially as the subject has no capacity to have any influence on this issue. However, funding difficulties may even arise from the first forms of education, given that there are several forms of education on the market. With regard to kindergarten, we notice that the total cost differs according to the form of the institution: if it is public but in 8 hours regime (the so-called dorm) or if it is a private kindergarten.

With regard to the following cycles of the educational process, spending is similar regardless of the school at which the pupil is enrolled. We also found that they are similar, even if the student is in a real or human profile class. It should be noted that for vocational classes, including arts, music or sculpture, the costs of schooling are much higher due to the specialized materials that the student needs. Taking into account these issues, schools of this kind, as well as faculties (plus those of medicine) have the highest state grants, because without them, these areas would be abandoned by the vast majority of students. Next, we have made an expense plan reported to the Academy of Economic Studies in Bucharest.



Figure/Chart 1: The results obtained for a budget student (author)

In the figure 1, the amount of the expenses is presented under the condition that the student has to pay his studies and whether or not he is staying in a student room (unoccupied seat, received after the redistribution, social cases, medical cases). The tax amount is calculated using the tariffs applied by the Academy of Economic Studies, being the ones existing in the methodology implemented from July 1, 2016.

Thus, for the license cycle the tax value is 3500 lei / year, and for the master is 4000 lei / year. At this expense, expenditures can be added with the second specialization (4100 lei), with the level 2 of the teaching staff training (1500 lei), with a foreign language (600 lei). By collecting these values and taking into account the PhD fees practiced by this university, we find that these expenses during the entire study period are between 90,000 lei and 150,000 lei. The question is how these studies can be funded.

We believe there are several methods:

- External funding - parents have the financial capacity to support the child's education throughout its life, either using previous savings or the level of living that the family has.
- External funding and individual funding: part of the funding is provided by the family, but the student is obliged to maintain and cover part of their expenses. This is done through a part-time job.
- Individual funding: the student has a full-time job, but he often renounces the completion of the studies due to the difficulties with the time spent on the study.

- Financing from outside sources other than that obtained from parents: within this category, funding is available through merit or study scholarships earned for outstanding learning outcomes, from private funds that include company's scholarships, private investors for supporting education or gaining benefits.
- Financing through social scholarships, if the student's family has limited possibilities for co-operation to the total of the expenditures.

The table no. 5 gives us a view of several aspects of a student's personal budget, namely: a parallel between budget student and tax students, a comparison between students who stay in dorms and those who stay in private dorms or rentals and a comparison between Bucharest and Cluj regarding the financial needs of a student (as examples, for Bucharest we referred to a student at the Academy of Economic Studies, and for Cluj to a student at the Faculty of Economic Sciences and Business Administration from The Babes-Bolyai University).

As far as the comparison between students from the budget and those from the tax is clear the difference between them. Taxpayers, besides the usual monthly expenses of a student, also have the expenses for the study fee. This differs from faculty to faculty, as shown in the table no. 5: in Bucharest, the fees for bachelor are 3500 lei/year, and for master are 4000 lei/year, while in Cluj they are lower, during the faculty the students paying 2900 lei/year and at the master 3500 lei/year. If we look at the table in the last two lines, we observe the clear differences between the students from the budget and those from the tax both during the faculty and the master.

Both in Bucharest and in Cluj there are considerable differences in the financial expenses of a student. In Bucharest, a budgetary student who stays in dorm it spends 51700 lei for 5 years of study, while the tax student spends about 18500 lei more. The same difference is also between the students who are renting, as well as the 18500 lei, the ones from the budget having expenses of 76730 lei and those from the tax having expenses of 95230 lei. In Cluj, the differences between the tax and the budget students are in the amount of 15700 lei.

*Table 5: Expenses for faculty and license for a student in Romania*

*Source: author from different websites*

*(Table ends on the next page)*

Expenses for faculty / license cycle	Bucharest		Cluj	
	Public dorm	Private dorm/rental	Public dorm	Private dorm/rental
<b>For a budgetary student</b>				
Dorm administration	150	350	100	300
Other maintenance costs		150		150
Cable, internet expenses		100		50
Telephone expenses	50	50	50	50
Current expenses		50		50
Food	500	500	400	400
Transport	50	50	0	0
Other expenses - cultural events, fun, sports events, home tour	150	150	100	100
Other monthly expenses - supplies, paper, notebooks, etc.	50	50	40	40



Consumables (shampoo, toothpaste, soap, shower gel)	20	20	20	20
Expenses per semester of faculty (5 months)	4850	7350	3550	6050
Manuals 6 * 50 lei / semester	300	300	300	300
Total expenses integralist student / semester	5150	7650	3850	6350
Total spending on the two school semesters	10300	15300	7700	12700
Bachelor license expenses	50	50	50	50
Total spending for three years without registration fee	30950	45950	23150	38150
<b>Total spending for three years with registration fee (budget student)</b>	<b>31050</b>	<b>46050</b>	<b>23350</b>	<b>38350</b>
<b>For a tax student</b>				
Year 1	3500	3500	2900	2900
Year 2	3500	3500	2900	2900
Year 3	3500	3500	2900	2900
<b>Total spending for three years with registration fee (tax student)</b>	<b>41550</b>	<b>56550</b>	<b>32050</b>	<b>47050</b>
<b>Expenses for master cycle</b>				
Registration fee	200	200	250	250
Budgetary expenses	20600	30630	15400	25400
Master degree expenditures	50	50	50	50
<b>Total spending for two years of master (budget student)</b>	<b>20650</b>	<b>30680</b>	<b>15450</b>	<b>25450</b>
<b>For a tax student</b>				
Year 1	4000	4000	3500	3500
Year 2	4000	4000	3500	3500
<b>Total spending for two years of master (tax student)</b>	<b>28650</b>	<b>38680</b>	<b>22450</b>	<b>32450</b>
<b>Total faculty + master (student at the budget)</b>	<b>51700</b>	<b>76730</b>	<b>38800</b>	<b>63800</b>
<b>Total faculty + master (student at the tax)</b>	<b>70200</b>	<b>95230</b>	<b>54500</b>	<b>79500</b>

There is a major difference between the amounts spent by a student staying in a public dorm and a student staying in a private dorm or rent. This difference essentially arises from accommodation and maintenance expenses. A student who is staying in the public dorm has to pay only the administration dorm that is around 150 lei a month, while those who are staying elsewhere have to pay besides the rent (in Bucharest it reaches about 350 lei, while in Cluj to 300), also the maintenance expenses. In total, for one academic semester (we approximated one semester at 5 calendar months) a student who is staying in a public dorm pays in Bucharest around 5150 lei and in Cluj around 3850 lei, while a student who stays in rent reaches much higher amounts, namely: 7650 lei in Bucharest and 6350 lei in Cluj.

## 7. CONCLUSION

As it can be seen, the spending a student has on education differs according to an important aspect: whether he is staying in a student room or not. As the student accepts or receives the first option, the costs are about 5000 lei less / year than if he / she is renting or owning the apartment. We can also notice the important difference of saving or not of the annual study fee.

Thus, the difference between the budget and the tax illustrates a fundamental problem: saving that amount or spending it on education. Some may state that the results obtained cannot be simply comparable, given that the study period for bachelor, master or PhD is different. If we analyze at the annual level, we find that we have similar amounts for the bachelor and master cycle, while the field of PhD involves far higher amounts. The table no. 5 shows a clear difference between the two university centers: Bucharest and Cluj. Bucharest is a city much more expensive than Cluj, therefore the student expenses in the two cities are different. There is a major difference in total spending for a student in Bucharest who lives in a public dorm and one who learns in Cluj: 51700 lei in Bucharest and 38800 in Cluj. In Cluj, a student spends less on maintenance, rent and on food, because living is cheaper in Cluj. Also, in Cluj, the public transport is reimbursed 100%, while in Bucharest only 50%. In conclusion, from a purely financial point of view, if a future student has to choose where to study, Cluj is the best option for him, because the sums spent on 5 years of study, regardless of whether he is staying, in a public dorm or in rent, and regardless of whether he is on budget or on tax, are much lower than those in Bucharest (the differences range from 13000 lei to 15800 lei). As a comparison between the university centers in Romania and those in the United States and / or the Netherlands, far from the analysis carried out, a student's spending is much lower in Romania. Thus, if we consider that the student is on tax and does not receive any scholarship, in Romania, for 5 years of studies, he has to spend about 95230 lei in Bucharest and 79500 lei in Cluj, while in the US, at Linfield University, Oregon State, a student must earn for all years of study an approximate amount of \$314660, and in the Netherlands, at Tilburg University, an approximate amount of €49137.50. Thus, if a student learns at a university from abroad and does not have a scholarship, he must necessarily have to work part-time or full-time, regardless of the help offered by parents, for maintaining his studies.

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## THE ALTERNATIVE MEASURES OF INTELLECTUAL PROPERTY RIGHTS PROTECTION

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### ABSTRACT

*Nowadays there is no doubt that the intellectual property has to be protected. Its crucial role in fostering innovations and therefore in strengthening and accelerating economic growth and development is described in economic literature. In recent years many tools have been implemented to strengthen the protection of intellectual property, both legal and economic. But traditional measures of the intellectual property rights protection seem to be insufficient to show the results of this protection. They are focus mainly on industrial property protection, especially on the role of patents in economy. The paper tries to show and describe some alternative measures of the intellectual property protection which focus on the magnitude of global counterfeiting and piracy.*

**Keywords:** *intellectual property protection, measurement of intellectual property protection, border measures*

### 1. INTRODUCTION

Counterfeiting is not a new phenomenon. For centuries, inventors and artists have seen their work copied without their permission. But in recent decades' violations of Intellectual Property Rights (IPRs) have become more widespread and more harmful because of many processes. The globalization, integration of many markets and common access to computers, Internet and many other technological developments facilitate duplication of all creations of human mind and products with speed, accuracy and relative anonymity. In economic literature there are many estimates and partial data of the extent of IPRs infringements. There is also some empirical evidence of negative impacts of these infringements in specific markets, sectors or economies. However, most of these efforts lack a transparent methodology, they suffer from serious methodological or data limitations or they are funded by stake-holders in the debate. Without objective and reliable estimates of the extent of IPRs violations it is difficult to understand the problem, analyze it and implement right tools to foster intellectual property protection. Therefore an objective and evidence-based approach towards measuring the scale, value, impact and cost of the IPRs protection has become more important than ever. The paper tries to participate in the global discussion over the search for measures of IPRs violation. The paper is divided into some parts: it shortly defines the Intellectual Property (IP) counterfeit and piracy, shows the possible classification criteria used in different classifications of IPRs violations, lists the institution measuring IP infringement and shows some alternative measure of IPRs violation.

### 2. COUNTERFEITING AND PIRACY

Counterfeiting and piracy are terms used to describe a range of illicit activities related to intellectual property rights infringement. In general, counterfeiting includes any product which so closely imitates the appearance of the product of another to mislead a consumer that it is the product of another. In other words, the counterfeit good is an unauthorized imitation of a branded good. Piracy consists in making an unauthorized exact copy (not just a simple imitation) of an item covered by an IPRs. The official definition of them can be found in the enforcement section of the Agreement on Trade-related Aspects on Intellectual Property Rights (TRIPS) which distinguishes counterfeiting and piracy and define them as follows:

"Counterfeit trademark goods shall mean any goods, including packaging, bearing without authorization a trademark which is identical to the trademark validly registered in respect of such goods, or which cannot be distinguished in its essential aspects from such a trademark and which thereby infringes the rights of the owner of the trademark in question under the law of the country of importation."

"Pirated copyright goods shall mean any goods which are copies made without the consent of the right holder or person duly authorized by the right holder in the country of production and which are made directly or indirectly from an article where the making of that copy would have constituted an infringement of a copyright or a related right under the law of the country of importation" [WTO, 1994]

It is worth to notice that TRIPs Agreement is the first international treaty dealing intensively with IPRs enforcement. And beyond the general obligations applicable to all forms of enforcement (art. 41), its Chapter III rules on civil and administrative procedures and remedies (arts. 42 to 49), as well as on criminal procedures (art. 61) and provisional (art. 50) and border measures (arts. 51-60) [Gervais, 2008, pp. 11-27]. A careful delineation of counterfeiting and piracy can be found in work of Schneider and Vrins [Schneider, Vrins, 2012, p.6]. They note that the two terms apply not only to flagrant infringements, but include infringements of intellectual property rights in the broad sense of the term, pointing also to the evident dichotomy between infringements of industrial property rights (counterfeiting) and those of literary or artistic property (piracy). It means that term "counterfeit" is used to describe tangible goods that infringe trademarks, design rights or patents and the term "pirated" is used to describe tangible goods that infringe copyright. Except for counterfeiting and piracy there are other forms of intellectual property right infringements, such as: parallel imported ('grey') goods<sup>1</sup>, factory over-runs<sup>2</sup> and look-alikes (parasitic copies)<sup>3</sup>.

### 3. CLASSIFYING THE MEASURES OF IP PIRACY AND COUNTERFEIT

How the level of IP counterfeit and piracy can be measured and classified? It is a very complicated problem. The intellectual property is a very wide term and it consists of many kinds of industrial property and copyright. Also, counterfeiting and piracy are an illegal behavior and therefore information is hidden. The method of classification depends on chosen criteria.

When thinking about the method of research, the most obvious possibilities are:

- consumer surveys,
- producer or distributor surveys,
- sampling/mystery shopping,
- economic models.

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<sup>1</sup> 'Grey goods' are goods purchased legally in one country which are then resold in another country without the permission of the right-holder in the country of resale [Blakeney 2006, p.6]

<sup>2</sup> The produced goods excess volumes over the volumes agreed with the right-holder, produced under the agreement because the producer of the goods has received the know-how or technology required to produce the goods, and then abused it.

<sup>3</sup> Look-alikes imitate the protected distinctive features of the packaging or trade dress used for a competitor's products, thus trying to divert consumers from those goods, without, however, necessarily using a counterfeit trade mark [Schneider, Vrins, 2012, p.8].



When thinking about factors that should be considered when calculating the scale of counterfeiting [Green, Smith, 2002] it is worth to notice:

- sales lost by specific brands,
- damage to brand equity,
- total sales of counterfeits,
- some combination of these factors

In literature there are also impact measures. Analyses on the impact of counterfeit trade usually base on market share estimates, with subsequent calculations translating the number of counterfeit articles into their financial effect [Staake, Thiesse, Fleisch, 2009]. Given the limited accessibility to market information, both steps are controversial

Another classification can be made by taking into account the sources of funding for the research:

- industry infringement research which covered research generated or commissioned by an IP industry stakeholder group,
- government infringement research which covers research generated or commissioned by government departments, or agencies, as well as quasi-non-governmental organizations such as WIPO and OECD.
- academic research which excludes the considerable amount of commissioned research carried out by academics but funded by industry or government. It represents the body of research carried out by academics supported by their own resources or grants from research councils or charitable foundations.

Different classification concerns the scope of research measurement. It covers such levels of analysis:

- market/markets level
- industry/group of industries (sometimes called multi-industry level)
- country/region level (e.g. European Union)
- world/global level

Estimates on the extent of counterfeit trade are frequently appeared in:

- industry white papers
- government reports
- juristic recommendations
- scientific publications

Some commentators, such as Rob and Waldfogel, argue that the findings of specific studies cannot be generalized if they are not comparable, and cannot be used for benchmarking purposes. [Rob and Waldfogel, 2007] The authors of report created for the Intellectual Property Office in UK suggest that sectoral differences between different intellectual properties are so wide that each IP violation should be measured in different way and suggests such methods as [Collopy et al, 2014, p.3]:

- online copyright infringement,
- offline copyright piracy and counterfeiting
- estimates of patent infringement levels
- assessing levels of design right infringement

Online copyright infringement should be assessed by the mixture of methods: ‘take-down’ notices, omnibus research of the level of compliant and infringed activity by consumers, and a survey of organizations regarding their evidence of infringement notifications prior to

enforcement and their assessment of criteria for a challenge. The use of new technological tools to measure observable online behavior should be added to the mixture of approaches in order to provide a more accurate picture. Offline copyright piracy and counterfeiting should include a multi-tiered but blended approach encompassing data received from consumers, industry and government. This could take the form of counting industry and customs seizures along with consumer, producer, distributor and retailer surveys, and mystery shopping. Estimates of patent infringement levels are distorted by the stake-holders wants to disclose the damages and widespread reluctance to the high costs of litigation. Levels of infringement are best assessed by a combination of surveys of inventors and practitioners, along with quantitative data on the number of court cases. The number of court cases cannot represent the full range of infringements taking place because not all patent infringements are solved by courts. Assessing of design right's infringement is not so well developed but it seems that can follow similar approaches to those for patent infringement (including capturing infringement data from designers). There is potential overlap on industrial designs and patents (depending on national law). In that case it is possible to use customs data for assessing levels of infringing goods internationally and capturing some industry data from exhibitions and trade fairs.

#### **4. INSTITUTIONS MEASURING THE IP INFRINGEMENT**

There are many institutions (both public and private) dealing with issue of measuring illegal intellectual property on different levels (market, industry, country, region, etc.). Among these very influential are:

- Alliance Against Intellectual Property Theft (AAIPT),
- Anti-Counterfeiting Group (ACG),
- Business Software Alliance/International Data Corporation (BSA/IDC),
- Business Action to Stop Counterfeiting and Piracy (BASCAP/ICC),
- Centre for Economics and Business Research (CEBR),
- Directorate General (DG) for Trade of the European Commission's (EC)
- European Commission (EC),
- European Consumer Centres Network (ECC-Net),
- European Union Intellectual Property Office (EUIPO),
- Intellectual Property Office (IPO),
- International AntiCounterfeiting Coalition Inc, (IACC)
- EUROPOL,
- INTERPOL,
- Italian Patent and Counterfeit Office (IPCO),
- International Federation of the Phonographic Industry (IFPI) ,
- International Trade Commission's, US (ITC),
- International Trademark Asociacion (INTA),
- MarkMonitor,
- Office for Harmonization in the Internal Market (OHIM),
- Organization for Economic Cooperation and Development (OECD),
- RAND Corporation,
- SABIP BOP Consulting,
- Union des Fabricants (UniFab),
- US Chamber of Commerce (US CC),
- US Government Accountability Office (GAO),
- US International Trade Commission (USITC),
- US Trade Representative (USTR),
- World Intellectual Property Organization (WIPO).

There seem to be a few industry-wide research data glossaries or dictionaries mainly because of the obvious complexities of IPRs. Therefore, it is necessary to clear definitions to enable viable and robust comparisons between different methodologies, especially within survey-based research. In data-gathering research that rely on human interpretation and analysis, it is difficult to replicate findings if divergent terms are used within industry-wide terminology. Collopy D., et al [Collopy, 2014] provided a robust overview of existing methods used to measure infringement of intellectual property rights along with recommend suitable methodologies, especially those capable of being adopted across different IP rights. This research limitation is that it focuses mainly on United Kingdom market and deals only with four types of intellectual property: copyright, trademarks, patents, and design rights.

## 5. BORDER MEASURES

Measuring the value and impact of IPRs protection is excruciatingly difficult. Almost all research bases on surveys which are not hard data. Additionally, illegal nature of goods complicates the process of research. Among the institution listed above there are many which focus on data coming from Customs authorities. They are the real data such as seizures of pirate product by police or Customs authorities. Border measures are commonly understood as actions taken by the local custom authorities regarding goods under their control, mainly but not exclusively, at the exit and at the entrance of goods in the internal (national or regional) market<sup>4</sup>. This data can serve as alternative measures of IPRs protection. ‘Alternative’ because doesn’t directly focus on IPRs protection. Customs’ authorities’ actions are of an administrative nature and they are not empowered to establish the infringement of IPRs. Moreover, as non-specialists, it may become difficult for them to distinguish fake from genuine goods. However, customs are in a privileged position to contribute to the prevention and prosecution of IPRs infringements. Under the order of a judicial authority (criminal or civil; preventive or final decision) or on its own motion, counterfeiting and piracy are more easily identifiable for customs officials. This fact was also recognized internationally, especially by the World Trade Organization (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs). The TRIPs introduced specific international obligations on the part of individual states to enable the intervention of national Customs authorities in preventing counterfeiting and piracy. It is worth to notice that border measures count with a particular section in the chapter and that it extends throughout a large number of detailed provisions. Additionally, in the European Union the new legislation which entered into force in January 2014 has outlined Customs procedures that are expected to be taken in relation to suspected and confirmed infringing goods. It also details the requirements for IP rights holders when filing an Application for Action (AFA). The new legislation improves the position of IP rights holders when tackling infringing. The EU gives extraordinary importance to IPRs and their protection from infringements in the internal market as well as in international commercial relations [Otero García-Castrillón, 2012]. Schneider and Vriens discuss the reason why Customs seizures became such an integral source of data on compliance and enforcement [Schneider, Vriens, 2012]. They note that whilst Customs authorities cannot adjudge the actual infringement of IP rights, they are nonetheless well positioned to block infringing goods from entering the internal market. The supporters of Customs seizures argue that the main advantages of annual reports is their transparency and neutrality, because they are provided by Customs and not by rights-holders. However, as rights-holders point out that Customs cannot check everything, meaning only a tiny percentage of all the goods crossing external borders are subject to Customs checks, and that the statistics can therefore only show the ‘tip of the iceberg’.

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<sup>4</sup> In this regard, it has to be acknowledged that the final destination of goods going through customs is not always the national-internal market.

They also note that Customs seizure figures do not take account of counterfeit goods manufactured and distributed within the country. To sum up, the border measures can reveal trends, thus constituting a valuable source of information for right-holders and public authorities alike but are not accurate to calculate the real value of IPRs counterfeiting and piracy. Even using measurements of Customs seizures together with some surveys in the broad-based counterfeiting and offline piracy research, is still less than ideal but the modern economics doesn't have any other measures which are more accurate and reliable.

## **6. THE USTR'S SPECIAL 301 REPORT**

The Special 301 Report has been issued every year since 1989 by the Office of the United States Trade Representative (USTR) under Section 301 as amended of the Trade Act of 1974. This report is the result of an annual review of the state of IPRs protection and enforcement in United States trading partners around the world, which the Office of the United States Trade Representative (USTR) conducts pursuant to Section 182 of the Trade Act of 1974, as amended by the Omnibus Trade and Competitiveness Act of 1988, the Uruguay Round Agreements Act, and the Trade Facilitation and Trade Enforcement Act of 2015 (19 U.S.C. § 2242). According to the authors of Report "the 2017 Special 301 Report underscores the Administration's key trade priority of ensuring that U.S. owners of IP have full and fair opportunity to use and profit from their IP around the globe. The theft of IP has resulted in distorted markets and unfair trade practices that harm American workers, innovators, service providers, and small and large businesses" [Office of the United States Trade Representative 2017]. The report identifies trade barriers to the U.S. companies and products due to the intellectual property laws in other countries. It also describes a wide range of concerns connected with IPRs protection that limit innovation and investment, including [ibid]:

- the deterioration in the effectiveness of IPR protection and enforcement and overall market access for persons relying on IPR in a number of trading partner markets;
- the continuing challenges of copyright piracy and the sale of counterfeit trademarked products on the Internet;
- reported inadequacies in trade secret protection in countries around the world, as well as an increasing incidence of trade secret misappropriation;
- troubling internal policies that may unfairly disadvantage the U.S. rights holders in foreign markets;
- additional market access barriers, including nontransparent, discriminatory or otherwise trade-restrictive, measures that appear to impede access to healthcare and copyright-protected content;
- ongoing, systemic IPR enforcement issues at borders and in many trading partner markets around the world.

Each year the USTR lists countries which do not provide "adequate and effective" protection of intellectual property rights or fair and equitable market access to United States persons that rely upon intellectual property rights. In response to countries being included on the Special 301 Report Watchlists the U.S. government may initiate dispute settlement proceedings at the World Trade Organisation (WTO) or other relevant trade agreement, including the North American Free Trade Agreement (NAFTA). The U.S. government can also eliminate tariff preferences unilaterally granted, such as the Generalized System of Preferences (GSP). The Special 301 Report is not a typical measure of IPRs protection but it classifies countries according to enforcement and protection of IPRs. The US is one of the biggest economy worldwide and important and influential global importer and exporter. Also is treated as major defendant of free trade and strict guardian of IPRs. Therefore its opinions are important and precisely studied in all countries worldwide.

## 7. CONSLUSION

Counterfeiting and piracy are the crimes of the 21st century which poses a serious threat to world society and the knowledge-based economy. Counterfeiting and piracy have produced a wide range of effects on consumers, industry, government, and the economy as a whole, depending on the type of infringements involved and other factors. Literature enumerates significant direct negative effects of counterfeiting and piracy on stakeholders, including health and safety risks, lost revenues, and increased costs of protecting and enforcing IP rights. The economies and global institutions search for the right tools to fight with counterfeiting and piracy. But at the beginning it is good to know and understand the scale, value and costs of IPRs infringement. Modern economics still search for adequate measures of IPRs violation. A lot have been done, many institutions have been created, many research conducted, a lot of papers published but still the right measure hasn't been found. The paper tries to take part in global discussion on IPRs measures and shows and comment some alternative measures of IPRs protection.

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## IS THERE INTERCONTINENTAL DIFFERENCE IN THE INDICATORS OF URBAN SUSTAINABILITY? THE CASE OF SUSTAINABLE CITIES INDEX

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### **ABSTRACT**

*As a large percentage of the world's population lives in urban settlements, the issue of city sustainability starts to draw the attention of government representatives worldwide. One of the means by which sustainability is measured and discussed is using composite indexes. Up to lately, the focus of experts was towards ranking countries by their level of achieved sustainability. However, the new direction of studies is towards ranking on the micro-level; on the level of cities. One of such composite indexes which stands out for its coverage, precise definition, sound methodology, and regular publication is the Sustainable Cities Index devised by Arcadis, a management consulting company. In this paper, we employed the Factor analysis and the one-way ANOVA to explore whether there is difference in the sustainability of European, North American, Asian, and Australian cities. We aimed to explore the differences between them and the patterns of differences for indicators of the People, Planet, and Profit pillars. The obtained results can provide additional information for policy-makers on the complex issue of city sustainability with regard to the regional differences. We believe our approach can act as a foundation for further academic research on composite indexes, urban sustainability, and challenges of the modern world.*

**Keywords:** *Composite Index, Multivariate analysis, Ranking of cities, Regional differences, Sustainable Cities Index*

### **1. INTRODUCTION**

In the year 1800, just 5% of world's population was urban (McMichael, 1993). In 2008, humanity crossed a milestone when the global urban population exceeded the rural population (Seto et al., 2010). Namely, since then more than half of the world's population lives in urban settlements (Crossette, 2010). According to the World Health Organization (WHO), the growth of the urban population is going to continue for approximately 1.84% per year between 2015 and 2020, and 1.63% per year between 2020 and 2025 (WHO, 2017). Rapid urban growth, especially in the developing world, might outstrip the capacity of most cities to provide adequate basic services for their citizens.

Urban expansion, therefore, needs effective urban governance so as to create a safe and sustainable environment. Urbanisation as such presents a complex challenge to the modern society (Alusi et al., 2011). Humanity, especially the urban population, is facing a new series of economic, ecological, and environmental challenges (Haughton & Hunter, 2004). The concepts of sustainable cities and sustainable communities have their genetic roots in the general concept of sustainability and its close cousin, sustainable development. Namely, the concept of sustainable development was officially defined in the Brundtland Report (WCED, 1987) as development that satisfies the needs of the existing, without jeopardising possibilities of the future generations to satisfy their needs. Sustainable development, as a complex phenomenon of multidimensional character, imposes itself as an imperative and key model for development of national economies within a longer time period (Kragulj & Jednak, 2016). Besides its widely-known definition, sustainable development is a popular concept that is open to different approaches and interpretations (Savic et al., 2016). However, all agree that sustainability embraces three equally important pillars - environmental, economical and social, which should be in balance. The concept of sustainable cities emerged from the concept of sustainable development (Bulkeley & Betsill, 2005) in the 1970s when the international community started to show interest in the links between urbanisation, environmental quality and poverty. Namely, government and city representatives became aware that urban population needed adequate shelter, sanitation and local environmental quality. Cities are centres of economic interactions and they generate 70% of global GDP (McCarney, 2012). At the same time, they are seen as leaders who can more easily initialize and conduct local projects which tackle sustainability issues (Burstrom and Korhonen, 2001). Namely, cities are the core units for policies that have significant environmentally beneficial consequences, both local and global (Nevens et al., 2013). At the same time, cities are centres of social interaction and hubs for promoting and implementation the concept of sustainability. Due to their economic and social power and influence, cities proved to be vital for sustainability, and the political and administrative decisions they make have direct implications on ecosystems and society itself (Andersson, 2006). The aim of this paper is to additionally explore whether there are differences in the indicators of sustainability of cities in Europe, North America, and Asia and Australia. To conduct our analysis, we chose the Sustainable Cities Index devised by Arcadis consulting company. Our idea is to compare groups of cities formed based on the continent on which the city is located. To perform the statistical analysis, we will use the Factor analysis and one-way ANOVA. We believe that our analysis might signal that there is difference between continents which might further have policy implications.

## **2. SUSTAINABLE CITIES IN THE WORLD**

Sustainability policies which cities worldwide implement differ on a city-to-city basis (Karlenzig, 2008) and especially continent-to-continent. European cities quickly became the world's leaders in the implementation of the above-mentioned Agenda 21 with London, Frankfurt, Amsterdam, and major cities in Scandinavia taking early initiatives (Portney & Berry, 2014). Several years later, in 1998, the European Commission issued the Sustainable Urban Development in the European Union: A Framework for Action, and in 2004, a communication named Towards a Thematic Strategy on the Urban Environment (Commission of the European Communities, 2004). It is believed that these documents have promoted urban sustainability within the European Union (EU). When it comes to the North America, over the last 25 years, the landscape of its environmentalism has shifted substantially from national and state policies to local policies and initiatives (Portney & Berry, 2014). For example, some cities such as San Francisco, Chicago, and Boston have established sustainability departments as a separate managerial entity (Karlenzig, 2008). Between 2001 and 2006, all Australian cities developed strategic plans which were based on sustainability principles (Newman & Jennings,

2012). Also, in 2010 the government issued the National Urban Policy (Department of Infrastructure and Transport, 2010) which clearly states that the role of the government is to plan for, and deliver, an urban Australia that is more productive, sustainable and liveable. Asia accounts for 40 percent of world's urban population, which will increase to 56 percent by year 2030 (UN Habitat, 2017). Therefore, there is enormous pressure on city managers and urban management institutions to cope with urbanisation in this region. The Sustainable Cities Programme-Asia (SCP-Asia), initialized by UN Habitat, aimed to help cities respond to the increased number of challenges was launched in 1995. Since then it has grown from a city-based initiative, testing ways to integrate environmental concerns into urban development decision-making, to become an Asia Regional Environmental Support Programme (UN Habitat, 2017). Although it is important to implement policies and laws regarding the level of urban sustainability, there is need to devise adequate metrics to assess the effectiveness of the imposed policies. A whole variety of sustainability assessment tools ranging from indicators to comprehensive statistical models is currently used worldwide to provide an analysis of the current state of the environment (Yigitcanlar et al., 2015). According to urban sustainability indicators are crucial for setting targets, benchmark, performance review, effectiveness analysis and communication among policy makers, experts and the wider public. So far, different approaches to the usage of urban sustainability have been developed. For example, Yu & Wen (2010) applied Data Envelopment analysis to assess China's urban environmental sustainability. Timur & Getz (2009) performed factor analysis to examine the concept of sustainable tourism development in urban destinations. However, an interesting study by Tanguay and associates (2010) showed that in 23 studies on urban sustainability indicators, 72% of the indicators were applied to only one or two studies, and very few indicators are found in more than five studies. This means that there is still no clear definition on the concept of urban sustainability, whereas the application of statistical models to assess and explore this concept is vast. Besides the application of multivariate analysis on indicators of urban sustainability, composite indexes of urban sustainability are slowly but surely gaining popularity. For example, there is the UN-Habitat's City Prosperity Index (UN Habitat, 2012). Their index which consists of six dimensions aims to enable city authorities to identify opportunities and potential areas of intervention for their cities to become more prosperous. Economist Intelligence Unit (EIU) in cooperation with Siemens launched Green City Index which ranked mainly capital cities and large population or business centres based on 30 indicators grouped in eight pillars (Simens, 2012). The index which specifically attracted our attention is the Sustainable Cities Index devised by Arcadis (Arcadis, 2017) for its clear structure, comprehensive methodology and coverage. As presented in this section, we can see that the idea of sustainable cities has gradually developed over time. Namely, there is significant interest in the measurement of the level of sustainability achieved by cities from both academics and organizations and various statistical methods have been applied so as to provide more information on the concept itself and on the ranking of cities.

### 3. SUSTAINABLE CITIES INDEX

The Sustainable Cities Index is a multidimensional measurement of the level up to which countries provide safe food to their citizens. It was developed by the Arcadis, a global Design & Consultancy firm for natural and built assets. The Sustainable Cities Index 2016, which will be scrutinised in this paper, is the second edition of the index (Arcadis, 2017). The aim of the index is to rank and compare 100 cities worldwide by using 20 indicators divided into three pillars: *People*, *Planet*, and *Profit*. The index pillars are formed of indicators, where some of the indicators have sub-indicators. In our analysis, we will not take into account the sub-indicators as the data is not publicly available. When it comes to data collection, the SCI relies on reputable data sources like the World Bank, the World Health Organization (WHO), Energy

Information Administration (EIA), and United Nations Statistics Division. The pillar *People* measures social sustainability through seven indicators: Education, Health, Demographics, Income Inequality, Affordability, Work-life balance, Crime. It aims to quantify the overall quality of life and the opportunities the city gives to its citizens. The second pillar, *Planet*, also uses seven indicators: Environmental risks, Green spaces, Energy, Air pollution, Greenhouse gas emissions, Waste management, Drinking water and sanitation. This pillar has the task of measuring the cities awareness of its influence on the environment and what is the city doing to reduce its negative impact on the eco-system. The pillar *Profit* measures economic sustainability using six indicators: Employment, Connectivity, Tourism, Ease of doing business, Economic development, Transport infrastructure. The final pillar, is related to cities' wealth, global importance, difficulty of doing business, transportation network, and touristic attractiveness.

#### 4. RESULTS

We will observe the results of 32 European, 22 North American, and 28 Asian and Australian cities<sup>1</sup>. The first step in our analysis was the application of factor analysis. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) of 0.838 indicates that the variable selection is acceptable for factor analysis (Tabachnick et al., 2001). The obtained p-value below 0.05 of Bartlett's test of sphericity rejects that the variables are unrelated and therefore unsuitable for structure detection. The factor analysis with the Principal components analysis extraction was conducted. Equamax rotation with Kaiser Normalisation is applied to the component matrix. For the interpretation, we retained three factors, because if only eigenvalues greater than one are regarded, four factors are retained whereas one factor contains just one variable. The three retained factors explain 66.511% of variability. The first factor, which contains 10 variables, explains 33.659% of variability, the second factor made of five variables explains 17.100%, while the last factor explains 15.751%. This analysis confirms that the index should have three pillars, however that its structure should be analysed in-depth. Before analysing the difference between the indicators, we wanted to observe the overall results. We conducted the one-way ANOVA which showed that there is statistically significant difference between the overall values of the SCI between the continents ( $F_{2,79}=18.144$ ,  $p<0.01$ ). The mean value of the 32 European cities is  $64.34 \pm 6.57$  while the mean of 28 Asian and Australian cities is  $51.21 \pm 12.13$ . To additionally explore between which continents there is statistically significant difference we conducted post-hoc test. As the Levene's statistics is 20.371 and  $p<0.01$  we conclude that equal variances are not assumed. Therefore, we conducted Tamhane's test. It showed that there is difference between European and North American cities ( $p<0.01$ ), and between European and Asian and Australian cities ( $p<0.01$ ), while there is no difference between North American and Asian and Australian cities ( $p>0.01$ ). This analysis pointed out that there is difference between the cities of the three continents. Therefore we continue our analysis. When it comes to indicators of the pillar *People* ANOVA showed that there is statistically significant difference between the cities of the three continents for all seven indicators (Table 1). We conducted the Tamhane's test in all cases except for indicator Health when we used LSD test. Post-hoc tests showed three patterns. First, when European cities significantly differed from the rest. That was in cases of indicators Demographics and Income inequality. Second, when North American cities significantly differed, in cases of indicators Education, Crime, Health, and Affordability. The last pattern, when there is difference between cities on each continent, as in case of the indicator Work life balance.

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<sup>1</sup>Due to page limit we did not present all the analysed cities. However, the list is available on demand.



*Table 1: Means of groups of cities of the three continents and value of the one-way ANOVA for the indicators of the pillar People*

Indicator		Mean	F	Indicator		Mean	F
Demographics	E*	37.69 ± 10.51	13.937**	Crime	E	91.98 ± 5.42	25.525**
	NA*	51.67 ± 7.81			NA	74.84 ± 11.52	
	AA*	58.80 ± 23.52			AA	89.35 ± 10.14	
Education	E	57.88 ± 10.82	9.084**	Health	E	65.60 ± 9.26	8.499**
	NA	68.19 ± 10.52			NA	54.79 ± 7.67	
	AA	47.20 ± 25.69			AA	65.40 ± 13.20	
Income inequality	E	79.82 ± 16.78	25.761**	Affordability	E	56.18 ± 14.37	28.144**
	NA	48.17 ± 13.74			NA	30.10 ± 15.82	
	AA	48.55 ± 25.00			AA	67.40 ± 22.06	
Work life balance	E	72.41 ± 10.64	54.162**				
	NA	63.76 ± 8.36					
	AA	30.03 ± 24.37					

Notes: \* E – European cities, NA – North American cities, AA – Asian and Australian cities, \*\* p<0.05

When it comes to indicators of the pillar *Planet* ANOVA again showed that there is statistically significant difference between the cities of the three continents for all seven indicators (Table 2). We conducted the Tamhane's test in all cases except for indicator Environmental risks when we used LSD test. Post-hoc tests showed four patterns. First, when European cities significantly differed from the rest. That was in cases of indicators Environmental risks and Energy. Second, when North American cities significantly differed, in cases of indicators Green Space and Greenhouse gases. Third, when there is difference between cities of each continent, in case of indicators Air pollution. The last pattern, when Asian and Australian cities differ from both European and North American. This case occurred for indicators Waste management and Drinking water.

*Table 2: Means of groups of cities of the three continents and value of the one-way ANOVA for the indicators of the pillar Planet*

Indicator		Mean	F	Indicator		Mean	F
Environmental risks	E*	67.62 ± 21.47	14.211**	Greenhouse gases	E	72.73 ± 10.24	33.820**
	NA*	44.23 ± 18.59			NA	37.29 ± 24.68	
	AA*	38.45 ± 25.85			AA	75.88 ± 19.00	
Energy	E	67.92 ± 12.97	33.176**	Waste management	E	68.27 ± 20.55	21.290**
	NA	47.50 ± 5.16			NA	77.19 ± 11.79	
	AA	48.23 ± 11.44			AA	41.33 ± 25.75	
Green space	E	42.13 ± 27.08	4.536**	Drinking water and sanitation	E	97.02 ± 6.98	26.687**
	NA	22.43 ± 11.87			NA	100 ± 0	
	AA	43.40 ± 34.55			AA	69.13 ± 28.45	
Air pollution	E	79.78 ± 9.52	17.340**				
	NA	88.52 ± 5.91					
	AA	60.28 ± 27.94					

Notes: \* E – European cities, NA – North American cities, AA – Asian and Australian cities, \*\* p<0.05

ANOVA on the indicators which make the third pillar, *Profit*, showed that there is no statistically significant difference between the three groups for the indicator Transport infrastructure (Table 3). In the remaining cases, differences were observed. Post-hoc tests showed three patterns. First, when European cities significantly differed from the rest. That was in case of indicator Employment. Second, when North American cities significantly differed, in case of the indicator Tourism. Third, when there is difference between cities of each continent, in case of the indicators Economic development, Ease of doing business, and Connectivity

*Table 3: Means of groups of cities of the three continents and value of the one-way ANOVA for the indicators of the pillar Profit*

Indicator		Mean	F	Indicator		Mean	F
Transport infrastructure	E*	45.86 ± 20.32	0.771	Tourism	E	40.74 ± 27.43	5.694**
	NA*	41.35 ± 15.92			NA	17.56 ± 18.96	
	AA*	39.54 ± 23.20			AA	40.69 ± 32.78	
Economic development	E	53.46 ± 12.10	22.088**	Connectivity	E	69.39 ± 8.67	15.485**
	NA	73.06 ± 14.97			NA	61.47 ± 8.83	
	AA	35.89 ± 28.06			AA	47.04 ± 23.83	
Ease of doing business	E	68.55 ± 13.45	22.084**	Employment	E	59.85 ± 18.30	5.399**
	NA	83.02 ± 2.06			NA	50.05 ± 8.14	
	AA	42.86 ± 34.45			AA	44.23 ± 24.08	

Notes: \* E – European cities, NA – North American cities, AA – Asian and Australian cities, \*\* p<0.05

The presented in-depth analysis provides interesting conclusions. We can see that there are five different patterns of differences between the three observed groups. The first pattern, when indicator values of European cities significantly differ from both North American and Asian and Australian cities. This happens in case of five indicators: Demographics, Income inequality, Environmental risks, Energy, and Employment. Interestingly, European cities had higher scores than the rest for all indicators except Demographics. Namely, in its Europe 2020 strategy, European Union defines inclusive growth and employment as of its main priorities, aiming to reduce income inequality among its citizens by offering them jobs (Fredriksen, 2012). In European cities, automobile dependency is lower than in the rest of the world (Tsenkova, 2005). Many European cities are bicycle-friendly and have impressive bicycle networks (European Communities, 1999). Such an approach significantly reduces the emission of carbon dioxide and other greenhouse gases (European Communities, 1999). Also, many cities aim at motivating their citizens to use renewables energy and to recycle. The second pattern, when indicator values of North American cities significantly differ from both European and Asian and Australian cities. This happened in case of seven indicators: Education, Crime, Health, Affordability, Green space, Greenhouse gases, and Tourism. North American cities had lower scores than the rest for all indicators except Education. Education is measured using Literacy rate, Share of population with tertiary education, and University rankings. North American universities dominate many of the university ranking lists, so as the QS ranking whose data is used (Top Universities, 2017). Therefore, it is expected for North American cities to be dominant in this indicator. North American cities underperformed in six indicators. Namely, they use more energy and produce more carbon dioxide than European cities (Beatley, 2012). Although the rate crime rates plummeted all across America in the 1990s (Barker, 2010), they are still high compared to European and Asian cities. Health is measured using Obesity rate and Life expectancy. There is a worsening obesity epidemic in North America. Research has shown

that North American low-income neighbourhoods may be more obesity-promoting due to their socio-economic status (Moore and Diez Roux, 2006). Another indicator which is unexpectedly low is Tourism. Although the US travel industry grew steadily during 2015, North American cities are still not internationally recognised (Euromonitor International, 2016). The third pattern, when indicator values of Asian and Australian cities significantly differ from both European and North American cities. This happened in case of two indicators: Waste management and Drinking water and Sanitation. These cities significantly differ as they have lower values of the indicators. According to Hardoy and associates (2013), many urban centres in Asia do not have sewers at all so most of the waste water ends up in urban streams, canals, and rivers. Many inhabitants are affected so adequate measures should be taken as soon as possible. The fourth pattern, when indicator values of all three groups differed. This happened in case of five indicators: Work life balance, Air pollution, Economic development, Ease of doing business, and Connectivity. When it comes to indicators Air pollution, Economic development, and Ease of doing business North American cities had the highest mean, while Asian and Australian cities had the lowest mean. Many Asian countries whose cities were ranked are developing countries which are with high speed adapting to the new business environment (Jensen, 2013). Europe has one of the best broadband coverages, as between 85% and 100% of its population has access (Ofcom, 2015) so its high Connectivity was expected. The last pattern is when there is no difference between the three groups. This pattern occurred only for the indicator Transport infrastructure. It suggests that cities all over the world are facing similar problems with congestion, rail infrastructure, and airport satisfaction.

## **5. FUTURE DIRECTIONS OF THE STUDY**

During our research, we could identify three possible future directions of the study. The first is to apply Factor analysis to each of the three groups and to compare factors and factor loadings as proposed by Wuensch (2016). It would be interesting to see whether there would be statistically significant differences in the indicator grouping. The second proposed research is the application of data mining techniques, especially clustering, on the indicators of the Sustainable Cities Index. Hierarchical clustering algorithm or more advanced algorithms such as biclustering (Raponi et al., 2016) could be applied. It would be valuable to inspect the similarity of cities which are situated on different continents. As the weighting scheme of the Sustainable Cities Index is equal weighting and is based on expert opinion, we suggest the Composite I-distance Indicator (CIDI) methodology (Dobrota et al., 2015) to assess the current weighting scheme. The proposed methodology is data-driven, so the new weighting scheme will not be biased and expert-driven. The analysis could confirm the current weighting scheme, but it could also suggest that it should be refined.

## **6. CONCLUSION**

The presented paper has several benefits that should be pointed out. Firstly, it assesses a composite index which aims to measure the level of sustainability of cities. Its topic is of high interest for both citizens and policy makers. Patterns that we have discovered could be used as framework for policy makers regarding city sustainability. The results reveal problems of cities according to the aspects of society, environment and economy. Secondly, it provides an insight into the intercontinental differences between European, North American, and Asian and Australian cities. We can conclude that when it comes to urban sustainability European cities are ahead of North American, Asian and Australian cities. This is in accordance with research conducted by Wang et al. (2017). European cities are an example that economic growth not necessarily mean increased negative impact on the environment. On the contrary, economic activity increases awareness of environmental indicators such as Environmental risks and Energy consumption.

Finally, paper provides evidence that further methodological analysis of the Sustainable Cities Index is recommendable. We believe that this paper might trigger more in-depth analysis of the Sustainable Cities Index and the implication of its results, especially regarding its potential regarding regional development and challenges of the modern world such as urbanisation and city sustainability.

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## PROBLEMS EXPERIENCED IN TAXING OF ELECTRONIC COMMERCE

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### **ABSTRACT**

*Developments experienced in communication technologies have brought along huge problems as well as innovations in several fields. e-commerce has begin becoming a part of our daily lives by expanding use of internet. Countries and international organizations which cannot follow these dazzling developments in information and communication technologies experience problems in taxing that commerce. In this study, the internationally problems experienced in taxing e-commerce will be dealt through various tax types.*

**Keywords:** *E-commerce, taxation, taxation authority, income tax, value-added tax*

### **1. INTRODUCTION**

The relationship between companies and the public institutions related with taxation is also changing thanks to the advances in e-commerce. While, institutions apply various legal regulations for controlling and regulating e-commerce and enterprises adopt these regulations, on the other hand, they try to design and apply e-commerce activities to meet changing requests, demands and expectations of customers. This case creates different perspectives between countries for taxing e-commerce. For example, the tax rate in China as the Asia-Pacific country with highest e-commerce volume is 17%, while this rate is 8% for Japan, 12-15% for India, 20% for France and the United Kingdom and higher than 20% for Spain and Italy (Ecommerce Foundation, 2016). Canada operates a Goods and Services Tax (GST) with federal and provincial rates; value-added tax (VAT) rates vary within the European Union (EU); and India and Brazil levy state-level rates through their tax systems. Even highly centralized tax systems are not immune to the pressures of e-commerce (Agrawal and Fox, 2016). The Internet has made remarkable changes in markets. As it is known, e-commerce, which is the key output of Internet, has altered the relationship between companies and consumers. E-commerce has been grown rapidly in many markets.

According to the reports prepared by eMarketer (2016), Ecommerce Foundation (2016) and Kantarcı et al. (2017, p.3), global e-commerce market is expected to reach more than 2.5 Trillion \$ in 2016 and retail e-commerce sales will reach \$1.915 trillion in 2016, accounting for 8.7% of total retail spending worldwide. The share of e-commerce in GDP is 3.11% globally while the highest is 4.48% in Asia-Pacific and lowest is 0.71 in Middle East and North Africa. In Turkey, e-retailing volume is approximately 5 billion \$ in 2016, increasing 34% growing since 2013. According to 2016 statistics of the European Union, internet use rate has been 84% and online shopping has been 55%. While, the EU country with the highest online shopping is the United Kingdom with 83% rate, Macedonia has the lowest rate. Statistical average of Turkey has been 17% (EuroStat, 2017). In this study, tax-related aspects of e-commerce, experienced problems, perspectives of the EU and OECD to these problems and various tax types are evaluated in this study.

## 2. TAX-RELATED ASPECTS OF E-COMMERCE

The financial purpose; as one of the oldest and most important purposes which a rational tax system should tend; shortly is collecting tax revenue from the individuals and enterprises of a society at the lowest cost in accordance with their solvency considering horizontal and vertical justice without changing financial decisions to be made by financial institutions of the economy. In other words, obtaining a tax revenue to meet public expenses is one of the most important purposes of taxation. Engagement of e-commerce in world trade and capacity for the buyers and sellers to connect from their home computers without seeing each other have caused tax authorities to become concerned about loss of revenue. Namely, e-commerce has arisen as an obstacle for fulfilling the financial purpose (Bakkal, 2001, p. 210). With e-commerce, it seems inevitable to experience new developments and problems in tax policy and tax law. Moreover, considering that e-commerce is a global fact, it is possible to say that nation-wide solutions will be insufficient to resolve the problem unless adopted by other countries. In this regard, the problem of taxation is an international issue like other aspects of the problem (Gokbunar & Utkuseven, 2002, p. 198).

Global size of trade in electronic environment complicates taxation and current legal regulations and the generally accepted principles fall short. Therefore, it is required to apply international legal regulations and a quite wide-mechanism feature where electronic arbitration to be applicable for resolving conflicts. If, there are not fulfilled, it is impossible to purge e-commerce from taxation and should not be considered in anyway. Otherwise, it will not be possible to provide justice and prevalence of taxation (Avci, 2017, p. 254). Commercial transactions conducted by e-commerce show quite different structure than traditional trade. While, traditional trade is based on physical existence and delivery of goods, e-commerce through internet does not need physical existence of goods. First of all, the geographical borders between countries are not important. Secondly, physical delivery of goods is not required for such commercial transactions. We can show computer software, music, magazines, drawing and etc. which can be obtained digitally as examples to such goods and services. In these transactions, replacement of bytes takes place of physical delivery of goods (Ubay, 2013, p. 116). As, e-commerce removes geographical borders, legal regulations of countries become insufficient to meet requirements of global trade created by this new economy. One of the basic reflections of this case on taxation causes the place of taxation concept determined twenty years ago where only physical goods are subjected to import-export transactions is subjected to erosion (Kilic, 2012, p. 165).

There are four opinions on how to tax e-commerce (Cimat & Yayman, 2005):

- ✓ Assessing and taxing electronic environment as a free trade zone,

This method creates an competitive distortion against the ones conducting same commercial transactions through traditional methods.

- ✓ Taxing electronic transactions through a “**byte tax**” without considering their commercial nature and importance. With this tax, it is stipulated to tax information used during sales instead of goods and services. In byte tax, creating data with sent basis will not only cause taxing communication related transactions but also communication related electronic transactions.
- ✓ Thirdly; taxing e-commerce in accordance with the current regulations; This will cause tax evasion. It is difficult to track and audit e-commerce environment by current laws.
- ✓ Fourthly, taxing e-commerce transactions by adding new provisions into tax laws and international tax covenants and if it is considered necessary, applying new taxes.

As e-commerce is a global aspect, the solutions to be found for taxing it should be accepted by other countries. It might be very difficult to resolve current and potential problems of current principles and practices, because tax regulations of countries are based on dependency on a geographical location. However, there is not any dependency on a geographical location for e-commerce. Therefore, problems related with sharing taxing rights arise between countries (Alpturk, 2005, p. 313).

### 3. APPROACH OF OECD AND EU IN TAXING E-COMMERCE

The first activities of the EU for taxing e-commerce have begun in 1997 while it is seen that the related activities have been begun by the OECD in June 1996. The first study of the OECD on importance, fundamental problems and potential policies to be followed and approach to tax problems of e-commerce has been published in 1997. The first conference of the OECD on taxing e-commerce titled as “Removing the Obstacles Before Global E-Commerce” has been held in Finland in November, 1997 and this conference is important as authorities and sector representative compared their notes in it (Saracoglu, 2006, p. 158).

Then, in the conference organized by the OECD in Ottawa in 1998, the frame principles to rule over taxing e-commerce were tried to be established. As, e-commerce was not considered different than traditional trade, these frame principles were designed based on existing principles ruling over traditional trade. These frame principles established by the OECD have been determined as neutrality, efficiency and justice, productivity, certainty and flexibility and accepted internationally. Consequently, it has been decided applying current laws for resolving potential legal problems which might arise by e-commerce by reinterpretation rather than amending them (Ozdemir, 2013, p. 36).

The first activities of the EU for taxing e-commerce have begun in 1997 and the results of the study were presented as a report titled as "An European Initiative for E-Commerce". In this report, *it is vitally important that the taxation systems provide certainty and neutral taxation in order to allow development of e-commerce. Potential speed, intractability and anonymity of e-transactions might create new possibilities for tax evasion.* It is said, *“These issues should be taken into consideration in order to protect interests of countries for their revenues and prevent market deviations.”* (Ekmekci, 2003, p.58).

The activities of the EU especially focus on indirect taxes and VAT and the opinions of the EU on these issues are as below (Saracoglu, 2006, p.159).

- All services should be taxed based on the same principle whether they are based on source or consumption principle. E-commerce and traditional commerce should be based on the same taxation principles.
- Accepting deliveries in electronic environment causes difficulties in determining location of the service, therefore this should be reviewed.
- While, determining consumption location, a logical location link should be established instead of a physical one.
- As, it cannot be accepted to take unilateral national precautions, the 6<sup>th</sup> VAT directive reflecting opinions of all members should be binding for member countries.
- All members should take necessary precaution for interpreting the EU VAT Law similarly.
- It should be taken into account that the legal precautions of the EU will establish a model for the OECD and other countries.

As a result of EU activities, especially by directives issued for indirect taxes, the type of VAT to be applied on e-commerce within the union has become clear. With regards to indirect taxes, tax authorities of the union participated in the OECD activities and the activities for applying determined approaches on the union have been still continued.

#### **4. PROBLEMS EXPERIENCED IN TAXING E-COMMERCE**

##### **4.1. Difficulty in determining economic relation**

With regard to determining economic relation, the location of commercial transaction should be determined clearly. In traditional trade, it is very easy to determine location of the commercial transaction as the goods and deliveries exist physically. However, in e-commerce, it is not always easy to determine the jurisdiction of commercial transactions as they take place in virtual environment (Ubay, 2013, p. 116). Difficulty in determining the source country for e-commerce activities causes difficulties in determining the tax regulations of the country to be applied for them. As web servers can be remotely controlled, they can be established in anywhere considered as tax heavens with huge tax advantages. And because of that, several firms and organizations prefer web hosting firms and obtained revenues become tax free (Organ & Cavdar, 2012, p. 68).

##### **4.2. Determining the existence of a permanent establishment**

The states have the right to tax revenues obtained in their own borders. However, e-commerce breaks the bond between income bringing activity and geographical borders of a country. Consequently, the problems in taxing e-commerce get knotted in "geographical location" concept. As, there is not any physical dependency on a location in e-commerce, it causes problems for taxpayers and countries in determining the country to collect related taxes (Saracoglu, 2006, p. 155). The "residence" and "source" principles as concepts based on physical connections have caused discussions in e-commerce environment. Because, naturally and structurally e-commerce has created different problems related with residence status and full obligation of people. In e-commerce, it sometimes become difficult to determine the place used by people as residence or run as workplace (Ozdemir, 2013, p. 38). At this point; connection points such as the workplace, residence, covenants on preventing double-taxation or source of income mostly resolve problems related with authority for taxation. However, the aforementioned connection points increase problems in taxing e-commerce due to their conceptual meanings (Ozdemir, 2013, p. 38).

Two different interpretations can be developed on a connection rule of doing a business in a country. The first one is searching for the presence of machines and equipment creating the source of websites operated automatically from the viewpoint for searching physical presence of the acting country. The second one is that it is considered sufficient to operate a e-commerce website in a country even the operator is not physically present there and this country is considered as the source country even the serve where the website is operated is out of this country (Yalti, 2003, p.85). It will be more beneficial to explain the issue through a sample. That is to say, for example we think three countries which do not have any covenant for preventing double taxation between each other. If, a website of a marketing company in Norway loaded in a web server in India is accessed from the USA, the conflict with regards to connection points will lead up double taxation. Laws of several countries act on the physical location of the server, the location where the website is accessed and the location where the business is established.



The major problems are tried to be explained through websites:

The physical location of the server where the website is loaded;

- **India**, from the viewpoint that it is required to take the location of the web server as basis and in this regards it is required to search for physical presence of the machines and equipment as the source of that website, it will think that it is the source country, it has the taxing authority and consequently will want to tax that revenue.

The location where the website is displayed, namely the location of the user;

- **USA**, from the viewpoint by accepting the website as the place of business and the places where the website is accessed as the source, it might consider itself as the source country and claim that the revenue from that commercial transaction belongs to it. At this point, while determining the source country, physical presence of the web server is not taken into account. Even, there is not any web server, operating an e-commerce website is considered enough.

The place where the owner of this website resides;

- **Norway** will not accept both interpretations and might see itself as the source country. Consequently, as these countries accept their own as the source country through different interpretations of different criteria or existing connection points might cause a residence-source conflict and consequently double-taxation.

According to OECD Model Tax Covenants, basic approach in e-commerce is permanent establishment and it is based on the idea adapting permanent establishment provision of existing tax covenants in e-commerce. At this point, the OECD has tried to indicate the specifications which a place of business that can present in the electronic environment should have for the first time through the fifth article of the model tax covenant prepared after the Ottawa Conference (Ozdemir, 2013, p. 39).

According to the fifth article a web server can be accepted as a place of business under particular conditions as well as it should be present in the country for a particular term where the sales are conducted. This term varies according to tax laws of different countries. Also, considering the transactions implemented by the firm through the website as its main activity field is among the conditions considered for taxation. If, the transactions of the firm conducted through internet are auxiliary or temporary transactions for it, permanent establishment condition is deemed not to be fulfilled (Ozdemir, 2013, p. 39).

In several covenants for preventing double taxation, contracting countries aim to apply tax on revenues of commercial establishments which have permanent establishment in their border. Here, the fundamental requirement for taxation is to have a place of business and it should be a permanent establishment. The main problem of taxing e-commerce is that there is no need for any place of business for conducting cross-border trade. With regards to financial goods, the customs and postal liabilities might determine the source in cross-border trade. Furthermore, the shipment address and place of destination are also known. However, if the seller is registered in a tax-heaven country, it becomes difficult to apply national tax laws on a company which is not located in the country. In such cases, the natural choice is to tax the resident buyer if the nonresident company cannot be accessed. Today, with the development of wireless access applications which integrates cell phones with internet, m-commerce (mobile-commerce) begins taking place of e-commerce. This case makes the origin of commercial transactions invisible and consequently increases the disadvantages of countries for taxing e-commerce (Ubay, 2013, p. 117).

#### **4.3. Legal hurdles**

While, all cross-border commercial transactions were subjected to customs or postal obstacles, in other words conducting all trade in a physical world as tangible goods made controlling these transactions easy and only smuggling cases were out of control. Currently, tax authorities deal with problems caused by various smuggling types. In e-commerce transactions, contracting parties can be in two different countries and consequently the problem to select the tax law of the country to be applied arises (Ubay, 2013, p. 117). In addition to this, tax laws should be changed for recognizing proofs obtained from electronic environment and new audit methods and techniques are also needed as it is possible that e-commerce will make tax audits difficult (Sarac, 2006, p. 154).

Currently, there is not any comprehensive legal frame which can allow or support efficient execution of international e-commerce (on e-signature, certifications, dispute settling mechanisms, protection of customers and etc.). Resolving this problem is undoubtedly very important for tax law and applications. A rapid development in this field is only possible through a comprehensive cooperation at international level. With regards to small-scale-enterprises, it can be considered that e-commerce will continue its development without solving legal problems. However, in an environment where rules and responsibilities are uncertain, it should be expected for enterprises to deal with large-scale e-commerce transactions (Donmez, 1998, p. 432).

### **5. EFFECTS OF E-COMMERCE ON VARIOUS TAXES**

Today, e-commerce causes some problems on various taxes. The problems experienced with regards to main taxes can be considered as below.

#### **5.1. Income and Corporate Tax**

As, distinct from traditional commerce, e-commerce is not bound to geographical borders, some important problems will arise in taxing incomes obtained from e-commerce. More clearly, there are problems in determining the country with taxation right for the revenue obtained as a result of e-commerce activities. The most important problem is to determine the liability of real or legal entities (Organ & Cavdar, 2012, p. 69).

Liability of real entities is determined in accordance with the residence principle. Services in various fields such as consultancy, accounting, medicine, architecture, engineering and etc. are provided through internet. By means of possibilities provided by technology, it is possible to provide service or carry out other activities without residing in another country for a particular while. Therefore, the liability practices determined for real entities based on residence principle have lost their importance (Organ & Cavdar, 2012, p. 69).

With regards to income tax, e-commerce has caused emergence of new income types which are not met in traditional commerce. Consequently, it is advantageous to determine new income types for taxing regime. The OECD indicates that the revenues obtained from e-commerce will be accepted as trade income or royalty and lists the income types to be considered as trade income and royalty. In Turkish tax legislation, obtained income is subjected to income tax or corporate tax based on the stature of entity. In income tax, taxation regimes list seven different aspects. Consequently, it is important for taxation regime to determine the income aspect of obtained income (Coskun, 2005, p. 164).

E-commerce provides enterprises the right to select the country which they desire to become fully accountable. Because, due to e-commerce; enterprises have the chance to carry out their management phases in a different country than the country where they perform production.

This has caused the criteria as "main place of activity, place of management or actual place of business where transactions are collected and managed" which are the methods applied for determining the residences of enterprises lose importance. In addition to this, the condition for international firms to have a physical place of business in the country where they conduct business in order to become taxpayers is not necessary anymore. Because, it is no more needed especially for the firms which can carry out cross-border sales of goods as software, book, CD, music and etc. by transferring them into digital environment and directing them from the firm computer to the consumer's computer to have a place of business or a personnel in the country of sales. All these development are the facts which make it difficult for determining liability of real and corporate entities (Cak, 2002, p. 90).

## **5.2. Value Added Tax**

As a result of discussions in Ottawa Conference, the following basic recommendations were presented related with applying expenditure taxes of e-commerce. These recommendations are mentioned below (Ceran & Cicek, 2007, p. 300).

- i- Realizing taxation of VAT in the place of consumption.
- ii- Digital products cannot be considered as "physical goods" with regards to VAT; accepting supply of digital products as service.
- iii- Developing tax collection mechanisms.

As deliveries of imported tangible goods sold through e-commerce must be carried out through traditional methods, it is not possible to experience any problem with regards to VAT, while same facility cannot be provided for digital products. It will be smart to follow technological developments in that field and make exact decisions after some developments enabling tax authorities to follow international circulation of digital products arise (Cak, 2002, p. 120).

As, digital products and services do not have to pass through customs; they should be kept exempt from taxation or the concerned parties of the transaction should be kept liable. As most of the digital economical activities finalize by delivery of tangible goods, they do not constitute any problem for taxation due to the principle of taxing in country of destination. However, while conducting trade of digital products such as sound, image and text which do not finalize by physical delivery in electronic environment, liability status of parties of that commercial transaction, place of transaction and nature of transaction are not exactly known and this makes it nearly impossible to collect VAT by countries. Consequently, there is not any common global solution on how and where digital goods and services in a digital shopping will be taxed. It is very difficult to obtain correct and exact information on the transactions and people conducting digital activities as well as it is very difficult to audit them. The users of digital environment can show an irrelevant country or a region as their address or show titles and brands of other firms as their own. For example, it is possible for digital transactions that the buyer and seller do not know each other, do not know each other's identities or misdirect each other. Unless, these people voluntarily declare a transaction, it is quiet difficult for tax administration to detect/recognize it and this easily creates a basis for tax evasion (Kara & Oz, 2016, p. 35). Briefly, the main rule of service supply is that the country where the service is consumed is entitled for related VAT.

## **5.3. Stamp Tax**

One of the basic characteristics of e-commerce is conducting these commercial transactions in electronic environment without using paper. A transaction within the scope of stamp tax will not be considered as there will not be any paper to be issued if the regulations to make contracts concluded in electronic environment legally valid are established (Cangir, 1998, p. 85).

According to an opinion, there is not any difference between the approach defending to make e-commerce tax-free and electronic document will be tax free based on current taxation. Actually, course of action is not developing a system to the previous status, it is to develop a system for the new one. In this frame, it seems more logical to take electronic papers within the scope of stamp tax liability more flexible than traditional trade by eliminating its limited and restrictive nature (Colak, 2016).

#### **5.4. Customs duty**

Under the hypothesis, qualifying digital products as a service with respect to customs duty (OECD adopts to qualify these products as service with respect to VAT), it is required not to subject these products to customs duty with regards to our domestic legislation. With regards to tangible goods ordered through electronic environment, there should not be any problem for customs duty, as delivery is carried out through traditional methods (Cak, 2002, p. 121).

### **6. RESULT**

It is necessary to conduct serious studies and activities on e-commerce with positive effects for national economies which should be considered mainly as managing tax loss and evasion, efficient taxation, jurisdiction, unfair tax competition and etc. The economical and legal infrastructure regulations which are not implemented simultaneously with technological developments cause the main problem. Current audit problems in controlling tax practices are more difficult in field of e-commerce and this creates untaxed fields. The fundamental problem experienced in taxing e-commerce is difficulty in determining the place of transaction. This is especially experienced in determining the country with taxation right with regards to cross-border transactions. Therefore, it is necessary to have international consensus for preventing conflicts in taxing right as one of the most important authorities of countries. All effort is to prevent double-taxation and establish a fair, neutral, equal and flexible system through harmonizing sovereign rights of states at a particular level. Considering that e-commerce is a global fact, it is possible to say that nation-wide solutions will be insufficient to resolve the problem unless adopted by other countries. As with other aspects of e-commerce, taxation is also an international problem. Although, a settlement is reached through covenants for preventing double-taxation and decisions by supranational organizations, countries can recognize that their taxation rights diminish. The conditions of these settlements and covenants should be applied, efficiently. Otherwise, countries experience difficulties in protecting their tax bases.

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## **Enterprise in Turbulent Environment**

## EMPLOYEE MOTIVATION IN VARAŽDIN COUNTY

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### **ABSTRACT**

*Until recently, the importance of employee motivation was neither appreciated enough, nor was it sufficiently recognized as a facilitator of good decision-making and performance. This paper provides an insight into how motivation affects employees and argues that employees do not require much to be motivated and satisfied at work. Performance monitoring and evaluation have become important elements of employee motivation. Performance appraisal, which is carried out several times a year, provides the management of the company with the information needed to improve employee motivation. Efforts to foster employee motivation should be carefully planned to avoid making any mistakes that could undermine existing motivation. This paper investigates employee motivation in the primary, secondary, tertiary and quaternary sectors of the economy in the Varaždin County area. It aims to identify the major employee motivation factors and determine the current level of employee motivation in the surveyed companies. Based on the research objective, several hypotheses have been formulated, which will be either confirmed or rejected, once the survey has been carried out and the necessary information obtained. After conducting primary research, descriptive statistics has been used to analyse the data.*

**Keywords:** *motivation, theories, employees, salary, performance*

### **1. INTRODUCTION**

Employees are the most important asset of any company. This is why adequate recruitment policy and job allocation can significantly affect the development of a company. Employees should be goal-oriented and motivated so that they feel content in their workplace and as a result contribute to the success of the company. There are various techniques of motivating employees; however, it is a well-known fact that the best and most efficient among them is financial remuneration. In determining employee compensation, steps should be taken to avoid discrimination. For this reason, the compensation as well as any additional monetary rewards should be clearly determined. All employees should be afforded equal opportunities for advancement or reward (Bobera, Hunjet, Kozina, 2015, p.78). Employee performance evaluation should be standard for every workplace. The appraisal is carried out by the management with an aim to improve business performance. The objective of the research is to identify the major employee motivation factors and determine the current level of employee motivation in the surveyed companies. This will provide an insight into the importance attached to employee motivation by the management of the surveyed companies and motivation methods used. The paper investigates employee motivation in the primary, secondary, tertiary and quaternary sectors of the economy in the Varaždin County area (Sušec, 2017, p. 31).

## **2. EMPLOYEE MOTIVATION**

To be motivated means to have a set goal, to strive to achieve it and to focus on it until it has been achieved (Rheinberg, 2004, p.13). Motivation implies the use of techniques that drive employees to perform work-related tasks. Employees are motivated by different needs, such as the need for safety, responsibility, and the like (Buble, 2011, pp. 117-120). Motivating employees is one of the most important responsibilities of managers, who need to ensure that all of their subordinates are motivated to meet company goals. If employees are sufficiently motivated, they will put their knowledge and skills to good use, thus benefiting the company. (Zane K. Quible, 2010, p. 212)

### **2.1. Theories of motivation**

Throughout history, various theories of motivation have been developed, based on different assumptions. Nevertheless, all of them are seeking to determine what motivates employees and drives them to achieve specific goals.

Some of the theories of motivation are: (Zane K. Quible, 2010, pp. 217-223)

- Hierarchy of needs: Needs are classified into five basic groups organized in a hierarchy. The lower-level needs must be satisfied before higher-order needs.
- Motivation-hygiene theory: This theory was developed as a result of Herzberg's workplace satisfaction study, in which through interviews with employees he sought to determine which aspects of the job gave them satisfaction and which did not.
- Acquired needs theory: This theory considers what employees seek to achieve, rather than what is needed to satisfy their needs.
- Equity theory: According to this theory, employees seek to reduce the perception of inequity when there is an imbalance between the inputs and the outcomes in comparison to the perceived inputs and outcomes of others.
- Reinforcement theory: In essence, this theory holds that positive behaviour is rewarded and negative behaviour is followed by negative consequences.

### **2.2. Motivation strategies**

Motivation strategies help managers to identify what kind of motivation the employees respond to, in order to maximize it, thereby maximizing their performance as well. By using these strategies, the management can meet the needs of their employees. These strategies can be financial, i.e. involving financial incentives and rewards, which are further divided into direct and indirect rewards, and non-financial. Financial motivation strategies are aimed at meeting the basic human needs, while non-financial strategies are aimed at meeting the higher-order needs (Buble, 2011, p. 131).

### **2.3. Pay as a source of motivation**

Pay is the oldest and most important motivator. It is also a very powerful tool, as it enables employees to sustain themselves and their families. The management should make sure that employees are rewarded for outstanding performance with salary increases, because motivated employees benefit the company as a whole by bringing about change and thereby helping the business grow. A good manager must avoid any discrimination and disruption to the organisational climate when using this motivator (Šiber, 1986, pp. 100-107).

## **3. EMPLOYEE MOTIVATION MISTAKES**

Managers sometimes make decisions that disrupt employee motivation. Some of these actions are deliberate, whereas some happen unintentionally, due to haste or oversight. A common mistake is creating an overly competitive environment. In some situations, it is beneficial for a

company to have competitive and experienced employees who are trying to prove themselves, thereby contributing to the success of the company. However, sometimes such an environment can cause losses to the business, because if an employee is self-centred and seeks to achieve goals at the expense of others, this will bring him into conflict with other employees as well as with the manager, making the situation difficult to handle. Managers need to be familiar with the wishes and needs of their employees and, even though they cannot always satisfy them, they should not ignore them. Sometimes work has to be adjusted to employees in order to create a more comfortable environment for them and thus increase their efficiency (<http://www.poslovni-savjetnik.com/superprodavac/5-pogresaka-koje-ubijaju-motivaciju-zaposlenika>).

#### **4. EMPLOYEE PERFORMANCE EVALUATION**

Employee performance evaluation is one of the most important management responsibilities as it affects employee productivity. The management needs to continually appraise employee performance in order to align company and employee goals. The appraisal process, which is carried out several times a year, provides the management with information needed to improve employee performance. One of the principal reasons for performance appraisal is the advancement of employees, which entails a better pay. Another reason for evaluating employee performance is to improve communication between the superiors and their subordinates and, through discussion, open up communication channels between them (Zane K. Quible, 2010, p. 233-234). The appraisal process is multidimensional and provides a lot of information for quality decision-making in a number of areas, which can lead to improvements. Moreover, it provides the basis for taking various corrective actions and developing plans for the improvement of organizational performance. The process usually takes place several times a year and consists of three related steps - establishing performance criteria, performance appraisal, and performance interview (Šiber, 1999, pp. 510-516).

##### **4.1. Errors in employee performance appraisal**

Errors often occur in employee performance appraisal due to rating scales. These errors can be minimised or prevented by the adequate training of raters. The first error is caused by the halo effect, when, based on a good rating on one trait, an employee is given high ratings across all rating dimensions. The opposite may occur as well. In order to prevent this, raters must evaluate each trait separately. Another error occurs when the rater allows an employee's recent performance to influence his/her rating. A poorly or well-performed task in the recent past should not affect the overall rating. Another possible error is an error caused by the manager's bias towards an employee. To avoid it, the performance of an employee should be rated twice, at different intervals. A central tendency error occurs when employee ratings fall within a limited range. A leniency error occurs when the rater tends to rate an employee extremely high when a decision has to be made on the salary, but not when there is a need for further training (Zane K. Quible, 2010, p. 246-247).

#### **5. RESEARCH**

The paper investigates employee motivation in the primary, secondary, tertiary and quarterly sectors of the economy in the Varaždin County area (Sušec, 2017, pp. 31-53). It aims to determine the level of employee motivation as well as the main sources of motivation. This will provide a deeper insight into the motivation of employees and help determine the importance attached to employee motivation by company management and motivation methods used. A questionnaire comprising 22 questions was created using Google Forms. The survey was conducted via Facebook and e-mail in the period from 2-16 August 2016.

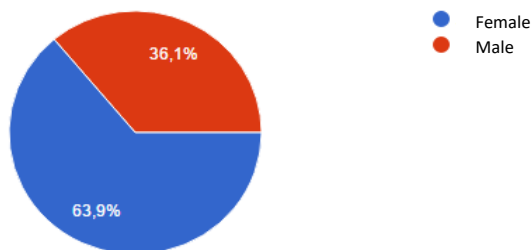
Based on the research objective, several hypotheses have been formulated, which will be either confirmed or rejected, once the survey has been carried out and the necessary information obtained.

- H<sub>1</sub>: Employees are mainly motivated by money.
- H<sub>2</sub>: Employees are not satisfied with their current salary.
- H<sub>3</sub>: Employees know what is expected of them at work.

The questionnaire is composed in such a way that employees answer each question by selecting one answer from a defined list of choices. The first section of the survey contains general questions about gender, age, education, duration of work experience in the current workplace and the type of employment. The second part of the survey includes questions pertaining to job satisfaction, while the third part aims to determine what motivates employees the most.

## 5.1. Survey results

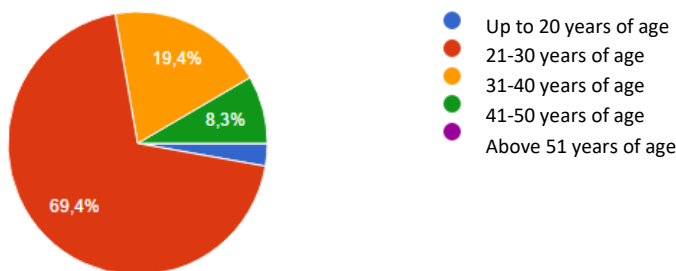
### 1. Gender



*Figure 1: Distribution by gender*  
*Source: Authors*

72 respondents participated in this survey, of which 63.9% were women and 36.1% men.

### 2. Age of respondents



*Figure 2: Distribution by age*  
*Source: Authors*

2.8% of the respondents fall within the age bracket of up to 20 years; 69.4% are aged 21-30 years, 19.4% of respondents are aged 31-40, while 8.3% are aged 41-50. There were no respondents in the age bracket of above 51 years.



### 3. Level of education

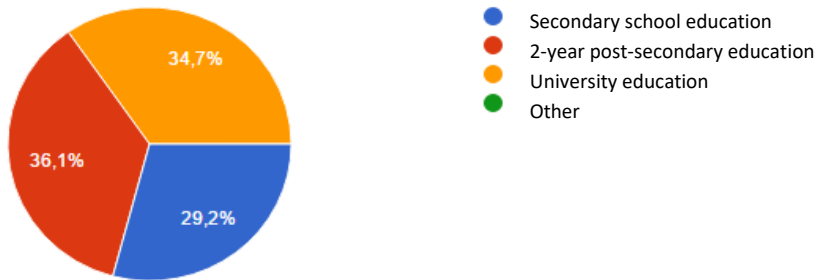


Figure 3: Distribution by education level

Source: Authors

The majority of the respondents (36.1%) have 2-year post-secondary education; 34.7% of them have university education, while 29.2% have secondary school education.

### 4. What is the total duration of your work experience?

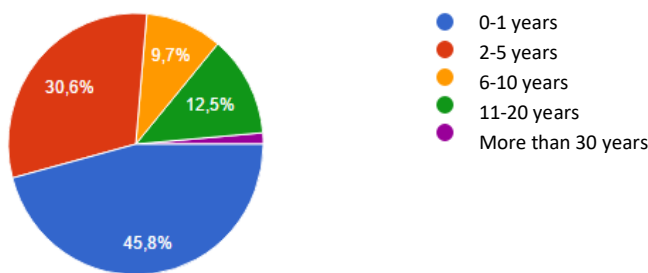


Figure 4: Distribution by work experience

Source: Authors

The majority of the respondents (45.8%) have 0-1 years of experience, followed by 30.6% of the respondents who have 2-5 years of experience, 12.5% of them have 11-20 years of experience. A somewhat smaller percentage of them (9.7%) have 6-10 years of experience, and only 1.4% of the respondents have 30 or more years of experience.

### 5. What is your current job?

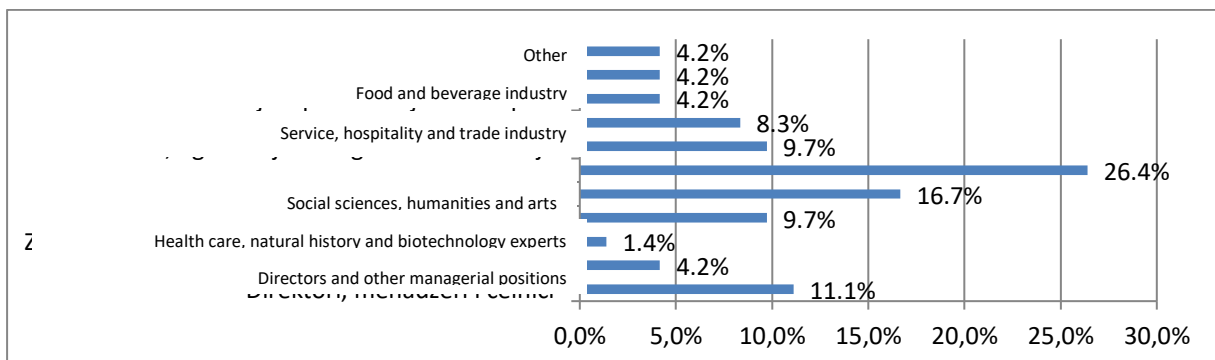
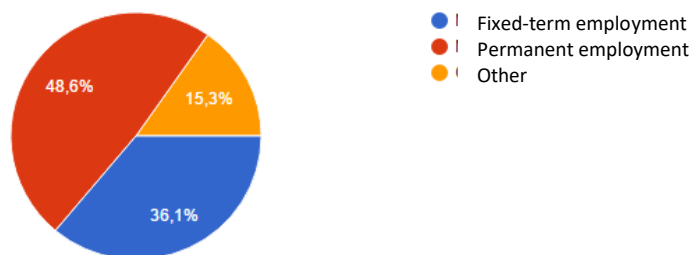


Figure 5. Distribution according to current job

Source: Authors

In terms of their current job, using the classification of the Croatian Employment Service, the majority of the respondents (26.4%) are office workers, followed by 16.7% of the respondents working in the social sector, humanities and arts; 11.1% of the respondents reported holding director and other managerial positions. University or primary/secondary school teachers and other education professionals account for 9.7% of the respondents, the same as the service, hospitality and trade industry employees.

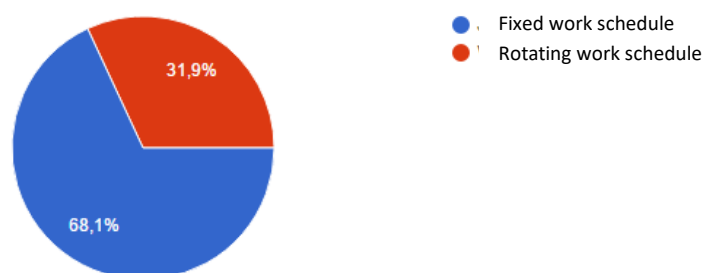
#### 6. Type of employment



*Figure 6: Distribution by type of employment*  
*Source: Authors*

The majority of the respondents (48.6%) have a permanent employment contract, followed by 36.1% of the respondents with a fixed-term contract. 15.3% of the respondents reported holding neither a permanent nor a fixed-term contract.

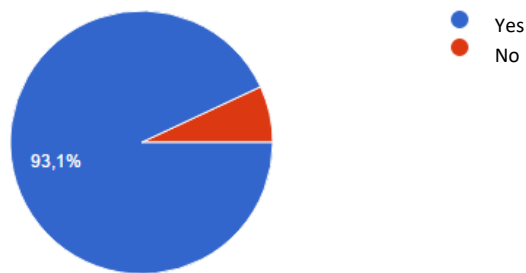
#### 7. Type of work schedule



*Figure 7: Distribution by the type of work schedule*  
*Source: Authors*

The majority of the respondents (68.1%) have a fixed work schedule, while 31.9% of them have a rotating work schedule, i.e. work two or more shifts.

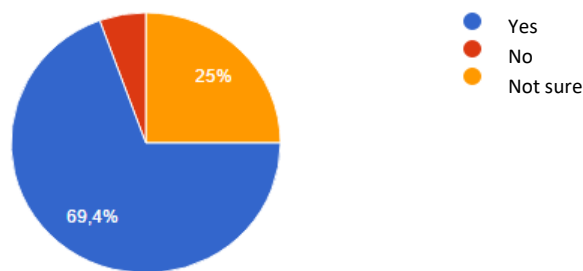
8. Do you know what is expected of you in the workplace?



*Figure 8: Distribution according to whether employees know what is expected of them at work*  
Source: Authors

When asked if they knew what was expected of them at work, the vast majority of the respondents (93.1%) reported having a clear understanding of what was expected of them, while only a small percentage (6.9%) said they were not sure.

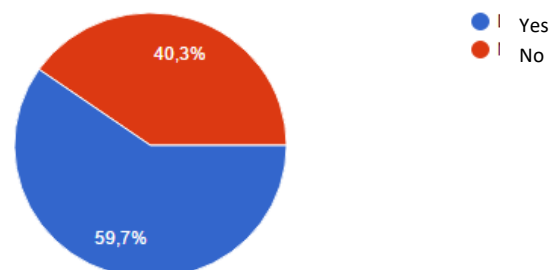
9. Do you enjoy your work?



*Figure 9: Distribution according to whether respondents enjoy their work*  
Source: Authors

The majority of the respondents reported that they enjoy their work, while only 5.6% of them do not like their work. The remaining 25% of the respondents were not sure.

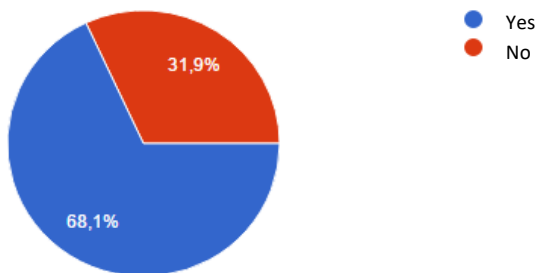
10. Do you have the opportunity to do what you are best at?



*Figure 10: Distribution according whether respondents have the opportunity to do what they are best at*  
Source: Authors

The majority of the respondents (59.7%) have the opportunity to do what they are best at, while as much as 40.3% do not have such an opportunity, which explains why their level of motivation in the current workplace is lower and why they are less productive in comparison to those who do the job they love.

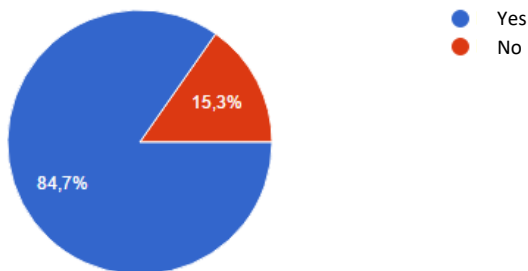
11. Have you been praised at work during the last month?



*Figure 11: Distribution according to whether an employee received praise at work*  
*Source: Authors*

68.1% of the respondents received praise for a job well done. Understandably, such employees are more motivated and perform better than others. 31.9% of the respondents have not received any praise.

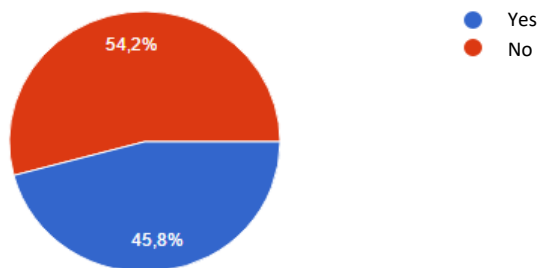
12. Is the opinion you offer at work valued?



*Figure 12: Distribution according to whether an employee's opinion at work is valued*  
*Source: Authors*

When asked this question, 84.7% of the respondents stated that the opinion they offered at work was taken into account, which made them feel valuable to the company and motivated them to try to gain a better understanding of the work that needs to be done and come up with new ideas, as opposed to 15.3% of employees whose opinions were not taken into consideration.

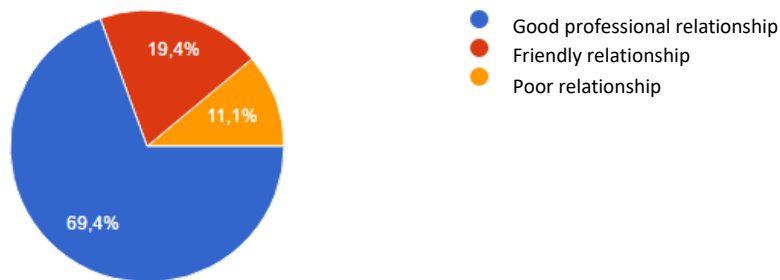
13. Have you had advancement opportunities?



*Figure 13: Distribution according to availability of advancement opportunities*  
Source: Authors

The percentage of respondents who have not been offered any advancement opportunities (54.2%) exceeds the percentage of those who have had such opportunities (45.8%).

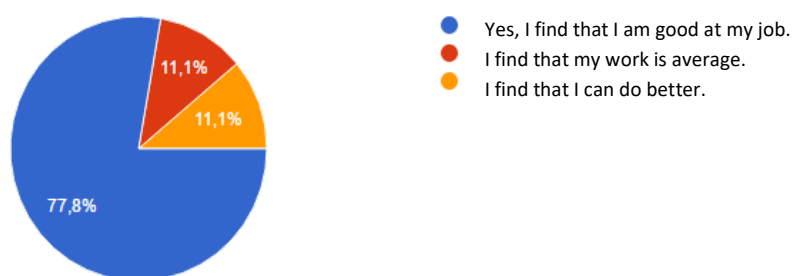
14. How would you describe your relationship with your superiors?



*Figure 14: Distribution by the nature of relationship between employees and superiors*  
Source: Authors

Most of the respondents (69.4%) reported having good professional relationships with their superiors, which is positive because good relationships increase organisational performance. A small percentage of the respondents (19.4%) are friends with their superiors, which can lead to conflicts among employees, especially involving those who have a professional relationship with their superiors or those whose relationship with the superiors is poor. 11.1% of the respondents reported having a poor relationship with their superiors.

15. Do you find that you are good at your job?

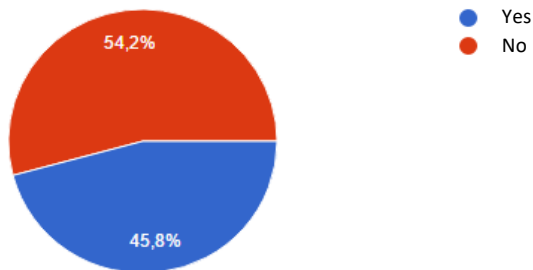


*Figure 15: Distribution by employees' perception of their expertise*  
Source: Authors



77.8% of the respondents consider that they are good at their job, which may be the result of their motivation, while 11.1% of the respondents say they can do better. The same percentage of employees consider their work to be of average quality. In order for employees to feel good about the work they do, it is necessary to motivate, encourage, and support them.

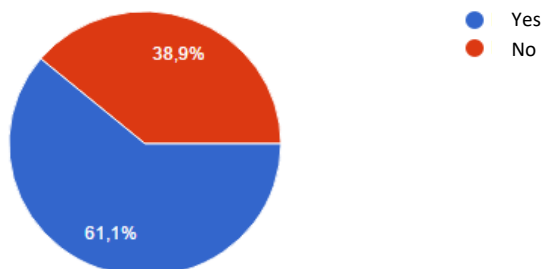
16. Are you satisfied with your current salary?



*Figure 16: Distribution by employee satisfaction with their current salary*  
*Source: Authors*

The majority of the respondents (54.2%) reported that they were not satisfied with their current salary, while 45.8% of them are satisfied. This was expected, because every employee wishes to receive more and believes that they deserve it based on the amount of work they do.

17. Are you motivated at work?



*Figure 17: Distribution by employee workplace motivation*  
*Source: Authors*

Despite not being satisfied with their current salary and believing that they deserve a higher salary, 61.1% of the respondents feel motivated at work, while 38.9% of the respondents do not feel motivated. Although more than half of the respondents feel motivated, this percentage should be even higher.

18. What motivates you the most?

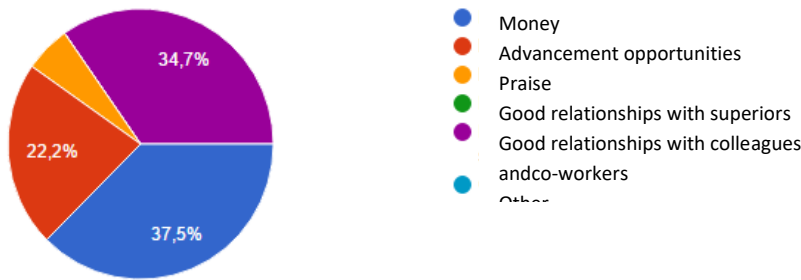


Figure 18: Distribution by the source of employee motivation  
Source: Authors

According to the literature on this subject and the results of this survey, people are mainly motivated by money. 37.5% of the respondents reported being motivated by money, which was expected because money provides them with sustenance and more money affords them with an opportunity for a better life. A slightly lower percentage of respondents (34.7%) are motivated by good relationships with colleagues and co-workers, which seems reasonable because it is easier to work in a friendly environment that does not cause stress and uneasiness. Only 22.2% of the respondents are motivated by advancement opportunities, which reveals that employees are apprehensive about advancement and greater responsibility, as well as the greater workload. However, advancement means larger salary which is the main source of motivation. 5.6% of the respondents report that they are motivated by praise.

19. Rate the degree to which you are motivated by money.

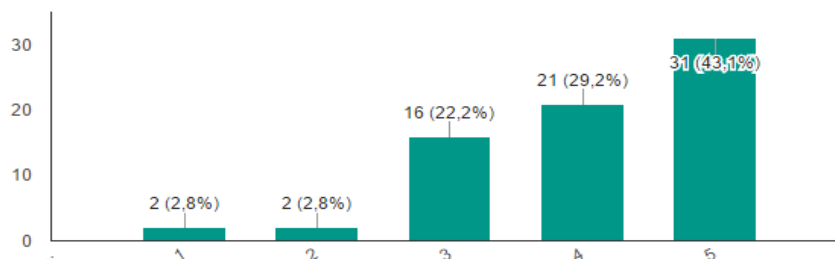


Figure 19: Distribution by the degree to which employees are motivated by money  
Source: Authors

The respondents were asked to rate the degree to which they are motivated by money on a 5-point scale, where 1 means not at all and 5 means extremely. The graph below shows that the majority of the respondents (43.1%) are extremely motivated by money. 29.2% of the respondents are very motivated by money, while a somewhat smaller percentage (22.2%) of them find they are moderately motivated by money. The remaining respondents are either slightly or not at all motivated by money.

20. Rate the degree to which you are motivated by advancement opportunities.

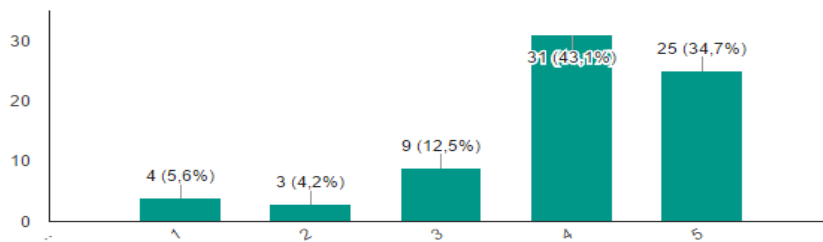


Figure 20: Distribution by the degree to which employees are motivated by advancement opportunities

Source: Authors

The respondents were asked to rate the degree to which they are motivated by advancement opportunities on a 5-point scale, as explained above. The graph below shows that 34.7% of the respondents are extremely motivated by this factor. 43.1% are very motivated by it; 12.5% find that they are moderately motivated by it, and the remaining respondents are either slightly or not at all motivated by it.

21. Rate the degree to which you are motivated by good relationships with your superiors.

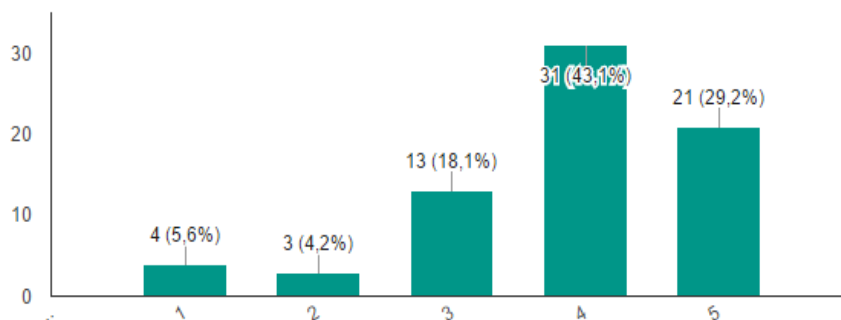


Figure 21: Distribution by the degree to which employees are motivated by good relationships with the superiors

Source: Authors

The respondents were asked to rate the degree to which they are motivated by good relationships with the superiors on a scale of 1-5. Only 29.2% of the respondents find that they are extremely motivated by good relationships with their superiors. The majority of the respondents (43.1%) find that they are very motivated by this factor; 18.1% find that they are moderately motivated by it, while the rest are slightly or not at all motivated by it.

22. Would you like to change your job?

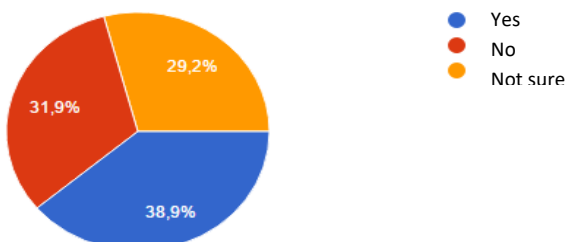


Figure 22: Distribution according to whether employees would like to change their job or not

Source: Authors

To this question, 38.9% of the respondents answered that they would change their current job; 31.9% would not change their job, while 29.2% of the respondents were not sure.

## 5.2. ANALYSIS OF SURVEY RESULTS

H<sub>1</sub>: Employees are mainly motivated by money.

This hypothesis is accepted because survey results show that 37.5% of the respondents are motivated by money. This is not surprising, because money is a powerful driver in all aspects of life and without it there is no future. As money ensures a better quality of life, it is reasonable that employees are mainly motivated by the opportunity to earn more by showing their willingness to work hard. Interestingly, respondents with secondary school education are mainly motivated by good relationships with colleagues and co-workers; respondents with 2-year postsecondary education are mainly motivated by advancement opportunities, while those with university education are mainly motivated by money.

It is also interesting that the respondents aged up to 20 years are equally motivated by money and good relationships with their colleagues and co-workers; the respondents aged 21-30 years are motivated mainly by money; the respondents aged 31-40 are equally motivated by money and good relationships with colleagues and co-workers, while the respondents aged 41-50 are motivated mainly by money.

H<sub>2</sub>: Employees are not satisfied with their current salary.

This hypothesis is accepted because the majority of the respondents (54.2%) reported not being satisfied with their current salary. They all think they deserve a higher salary and find it hard to be satisfied with what they currently receive due to the rising cost of living. The respondents aged 21-30, as well as those between the ages of 31 and 40 are not satisfied with their current salary, whereas the opinions of those aged 41-50, and those up to 20 years are divided.

H<sub>3</sub>: Employees know what is expected of them at work.

This hypothesis is accepted because the majority of the respondents (93.1%) reported knowing what is expected of them in the workplace. Having a clear understanding of what an employer expects of employees is important for employee productivity. Respondents in all age groups reported being aware of what was expected of them in the workplace and, as the survey results indicate, most of them are motivated because knowing what is expected of one has a positive influence on one's motivation.

## 6. CONCLUSION

Employee motivation has recently become an increasingly important tool for organizational advancement. The research results confirm this positive change in the trend as more than half of the employees surveyed reported being motivated. However, their number is still too small due to the lack of measures aimed at increasing employee motivation, which are time-consuming and require investing into adequate training. Money is the strongest source of motivation. This conclusion is supported by the survey results indicating that 37.5% of the respondents are motivated by money, based on which H<sub>1</sub> has been accepted. Although money is considered to be a strong business tool and employees strive to increase their salary or earn financial rewards, it also causes conflicts among employees. Most of the respondents (54.2%) are not satisfied with their current salary, thus H<sub>2</sub> has been accepted. They think that they deserve a higher salary considering the rising cost of living.

Given that 93.1% of the respondents reported knowing what is expected of them at work, H<sub>3</sub> has been accepted. Having a clear understanding of what an employer expects of employees increases their productivity. Respondents in all age groups reported being aware of what was expected of them in the workplace and, as the survey results indicate, most of them are motivated because knowing what is expected of one has a positive influence on one's motivation.

Furthermore, the survey results indicate that good relations with colleagues and co-workers as well as advancement opportunities are also important motivators. Employees should not be motivated by money but rather by advancement opportunities. The management has a significant role in encouraging employees to work hard and take advantage of advancement opportunities that will enable them to earn the money and status that they are eager to earn. Motivation does not simply appear out of nowhere. It must be found and cultivated.

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## ORGANIZATIONAL RESILIENCE AND RISK MANAGEMENT IMPROVEMENT – HOW TO REDUCE AND PREVENT FIRE HAZARD USING SIMULATION SCENARIOS

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### ABSTRACT

*Organizational resilience as an organizational system's ability to foresee, depreciate, and effectively recover from stress-related events or disruptions, is associated with risk management processes. Reflection from the perspective of an organization's resilience implies, alongside continued security attention and integration, also a departure from traditional approaches to designing an organization. Although the endeavor to create design resilient systems is a step away from the traditional principles of risk management - in this paper we explore the possibilities of using the Monte Carlo simulation technique to determine some of the characteristic design parameters of the organizational working units. We focused the problem of asset portfolio, inventories and equipment with different levels of importance for the performance of business processes. Particular attention is paid to vulnerabilities and protection of information systems and information communication technologies. Offices space model has been created, which contains the characteristic material resources, process supporting equipment, and it is assumed that there is a probability of a fire in one such space. A number of scenarios for which simulations were conducted, regarding the outbreak and spread of fires, were elaborated. The results of these scenarios point to the different sizes of the expected time of direct threats to certain assets items by the fire and to the different levels of expected damage. Furthermore, predictions are not just about the expected damage of property, but also about the degradation of organizational capabilities of performing the processes. In accordance with these results, it is possible to formulate certain recommendations regarding the approach to system's design in terms of improving organizational elasticity as well as certain recommendations related to the development of the proactive components of organizational resilience.*

**Keywords:** *asset portfolio, B-RISK, fire, Monte Carlo, organizational resilience, risk management, scenario, simulation*

### 1. INTRODUCTION

Resilience is a term that can be attributed to a systems primarily, but is also applied in the description of the characteristics of an individual, a group of individuals, or an organization (Mitchell and Harris, 2012). Resilience answers the question of how a system works when faced with the phenomena such as disturbance, surprise and change. Term 'resilience' was originally used in the studies of technical and natural sciences, intended for the engineers in various industries, etc. Recently, this concept is also applied to the social sciences in the study of organizational resilience with a focus on the domain of security. Folke (2006) identifies the following three concepts of resilience, differing in features, focus and context: engineering resilience, ecological/ecosystem resilience, societal resilience, and socio-ecological resilience. In their work, Ćosić et al. relate resilience to national security, but taking as a starting point the concept of resilience of the critical human resources (Ćosić, Srbljinović and Popović, 2017).

From the perspective of national security, the group/society related resilience is of particular strategic interest to every country (Werther, 2014). Resilience can be understood as an organization's choice of appropriate strategy to cope with complex challenges and/or risk situations (Renn, 2005; referenced by Johnsen and Veen, 2013). Also, according to some authors, resilience implies a tool or an instrument for dealing with unexpected and unpredictable situations. Resilience can refer to the ability and capacity of individuals or organizations to cope with, adapt to and recover from stresses (Matyas and Pelling, 2015). In addition to its power to mitigate the vulnerability of a system, absorb a shock or stress, resilience also entails the possibility of recovery and improvement of the system over time (Bosetti, Ivanovic and Munshey, 2016). As the ability of an organizational system to anticipate, amortize and effectively recover from the impacts of stress or disruptions, organizational resilience *is in close relation with the risk management processes*.

In their research (Gibson and Tarrant, 2010) state that early concepts of organizational resilience were based on the variants of the business continuity management (BCM), where specific features of resilience within an organization were identified through various processes and systems. Newer integrated models based on the risk management program are predisposed to contribute more to organizational resilience. They contain interrelated organizational capabilities regarding emergency management, business continuity, security, crisis management, and, ultimately, – risk management, which deals with the ways of coping with uncertainties by activating specific organizational capabilities (Fig 1).

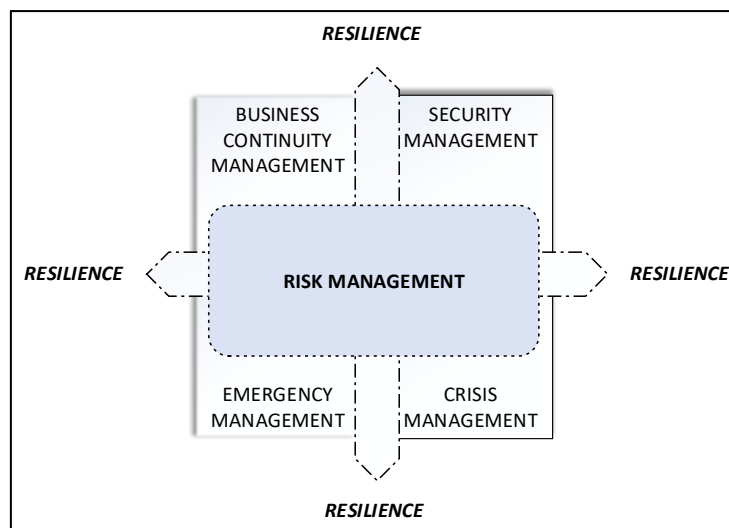


Figure 1: Resilience and risk management (Gibson and Tarrant, 2010)

Organizational resilience is based on an expanded concept of risk (Braes and Brooks, 2010) where organizational resilience combines practice and processes such as risk assessment, information reporting and governance processes on one side, with the strategic and business planning to create organization's desirable early warning capabilities (Booz Allen Hamilton Inc and Weil Gotshal & Manges LLP, 2004).

## 2. BUSINESS CONTINUITY MANAGEMENT (BCM) AND RISK MANAGEMENT

The reason why every organization needs a strong system of BC planning is in that disruptions to business may result in certain risks in terms of data, losses in revenues, confusion in delivery of services (BSI, 2012). According to the definition of (Gallagher, 2003) business continuity management entails engagement in anticipating possible incidents that are likely to threaten functions and processes that are crucial for the organization's mission. Business continuity management (BCM) is a management process which enables identification of potential threats

and risks for the organization and its functioning (BSI Group, 2006), and provides a framework for building of organizational resilience and capabilities required for an effective response that would preserve activities that generate value, reputation and interests of stakeholders. In order to be prepared for potential broad range of damaging events which represent a threat to the core business, it is necessary to develop adequate BC plans (Faertes, 2015). These plans must be of a proactive nature, aimed at ensuring readiness to respond to interruption risks. Term 'BCM' developed through a number of iterations (Elliott, Swartz and Herbane, 2010) and was finally formulated as follows (BSI Group, 2006): "BCM is a holistic process which provides support to the identification of potential threats to an organization; it offers a framework for building resilience and capability for an effective response, which should safeguard the interests of key stakeholders, protect reputation, brand and activities related to the creation of value." The model of business continuity management, based on ISO 22301 standard, specifies the requirements for a documented management system, which must be well planned, implemented, operatively usable, monitored, maintained and continuously improved. All of it is needed to protect an organization against disruptive incidents, reduce the likelihood of their occurrence, prepare for and adequately respond to such events, and ensure recovery of the system (Karkoszka, 2013). The principal assumption around which BCM has been built in its newer phase, since 2000, is the "capability-based" paradigm (Elliott, Swartz and Herbane, 2010, p. 15). Within this framework, BCM is perceived as a continual organization's responsibility dispersed at all levels of the organization. BCM and *risk management* are tightly interconnected activities and should be treated together since their integral form is both desirable and productive (Engemann and Henderson, 2011). In terms of time line, they may differ in that risk management is generally focused on prevention, whereas BCM is more oriented towards dealing with the impacts of unwanted events. It is therefore possible to apply valuable inputs from the risk management to BCM. On the other side is a group of authors who believe that BCP (business continuity plans) are the essential components of the organizational risk management program (Doughty, 2011). Term BCP, according to (Barnes, 2001) implies "...that firms can recover from a disaster that causes a disruption to business operations by the integration of formalized procedures and resource information." In their work (Zsidisin, Melnyk and Ragatz, 2005) discuss risk management and business continuity planning, and conclude that there are two aspects of uncertainty which are relevant for the BCP environment. The first aspect refers to the lack of awareness of possible events that may cause disruption. The second aspect is the likelihood that such events will take place. BCP should treat risks in an integrated manner (Oxelheim and Wihlborg, 1987), given that different elements of risk are often related, so that organizations may greatly benefit from integrating different risk related organizational decisions into a single framework. The publication (SANS Institute, 2002) points out that a BC Plan should include options of covering the following potential occurrences and events: *power loss, internal and external telecommunications failure, work machinery failure, software applications failure, denial of access to or corruption of data, human errors in the form of sabotage and the like, malicious software and Internet attacks, terrorist or criminal attacks, fire and natural disasters (flood, earthquake, etc.)*.

*Risk* involves uncertainty since occurrence of natural disasters and certain human activities cannot be anticipated. Risk can be described as a *product of threat, vulnerability and consequences*. Risk matrices (tables), which contain classification of these parameters (Berg, 2010) are often used in practice. Risk management involves the processes of evaluating, reporting, communicating and treating a risk. As for the response to risks, the organization develops a set of actions, depending on the selected approach and in accordance with the standard response models which include avoiding, accepting, reducing, or sharing a risk (Frame, 2003, p. 134).

*Vulnerability* of an organization (system) may be of organizational, legal, technological, political, socio-economic, psychological, or cultural nature. Generally, vulnerability has two aspects – (great) exposure and insufficient capacities (Brauch, 2011). *Vulnerability evaluation* is an important segment in the aggregate model of risk assessment. It includes five sub processes, which are successive and each must contain a relevant result (Government of Canada, 2007): identification of protective measures, evaluation of effectiveness of protective measures, identification of vulnerability, analysis of vulnerability impacts, assessment of vulnerability, preparation of priority matrices of assessed vulnerability. The next key risk variable is threat, so that *threat evaluation* is also made in practice. The usual phases in the process of risk management involve analysis, identification of risk, evaluation of risk, planning of risk and management of risk, as set out, for example, in (Chapman, 2006, p. 108) and in (Hall, 1998).

### 3. OPERATIONAL RESILIENCE IN ORGANIZATIONS - VULNERABILITY OF ASSETS

BSI, the well-known business standards company (Kerr, 2017) identifies three functional domains in which creation of organizational resilience is of critical importance (irrespective of the type of organization): *operational resilience*, *supply chain resilience* and *information resilience*. When it comes to the extent of resilience in an organization, it is desirable to formulate a system of practices. The evaluation practices of *operational resilience* are helpful when determining whether there is enough support to the completion of business objectives. Ten practices identified by the authors (Allen and Curtis, 2011) pertain to the following domains: Organizational Objectives, High-Value Services and Assets (e.g. one of the practices is the percentage of high-value assets, which does not meet resilience requirements), Controls (e.g. one of the practices refers to the share of high-value assets that are ineffective or inadequate), Risks and Disruptive Events. In the context of BCM, the assets under threat include, among other things, the ICT equipment. In an organization, the ICT equipment refers to applications, organized information system with an operational system, and the equipment itself. As regards assets relevant in terms of organizational resilience, Allen and Curtis (2011) provide examples: network infrastructure, specific application, database, data center, system administrator. The extent of impact and the value of assets exposed to a threat should not be evaluated just in commercial terms. As regards, for example, the critical infrastructure, every asset has at least one *key value*, and that is *availability*, which refers to the state of usability (Government of Canada, 2007). Other possible values of assets include *confidentiality*, *integrity* and *value* (in the strict sense). Availability, refers to the level of damage that can be expected in the event of unauthorized destruction or removal or exploitation of assets. It relates to all types of assets, both tangible and intangible, to personnel and services. Confidentiality obviously refers to information, which may be classified. Integrity refers to accuracy, completeness of the asset and authenticity of transactions. Due to expansion of the Internet and other electronic network services, organizations have become increasingly dependent on reliable and secure ICT infrastructures and services. Disruption of ICT may represent a strategic risk to the reputation of an organization and its ability to perform business operations (Hamidović, 2016). ICT departments and other facilities that contain electronic equipment catch fire more often than is widely thought. Given the ever growing use of ICT and, consequently, increased organizations' dependency on technologies, it is expected that ICT facilities will become more and more targets of various attacks (NFPA 75, 2013). One of the ways to mitigate risks, and it has been well accepted by the business world, is adoption of the business diversification strategy, which can basically be explained by the portfolio theory (Miloš-Sprčić, 2013). Rational investors tend to diversify their assets in fear of risks. The same approach may analogously be taken when managing ICT assets.

*The thinking from the perspective of organizational resilience implies departure from the traditional approaches to the designing of an organization. A large number of authors have researched and wrote about the design of resilient systems in an effort to improve them. Thus, Ponomarov and Holcomb (2009) discussed the effects of supply chain (SC) design on SC resilience. In their view, to reduce the vulnerability of an organized SC and to increase its resilience, SC must be specially designed. Design solutions must provide an efficient and effective response when needed, and be capable of recovering to their initial state, prior to the disruptive event (Carvalho, et al., 2012). Researches were also conducted into community seismic resilience (Bruneau et al, 2003), resilience in the area of healthcare (Nemeth et al, 2011), resilience of critical communication infrastructure in railways (Johnsen and Veen, 2013), organizational resilience and learning lessons from major accidents and incidents (Crichton, Ramsay, and Kelly, 2009).*

#### **4. APPLICATIONS OF FIRE SIMULATIONS – B-RISK TOOL**

Simulations are used in the situations of uncertainty, when we cannot precisely determine values of certain variables of interest, but we can determine or assume the distribution of those values. Monte Carlo simulation is performed by generating the assumed or known variables' values using a formula or a model, with the aim of achieving (expected) values of the output variable of our interest. Given that the latter is also characterized as a random variable, this process should be repeated multiple times. The Monte Carlo simulation is used to evaluate risks in the quantitative analysis and decision making. Researches have been conducted into the use of simulations intended to address organizational resilience. A distinguished work on the supply chain redesign was provided by (Carvalho, et al., 2012), whose main objective was "*...to use simulation as a tool to support the decision making process in SC design to create a more resilient SC.*" The use of simulation in the resilience of critical infrastructure is discussed in the paper of (Ouyang, 2014), dealing with the interdependencies across critical infrastructure systems. Enhancement of organizational resilience by applying agent-based simulation is elaborated in the work of (Allen, Datta and Christopher, 2006). Simulation of fire as a disruptive event has been discussed in a number of works, although not always in a broader context of the resilient organization design. Among them we single out the researches conducted by (Baker, et. al, 2013), (Korhonen, 2014), (Anderies, Janssen and Walker, 2002), and (Rudolph and Repenning, 2002). The paper by (Baker, Frank, Spearpoint, Fleischmann and Wade, 2013) describes B-RISK tool and specific features in its application. Also, elaborating the development of the quantitative risk analysis tool for probabilistic design of fire safety, the authors (Baker, et. al, 2013) focus on the B-RISK tool. B-RISK facilitates analysis for a specific building or a scenario with fixed, predetermined input parameters. It allows the simulation to be performed iteratively, with input parameters determined by statistic distribution. This method of stratified generating of samples is realized using the Monte Carlo method (B-RISK manual, 2016).

*Below we describe the research conducted by applying B-RISK simulation method, with the aim to determine specific parameters of the design of work space. We focused on the problem of assets portfolio, i.e. inventory and equipment of different relevance in relation to the execution of business processes.*

#### **5. RESEARCH – SIMULATIONS OF HYPOTHETICAL SCENARIOS**

On the basis of given parameters we create a scenarios to calculate the time needed for certain facilities and ICT equipment to catch fire. These facilities and equipment are organization's assets and they are important for the performance of business processes. In view of the fact that a state of emergency often calls for a response within minutes or even seconds, we will establish certain categories of critical time periods for a fire to cause grave or slight damage.



Taking into consideration the basic principles of protecting a building from fire, which imply appropriate choice of building materials in terms of their resistance to fire, and adequate design of the building with regard to its division into smaller unit (Pavelić, Đ., 2016), and other professional knowledge, we look for the added value that the simulation may offer. Room\_1 is 10 m, long, 8.2 m wide and 2.4 m high. Room\_2 is 8.6 m, 8.2 m wide and 2.4 m high. Building and insulation materials for the walls, floors and ceilings are shown in Fig. 2. The same building materials are used for both Room\_1 and Room\_2. The 100 mm thick walls are made of concrete, while their surfaces are covered with 15 mm thick insulation plates. The ceilings are also made of 150 mm thick concrete and covered with 12 mm thick plates. The concrete floors are covered with laminate. For the needs of the simulation, we create physical facilities (Fig 2) described below. Their properties in terms of combustion and heat release are defined on the basis of approximate values (Hietaniemi, Mangs, and Hakkarainen, 2001). Only physical, i.e. flammable objects are created in B-RISK tool. The mentioned logical objects are parts of the information system assets, installed or stored onto physical objects, specifically onto the hardware (computers, workstation and server). The assets we work with are the following: Office Desk, Office Chair, Monitor, Personal Computer - PC, Server, Printer, Scanner, Bookcase, and Workstation. In addition, we use: *active, reserve and archival databases; all types of application programs and tools; operational systems; database management systems; auxiliary programs, etc.* (in line with the discussion provided by (Klasić, 2017)). Fire object database is accessible from the B-RISK software menu. Room\_1 represents an office with eight work places and three cabinets for storage of archival material and other documentation (Fig 2). The other room is a smaller office space containing two office desks, a chair, computer, printer and scanner. It also includes five cabinets for storage of archival material and other documentation, a workstation and a server. The classification of assets is formulated by determining the assets of greater value (asset A; e.g. server) and lesser value (assets B; e.g. office desks). When defining the basic model to be used in the creation of the scenario and performance of simulation, we define basic parameters: *interior temperature, exterior temperature, relative humidity, fire load energy density, and probability vent, which is initially closed* (Table 1). Simulation of the first scenario will be done with five hundred iterations over the period of maximum ten minutes per each iteration.

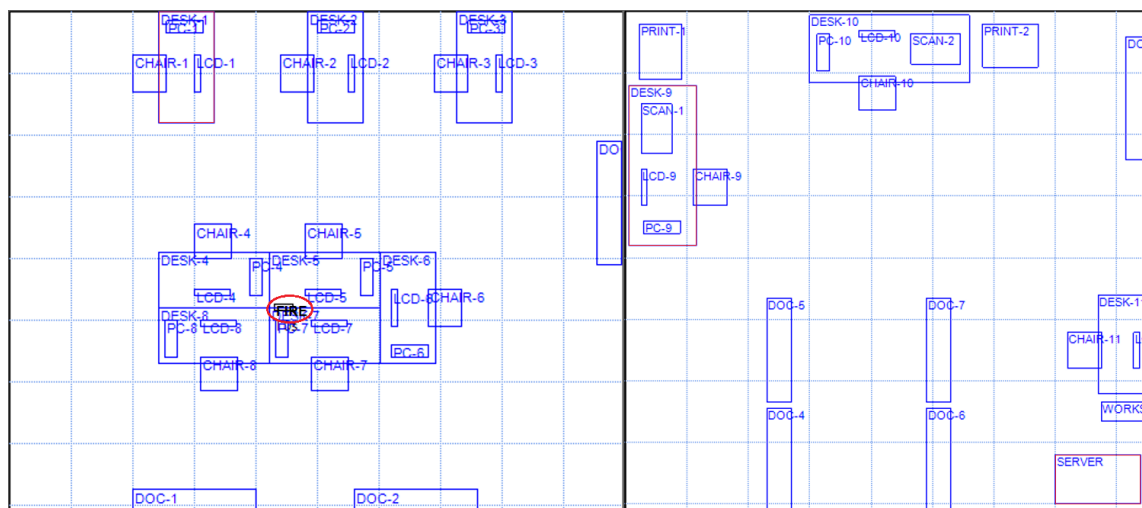


Figure 2: Arrangement of furniture in Room\_1 (left) and Room\_2 (right).

In the first scenario, the fire always breaks out at the beginning of the simulation of each iteration. Each time the source of fire is the same object, i.e. the extension cord placed in the middle of the first room. Once the first object catches fire, it spreads further.

Table 1: An overview of input parameters of the simulation for Scenario 1

Parameter	Values Lower/upper border	Description
Interior temperature	15°C/ 28°C	Uniform distribution
Exterior temperature	-10°C/ 36°C	Uniform distribution
Relative humidity	45% / 90%	Uniform distribution
Fire load energy density	200 MJ/m <sup>2</sup> / 500 MJ/m <sup>2</sup>	Uniform distribution
Heat of combustion	10 kJ/g / 40 kJ/g Mean $\pm$ SD: 20 $\pm$ 3 (kJ/g)	Normal distribution
Room 1 (ceiling vent area)	0,5 m <sup>2</sup> / 2 m <sup>2</sup>	Uniform distribution
Room 2 (ceiling vent area)	0,5 m <sup>2</sup> / 1,5 m <sup>2</sup>	Uniform distribution

The other simulation that we discuss in the analysis of results will have altered conditions in terms of the state of internal parameters, the objective of which is to establish how it impacts the outcome.

## 6. ANALYSIS OF RESULTS OF SIMULATION

Below are the results obtained by applying simulation (tool B-RISK). Since we are interested in the time required for the ignition of certain items of asset, below is the illustrative record of events in the first out of 500 iterations (Figure 3). Figure 4 shows the state of the rooms at the end of the first minute (60th second) of simulation. From the total inventory of assets we focus on the office desk 1 located in Room\_1, where the source of fire is. Figure 5 (left) shows the histogram with the time when the office desk 1 flashed. This item flashes in all of the 500 simulation iterations within ten minutes, and the average flash time is about (282  $\pm$  6) seconds (although it is not entirely justified to apply the presumption of normal distribution).

```

108 sec. Item 16 Personal Computer 4 ignited (piloted ign).
104 sec. Item 19 Office chair 5 ignited (piloted ign).
102 sec. Item 27 Office chair 7 ignited (piloted ign).
100 sec. Item 17 Monitor 4 ignited (piloted ign).
99 sec. Item 33 Monitor 8 ignited (piloted ign).
77 sec. Item 14 Office desk 4 ignited (piloted ign).
77 sec. Item 30 Office desk 8 ignited (piloted ign).
68 sec. Item 28 Personal Computer 7 ignited (piloted ign).
173 sec. Ceiling Vent 3-1-1 closed.
53 sec. Ceiling Vent 3-1-1 opened when HRR reached 100 kW
49 sec. Item 29 Monitor 7 ignited (piloted ign).
49 sec. Item 21 Monitor 5 ignited (piloted ign).
43 sec. Visibility at 2m above floor reduced to 10 m in room 1
24 sec. Item 18 Office desk 5 ignited (piloted ign).
24 sec. Item 26 Office desk 7 ignited (piloted ign).
0 sec. Item 1 Fire ignited.
Iteration 1

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Figure 3: Simulation of the first iteration - Scenario 1 (Model\_1)

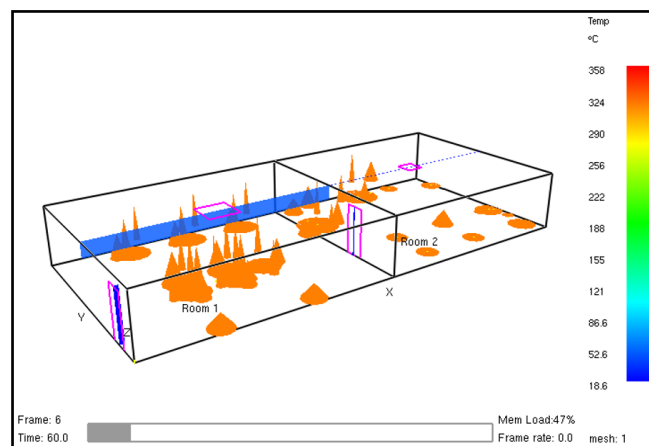


Figure 4: Simulation of the first iteration after 60 seconds - Scenario 1

We also selected Office 9 located in Room\_2, by the wall that connects this room with Room\_1. Desk 9 always catches fire (within ten minutes), but the anticipated ignition time interval is higher here than in the case of office desk 1 (Figure 5), and the average time required for ignition is longer, amounting to  $(356 \pm 21)$  seconds.

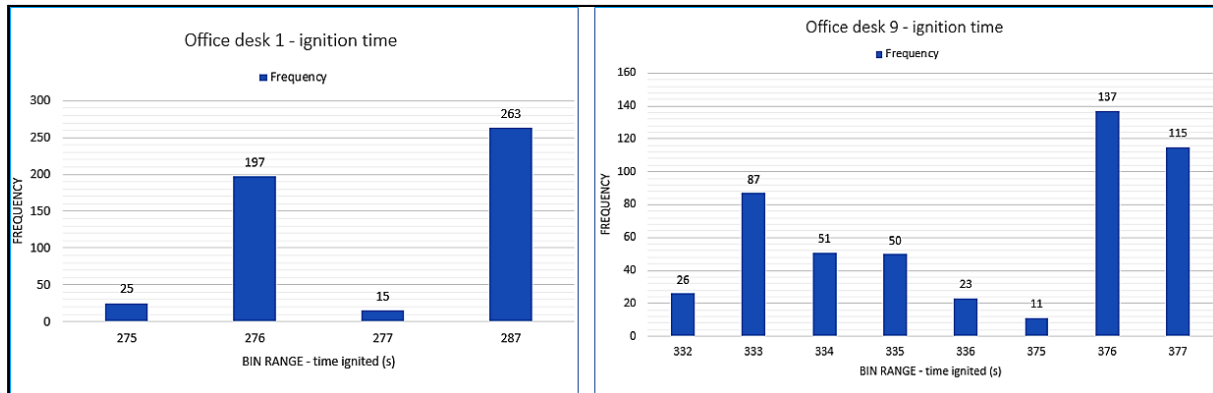


Figure 5: Office Table 1 and Office Table 9 (Category B) – Ignition time, Scenario 1

Server (the most valuable item) is farthest of all observed objects from the source of the fire, and Figure 6 shows the histogram with the times of its ignition. We notice that ignition of the server did not occur in all five hundred iterations. Out of 500 cases, the server, as an item of the A category assets, caught fire in 237, or approximately in 47.4% cases, during the first ten minutes of fire. The mean value of the ignition time is 418 seconds, with the standard error of 13 seconds. In conclusion, the expected time for a category “A” asset item (server) to catch fire is approximately 7 minutes (when and if it happens).

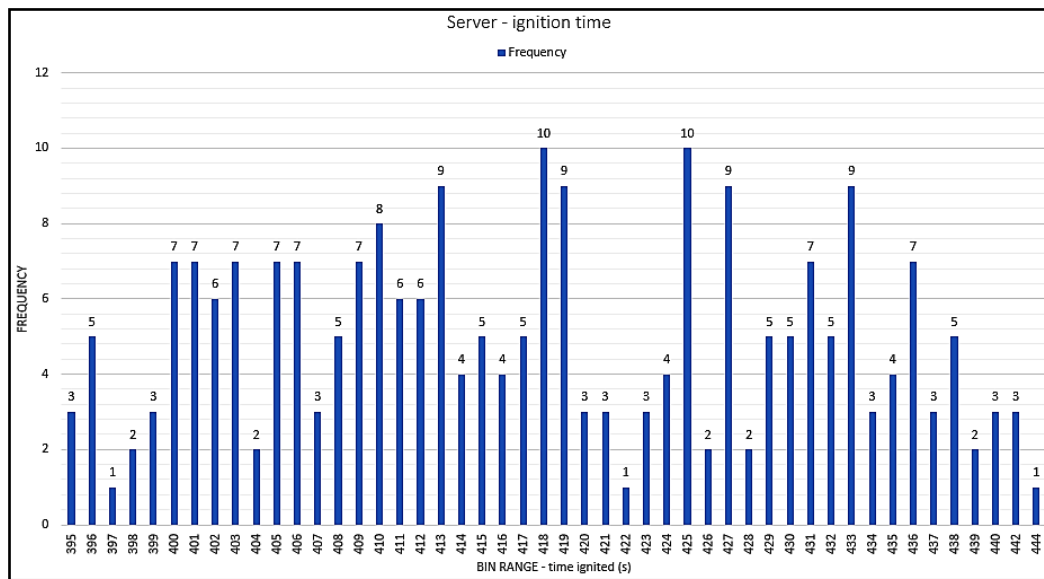


Figure 6: Server (Category A) - Ignition time, Scenario 1

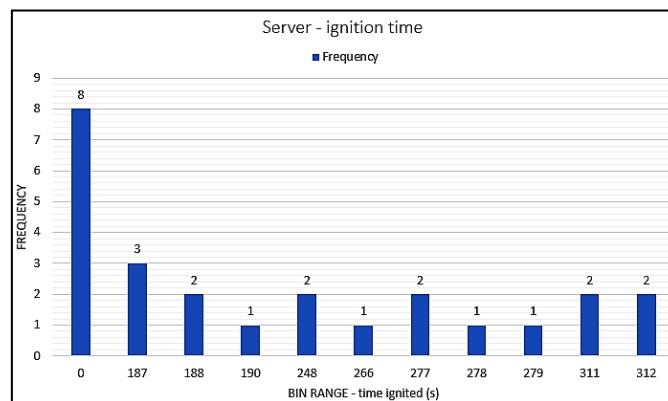
In the second series of simulations (Scenario 2) we assume that offices are equipped with additional fire protection, i.e. that smoke detectors, sprinklers and mechanical ventilators were added to the basic model. Furthermore, in the second scenario the source of fire is a randomly selected object from the simulation model (office desk 1, office chair 1, personal computer 1, monitor 1, and so on). Two smoke detectors were added to the basic model, one to each room. Smoke detectors are placed in the middle of Room\_1 and Room\_2, and the detector's accuracy and the radius of the smoke detection are determined by the distribution. Detector settings are adjusted to standard values.

Unlike the first scenario, the ceiling ventilation area has been precisely defined in advance. It opens automatically, activated by the smoke detector signal. Once the smoke in the room is detected, the ventilation opens for 120 seconds, and then it closes again. The role of the mechanical ventilation added to the second room is to additionally extract smoke from the room to facilitate evacuation and extinguishing of the fire. The ceiling ventilation settings are determined within the standard values. Furthermore, the four sprinklers added to each room are activated when the room temperature rises. Some of the input parameters defined by means of the distributions have already been described in the first scenario: indoor and outdoor temperature, relative humidity and fire load density. The heat of combustion in the second scenario is defined by means of the normal distribution, like in the first scenario. We have added new parameters for ventilation, smoke detectors and sprinklers (table 2). The values of all specified input parameters have a normal distribution with the exception of water spray density which is specified by means of uniform distribution. The reliability of the smoke detectors and sprinklers is also determined. Their value is determined by means of uniform distribution, with possible values of 0 or 1.

*Table 2: Input simulation parameters for Scenario 2*

<i>Parameter</i>	<i>Mean value/ variance</i>
Fan pressure limit	50 Pa/ 2 Pa
Fan start time	10 sec/ 1 sec
Smoke detector radial distance	7 m/ 0.25 m
Sprinkler response time index	135 ms <sup>1/2</sup> / 5 ms <sup>1/2</sup>
Sprinkler actuation time	68 °C/ 2 °C

The second scenario simulation was performed in 500 iterations over the period of ten minutes per each iteration. The simulation of the second model resulted in 25 ignitions of the server within the first 10 minutes, which indicates that the probability of ignition is approximately 5%. In the first 10 minutes, the average ignition time is 170 seconds with relatively great indeterminacy.



*Figure 7: Server (A Category) - Ignition time, Scenario 2*

We also obtained results for office desk 1 (B category), showing that the probability of a fire in the first 10 minutes is about 18%. As for office desk 9, the probability of ignition in 10 minutes is approximately 16.8% and the average ignition time is 168 seconds (in first 10 minutes) with relatively great indeterminacy.

## 7. CONCLUSION:

The danger of fire in business offices is one of the typical threats that organizations must be prepared for. Risk management plans and business continuity management must include response options for threatening occurrences and physical events, including fire. The organizational ICT infrastructure falls under the assets of particular importance for organizational resilience. It is quite often subject to conceived or unintended threats. The indicators of a threat to valuable assets are actually among the most important measures when it comes to the operational resilience indicators. In this work we created an office space model with typical asset items – the ICT equipment and the supporting items required for performance of business processes. In this simple model, items were divided into more valuable (A) and less valuable (B) ones. It was assumed that the fire started in one such space. Two scenarios were worked out for which simulations were performed. The results obtained by means of B-RISK software show different amounts of time in which the designated items were expected to come under the direct fire threat. This information also determines expected damage to the assets and various degrees of endangerment of the organizational capability to perform the process. The results indicate that it is possible to formulate specific recommendations for the design of office space in terms of improving organizational resilience as well as recommendations related to the development of the proactive component of the organizational resilience. Based on our presumed input settings, simulations show that, when comparing two locations for the given design of the work space, and under the assumption of a high probability of a fire at a precisely defined location, there is a difference between the predictions of ignition in the first ten minutes (the probability of ignition of an item at a remote location amounts to 47.5%, whereas at a location closer to the source of fire it amounts to 100%). For server (A) and desk 1 (B), the differences in the expected ignition time is over two and a half minutes. With adequate arrangement of valuable and significant items it is possible to reduce stress, disturbance of the business system and damage to the assets. In the scenario where a fire breaks out at a random location, but with much better space protection (detectors, ventilation, anti-fire sprinklers), the probability that the most valuable asset in the office (server) will catch fire within the first ten minutes is approximately 5%. Therefore, the probability than an item A will catch fire in the first ten minutes is *significantly lower* than in the first scenario where it amounts to approximately 47.5%. However, in the circumstances of the random location of fire, *average ignition time* for item A is about 3 minutes (within the observed ten minutes, with relatively great indeterminacy). In the circumstances of the expected but somewhat distant location of fire, the average ignition time is about 7 minutes (within the ten minutes). To improve their readiness in case of outbreak of fire, organizations may considerably benefit from applying such simulations as they can help them design in advance the optimal work space environment and the recommended level of protection. As a result, critical or valuable assets will be less exposed to fire hazard and desirable operational fire extinguishing procedures will be determined. As regards the organizational resilience, with appropriately formulated design and prevention procedures, protection measures and timelines an organization can largely mitigate the impacts of disruption and, consequently, return much easier to its normal functioning, and at that demonstrate its resilience capability.

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## A CONCEPTUAL MODEL OF PRODUCT VARIETY

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### ABSTRACT

*More individual customer requirements and increasing competition due to the Internet technologies are just a few of the reasons that force manufacturers to react accordingly, e.g. by providing a higher product variety. Managing product variety is a great challenge that manufacturers have to address to be successful. The associated complexity makes product variety difficult to manage, although adequate management is essential to guarantee revenue and profit. Before making the decision to broaden the product range, it is recommended to check whether the profit of product variety outweighs the effort. There is also the question regarding the optimal product variety that enables the maximum net benefit for the manufacturer. Moreover, decisions on product variety are far-reaching due to their interconnectivity to almost all other managerial decisions. If manufacturers were capable to understand and oversee all the drivers and enablers of product variety, they would be in a better position to weigh all the pros and cons before arranging changes in the product portfolio. How to support decision-makers in this process? The approach presented in this paper addresses challenges by creating a unified framework of the factors impacting product variety. This is achieved by systematically studying management literature and integrating the found mechanism in a conceptual cause-effect model created with Garp3 – a workbench which offers meaningful visualization and simulation opportunities. After selecting appropriate literature, the relevant concepts are represented in a knowledge graph using the Garp3 software. The consequent preparation of the concepts enables deliberate decisions on wordings (types), number of model fragments, and level of abstraction. The simulation tool works without any numerical information, but still enables users to start from different scenarios (e.g. manufacturer with a single product starts to increase its portfolio) and observe the behavior of the system and its underpinning explanation in terms of cause-effect relationships.*

**Keywords:** *complexity, conceptual model, causality, Internet technologies, product variety*

### 1. INTRODUCTION

Managing product variety, this is the number of variants within a specific product group (Lancaster, 1990), is essential for the success of manufacturing companies (Kahn, 1998). Identifying the drivers of product variety is just as important as knowing the enablers of product variety and finding ways to deal with the complexity (Schleich et al., 2007) of a broad product variation. In this regard, e.g. Technology can be seen as driver as well as enabler of a manufacturer's product variety (Gao et al., 2004). By conducting a broad keyword research on this topic, we found a range of papers which are worthwhile for further analysis. A deeper look at these papers shows that nothing is as divergent as it seems at first sight. In part, the literature shows quite significant differences in wordings. Therefore, it is not clear whether the authors relate to the same story. For instance, when talking about Information Technology (IT), some authors refer to internet and internet technologies (e.g. Brynjolfsson et al., 2010) while others (e.g. Gao et al., 2004) refer to software on the computer like computer-aided design or flexible manufacturing technology.



Besides technology and product variety, some authors find other important influencing factors that are worthwhile considering. One example is complexity (e.g. Schleich et al., 2007), which actually plays a significant role in a product-rich business environment. One of the reasons is that product variety generates complexity and to manage this is one of the goals of some researches. By studying other researches (e.g. Kahn et al., 1998), we read about ways how to deal with this complexity. Some authors show an interest in impacts of product variety, for instance the manufacturer's revenue and profit as being dependent on product variety. Others investigate a small product variety in addition to a broad product variety. This allows for a comparison of these two product strategies. Economies of scale (e.g. Zhou et al., 2017) could be a reason for the manufacturer's concentration on a single product instead of managing a wide variety.

The divergent approaches to deal with this topic pose a great challenge. In our opinion, it is important for future research to provide a unified picture on this topic by following the integrated approach. Our concurrent approach pursues the goal to create clarity by excluding initially suitable researches which have a different orientation. By integrating various papers, we provide a more comprehensive view on the topic, the relevant concepts are represented in a knowledge graph using the Garp3 software which enables us to observe the behavior of the system. The paper is organized as follows. Section 2 presents the Garp3 workbench for developing qualitative models. Section 3 focusses on a manufacturing company which faces technology-induced changes of stakeholder requirements and therefore shows the initial situation as well as possible mechanisms for this firm. Section 4 presents the simulation results of our scenario. Section 5 summarizes the main conclusions.

## **2. GARP3 REPRESENTATION TECHNIQUES**

Garp3 (Bredeweg et al., 2009) uses entities, agents, assumptions as well as configurations to describe the physical system structure. In comparison to that, quantities, quantity spaces, magnitudes and derivatives, direct influences, proportionalities, correspondences, and inequalities are used to describe the system behavior. Therefore, quantities are the relevant properties of entities that may transform under the influence of processes. Quantities consist of a quantity value which in turn is comprised of magnitude and derivative. The range of possible values that a quantity can have is referred to as quantity space. The derivative represents how a quantity changes. The magnitude indicates the current value of a quantity. The notion  $I+$  is used to model positive influences, which denote direct relations between two quantities. The notion  $I-$  is used for negative influences. By the use of proportionalities ( $P+$  or  $P-$ ), the derivative of the target quantities can be determined depending on the derivative of the source quantities. Correspondences are used to model the relations between qualitative values of different quantities. Inequalities are commonly used for indicating that one quantity value is different (or equal) to another quantity value.

Scenarios are applied to model the initial state of a system and serve as input for the qualitative simulator. Model fragments are required to describe the structure of a system and consist of conditions and consequences. Each model fragment represents part of knowledge of the domain that may apply to a certain scenario. The engine searches for model fragments that are applicable to the selected scenario and infers the system behavior. With the mentioned inputs, different simulation outputs can be generated, including states, behavior graphs, value history diagram, equation history and causal model. States depict a qualitatively unique behavior in the modelled system. Several states together form a behavior graph. The value history shows how quantity values change within a behavior graph.



### 3. TECHNOLOGY-INDUCED CHANGES OF STAKEHOLDER REQUIREMENTS

We first construct a conceptual representation of the mechanism that determines basic company behavior regarding product variety. The qualitative model provides a picture of how technology-induced changes of stakeholder requirements constrain the behavior of a company; the simulation results provide information about how the company reacts to changing requirements.

#### 3.1 Initial situation

At this point, we model the initial situation of a company having the key characteristics of a dynamic manufacturing company which faces changing stakeholder requirements. The initial scenario (see Figure 1) starts with stakeholder requirements being bigger than the company's product variety (shown by the bigger-than equation between *requirements* and *product variety*). *Product variety* is bigger than *modularization* and *production scale*, but smaller than technology in the initial state. *Technology use*, which is associated to the agent *technology*, is represented as an exogenous quantity (denoted by the exclamation mark in Figure 1) and, therefore, shows exogenous behavior. Thereby, the quantity reflects some sort of uncontrollability. The increasing behavior, one of the possible behavior patterns for exogenous quantities, is highly suited to demonstrate the rising use of technology in today's information age.

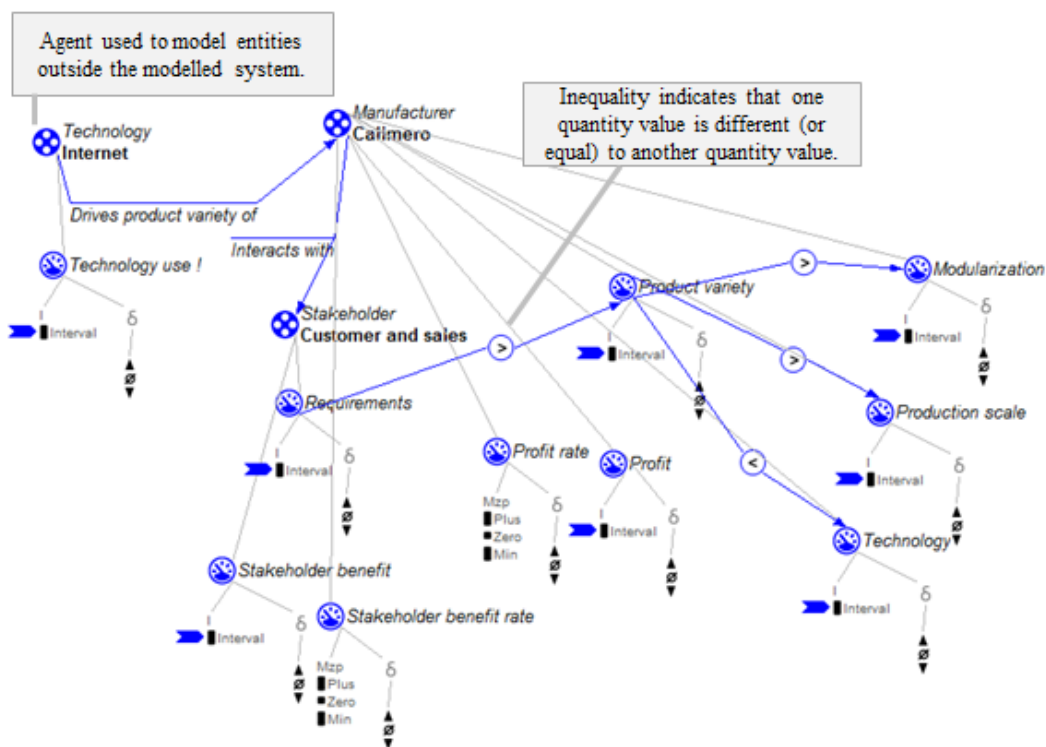


Figure 1: Scenario for a manufacturing company facing changing stakeholder requirements  
Source: own research

#### 3.2. Basic mechanisms

The next challenge is to identify the mechanisms that cause changes in the enterprise behavior.

##### 3.2.1. Mechanism 1: Technology-induced changes

We identified the studies of Brynjolfsson (Brynjolfsson et al., 2010), Hinz (Hinz et al., 2011), Rathnow (Rathnow et al., 1993), Bednar (Bednar et al., 2015) and Salvador (Salvador et al., 2002) to deliver valuable insights concerning possible drivers of product variety.

While Brynjolfsson et al. (2010) distinguish between technological and non-technological drivers of product variety, Hinz et al. (2011) focus on the Internet and related technologies as drivers of large assortments of products. The afore-mentioned enumerate Database and Search Technologies, Personalization Technologies as well as Social Networks and Online Communities as tools that have changed how consumers find the products they buy. Information technology is changing consumer needs, in the Internet consumers learn about new products and services, and they find a remarkable product variety. This of course puts the provider under pressure to offer a wider range of product varieties. In comparison to that, Hinz et al. (2011) highlight the improved search technologies. A different insight comes from Rathnow et al. (1993) who identify the sales department as a driver of product variety. According to Bednar et al. (2015), mass customization, a strategy that focuses on individual customer requirements but uses the advantages of mass production, can be seen as a driver of product variety. Salvador et al. (2002) see the heterogeneous customer needs as a driver of product variety. To put all these insights about drivers of changing stakeholder requirements together, we use the quantity *technology use* which is associated to the entity *technology* (see Figure 2). The positive influence (I+) between *technology use* and *requirements* is used to express information regarding causality and shows that *technology use* has a positive effect on *requirements*. We assume a quantity space {Interval} for both quantities.

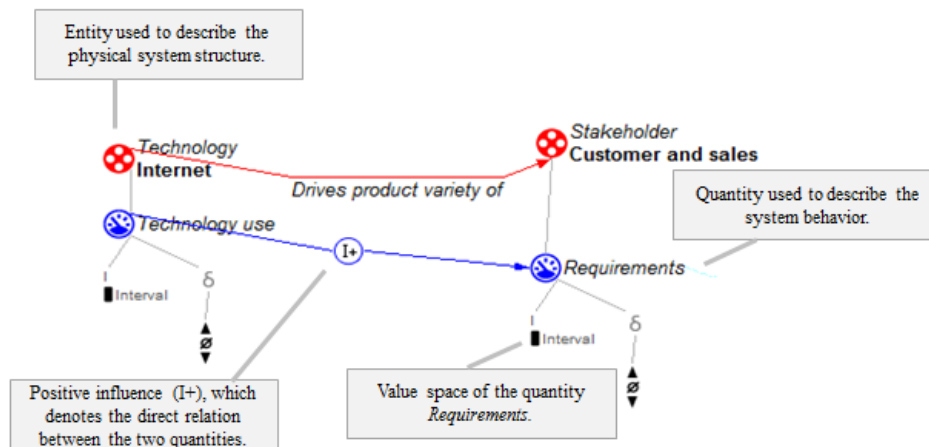


Figure 2: Changing requirements  
Source: own research

### 3.2.2. Mechanism 2: Fulfilment of stakeholders' requirements for high variety

As Kahn (1998) states, a high-variety strategy increases the possibility of fulfilling each individual consumer need. If *requirements* and *product variety* are in balance (*requirements* equal to *product variety*), we expect the *stakeholder benefit rate* to be stable. From a customer perspective, this is the optimal situation because customers find all goods and services required in the manufacturer's product portfolio. No action on the part of the manufacturer is required. If the quantity *requirement* is bigger than the *product variety*, we expect the manufacturer to increase the product variety to bring the system back into balance. If *requirements* are smaller than *product variety*, we expect the manufacturer to decrease the product variety to balance requirements and product variety, since the quantity *requirements* is external and thus cannot be influenced. This corresponds to (Kahn, 1998) who points out that too much variety causes too much confusion or overload. Figure 3 captures these insights by satisfying the equation "*requirements* minus *product variety* is equal to *stakeholder benefit rate*" (see Figure 3). If *requirements* are bigger than *product variety*, *product variety* has to be increased (denoted by the I+ from stakeholder benefit rate to product variety) and this in turn decreases the *stakeholder benefit rate* (denoted by the P- from *product variety* to *stakeholder benefit rate*).

The entity *stakeholder* on the left-hand side of the model shows an inverse behavior to bring the system in balance (I- from *requirements* to *stakeholder benefit rate* and P+ from *stakeholder benefit rate* to *requirements*). Different to the quantity *requirements* and *product variety* that assume the quantity space {Interval}, *stakeholder benefit rate* has quantity space {minus, zero, plus}.

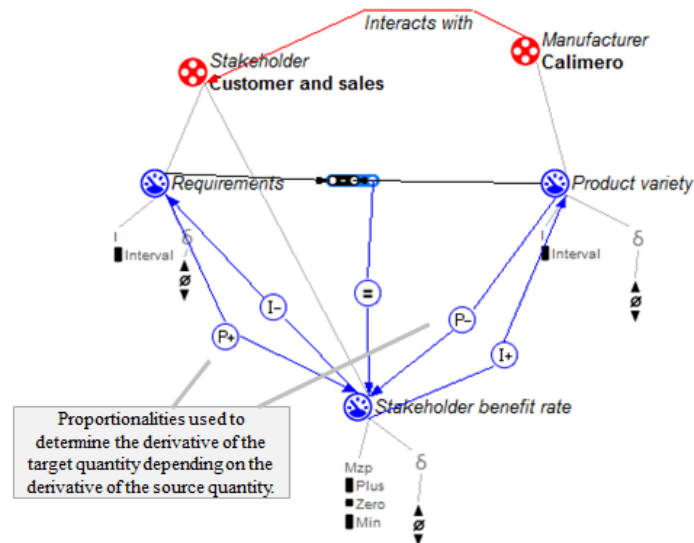


Figure 3: Fulfilment of stakeholders' requirements for product variety  
Source: own research

### 3.2.3. Mechanism 3: Modularity enables product variety

As Holmqvist et al. (2004) states, a constantly increasing product variety generates more complexity. The concept of modularization can be used to deal with this complexity by disassembling existing products and then integrating the components into modules that can be used for other products; this process thus helps to generate product variety. Kahn (1993) states that the modularization approach makes product variety strategies affordable by standardizing as much of the product as possible, and only varying those parts that provide an added value to the customer. Figure 4 shows the mechanism that summarizes these insights between *product variety* and *modularization*. If *product variety* is bigger than *modularization*, *modularization* has to be increased (denoted by the I+ from *profit rate* to *modularization*) and this in turn decreases the *profit rate* (denoted by the P- from *modularization* to *profit rate*). The quantity *product variety* on the left-hand side of the model shows an inverse behavior to bring the system in balance (I- from *profit rate* to *product variety* and P+ from *product variety* to *profit rate*). *Profit rate* has quantity space {minus, zero, plus}.

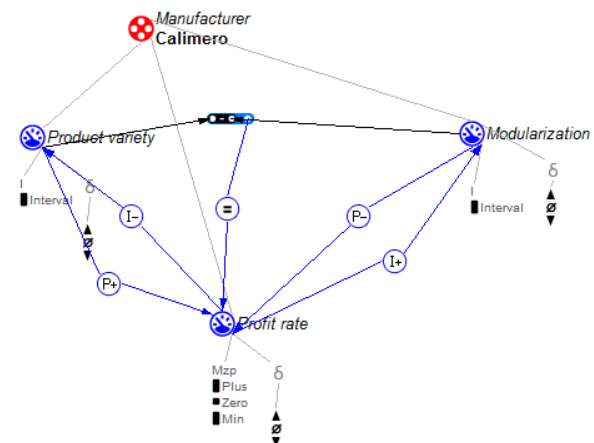


Figure 4: Modularity enables product variety  
Source: own research

### 3.2.4. Mechanism 4: Generation of scale economies

Missing Economies of Scale is understood as a barrier of product variety (Brynjolfsson et al., 2010), since more variants mean higher unit production costs. This economic effect is more likely to be achieved with concentration on a single product. As Schleich et al. (2007) state, a trade-off has to be found between the benefits of a higher product variety like increased market share and sales volume and the reduced economies of scale.

In our opinion, if we find a balance between *product variety* (production scope) and *product scale* (see Figure 5), the efficiency benefits from economies of scale and scope are guaranteed (equation “*product variety minus production scale is equal to profit rate*”). The quantity *profit rate* has quantity space {minus, zero, plus}.

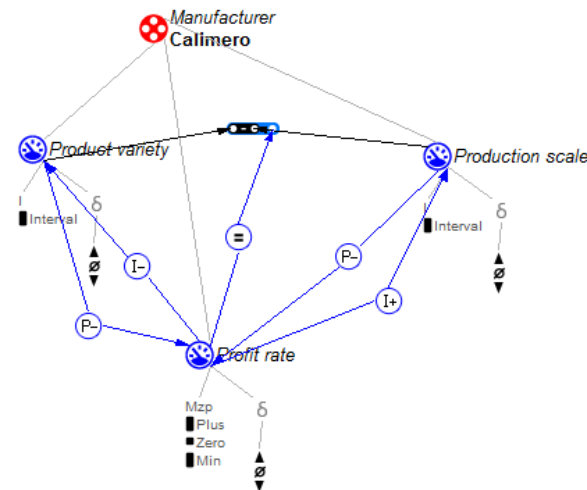


Figure 5: Generation of efficiency benefits in production  
Source: own research

### 3.2.5. Mechanism 5: Technology and product variety as complements

Gao et al. (2004) investigate IT as a driving and enabling force of product variety. They describe IT and product variety as complementarities. By combining these two, firms can generate higher value than other firms. Brynjolfsson et al. (2010) mention the IT-enabled markets which increase producers' incentives to focus on a niche market. For instance, technology modifies the cost of stocking products. By having these insights, we model the mechanism *product variety* and *technology* (see Figure 6). The quantity *technology* has quantity space {Interval}.

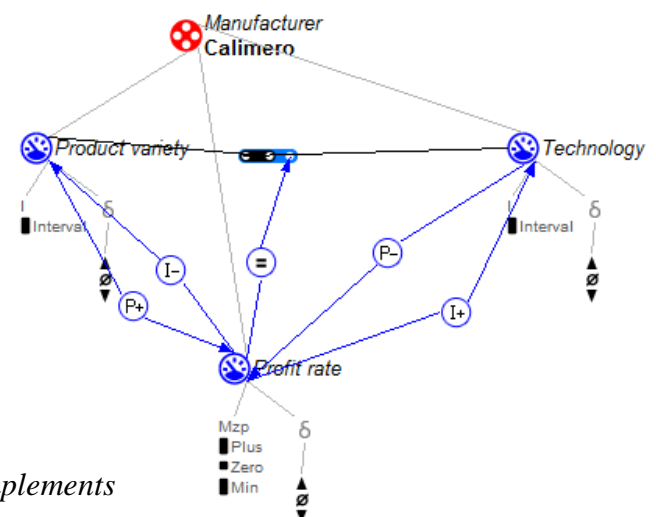


Figure 6: Technology and product variety as complements  
Source: own research

#### 4. SIMULATION

Simulating the scenario „manufacturing company facing changing stakeholder requirements“ (Figure 1) produces a state graph with 6 states (see Figure 7), including one stable end-state (state 6). We select the behavior path [3->2->1->4->5->6] path for further analysis with the value history diagram (see Figure 7). The value history diagram represents the values of magnitude and derivative each quantity assumes in each state during the simulation. It enables us to follow the changes a quantity undergoes during the simulation. As shown in Figure 7, *modularization*, *production scale*, and *technology* follow *technology use*, meaning that all these quantities increase in states 3, 2, 1, 4 and 5. *Modularization*, *production scale*, and *technology* stabilize in state 6. Stakeholder *requirements* decrease in states 3, 2, 1, 4 and 5 and stabilize in state 6. This behavior can be explained by the fact that expectations decrease if parts of them are already fulfilled by a broader product variety. The quantity *product variety* decreases in states 3, 2 and 1, increases in state 5 and is stable in states 4 and 6. The decrease of *product variety* in states 3, 2 and 1 can be explained by the fact that besides stakeholder *requirements* also the quantities *modularization*, *production scale*, and *technology* have effect on *product variety*. In our model, the manufacturers' *profit* decreases in all states except end state 6. It should not be forgotten that the increases in the quantities *modularization*, *production scale* and *technology* represent investments for the manufacturer. The quantity *stakeholder benefit* is stable in states 2 and 6.

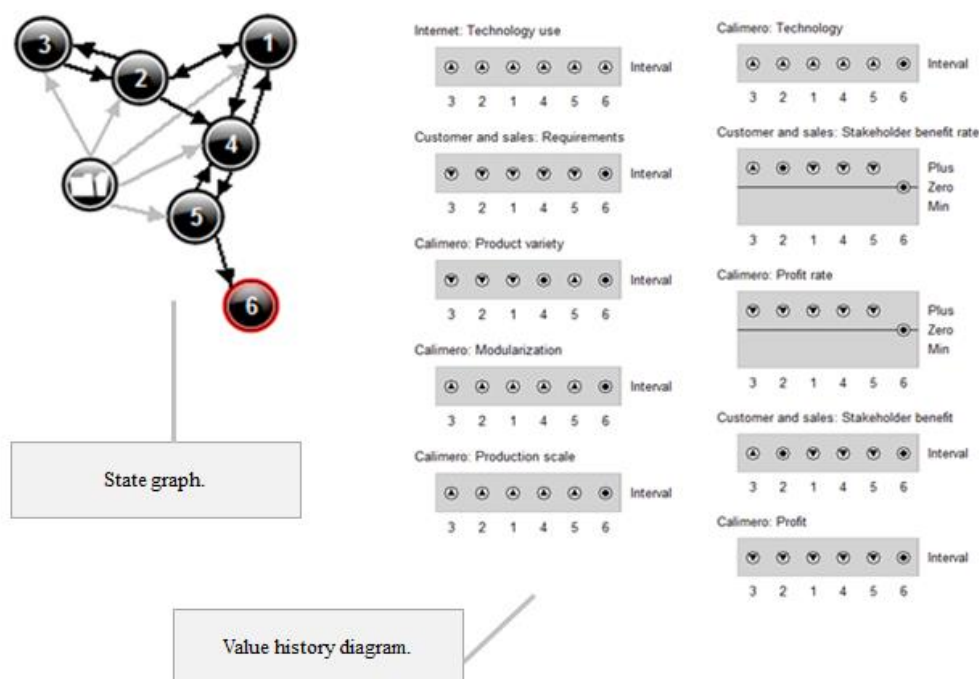


Figure 7: State graph and value history diagram for scenario “manufacturing company facing changing stakeholder requirements”

Source: own research

#### 5. CONCLUSION

Increase in product variety is a trend in many industries around the world. One of the reasons for the demand for higher variety can be found in changes in technology use. Garp3 provides a meaningful visualization of the investigated business scenarios. As Lancaster (1990) states, it is of big importance for a manufacturing company to think about the “optimal” degree of product variety. The study of selected research enables to draw a picture about driving as well as enabling forces of product variety.



The insights are presented in a knowledge graph using the Garp3 software, which in our opinion is well suited to demonstrate possible company behaviors due to changing stakeholder requirements. The demonstration in the form of models facilitates the explanation of domain knowledge gained from selected literature. In our current research, we enrich the models by further domain knowledge of cost behavior (e.g. a mechanism that balances costs and benefits to find the cost-optimal degree of product variety).

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## VEHICLE (LV) FLEET MANAGEMENT OPTIMISATION - PROCESS TRANSFORMATION

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### ABSTRACT

*A key component of the initiative is Process transformation, which put a focus on optimisation of fleet of Global Organisation's (GO) including processes in specific functional areas through re-engineering, realignment and standardization.*

*In this paper we will try to determine the functional areas and processes that would benefit from this re-engineering. The spotlight will be given on process transformation in plant and property equipment (PPE) that will define the specific processes for improvement, with an in-depth analysis of performance, bottlenecks, and the root causes of any performance gaps. This will facilitate the development of potential improvement mechanisms and proposed recommendations, in addition to guiding the establishment of a comprehensive monitoring plan to track progress for functional area planning and strategy. While understanding that key processes which are mainly carried out in GO headquarters, we will try to expand the efforts beyond and seek possibilities for further improvements on efficiency and effectiveness in the country offices. This will ultimately remove much of the transactional burden from field offices globally and certainly will help increase the effectiveness and efficiency in reaching the beneficiaries which is the ultimate goal of this research.*

**Keywords:** *cost excellence, re-engineering, realignment, internal standardization, Total Quality Management (TQM) philosophy*

### 1. INTRODUCTION

To accomplish effective and efficient performance by the employees, who will bring quality and productivity in the Organisation, it is of a great importance to simplify processes in order to enable complete their tasks in a timely manner. In order to attain simplification and increase utilisation of PPE (plant and property equipment) the GO (Global Organisation) launched the cost excellence initiative to facilitate GO to reduce costs and improve efficiency and effectiveness while sustaining investments in key strategic priorities. Cost excellence is a crucial step in ensuring GO is reaching the world's poor and vulnerable, and will be a central pillar in helping GO contribute towards efforts to achieve its goals in helping beneficiaries.

Process transformation work has yielded positive initial results. Considerable analysis and internal cross-functional area consultation have shown that improved processes will enable the organization to become more agile in the short-term, and signify an important shift in the way that GO will work in the long-term (Mitreva, 2011). Efforts towards process transformation can facilitate GO's shift to a more strategic overall structure, and can generate recurrent long-term savings – in spending and time - for reinvestment. One of the areas in which GO has decided to expand process improvement work as we mentioned previously is PPE. We have divided into two work streams: light vehicle (LV) management and asset management. This work will focus on LV (Light Vehicle) management. Optimizing fleet management for agility and efficiency will be crucial for the improved support of GO's field offices. The intention is therefore to undertake an in-depth Process transformation exercise to identify opportunities for improvement.

## 2. LITERATURE REVIEW

In the competitive environment companies are obligated constantly to change their-selves and to re-evaluate the business processes (Mitrevu et al., 2014a; Mitrevu et al., 2014b; Ranganathan & Dhaliwal, 2001). The changes in technology and in culture are the things that give even more pressure. The necessity of reengineering can appear in companies which are in major crises, or feel that the crises will be over soon. The reengineering is used in companies which are well situated and have a potential for development and expansion, but also want to be in trend with the needs of the global market. The changes mostly concern: the new way of grouping the organizational parts (units); delegation of obligations and responsibility; coordination; communication (Whiting, (1994); Willcocks & Smith, 1995); Knights & Willmott, 2000).

The system which provides quality, according to the international standards must orientate towards the aims that are set and the business philosophy of the strategy management of the companies (Mitrevu, et. al.2016a; Mitrevu, et.al.2016b). The quality system, especially the quality of the processes shouldn't be built "in the air" without deep and well-balanced attitude in the basic aims of the upper management. The competing advantages are often crucial in the development and the usage of the system for quality supply. The danger can appear when in the system implementation or in any business process, the business philosophy of the companies is not represented. The decision for the quality system development can be in step with the growth of the company and with the mature conception of the TQM (Total Quality Management) philosophy. It is impossible to realize the TQM without formal system for quality supply (Davenport, (1993), Hammer & Champy, 2009; Hyde, (1993). The practice shows that the quality is part of the company's politics, but mainly refers to the formal and legalistic quality supply. It can be concluded that the creation of SOP during the acceptance of the TQM strategy, requires a lot of engagement and devotion of the managers, and the entire company needs to help itself and to identify the problems, because the if the managers are not engaged enough with the TQM implementation it would result with loss of the market positions. Each organizational unit and each employee must think systematically and learn permanently. Only the companies with employees that possess a lot of knowledge and with analysis and diagnosis of the weak parts make a continuous improvement in the quality of the business processes, an enormous improvement of the effect and the reduction of the total charges (KAKOURIS, (2004); Al-Mashari & Zairi, 2000); Attaran, (2004).

The TQM strategy is reduced to recognized and everyday activities, and the functional approach is replaced with a processed approach. Therefore, it is necessary to choose projection teams for each subsystem from the quality house (internal standardization, methods and techniques for non-defective working, charges for quality, education and motivation). Building manager teams is fulfilled through: implication, giving warranty and encouraging the managers in projection of each subsystem in the TQM system; making an effective dialog with the employees and building an effective communication system (Mitrevu & Prodanovska, 2013; Mitrevu, et al., 2015b). The implication of the managers from tactical level is a process in which the same managers are given warranty and are encouraged by the upper management to project the subsystems of the TQM (internal standardization, methods and techniques for non-defective working, charges for quality, education and motivation, as well as an analysis of the quality charges), to solve the problems and to make decisions that will suite the company's business politics (Mitrevu & Filiposki, 2012a). In order to build effective subsystems, the upper management must create business climate of cooperation and communications because every idea is not just a potential for improvements and innovations, but also it generates new ideas Mitrevu et al., 2015a).

The plan for projection and implementation of the subsystems needs to be the simplest way of dividing the tasks during a certain period of time and in turns, in order to complete the job successfully and on time, and the most used tool is the Gantt chart. The projection of the TQM subsystems is a team work and in environments where the rules of the team work are not respected, can be marked as unacceptable (Prodanovska & Mitreva, 2012). The team mustn't be a place where the individual initiatives will be held down or will be annexed by the leader. At the same time the projection of the subsystems from the quality house must provide certainty that the process of decision making won't be blocked by the exaggerated individualism, exaggerated expectations, lack of flexibility and making consensus in the viewpoint, because the modern interpretation of the TQM's value and the value of the employee's in achieving the aims of the total quality management is: coordination between the system and people (Attaran, (2004); Bauer, Duffy & Westcott, (2006; Sohal, Abed & Keller, 1990). The self-assessment as a basic approach in the usage of integral methodology for the TQM system is from fatal importance for its own regular usage. The self-assessment is accomplished through many documented actions for comparison of the realized model in regard to the planned one. The monitoring does not concern only the quality of the products/services, but also the adequate of the entire TQM system in realization of the quality functions (Casadesus & Gimenez, 2000; Dale, et al., 1998).

### 3. NEEDS ASSESSMENT FOR FLEET OPTIMISATION

GO (Global Organisation) is founded 1963 and initially started as short term project by helping the wounded and vulnerable population. Globally, GO has 3860 light vehicles (of which 190 are armoured vehicles (AV), 545 motorcycles, and 1540 other motorized assets, Figure 1. Truck, trailers, forklifts, etc. are not included in this phase of the analysis as it should be done in partnership with the supply chain division, who manage these assets and track them through fleet software.

GLA vehicles			CO owned vehicles		
Status	Qty	Notes	Status	Qty	Notes
In Stock (Dubai)	130				
Allocated to COs	88				
In transit to COs	141				
Live	1759 → 1415	Comply regulations	Operational	993 → 188	Comply regulations
		329 over 5 Y			803 over 5 Y
		15 over 150K km			2 over 150K km
Non Operational	350		Non Operational	214	
Total GLA LVs	2468		Total CO owned LVs	1207	
Total GO LVs 3675			GLA + CO Owned		
Target 2940			Reduction by 20%		
To decrease 735					

Fig. 1: GO LV fleet size

Over 65% of the global LV (Light Vehicle) fleet is leased through GO's in-house Global Leasing Agency (GLA). The balance represents CO-owned vehicles which includes all AVs and LVs purchased prior to the establishment of GLA. The ageing vehicles owned COs present a number of challenges. Currently 85% of the LV fleet are operational, however only 51% are compliant within the age limit of 5 years, there are 15% which are not operational. GLA is designated as the sole provider of LVs to GO offices through its leasing programme. GLA was set-up to be the sole-provider of LVs and to streamline the acquisition, standardizations, and to distribute the vehicle costs over funding projects life-cycle and thus reducing the financial burden on the COs. Armoured vehicles are currently outside the scope of GLA provision.

Fleet Management position was formed as a one stop shop for guidance, technical support and the support the design and roll out of systems/tools that field operations may require. Recently all GO offices were mandated to use Fleet Software (FS), GO's Currently, there is a process of FS final roll-out and verification of all collected vehicle operational data, including the cost and has the goal of preparing the first true cost of ownership of GO global fleet. Considering all above findings, especially the big percentage of non operational vehicles that exceeds 15% including the aged fleet of over 34%, complex processes and increased number of vehicles gives a clear message of the need for change.

#### 4. ANALYSIS AND POSSIBLE COMPLICATIONS

Over 55% of the GO (Global Organisation) travel is conducted by road primarily in a GO vehicle to ensure our deep field reach to accomplish the key goals. As GO depends on its LVs (Light Vehicles) to ensure staff mobility to support the programme and interagency common services objectives and activities, LV fleets need to be optimized, particularly in emergency contexts, while balancing the need for internal controls to avoid misuse and met road safety requirements. Therefore, it is imperative that the vehicle management process is efficient in order for staff to utilize vehicles to carry out the organizations objectives. This has a direct impact GO's ability to monitor and assess the needs which depend on mobility in the field. GO LV management is a decentralized process, whereby each CO has the delegated authority to decide number of leased vehicles, per their local SOPs. A global fleet management process can be adapted to each situation, as the process is dependent on specific field and security conditions such as the terrain and road type, security level, project type and requirements, geographical size and setup of the country is required. Developing process and systems that can also support GO's Grand Bargain commitments related to common services and cost category reporting need also to be factored in. Moreover, vehicles are the largest expenditure category in GO's assets annual expenditures for LVs (\$44M) were approximately 11% of total non-payroll expenses, Figure 2. Quite good portion out of this money is spent on maintenance were most are spent from maintenance of aged vehicles.

#### GO Vehicle Expenditures: Vehicles costs represented ~11% out of the \$386M annual total non-payroll costs

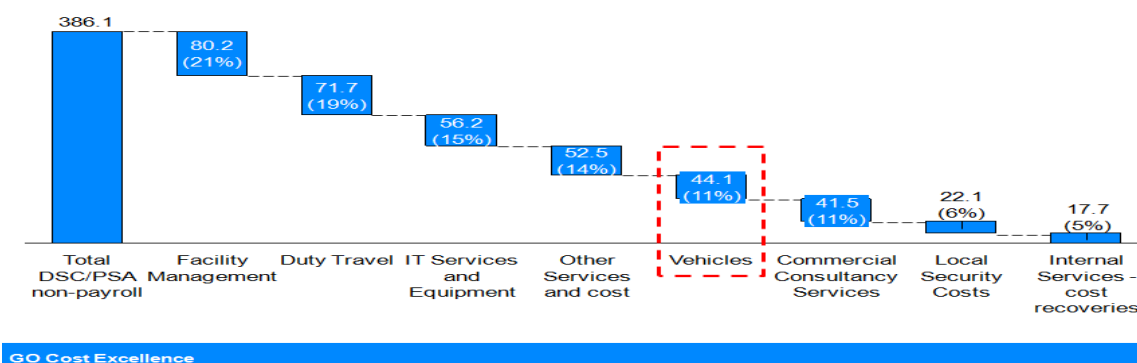


Fig. 2: Non-payroll costs

From the Figure 3 we can see how the cost is increasing with the age. This is significant indicator that shows importance of timely replacing the aged fleet in order to maintain functionality deep in the field and avoid potential interruptions in the programme activities.



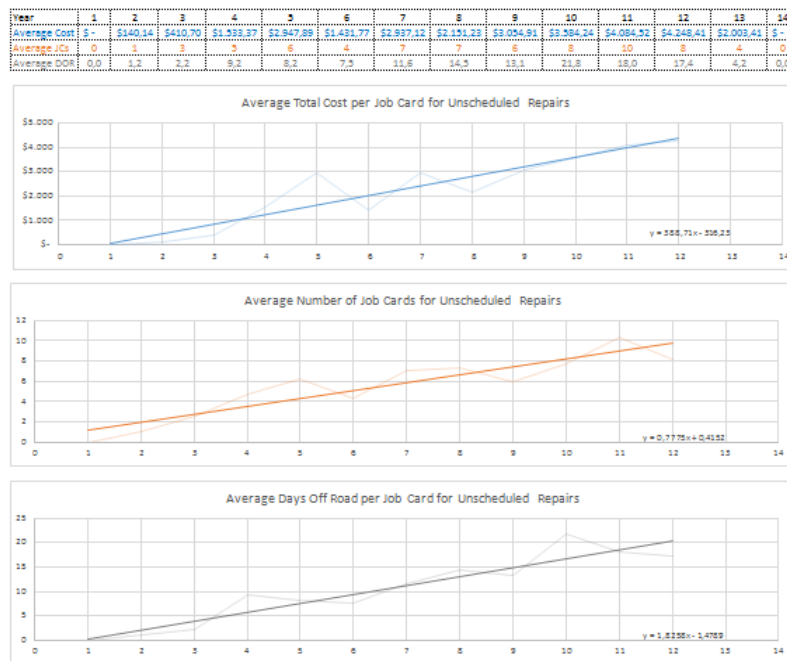


Fig. 3: Maintenance cost/time

This number is inclusive of the amount of fuel used for other purposes by various consumers as currently it is not possible to segment the data. Therefore we cannot accurately provide the full cost of ownership to run the GO LV fleet. As such as FS is being rolled out to capture and control operational costs and vehicles, Figure 4. Additionally, fleet management is also heavy transactional process with data collection and processing within the corporate FS system. Vehicles are assets and part of the related processes and data captured in corporate GO Asset Management system (AMS).

**Selection of Country Office for Missions: RBN and RBD represents 54% of total vehicle expenditures**

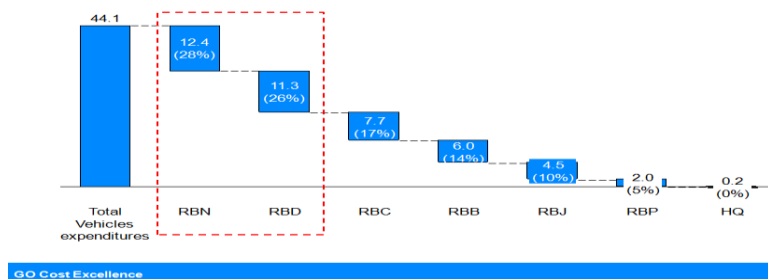
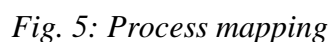


Fig. 4: Vehicle expenditures by region

GO (Global Organisation) needs to further enhance the global LV fleet management process, which will be highly critical for GO to reach its goal of being agile, efficient, and effective. Currently, challenges faced in this area include determining the appropriate size of fleets, knowing what vehicles to order and how, making the inventory of vehicles and its use transparent, and improving the policies around fleet management. Large - scale emergency responses and seasonal/programmatic-related surges in vehicle demand presents particular challenges that some COs have addressed by locally renting of vehicles. These processes need to be examined to understand associated risks and opportunities of this practice. There are existing fleet technologies available that are not used to the full potential, such as satellite tracking, and/or electronic logbooks.



In terms of acquisition, we looked at the role and customer service processes of GLA in addition to the roles of other managers and users of GO fleet. The review will also examine how the essential operations data is collected through the FS system and examine opportunities for both process and system enhancement. With regards to the maintenance, fuel and disposal of vehicles, improvement in this area will also reduce issues with the age of in-fleet vehicles (reliability, extra repair costs, overpaid leasing) reduced need for maintenance. Vehicles that are over the age limit will not allow us to be most efficient or effective in responding for day to day use, and to emergencies.

## 5. APPROACH AND METHODOLOGY

As LV fleet management is a highly complex yet crucial process, it is strategic for GO (Global Organisation) to both proactively capture learning's and optimize the way GO uses it. This will be done in a manner that will not have a negative impact on staff safety and wellness, as this is first priority. It will be carried out in with close collaboration of the Field Fleet Management staff, Figure 6.

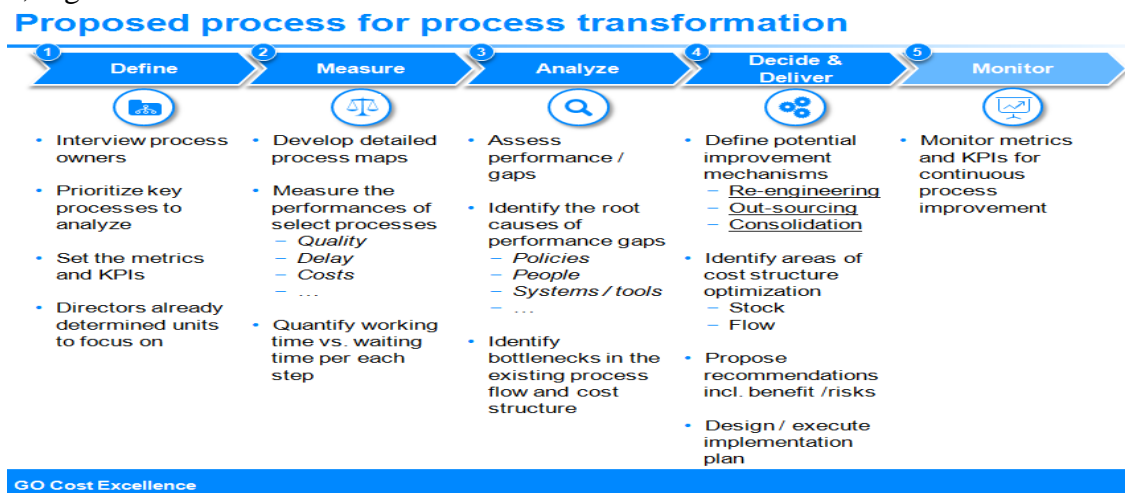


Fig. 6: Process mapping

### 5.1. Methodology

The Process transformation exercise will be a joint effort between different GO (Global Organisation) divisions and fleet management team. Throughout every step of the process will be co-creation and co-analysis by the team. We will interact daily and will be jointly responsible for the output of the exercise. A thorough analytical review is required in order to have a comprehensive understanding of the specific challenges as experienced by Headquarters, Country Offices, and GLA. This will include analysing the root causes of and potential upsides from improving disposal of vehicles. The review will involve colleagues from the field fleet management to help us develop the solution, rigorous data collection and analysis as well as stakeholder engagement will be conducted in following main phases:

- **Data collection and analysis to fully understand fleet management** and how it differs across regions, countries, and sub-offices:
  - Assess the cost drivers in each country or sub-office, throughout the life cycle of the vehicle;
  - Assess benchmarks from other agencies with regards to fleet management (Specific focus on best practices of acquisition costs, level of service and disposal of vehicles);
  - Understand specific challenges faced by the country and sub-offices (and users);

- Identify strengths to build on, gaps to address, and potential areas to realign/reconfigure. Look for options to outsource more systematically staff –related transport in CO (i.e. airport transfers, attending meetings in capital cities);
  - Examine options for integration/consolidation with Travel and Asset Management process transformation streams and eventually with the Global Positioning System tracking (GPS);
  - Examine options to automate operational data on vehicle usage (distance travelled, fuel) to lessen burden of data-entry and processing on Cos;
  - Improve data visualization and reporting for CO senior management.
- **Engagement with key stakeholders at COs / SOs** (LV manager, head driver, admin officer, finance office, head of area office) to further understand strengths to build on and key issues to address:
- **Observe and improve map of the FM process end-to-end** (from purchase to disposal) first hand to explore what the persons involved in the process are really doing (Trying to assess the process issues and (if time permit) the working / waiting time for each single step);
  - **Study the customer experience** to understand the customer service level and gaps;
  - **Conduct a mini-workshop** to jointly verify the process with a small group of key stakeholders in the process;
  - **Conduct interviews with process experts and process owners** to receive insights and feedback on the process, system, etc. (what work well, what works not well).
- **Engagement with key stakeholders in GLA (Global Leasing Agency)**  
To understand its role in the fleet management process and key issues that we are currently facing:
- Understand its customer service model and efficiency in the ordering and disposal of vehicles. During the process benchmark best practices from commercial leasing companies and UN agencies. (possibility of additional GLA features such as disposal team);
  - Brainstorm possible improvements in the utilization of self insurance funds;
  - Brainstorm changes to enhance performance.
- **Solution and plan**  
A total of 7 key initiatives have been identified across light vehicle management. These will be developed into work streams (listed below):
- a. Revise governance policies on the management of assets;
  - b. Develop the concept of Vehicle life-cycle Management;
  - c. Right Size the LV Fleet;
  - d. Strengthen LV Fleet Management at CO and Global Level;
  - e. Optimize the GLA Model to deliver improved services at lowest cost;
  - f. Optimize Systems & Processes to support LV Fleet Management;
  - g. Develop a sustainable cost recovery model to finance for LV Fleet Management activities.

## 5.2.Expected benefits

The sections below show the projected benefits that were defined as an output of the cost excellence review for LV Fleet Management. Each savings category is explained in detail. It should be noted that the greater mission focus and improved service delivery will improve efficiency, resource availability and compliance in COs. These have not all been quantified and the project plan is focused on the sale of LV's.

Greater mission focus and improved service delivery will materialize in COs at later stage, as a result of project activities. In addition to the financial benefits explained below, the project is expected to result in the following benefits, Figure 7.

Unit: M USD		2017	2018	2019
BENEFITS	Greater Mission Focus	0.39 M	1.56 M	1.56 M
	Improve Service Delivery	0.25 M	0.98 M	0.98 M
	Cashable Savings	2.41 M	6.96 M	7.95 M
	<b>Total</b>	<b>3.04 M</b>	<b>9.50 M</b>	<b>10.49</b>

*Fig. 7: Potential Savings*

In 2017 the project will prioritize the sale of LV (Light Vehicle) to correct the current situation where the light vehicle fleet has excess non-operational vehicles and vehicles exceeding the defined lifecycle. This situation needs to be corrected as quickly as possible to attain the highest sale price per asset and to reduce operating costs (due to over age vehicles). Part of this income will be used to repay the advance used to fund this project.

### 5.3.Implementation Plan & Budget

The Table 1 summarizes the key project costs and links them to the 7 work streams. Costs are listed in the quarter in which they are planned to be completed.

*Table1: Cost for the work streams*

Work Streams		Budget in USD '000s													TOTAL USD '000s
		2017				2018				2019					
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
A	Revise Governance & Policies on the management of assets	85	85											170	
B	Develop Asset Life Cycle Management		30	85	95	95	85	85	85	85	85	85	85	900	
						195	195							390	
C	Right Size Fleet & Other Assets		148	148	148	148	148	148	148	148	148	148	148	1,628	
D	Strengthen Fleet Management	59	63	136	136	148	148	148	148	148	148	148	148	1,578	
E	Optimise GVLP		13	26	26									65	
F	Optimise Systems & Processes		37	37	37									111	
		120	485	315	300									1,220	
			50	50	50									150	
G	Develop a Cost Recovery Model for Asset & Fleet Management	9	13											22	
TOTAL		272	924	797	792	586	576	381	381	381	381	381	381	6,233	

### 5.4.Income from Sales of Assets and Light Vehicles

The sale of assets (vehicles and other) will be a priority of the project, to make cashable savings for the organization and to fund the project.

It is proposed that income from sale of assets will be shared on a 50 : 50 basis by the CO and Project. This will apply to assets that should have previously been disposed of by COs (e.g. vehicles over 5 yrs old).

### 5.5.Sale of Light Vehicles

Where GLA vehicles are sold, 10% of net sales proceeds will go to GLA. The Table 2 lists the income from sale of vehicles and associated direct costs. The income is allocated to GLA, CO and Project as described above. The gross sales income Table 2 for 2017 is based on actual data from 4 COs that will be prioritized (South Sudan, Ethiopia, Sudan and Chad). Gross sales income figures for 2018 and 2019 high level estimations that will need to be revised as required during the project as COs are identified and data validated.



Table2: Vehicle sales income

Vehicle Sales Income		2017	2018	2019	TOTAL
Gross income from Vehicle Sales		2100	5350	6010	13460
Direct cost of Sales	24%	500	1284	1440	3224
Net Sales Income		1600	4066	4570	10236
CE Project Income	40%	684	1626	1828	4138
(Values in USD ,000)					

## 5.6. Project Income & Expenditure

The Table 3 shows the project income and expenditure over 3 years.

Table3: Income & Expenditure

INCOME & EXPENDITURE: Asset & Fleet Management Transformation Project (USD ,000)																		TOTAL
		2017					2018					2019						
		Q1	Q2	Q3	Q4	SUBTOTAL	Q1	Q2	Q3	Q4	SUBTOTAL	Q1	Q2	Q3	Q4	SUBTOTAL		
<b>Income</b>																		
Disposal of vehicles	40% allocation to AM project	0	0	0	684	684	407	407	407	407	1626	457	457	457	457	1828	4138	
																	0	
One time disposal of assets	50% allocation to AM project	0			150	150	125	125	125	125	500	100	0	0	0	100	750	
One time utilisation of existing stock	50% allocation to AM project	0			300	300	340	340	340	360	1380	0				0	1680	
<b>Total Income</b>		0	0	0	1134	1134	872	872	872	892	3506	557	457	457	457	1928	6568	
<b>Project activity cost</b>		273	924	797	792	2785	586	576	381	381	1924	381	381	381	381	1524	6223	
<b>Net surplus / deficit</b>						-1651					1582					404	336	

## 5.7. Investment required

An initial advance of USD 2.8m is required to fund project activities in 2017. This advance will be repaid by Q4 of 2018 as detailed in the table below. Investment to fund project activities in 2018 and 2019 will be assessed in Q4 of 2017 based on the financial performance of the project at that time.

## 6. CONCLUSION

As a final result from above research is to articulate the organization's vision and strategy that will Identify the performance categories that best link the GO's (Global Organisation) and will lead to its results (e.g., financial performance, operations, innovation, employee performance). After establishing clear objectives and according to presented methodology that support the vision, change must come to an effect while developing effective measures and meaningful standards, establishing both short-term milestones and long-term targets that will further ensure organization wide acceptance of the measures. We have collected valuable data and did some analysis from GO's current activities and processes that indicates necessity for making changes. To make above research into an effective project further steps include some budgeting for the funds needed, so that shown savings while implementing proposed change become feasible. Fields were immediate actions are crucial are identified and closure of unfavorable gaps in the business processes are necessary.

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## THE CONCEPT OF A LEVERAGED BUYOUT AND ITS INFLUENCE ON POLISH COMPANIES' FINANCIAL SITUATION

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### **ABSTRACT**

*Leveraged buyouts are well-known in literature, with studies conducted over the years in various countries, including mostly well-developed countries, in which the usage of advanced financial instruments was recommended. However, there are rather few studies on leveraged buyouts in developing countries. The aim of this article is to analyze leveraged buyouts carried out in Polish companies and to determine which types of buyouts are used most frequently. Then was made comparative analysis of financial data changes in companies. With the use of available data, to the study was used the T-Statistic test to show how companies financial data changes in selected types of leverage transactions. In addition, was used the Pearson correlation method to indicate or eliminate interdependence of financial values important in companies statements. The last stage included the study showed how the cost of outside capital changes depending on its share in the equity capital structure. Presented hypotheses have been analyzed with the use of literature overview, statistical methods, and comparative analysis. The results of leveraged buyouts for the companies have been presented and the conclusions have been drawn.*

**Keywords:** LBO transaction, MBO transactions, mergers and acquisitions (M&A)

### **1. INTRODUCTION**

Mergers and acquisitions are popular transactions leading to the development of companies by achieving and strengthening a better market position as a result of extending the scope of business operations. Such measures can have different results and be connected with different intentions, primarily including a diversification of one's business activity, increased negotiation capacities, or capital consolidation or appreciation. Such actions can improve company operations at numerous levels, ending with increasing the company's value. A definition-based approach to mergers and acquisitions has been known in literature (fig. 1), but with the development of studies on possibilities for expansion, new constructions are created, referring to or extending currently known transactions. An example can be found in the concept of a leveraged buyout, which is a form of acquisition including not only the construction of the transaction, but also its financing mostly based on a debt (fig. 1).

*/Figure following on the next page*

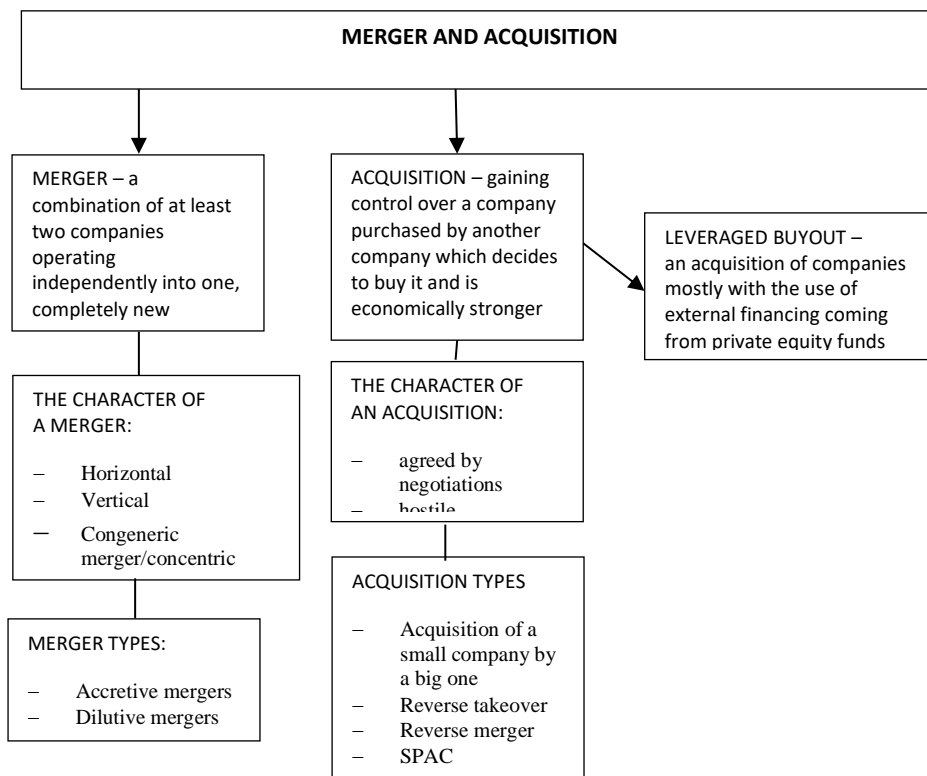


Figure 3. Merger and acquisition – definitions and types (Giddy, 2009)

## 2. FINANCIAL ENGINEERING OF A LEVERAGED BUYOUT

Different forms of financing can be used for leveraged buyout. Financial sources can all come from a bank credit or constitute a mix of equity and outside capital. The financial engineering of a leveraged buyout (fig. 2) is an extensive structure functioning with the use of an investment vehicle. The term “investment vehicle” comes from Special Purpose Entity (SPE) or Special Purpose Vehicle (SPV). Thus, it is a structure, or actually a legal entity, functioning in order to perform a specific, temporary, and extensive operation, such as a leveraged buyout. It allows to formally carry out and finalize transactions (fig.2). An investment vehicle includes capital contributed by groups interested in carrying out a transaction. Financing can consist of many parts contributed by different investors. SPE or SPV is used in order to carry out a specific transaction. The way of functioning is based on a jurisdiction of a given country. However, there are some characteristic features of an investment vehicle (Gorton, Souleles, 2005):

- capital injection mostly in a part related to the transaction carried out; there is actually no other capital than the one needed for transaction,
- no employed workers
- assets owned by an investment vehicle function based on the rules of providing a service, regulated with a contract
- no possibility to go bankrupt
- no specified location
- no possibility to make independent decisions
- a passive role
- a vehicle is not included in the balance sheet of a founding company; it is possible to transfer the debt from the founding company to the investment vehicle.



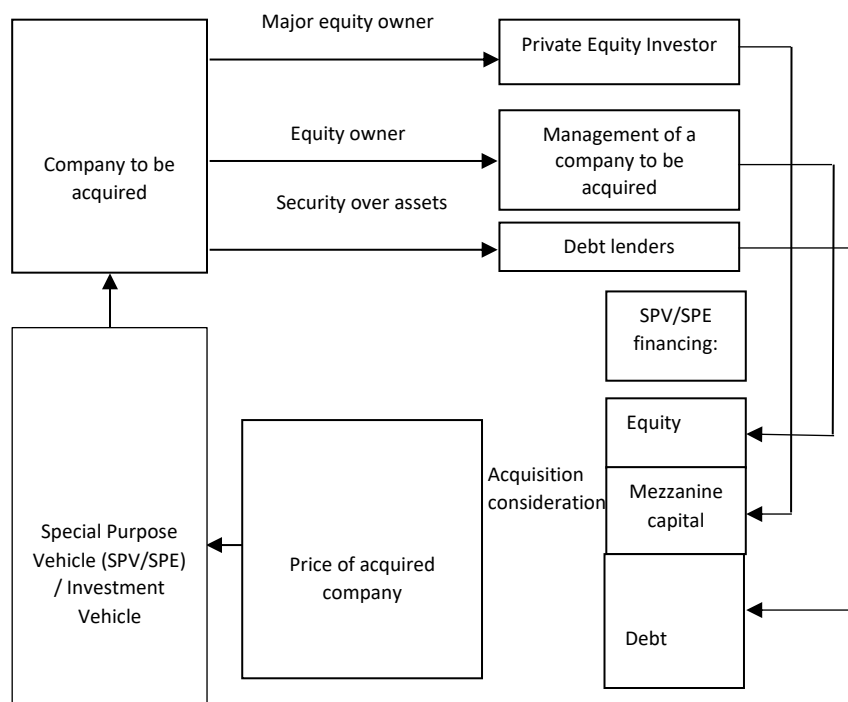


Figure 4. The process of acquisition via leveraged buyout (Povaly, 2007, p. 87)

### 3. LITERATURE OVERVIEW AND RESEARCH HYPOTHESES

World's literature is focused on the transactions of merger and acquisition. As the transactions of leveraged buyouts and, as a result, the studies on that topic were carried out much later than mergers and acquisitions, the number of such transactions and studies is relatively lower. However, academic studies on buyouts are still quite extensive and are developed due to the popularity of leveraged buyout transactions in business practice.

#### 3.1. Literature on leveraged buyouts

Mergers and acquisitions are different methods of company expansion than the traditionally perceived organic growth or capital investments (Sudarsanam, 1998). Data collection and analysis of this type of transactions started in the US in the last decade of the 19th century. At first, the transactions were related to horizontal acquisitions, and later, as they developed, to vertical ones (R.L. Nelson, 1959). Another stage of development included capital concentration and conglomerate creation. Since this moment, mergers and acquisitions had been under stronger control based on regulations introduced in the US (HSR Act<sup>1</sup>). Mergers and acquisitions with the use of debts started in the 1980s, and resulted from the development of the previously known methods of company expansion (G. Mussati, 1999). At the end of this decade, the European Economic Community also introduced a regulation in the form of a directive<sup>2</sup> on controlling mergers and acquisitions (Kleinert, Klodt, 2002), and, as a consequence, already developed at that time transactions of mergers and acquisitions. The next stage consisted of cross-border transactions of mergers and acquisitions, as well as leveraged transactions (Kleinert, Klodt, 2002).

<sup>1</sup> Hart – Scott – Rodino Antitrust Improvements Act of 1976.

<sup>2</sup> Eleventh Council Directive 89/666/ECC of 21 December 1989 concerning disclosure requirements in respect of branches opened in a Member State by certain types of company governed by the law of another State (OJ of EC 1989, L 395, p. 36).

The 20th century was the time of developing leveraged buyouts carried out mostly via private equity funds and banks that specialized in this area (S. Kaplan, 2009). Good contact of a company with banks is important for the possibility to finance and continue business operations, especially at the time of crisis (Pernsteiner, Weclawski, 2017). It is crucial to find financing and create a capital structure that is proper for the transaction of a leveraged buyout (Rosenbaum, Pearl, 2009). The theory on the relation between an equity and a debt has been developed for years (Modigliani, Miller, 1958, 1963), extended (Jensen, Meckling, 1976, Myers, Majluf, 1984), and improved (Ch-Few Lee, 2005, Silbernagel, Vaitkunas, 2010). It has been measured how effective the transactions of leveraged buyouts are (Kaplan 1989, Smart, Harris 2005), but one of the challenges and possible distractions in research is the availability and the quality of data on leveraged buyout transactions. What is more, the methodology applied in LBO transaction effectiveness has been questioned, as it included the comparison of companies before and after the transaction, whereas it has been recommended to measure effectiveness, focusing on the analysis of results after LBO transaction with expected results (Waldfoegel, 1994, Palepu 1990). The latest studies on LBO transactions show that there are no significant changes in the companies including their performance or operations profitability (Goergen et al., 2011, 2014). However, other studies (Bacon et al., 2013) indicate that there is a tendency to reduce the employment after carrying out a LBO transaction, and the tendency to change remuneration depends on the type of the buyout transaction carried out. Greater employment and remuneration reductions in Polish companies were observed in case of companies after they conducted a buyout (Guery et al., 2017). All in all, the analysis of studies performed so far shows a growing significance of using leverages, concentrating the management with new structures after a LBO, and the influence on performance growth is inconsiderable and depends mostly on the type of the buyout transaction. Available literature mainly presents the operations of buying out public companies, but the knowledge related to private-private buyout transactions is limited (Renneboog, Vansteenkiste, 2017).

### **3.2. Research hypotheses**

The aim of this article is to analyze leveraged buyouts carried out in Polish companies and to answer the following study questions:

- Hypothesis 1 (H1): What types of leveraged buyout transactions are carried out in Polish companies?
- Hypothesis 2 (H2): How do leveraged buyouts affect financial situation of companies.

The core element in the verification of these hypotheses is finding the most popular types of buyouts performed in business conditions in Poland, as well as determining how leveraged buyouts affect companies' financial data and, based on that, showing the influence on and consequences for the companies.

### **4. METHODOLOGY**

Studies on leveraged buyouts were conducted based on transactions carried out in Polish companies. The analysis includes data from five years of companies' operations, starting from one year before the buyout, throughout the year when the buyout was carried out, and three consecutive years after the buyout. Such a choice was determined by an attempt to present companies' financial situation before and after a leveraged buyout. The study was based on the verification of hypotheses and drawing conclusions. First, based on literature, as well as on portfolios of investment funds and banks, it was established which companies were subject to leveraged buyouts. Next, the types of carried out transactions were determined. The types were analyzed based on 53 buyout transactions carried out in Poland.

Then, the financial data from Amadeus database provided by Bureau van Dijk (Company Information and Business Intelligence) was used in the study, with information on 20 companies. In other cases, such data was not available or the transactions had just been carried out and it was not yet possible to analyze several periods after the buyout. At the next stage of the study, all of the companies were divided into LBO and MBO transactions and then was made comparative analysis of financial data changes in companies. With the use of available data, to the study was used test T - Statistic at significance level of  $\alpha=0,05$  showed how companies financial data changes in selected types of transactions. The last stage included the study showed how the cost of outside capital changes depending on its share in the equity capital structure. Analysis of correlations between financial data, with the use of Pearson's correlation coefficient, and the results were verified based on J. Guilford's interdependence classification.

## 5. STUDY RESULTS

Below in this article, the results of conducted studies have been presented and, based on these results, research hypotheses have been explained.

### 5.1. Types of buyouts carried out in Poland

The study included leveraged buyout transactions carried out in Polish companies. Buyout transactions in 53 companies were classified. Based on this data, the most frequently used types of buyouts were determined. The most frequently used transactions were leveraged buyouts (62.26%) and management buyouts (32.08%). The remaining types of transactions were rarely conducted, mostly in case of isolated incidents (Fig. 3).

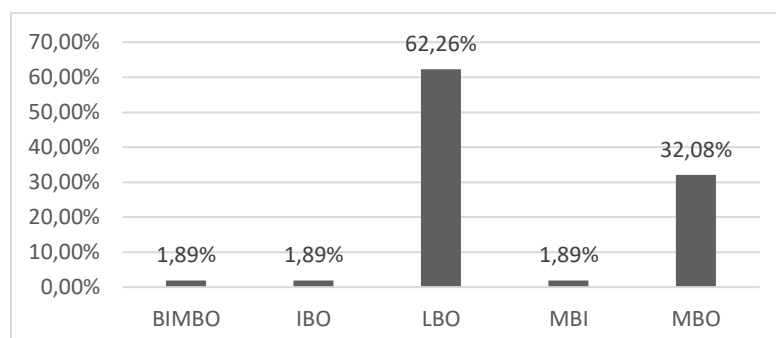


Figure 5. Types of buyouts carried out in Poland (%) (own analysis)

Buyout transactions were carried out mostly by investment funds, with a purchase of a company's controlling stake, resulting in LBO constituting the majority of transactions. In some cases, apart from the fund, also managers were engaged in the transaction, that is why there were also many MBO transactions carried out.

### 5.2. How buyout transactions affect companies' financial data

In case of current ratio, there are only slight differences. The ratio is higher for LBO before transaction, but than is decreases when in MBO transactions current ratio is increasing to year after transaction. The values of a debt ratio differ significantly, amounting to 0.72 for LBO and 0.63 for MBO. MBO is characterized by lower debt (Fig. 4). As an extension to the analysis of liquidity and debt ratios, table 1 presents how these ratios were shaped for LBO and MBO transactions. Debt ratio arithmetic mean is higher for LBO transactions.

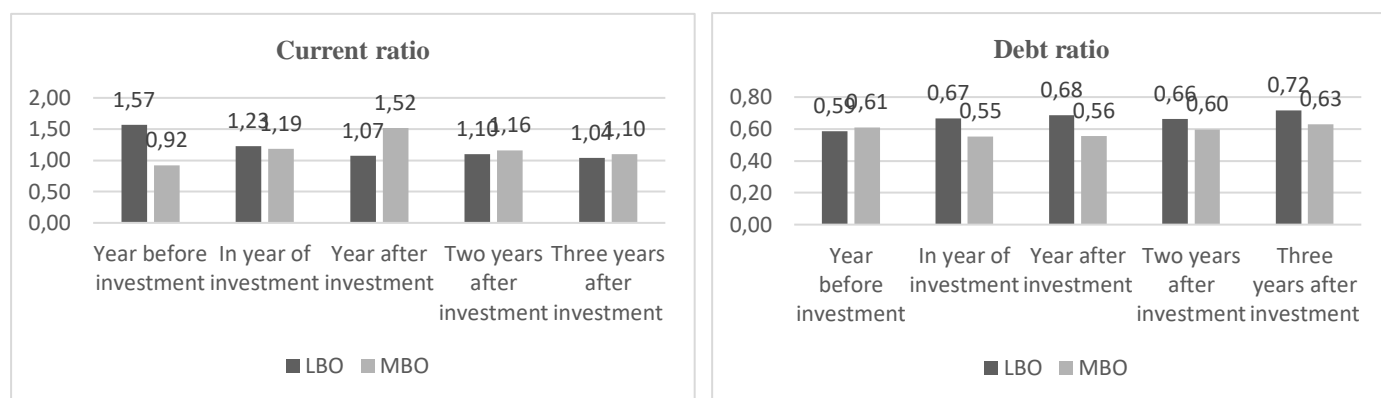


Figure 6 Arithmetic mean values of current ratio and arithmetic mean value of debt ratio before and after the transaction (own analysis)

Interdependence classification according to J. Guilford indicates that Pearsons' correlation of current ratio vs debt ratio for LBO and MBO transactions is very high and negative for LBO and high and negative for LBO (tab. 1). This is the normal situation in transactions characteristic.

Table 1 - Statistic data for LBO and MBO transactions in polish companies (own analysis)

Current ratio			Debt ratio		
Statistic / Type of transaction	LBO	MBO	Statistic / Type of transaction	LBO	MBO
Mean	1,2004	1,1757	Mean	0,6630	0,5884
Variance	0,0468	0,0463	Variance	0,0024	0,0011
Standard Deviation (SD)	0,2163	0,2151	Standard Deviation (SD)	0,0487	0,0338
Pearson corellation current rratio vs debt ratio	-0,9472	-0,6916	Pearson corellation current rratio vs debt ratio	-0,9472	-0,6916

The study included buyout transactions and the companies' financial results over five years. The analysis was based on financial data from one year before the investment, the year of the investment, and from three years following the investment carried out (tab. 2.).

Table 9 Financial data of polish companies and T-Statistic for LBO and MBO transactions

Type of transaction	LBO	MBO	LBO	MBO	LBO	MBO	LBO	MBO
Statistic / Financial data	Net revenue		Earnings before interests and taxes (EBIT)		Financial costs		Net profit	
Mean [EUR]	83 292 038,78	25 557 931,90	4 820 433,31	962 673,20	7 362 745,91	321 932,45	-1 426 654,31	705 469,82
SD	14 695 410,09	7 374 582,72	1 719 494,19	625 820,10	406 1974,505	78553,05579	2 627 325,06	622 535,23
T Statistic	7,85*		4,71*		3,88*		-1,77	
p value	0,0002		0,0053		0,0179		0,1522	

(own analysis)

\* Significance of the level of  $\alpha = 0,05$ .

Significance level  $\alpha=0,05$  is not only achieved for net profit. All other companies' financial data denotes significance at the level of  $\alpha=0,05$ .

The mean of net revenue, EBIT and also financial costs (tab. 2.) is higher for LBO transactions comparing with MBO. What is worth to underline is that the mean of net profit is higher for MBO transactions. Based on debt ratio, a mean interest rate of outside capital was estimated for the companies before and after the leveraged buyout transaction. The interest rate was calculated as a quotient of financial costs and debt. In addition, a mean value of outside capital share in total liabilities to the balance amount before and after the buyout was calculated. Based on the calculations, the change in the cost of an outside capital in relation to the outside capital share was determined (fig. 5).

Together with the increase in the outside capital share to the level of 66.76%, the cost of the outside capital appreciated to 16.79% in LBO transactions (fig. 5). Next, with the increase in the outside capital contribution, the interest rate depreciated to 7.87%.

In MBO transactions with the increase in the outside capital share to the level of 62.87% cost of capital increase to 8.79%.

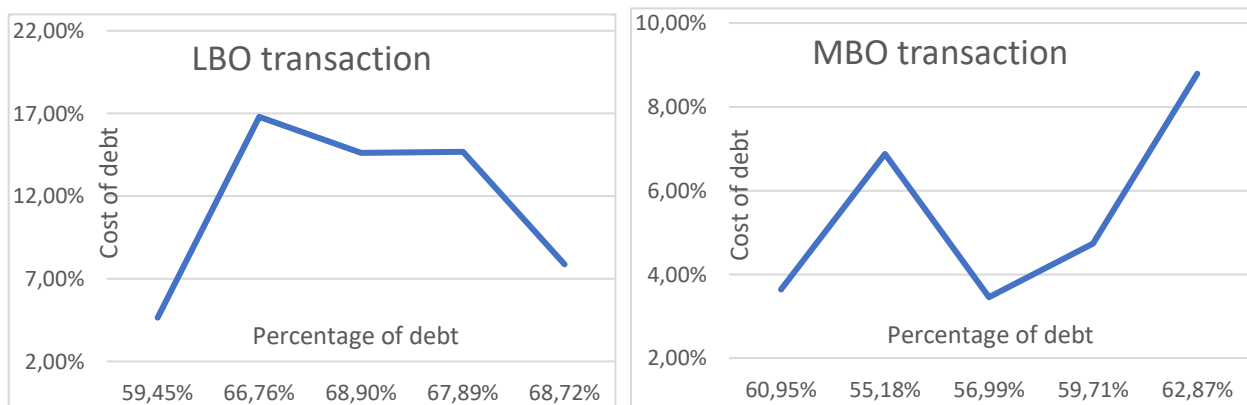


Figure 7 Changes in the outside capital interest rate as compared to the outside capital share (own analysis)

Generally according to percentage of debt in capital structure in LBO and MBO transactions it systematically increases. The highest level of debt percentage is in LBO transactions (fig. 6).

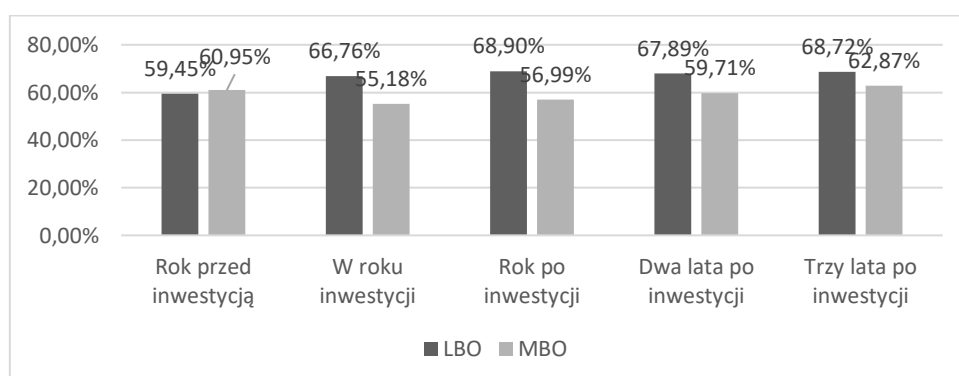


Figure 8 Percentage of debt in capital structure (own analysis)

The arithmetic mean of debt percentage in capital structure is higher in LBO transactions (tab. 3).



*Table 10 Financial data of polish companies and T Statistic for LBO and MBO transactions*

Type of transaction	LBO	MBO
Statistic / Financial data	Percentage of debt in capital structure	
Mean [EUR]	0,6634	0,5914
SD	0,0395	0,0307
T Statistic	3,22*	
p value	0,0122	

\* Significance of the level of  $\alpha = 0,05$

That level of debt is about 66% in LBO and 59% in MBO transactions. Standard deviation is respectively 3.95% and 3.07%. T-statistic is 3.22, so result is significant at level of  $\alpha=0,05$ .

## 6. CONCLUSION

Leveraged buyouts are conducted with an objective to continue developing, consolidate the capital, or increase the scope of activity. They are mostly used by investment funds or banks, and can be conducted with the involvement of managers who administer the company or new managers who aim at further dynamic development of the company. In the companies under this study and in which a leveraged buyout was conducted, the aim was to extend and develop business operations. Only in some cases (11.32%), within several years after the investment, the companies were acquired by other entities. In general, the main idea was to increase the scope of and develop companies' business activities. Conducted studies indicate that in Polish companies, mostly LBO transactions are used, whereas MBOs are conducted to a lesser extent (H1). In periods after the transactions, there was a rapid increase of net revenue from sales and even more dynamic increase of an operating result. A high level of financial costs resulting from a buyout with the use of outside capital caused the decrease of net profit, which went flat after the transaction (H2). Conducted analyses are subject to certain limitations related to difficulties in accessing data, especially due to the fact that leveraged buyouts are conducted mostly by private equity funds specializing in operations of a closed nature. It is difficult to obtain data on leveraged buyouts due to the fact that there is no central entity gathering data on buyouts conducted in Poland. Despite the difficulties, this study has been conducted and there are several possible directions for its development. Further studies can be focused on checking how buyouts affect companies' value or conducting a comparative analysis of buyout transactions in Poland and abroad. What is more, such studies should be continued, as this subject is relatively new in Poland and many transactions have recently been conducted, so the effects for Polish companies will be available for verification in several years. The study results can be used by entrepreneurs who seek new directions for company expansion, as well as persons managing investment funds or banks in order to gain information on the financial consequences of leveraged buyouts.

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**Annex 1.** List of companies and types of leverage transactions conducted in Poland

List of companies where buyout transactions were used	Type of a buyout operation	List of companies where buyout transactions were used	Type of a buyout operation
Alumetal S.A.	LBO	Konsalnet Ochrona Sp z o.o.	LBO
Aster Sp. z o.o.	LBO	LIMITO S.A.	LBO
BIPROMET S.A.	MBO	Lux Med. Ap. z o.o.	LBO
CEKO Sp z. o. o.	BIMBO	Medort S.A.	MBO
COMFORT S.A.	LBO	Novago Sp. z o. o.	MBO
Danwood S.A.	LBO	Otwarty Rynek Elektroniczny S.A.	MBO
Delicpol Sp. z o.o.	LBO	Siodemka S.A.	LBO
Diagnostyka Sp z. o.o.	LBO	Ultimo S.A.	LBO
EKO Holding S.A.	LBO	WSiP – Wydawnictwa Szkolne i Pedagogiczne S.A.	LBO
Emitel Sp. z o.o.	LBO	Velvet Care Sp z. o.o.	MBO

## THE ACTIVITY REPORT AS A TOOL OF EMPLOYER BRANDING

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### **ABSTRACT**

*The modern socially responsible enterprise conducts economic activity focused on meeting needs of various groups of stakeholders comprising present and future employees. The lack of the integrated report standard causes that the financial and non-financial information is presented in various ways and it appears in different elements of the report. The information concerning employees influence greatly employer branding. The essence of employer branding is to create a distinguishable image of an organization as a preferred employer. Purpose – The aim is to diagnose the way and kind of reporting the financial and non-financial information regarding employees in terms of the creation of employer branding. Methodology – The analysis of activity reports of 20 companies listed on the Warsaw Stock Exchange – WIG-20. Results – The analysis of the contents of the reports shows that enterprises present the following non-financial information which creates a good image of employer: staff trainings (70% of the researched companies), remuneration systems and motivational systems (55%), projects enabling employees' development (55%), low rotation of employees (45%), communication and relations with co-workers (40%). The extent and kind of information vary depending on the sector in which a company operates. The importance of employees for the organization is confirmed by human capital related risks identified by the researched companies. Practical implications – On the basis of the proposed methodology of employer branding diagnosis based on the activity report, management staff may take action in order to increase the extent of reporting concerning employees with components creating employer branding.*

**Keywords:** Activity report, Employer branding, Financial and non - financial information

### **1. INTRODUCTION**

To a great extent, employees' knowledge and skills determine the potential and development possibilities of modern enterprises. On the labor market, emigration and aging are factors which increase difficulties in recruiting workers with required skills. „The employer brand could be a key factor of competitiveness for a company in a contemporary labor market”. (Kuchеров, Zavyalova, 2012, p.86) Employer branding is a process focused on building the image of an employer whose aim is, inter alia, to hire and keep employees with given skills, experience and knowledge coming to the expectations of the company. Up to now, the research studies on employer branding have concentrated mostly on tools and instruments of human capital management, which build a positive image of an employer among the present and prospective employees (Backhaus, Tikoo 2004, Figurska, Matuska 2013). What is emphasized is the advantages of good employer brand, such as effective and successful recruitment (Buttenberg 2013, p.115), permanent lowering costs of recruitment and keeping employees, acquiring talented persons, obtaining strategic advantage over competing companies (employers) (Urbancova et al. 2017, p. 217; Rampl et al. 2016, p. 361). So far, researchers have analyzed such tools of communication with prospective employees as social media and employers' websites (Kissel, Buttgen 2015, p.755). However, attention has not been paid to the fact that compulsory annual report which in the case of listed companies is publicly available can be a perfect tool of communication with stakeholders in terms of employer branding. An enterprise communicates with the surroundings by means of annual financial statements which shows a true and fair picture of the entity. An activity report is the only element of the annual report in which non-financial information can be presented. Therefore, this report may be used to present the information regarding the human resource policy of the company.

The papers attempts to answer the question how an activity report is used to present the information constituting a positive image of an employer. Combining the descriptive data with financial information allows for offering a more credible picture of a reliable and responsible employer. The aim is to diagnose the way and kind of reporting the financial and non-financial information regarding employees in terms of the creation of employer branding. In the paper, one will conduct the analysis of activity reports of 20 companies listed on the Warsaw Stock Exchange – WIG-20. In the course of the research study, it was aimed to verify the thesis that an activity report can be a tool of communicating stakeholders a positive image of a company – employer and it may be used by the companies obliged to report on staff matters.

## **2. EMPLOYER BRANDING**

In the times of increasing competition on the labor market, enterprises are afraid of the risk of losing key employees or the lack of workers possessing required qualifications (Bagieńska, 2016, p.345). Organizations aim at being perceived as a »great place to work in« and “the most attractive employer”. In this way, they create their employer brand among the present and future employees. The first definition of an employer brand was given by Ambler and Barrow (1996, p.186). They defined the employer brand as “the package of functional, economic and psychological benefits provided by employment and identified within the employing company”. Chartered Institute of Personnel and Development CIPD (2009) defines the employer brand as “the way in which organizations differentiate themselves in the labor market, enabling them to recruit, retain and engage the right people”. Employer brand is “a set of tangible and intangible benefits offered by the organization to attract potential employees and retain existing employees” (Tanwar, Prasad 2017, p. 389). For the employer brand, the target audience comprises both the potential and existing employees (Engelund, Buchhave, 2009 referenced by Tanwar, Prasad 2017, p. 390). Potential employees are the ones who intend to apply for a job, while the existing employees are those who are already working in the organization and “living the brand”. Employer branding is a process combining activities related to human resources management with a general development strategy. Employer branding can be conceived as “a specific form of managing corporate identities by creating, both within and outside the firm, an image of the organization as a distinct and desirable employer” (Xie, Bagozzi, Meland, 2015, p. 124). The main aim of employer branding is to build a coherent and positive image of a company as an ideal employer in the opinion of employees, key candidates on labor market and business partners, clients and shareholders (Ober, 2016, 349). »Meier (2006) stresses that employer branding supports a company’s effort to attract and retain its right potentials, meaning to find the employees who fit to the company’s goals and values. Employer branding can be a framework for aligning all relevant internal corporate function such as recruiting, selection, retention and development. The best way for a company to do successful employer branding is to show its employees that they are really the most valuable asset« (Meier 2006 p.56). Davies explored the role of the employer brand in influencing employees’ perceived differentiation, relationship, satisfaction and loyalty (Davies, 2008, p.667). A strong employer brand helps businesses compete for the best talent and establish credibility. It should connect with an organization’s values and must run consistently through its approach to people management (CIPD, 2009).

### **2.1. Employer branding efforts and employee value proposition**

The activities related to conscious creating the employer’s image are becoming more and more widespread practice fostering human resource management. For companies of all kind, employer branding is becoming a key tool for attracting, recruiting and retaining required employees. A string brand of employer brings profits not only to the employer, but also to employees.



By creating the perception of an enterprise as a dynamic and innovative work place, the company cares for its employees and offers them the possibility of self-realization and promotion (Szymańska, Kupczyk, Kubicka, 2016, p. 284). Remunerations, benefits and good results of a company are not sufficient for creating a good image of an employer. Prospective employees evaluate higher socially responsible organizations than those which are only profitable (Edwards, 2009, p. 5). An enterprise should prepare an employee value proposition adequate for the realized business strategy and present it to potential workers. The employee value proposition is a collection of attributes perceived as value in the organization or outside. These are the reasons for which persons decide to take a new job or remain with their present employer (Ober, 2016, p. 350). The organization create value for their prospective and current employees by investing in their “long-term availability and viability (e.g. maintaining employee health and safety, supporting their work-life balance, managing aging workforces, developing their work-related skills, and promoting a culture of lifelong learning), which should ensure a high-quality workforce for the future”. (App, Büttgen, 2016, p.703). An enterprise should emphasize its “attractiveness” in order to be an employer of choice. Berthon defines employer attractiveness as: “the envisioned benefits that a potential employee sees in working for a specific organization”. Employer attractiveness is also a key for employees when they decide to enter or remain at an organization. Becoming an employer of choice is a strategy that can help organizations manage current and prospective employee expectations of their employment relationship (Berton 2005, referenced by Bellou, Rigopoulou, Kehagias, 2015, p. 614). The research studies show that the following factors are important for employees when they choose the employer:

- the quality of workplace relationships, work prerequisites and satisfying work setting (Bellou, Rigopoulou, Kehagias, 2015, pp. 613-633)
- stability of the company, work-life balance and job security (Jain, Bhatt, 2015, pp. 634-652),
- internal recruitment practices, internal training programs and highly efficient incentive activities (Kuchеров, Zavyalova, 2012, pp. 86-104),
- employee health and safety, work-life balance, developing work-related skills and culture of lifelong learning (App, Büttgen, 2016, pp. 703-723),
- reputation and identity congruence between the organization and its applicants (Xie, Bagozzi, Meland, 2015, pp.124-146).

Companies with employer brands gained a number of economic advantages due to lower rates of staff turnover and higher rates of human resources investments in training and development activities of employees (Kuchеров, Zavyalova, 2012, p.87). Heilmann stresses that the main motives for employer branding are better employer image, more efficient recruitment and improved job satisfaction. Employer branding efforts are focused according to the target group. Recruitment and educational co-operation are very often the main objects of employer branding towards potential employees, whereas training and development are an essential part of employer branding towards current employees (Heilmann, Saarenketo, Liikkanen 2013, p. 283). Y generation enters the labor market and it is this generation on which employer branding activities should be focused. For these persons, work does not play a central role in their lives, thus they may be less engaged in work and more likely to leave the organization than the older generations in the workplace (Grobelna, Tokarz-Kocik, 2016).

## **2. ACTIVITY REPORT AS A TOOL OF COMMUNICATION WITH STAKEHOLDERS**

A financial report and an activity report constitute the most important elements of an annual report of a company. The activity report shows the financial situation and the financial result of an entity. An activity report presents the entity activity in the period covered by the annual

report, the rules of preparing the annual report and the identified risk of the activity. There is no definite model of a report of an entity activity, but according to the regulations of Accountancy Act, it should reveal additional non-financial information if the entity considers it to be important for the evaluation of the situation of the enterprise. Due to the fact that the directive regarding the revelation of non-financial data (Directive 2014/95/EU) has been in vigor since January 2017, all big listed companies in Poland (employing more than 500 persons and achieving a balance sheet total of above 200 million Euros or a nett turnover of above 40 million Euros) are obliged to report on their policy on environmental, social and staff issues, human rights recognition as well as on acting against corruption and bribery (Directive 2014/95/EU). This report constitutes an effective tool of communication about employer branding. Smaller entites are not obliged to present the report at issue, but because of benefits resulting from such reporting, they should also present additional non-financial information which may be used for evaluating the entity by stakeholders. As attested by earlier research studies, fulfilling informational needs of the stakeholders which are prospective employees is of secondary importance. The identification of the risk related to the lack of key workers among the risk areas (Bagieńska, 2016, p. 348) confirms that the activities related to employer branding are necessary for acquiring and retaining employees with required qualifications and competences. Amelia, Nasution suggest that a company should provide clear information about its offers based on the potential talent's expectations in order to attract them (Amelia, Nasution, 2017, p. 226).

### **3. RESEARCH METHOD**

The research study comprises all the companies listed in the Warsaw Stock Exchange Index WIG 20 (dated 30.04.2016), which is calculated on the basis of the value of the stock portfolio of twenty biggest and most liquid companies from the Main Market of the Warsaw Stock Exchange. The companies were chosen, since its size has involved the necessity of reporting non-financial data, including staff matters since January 2017. This group is composed of: 7 companies from the energy and fuels sector, 6 firms from the banks and insurance sector and 7 entities from the production and trade sector. The research is based on the method of the analysis of the contents of activity reports of the researched companies and on the method of morphological analysis and descriptive analysis. The method of contents analysis is a research method used in social sciences, consisting in analyzing the information contained in documents, drawing conclusions on the basis of objective, systematic and quantitative description of publicly available information, especially on identifying, coding and selecting information including given criteria of data classification. The analysis is used in the research on the contents of financial reports (Wieczorek-Kosmala, Błach, 2012). In order to analyze contents, it is necessary to prepare the coding structure, which assumes common meaning of different words, focused on identifying the information regarding employer branding in the organization. The first level of the contents analysis consists in determining the presence or the lack of given information in the company report. In order to ensure the clarity of the presentation of the research results, the morphological method was used. Its application allowed for revealing possible solutions and the directions of their improvement (Wieczorek-Kosmala, Błach, 2012). During the first stage of the analysis of the activities reports contents, one constructed the morphological table, which includes the information concerning possible employer branding tools. The parameters were chosen on the basis of literature, with a special focus on the possibility of combining the presented non-financial information with financial data, which contribute to some kind of credibility of the information from the reader's perspective. In particular, the following information is included: employment and its structure, remuneration systems and motivational systems, non-wage benefits, staff trainings, projects enabling employees' development, rotation of employees, communication and relations with co-workers, management and employee competencies, company employees innovation,

mentoring, adaptation programs for newly recruited staff. At the next level of the contents analysis, one evaluated the scope of the presented information in relation to the analyzed parameters. One included the nature of the information and its specificity. The analysis comprised annual activity reports of the researched companies for 2016. The choice resulted from the fact that in these documents, it was possible to present financial and non-financial data enabling the stakeholders to learn about a given company policy of human resource management.

#### 4. RESEARCH RESULTS

The results of the analysis of activity report contents show that 60% of the analyzed companies inform about employment and its structure (age, sex, positions), while 50% give the staff structure according to their education. This is the basic information concerning employees, yet, not all companies provide it (fig.1.).

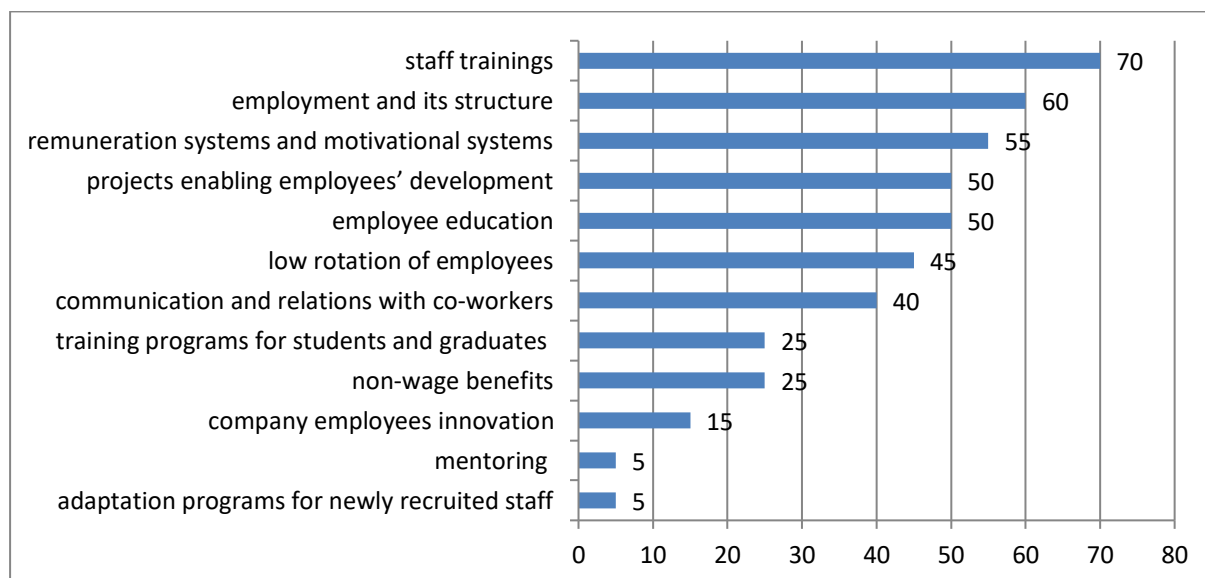


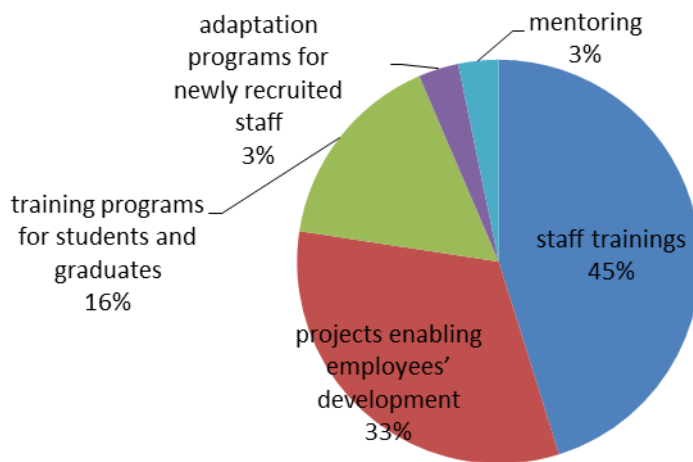
Figure 1: The degree of reporting the information creating the employer image in the activity reports for 2016 of WIG 20 index companies (in %)(own research)

They may consider such information as not relevant for the evaluation of an enterprise. From the point of view of creating the employer image, one should emphasize that enterprises take various actions in the area of trainings and development: they finance staff trainings (70%), realize projects enabling employees' development (50%), support employees' innovation (15%). Remuneration systems and motivational systems are presented by 55% of the analyzed companies. Among all firms, 25% provide a detailed description of the non-wage benefits the enterprise offers to its employees. In the analyzed report, enterprises do not present the information regarding their supporting work life – balance.

The information creating the employer image presented by the analyzed enterprises are classified as follows:

- *Training and Development*: staff trainings, projects enabling employees' development, training internship programs for students and graduates, adaptation programs for newly recruited staff, mentoring,
- *Compensation and Benefits*: remuneration systems, non-wage benefits,
- *Healthy Work Atmosphere*: low rotation of employees, communication and relations with co-workers, internal recruitment, company employees innovation.

Figure 2 shows which information from the category *Training and Development* realize and present the analyzed enterprises.



*Figure 2: Reporting on Training and Development activities (own research)  
(a total of activities presented in this category = 100%)*

Trainings constitute 45% activities concerning employees' development. Enterprises inform on the kinds of realized trainings, the rate of employees participating in trainings. Human resource development projects account for 35% activities from this category. They comprise, for instance, subsidizing education, taking part in trainings and conferences, learning foreign languages, certifications and authorizations preceded by the analysis of individual and group development needs. In this category, internship programs for students and graduates amount to 16%. Thanks to these programs, there is a possibility of acquiring the best students and graduates. In this category, 3% is constituted by adaptation programs for newly employed persons. The same value, i.e. 3%, has been reached for mentoring which facilitates accustoming new employees.

In the category *Compensation and Benefits*, 45% of the researched enterprises show the level of remunerations in total in a given year and changes in this values. Several companies provide information regarding the average monthly salary. Among the firms included in the research study, 25% inform about additional non-wage benefits for their employees, such as health care, group insurance and social benefits. More than half of the analyzed companies, precisely 55%, do not include any information on the height of salaries. There is no comparison of salaries in competitive companies or the minimal salary level.

*Healthy Work Atmosphere* in the analyzed companies is identified on the basis of the information of low employees rotation, which is emphasized by 45% of the researched companies. Low rotation is indicative of long-term work contracts, employees involvement and the fact that a given company is a firm highly evaluated as a work place. Good communication and relations with co-workers (40% respondents) confirm that the employer takes care of the atmosphere at work. Furthermore, 30% of the analyzed companies makes the information regarding currently conducted recruitment processes available to their employees, which enables the interested workers to apply for a given position and allows to fully use the potential of own workers. Internal recruitment also builds a positive employer image for a different reason, mainly because of the fact that employees may recommend their acquaintances. Among the analyzed companies, 15% inform about enabling employees to develop staff

innovation by various programs supporting and rewarding solutions proposed by workers. Openness to innovative solutions creates healthy work atmosphere. The evaluation of the degree of reporting the information which support the employer image according to sectors shows that banks and insurance companies report most information (fig.3.). First of all, it comprises the data regarding the development policy and trainings. It is highly probable that it results from the fact that in this sector one has to constantly invest in the development of human capital. The companies from energy and fuels sectors also pay much attention to employees' development. Least information is provided by the sector of production and trade. Healthy atmosphere at work and activities aimed at good communication, supporting innovation, thus achieving low rotation, are emphasized mainly by the energy and fuels companies, while most information regarding remunerations and benefits is contained in the activity reports of the companies from the financial sector.

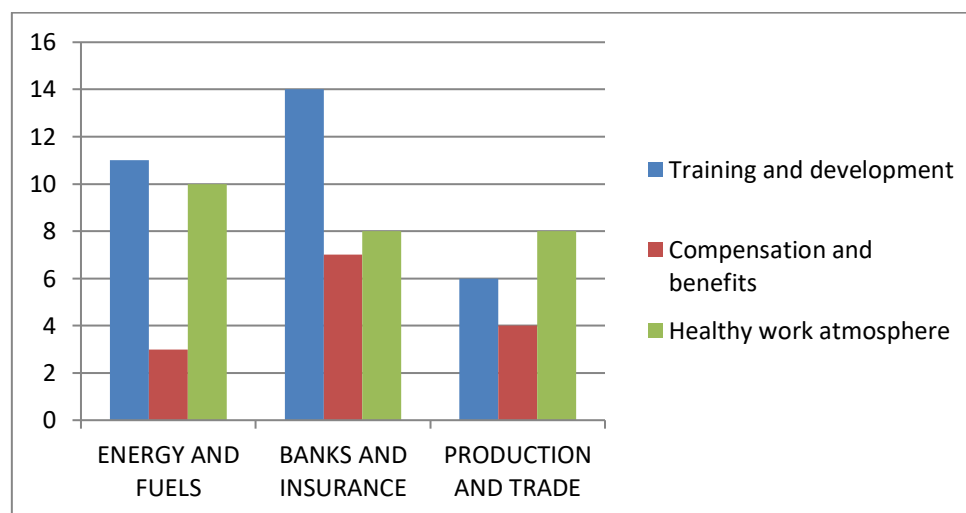


Figure 3: Reporting on the employer image according to sectors (own research)  
(amount of given information according to categories)

The enterprises which are afraid of the risk of losing key employees reveal to a greater extent the activities related to the policy of employees development. The efforts aim at decreasing the risk at issue and informing about them in the activity report shows at the same time employer branding to a prospective stakeholder.

## 5. CONCLUSION

Being conscious of their value, the best and most talented employees set higher and higher demands for both their current employers and the prospective ones. Therefore, establishing the company image as an attractive and recommendable employer is the employer's key activity in the area of acquisition and retention of required-quality employees. Effective employer branding increases the chances of acquiring employees with required competences. It allows for permanent lowering of the costs related to recruitment and retention of employees as well as for gaining a strategic advantage over competitors (employers). The activity report can be an employer branding tool, because only this element of the annual report allows the reader to learn about non-financial data explaining the activities aimed at building a „great place to work in” and creating the image on an attractive employer. Therefore, the assumed thesis is verified: the activity report can be a tool of communicating stakeholders a positive image of the company – employer and is used by companies obliged to report on staff matters. On the basis of the conducted analysis, it can be concluded that enterprises present a limited range of information on employees and realized development policy in on-line activity reports.



Only one company from the insurance sector used the expression “building an image of preferred employer”. The enterprises presenting much information on conducted activities supporting the improvement of competences and offered package of benefits manifest the employee value proposition they create themselves. It is difficult to explain why other enterprises indicate only some of the analyzed activities forming their employer branding. They may not conduct such activities or they may be of the opinion that revealing their policy in the area of human capital is inappropriate. Most of the analyzed companies inform which programs and ways of development of employee’s competences they realize, which is a desirable phenomenon. The reason for limited reporting may also be the fact that obligatory reporting of non-financial data will be included in the report for 2017. Designing activities which increase the quality of human capital and showing them outside creates the image of a good and responsible employer in the best way.

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## MULTIDIMENSIONAL STATISTICAL ANALYSIS OF AN INFLUENCE OF A BUSINESS MODEL ON A FINANCIAL CONDITION IN TRANSPORTATION- FORWARDING – LOGISTICS (TFL) SECTOR ENTERPRISES

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### **ABSTRACT**

*TFL (Transportation- Forwarding – Logistics) sector enterprises, constitute a varied group of objects in terms of size, organizing structure as well as range of provided services. The enterprises belonging to this sector use different types of business models which influences their financial condition. The aim of the article is to distinguish the groups of enterprises from TFL sector which share similar level of financial condition. This division was based on selected financial indicators having various discrimination strengths. The next step of analysis was to identify the types of business models in particular groups of enterprises having similar financial condition. This way the hypothesis about the dependence of the business model and the financial condition of an enterprise has been verified. The source of information to assess financial condition was enterprises' financial results from EMIS database. Obtained information have been used to create own database of TFL sector enterprises and their financial indicators as well as to create a multidimensional statistical analysis which classified the enterprises. While realizing the research aim the following multidimensional statistical analysis were used cluster analysis and K-means method. In order to verify research hypothesis another multidimensional statistical analysis method was used – correspondence analysis. The results of the research were used to classify the enterprises into similar, in terms of financial condition, groups and to point out the most important determinants of this classification. The finding of the research is showing the correlation between the type of business model and enterprise's financial condition. Moreover the article presented and proposed applying chosen multidimensional statistical analysis method for evaluating enterprises' financial condition and their business models.*

**Keywords:** *business model, logistic sector, multidimensional statistical analysis, TFL sector*

### **1. INTRODUCTION**

Enterprises belonging to the TFL sector are among the most vulnerable to the fluctuations of the economic cycle, reacting most quickly to the deterioration of the socio-economic condition of the economy, and therefore the most vulnerable to bankruptcy in the reality of rapidly deteriorating sentiments in the business environment. That is why the role of comprehensive analytical tools for assessing business conditions, forecasting threats and planning remedies is important. There are many methods in the area of fundamental company analysis to assess its financial standing and reduce the risk of its deterioration based on financial analysis tools, in particular indicator analysis. (Altman, 1968, pp. 589–609; Altman et al., 1994, pp. 505–529; Bardos, 1998, pp. 1405–1419; Li and Sun, 2009, pp. 89–108). It seems, however, that in addition to traditional financial analysis, other tools should be used to identify hazards, taking into account the external and internal factors of the organization. One of the proven methods of diagnosis of an industry and the entities occurring within it may be using the assessment with the use of a business model (Baden-Fuller and Morgan, 2010, pp. 156–171) On its basis, it is possible to distinguish a few dozen concepts of business models in the TFL industry. The purpose of this article is to examine the relationship between the business model used and the financial condition of the TFL sector.

Analysis of the literature on the issues relating to business models clearly demonstrates that the business model shows how to generate value for customers and owners of the company (Chesbrough and Rosenbloom, 2002, pp.529–555; Nenonen and Storbacka, 2010, pp. 43–59; Teece, 2010, pp.172–194; Hall and Wagner, 2012, pp.183–196; Casadesus-Masanell and Ricart, 2010, pp. 195–215). In the article, values for the company were presented through the evaluation of their financial condition. For this purpose, financial ratios related to profitability, liquidity, turnover and inventories were analysed. Creating value for the customer depends on the essential components of the business model, including the characteristics and scope of the offer for the customer, the way the offer is made available, the internal value chain, and the key resources (Hedman and Kalling, 2003, pp.49–59; Baden-Fuler and Mangematin, 2013, pp.418–427; Johnson and Christensen, 2008, 51–59; Demil and Lecocq, 2010, pp. 227–246). In this article, customer value is presented by evaluating the components of the business models of companies in the surveyed sector, including the number and type of services offered, the type of transport used, and the geographic scope of the activity.

## **2. CONCEPT AND SPECIFICITY OF BUSINESS MODELS**

Dynamic changes in the environment require the use of new ways and principles of enterprise management. The concepts of building competitive advantage, which enable companies to achieve operational efficiency, and to create a vision for future business activities, play a major role in shaping management practices (Casadesus-Masanell and Zhu, 2013, pp. 464–482). Meeting the challenges of the market, by achieving competitive advantage requires evaluation and possible revision of elements and factors affecting it. This primarily concerns assessing the existing ways of observing and analysing markets, customer relationships, the range of products or services offered, and the use of resources. In general, it is about assessing the business model used by the company and taking steps to address such changes in business model components that will provide a competitive advantage (Bock and George, 2014, pp. 8–11; Doz and Kosonen, 2010, pp. 370–382; Johnson et al., 2008, pp. 57–68; McGrath, 2010, pp. 247–261; Sosna et al., 2010, pp. 383–407). The business model expresses the way a company operates and gains competitive advantage over other market players. In this approach, the business model is an integral part of business strategy and is created as part of the strategic management process. A well-designed business model is a way of achieving a company's strategic goals (Chesbrough and Rosenbloom, 2002, pp. 529–555; Casadesus-Masanell and Ricart, 2010, pp. 195–215). In the considerations concerning business models, interesting from the point of view of strategic management, A. Afuah states that it is essential to consider two important issues determining the viability - core category connected with the business model (Afuah, 2004, p. 9–10): (1) Profitability of an enterprise is determined by the combined effect of sector factors and factors specific to a given company. The model is designed to generate revenue, and, therefore it depends on these factors. It is therefore a function of: company position, activities, resources and sectoral factors. These four components together with the fifth, which is the cost make up a business model. Treating cost as an element of a business model stems from the fact that running a business always generates costs regardless of the strategy adopted by the organization. (2) The organization generates revenue using its resources for its activity by "offering" them to the industry to create the highest value for the customer (low cost or distinguishable product) while positioning to capture (appropriate) value. The captured value ensures monetization commensurate with the created level of that value. Taking the above into account, a business model can be understood as a business activity, a method and time to process it, using resources in such a manner as to create the highest value for the customer (low cost or distinctive product) and to secure the position to take over (appropriate) value. (ibidem p. 9). In this definition of a business model essence is the resource approach.

Views in the approach to the business model, similar to those presented by A. Afuah are also represented by A.A. Thomson and A.J. Strickland. They believe that the business model concerns the economic effects of the applied strategy (Thomson and Strickland, 2003, p. 3). The role of strategy in the model is emphasized, as the current and future revenue is generated by the products offered to customers, and competitive market approach, which, combined with the appropriate cost structure and profit margin, results in income stream and return on the investments. The aspect of ensuring profitability through the business model is also recognized by R. M. Grant, briefly defining this model as a strategy configuration relating to revenue and profit sources (Grant, 2002, p. 307). The key issue in designing a business model is to identify the needed changes that are significant to the customer while generating high returns and strategic control. Model dimensions are closely linked, so it should be designed to be tailored to customers' priorities, while providing profitability to the company. Building a business model based on assets is represented by R. Boulton, B. Libert, S. Samek (Boulton et al., 2000, p. 159 and further). These are the assets shaping the so-called Value Dynamics. This concept is understood as an approach to strategy, focused on assets, the proportion and combination of which is affected by the economic results of the company. It is acknowledged that value creation is the result of the interaction of four holistic, interrelated challenges facing the enterprise. These challenges are: designing a business model, risk management, managing the portfolio of assets and measurement and reporting of the entire asset base. In this context of value creation, a business model is defined as a unique combination of material and intangible assets that determine whether an organization is capable of creating value or destroying it (ibidem, p. 244). The aspect of the configuration uniqueness of the elements, constituting the business model, is also accentuated by S. Ehiraj, I. Guler, H. Singh (Ehiraj et al., 2002, p. 2). In their opinion, the configuration of elements in the form of organizational goals, strategies, processes, technologies and structures creates value for customers, thus enabling the company to compete effectively in a specific market. The business model of an enterprise can also be considered as one of the two (indirectly) immediate determinants that influence the efficiency of an enterprise. Such an approach is presented by A. Afuah i Ch. Tucci (Afuah and Tucci, 2003, p.19 and further). They emphasize that these determinants, in turn, are affected by the so-called change factor that indirectly but significantly affects the efficiency of the business. They think that economic performance can be accurately defined based on indicators such as accounting profit, economic value added (EVA), market value of shares, profitability of sales, profitability of assets, or return on capital. The link between business model and economic efficiency is reflected in its definition. It is expressed in the following way: "A business model is an organization's method of increasing and utilizing resources to provide customers with products and services that exceed the competition's offer and which simultaneously ensures the company profitability." (ibidem, p. 20).

D.J Teece also defines the business model as a way of generating value for customers, that has to translate into profit (Teece, 2010, pp. 172 – 194). The concept of the model is presented here in a process perspective. Model creation starts with technological or product innovation but underlines that innovation alone is not sufficient to achieve competitive advantage. Technological or product innovation should be framed within a business model that will provide financial success. Therefore, the emergence of innovation requires defining the benefits that will be achieved by customers in defined segments of the market. To achieve financial success, it is also necessary to develop a sales revenue model, which, in conjunction with enterprise value-adding mechanisms (organization of the value chain, resources, activities, etc.) can ensure financial success. What's more, a business model requires continuous renewal to maintain competitive advantage. Creating business models can therefore be seen as a continuous process.



Another approach to the definition of the business model was presented by A. Ostrewalder and Y. Pigneur. Their definition is based on a systematic approach in which a business model consists of several logically related components (Ostrewalder and Pigneur, 2012, p.18). According to the authors, the business model describes how to create value for customers that translates into profit. A slightly different view on the business model in systematic terms is suggested by Ch. Zott i R. Amit (Zott and Amit, 2010, pp. 216–226). They argue that a business model is a set of activities and relationships between them, some of which can be done on their own and others by business partners. The business model is designed to contribute to creating value not only for customers and the company, but for all stakeholders involved in its implementation.

### **3. CLASSIFICATION OF BUSINESS MODELS IN THE TFL INDUSTRY**

In this part of the article the classification of business models of TFL companies operating in Poland was made. The following classification was based mainly on studies by Polish scientists (Gołębiowski et al., 2008, p. 32-49, Zysińska, 2013, p.28-29). TFL industry business models are based on four dimensions: value of the service for the customer, enterprise resources (core competencies), value chain (sequence of activities carried out within companies) and supported market segments. Because of the solution of each of the four listed dimensions in a given company, five business models can be distinguished:

- Contractor of standard TFL services (MB1)
- Traditional TFL service provider (MB2)
- Specialist, niche service operator (MB3)
- The leading TFL service provider (MB4)
- TFL service Integrator (MB5)

Standard TFL service providers are mainly transport companies or rental companies that provide typical services in this area. The main source of value for customers in this business model are financial benefits such as: price, service, payment terms, price relationship to other benefits of the service. An important asset of such entities is the infrastructure consisting of buildings or means of transport. The value chain of companies representing this type of business model is short, and their role in the economic path of the industry is passive. Standard TFL service providers typically have transactional relationships with other chain actors. Most of the TFL market operators in Poland are contractors of standard TFL services. The group of traditional operators of TFL services includes the second largest part of the TFL market entities in Poland. The primary source of value for customers are the financial benefits of the services, as well as the relationship of other benefits and the price. Entities implementing this business model are characterized by a long series of activities, but their role in the supply chain is passive, with the predominance of transactional relations. Companies with this business model have significant financial resources, but their overall resource potential is low, and the degree of control of key success factors is also small. Their bargaining position with suppliers and customers is usually weak. Another business model implemented by the TFL industry companies is a specialist, niche service operator, or service provider for narrowly defined market segments or related segments. For these types of entities, often the primary source of value for the customer are other than financial benefits from the TFL services. The resource potential of specialists is high, but that does not mean long value chains. The sources of competitive advantage are most often the developed managerial competences, very good knowledge of the market, brand recognition, trademark. The supply chain is dominated by partner and trading relationships. Entities qualified for this model are characterized by a high level of mastery of key success factors.

Leading TFL service providers are major market players with a strong and well-established market share as well as a lasting competitive advantage. Businesses with this business model are characterized by a high degree of mastery of the key success factors, they play a significant role in the supply chain, have established partnerships with customers and suppliers, and retain a strong competitive position. The leading service provider has a major share in creating end-user value. Businesses implementing this business model have a strong resource potential and are characterized by a relatively long value chain, although some operations are outsourced, while maintaining strategic control. The bargaining power of these entities towards suppliers and customers is significant. Leading TFL operators are entities capable of creating alliances. Their typical ways of achieving competitive advantage is the high quality and differentiation of the offer in the direction of the so-called dominance of the so-called flagship services. This model is most effective for increasing geographical expansion, especially in the international markets. The last of the mentioned business models, TFL service integrator, characterizes entities with the highest degree of maturity in the TFL industry. This type of enterprise is characterized by its high and unique personal potential. Leadership role in this model is played by managerial competencies, advanced IT systems, a well-recognized brand or trademark, and an in-depth market knowledge about the market. Businesses representing this business model develop and nurture partnerships with all actors in the supply chain, and their bargaining power over suppliers and customers is the greatest. The key area of activity is the management of the integrated supply chain and the associated risks. The value chain of integrators is exceptionally short, even though they retain full control over all of their links. The level of mastering the key success factors is very high and the potential to capture value within the supply chain is greatest. In this the important thing is the strength of the set of unique competitive advantage factors.

#### **4. METHODOLOGY**

The survey covered 52 companies in the TFL sector, which took part in the 21st edition of the TFL Sector Ranking in Poland. The ranking prepared by experts from the Warsaw School of Economics, Blue Media and TNS Poland. Ranking's criteria relate to the financial situation of companies, the number of services provided, scope of activities, contacts with customers. The selected criteria for evaluating companies have been used to create a database of information on the type of services offered, geographic coverage and transportation. Moreover, the base has been supplemented with selected financial indicators of the surveyed enterprises. The source of information on financial ratios was the Emerging Markets Information Service (EMIS) database. The EMIS database contains a wide range of information related to the financial condition of companies and a comprehensive set of financial indicators for companies located in the database. Information for all 52 TFL sector businesses from their financial statements was retrieved by searching in the resources of the EMIS database. To best illustrate their financial standing for each company, the following points are set out:

- Profitability indicators, measure the ability of an entity and its individual components to generate profit.
- Efficiency indicators give a quick insight into the speed of the circulation of assets, especially their productivity.
- Liquidity indicators are characterized by the current assets that are the basis of the company's current activity and the degree of its solvency.
- Debt indicators of the company explain the sources of asset financing and especially the degree of participation of external aid.

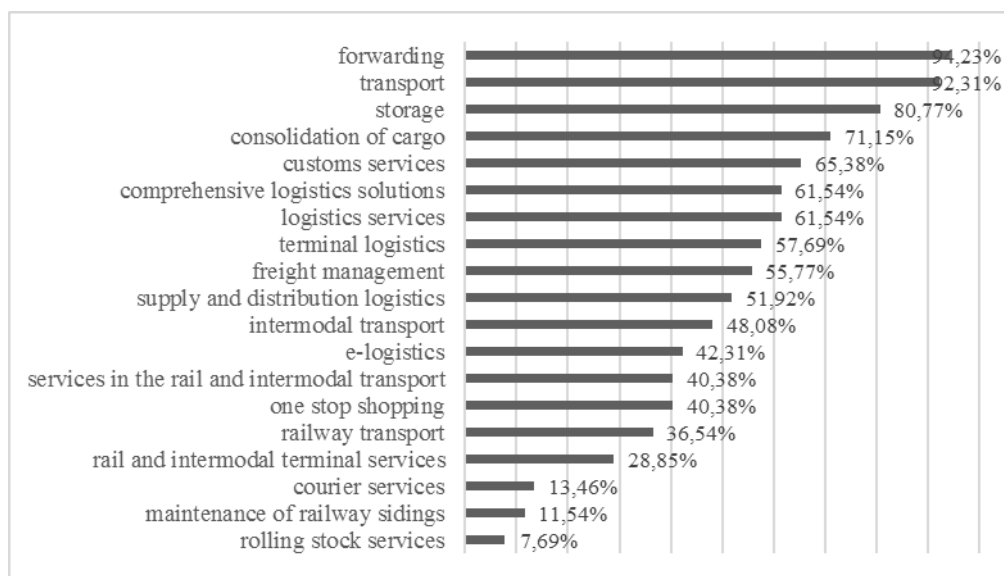
Twelve financial indicators representing these groups were taken into account for the analysis of the financial condition of the surveyed companies. Descriptive statistics of these indicators in surveyed enterprises are shown in table 1.

Basing on the calculated coefficients of variation we may observe that the surveyed group of enterprises is highly various due to financial indicators especially in the context of debit and profitability. In case of some indicators there is a strong right handed skewness which means that definite majority of surveyed enterprises has the indicators values lower that the average.

*Table1: Descriptive statistics of financial indicators for surveyed enterprises – N=52  
(source: own elaboration)*

Group of ratios	Ratio	Mean	Median	Std.Dev.	Coef.Var. (%)	Skewness
Profitability indicators	P <sub>1</sub> - Return on Asset (ROA)	7.55%	5.69%	7.01%	92.83	0.79
	P <sub>2</sub> - Return on equity (ROE)	22.86%	19.85%	23.41%	102.39	0.65
	P <sub>3</sub> - Operating profit margins	4.07%	3.21%	3.63%	89.22	0.63
Efficiency indicators	E <sub>1</sub> - Turnover receivables	5.84	5.58	2.17	37.17	2.01
	E <sub>2</sub> - Fixed asset turnover	28.05	10.52	36.58	130.40	1.81
	E <sub>3</sub> - Asset turnover	2.92	3.05	1.06	36.28	0.19
Liquidity indicators	L <sub>1</sub> - Current liquidity indicator	1.59	1.38	0.74	46.38	1.39
	L <sub>2</sub> - Liquidity quick ratio	1.55	1.32	0.72	46.28	1.38
	L <sub>3</sub> - Cash liquidity ratio	0.30	0.14	0.38	125.40	2.02
Debt indicators	D <sub>1</sub> - Debt ratio to assets	13.78%	5.80%	16.45%	119.37	1.31
	D <sub>2</sub> - Long-term debt to equity	14.19%	4.00%	20.38%	143.65	1.75
	D <sub>3</sub> - Leverage ratio	5.76	3.03	10.93	189.80	5.22

The selection of 12 indicators was dictated by a statistical and substantive analysis carried out among the multiple financial indicators available in the EMIS database. In the case of substantive selection, the analysed financial ratios were used to represent the most important aspects of financial health: profitability, liquidity, performance and debt. These ratios were chosen from those commonly used in financial literature (Altman, 1968, pp. 589–609; Deakin, 1972, pp. 167–179; Ohlson, 1980, p. 109) or that have significant information content in the analysis of the financial situation of businesses. Statistical selection was based on the elimination of indicators characterized by very low diversification among the surveyed enterprises. The enterprises have been also surveyed in accordance to offered services(Fig.1). The most popular services are typical logistics services such as: forwarding, transport and storage. The least popular services are specific services conected with real transport.



*Figure1: Types and popularity of services in surveyed enterprises (source: own elaboration)*

Apart from financial indicators and types of offered services the enterprises have been researched due to means of transport applied and geographical scope of its activity. The TFL business base containing information on the elements of the business model used (types of services offered, range of activities, branches of transport used) and financial condition (financial indicators) served as a starting point for multidimensional static analysis using cluster analysis, k-means method and correspondence analysis. These multidimensional static analyses served as a tool for verifying the research hypothesis, and thus for the purpose of the study.

## 5. FINDINGS AND DISCUSSION

A set of 12 financial indicators was used to classify the companies surveyed with their use of cluster analysis. As a result of its application, a dendrogram was obtained, on the basis of which three group of enterprises were selected. In every cluster (CF), there are companies with a similar financial situation. Then, by means of k-means analysis, the average levels of financial ratios in the selected clusters were obtained as shown in the graph (Fig.2). This allowed for the exact characterization of the received clusters.

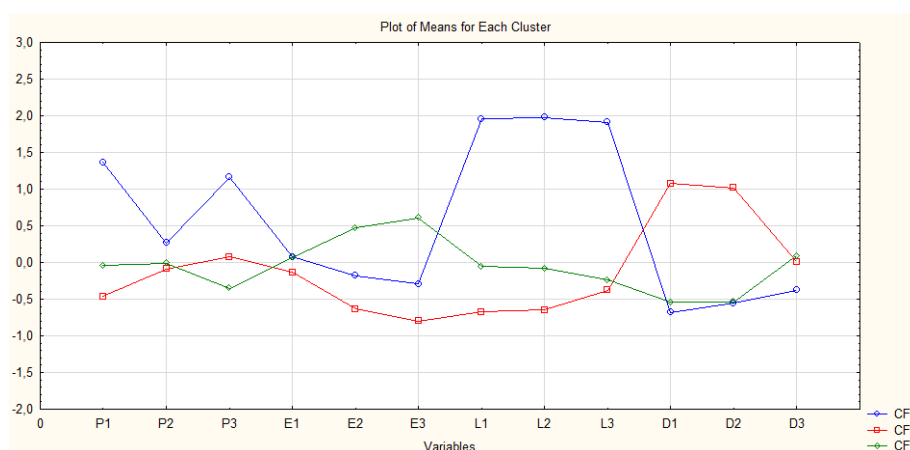


Figure2: The average values of financial indicators in selected (standardized data)  
(source: own elaboration)

Cluster 1 (CF1) is created by the companies with the best profitability, quite good performance expressed by turnover ratios, high liquidity ratios and low debt. It is therefore possible to refer to this cluster as the company with the best financial condition. Cluster 2 (CF2) included companies with the lowest profitability ratios, low levels of turnover, liquidity and the highest level of debt ratios. On that basis, it was assumed that the second concentration is comprised of companies with the worst financial condition. Cluster 3 (CF3) is characterized by average profitability, satisfactory liquidity, high efficiency (turnover rates) and low debt. These are, therefore, companies in a fairly good financial condition. Cluster analysis was also used to group the surveyed companies by type of services offered. Each company was assigned the presence or absence of each of 19 services. As a result, 52 companies, examined due to 19 dichotomous variables (with variants: yes, no), were grouped into three clusters (CS). In this case, a special algorithm of the k-means method was used to group the units because of the qualitative variables. Grouping results indicated the following group. Cluster 1 (CS1) - companies offering the largest number of varied services. It was assumed that these are business model companies: the leading TFL service provided (MB4). Cluster 2 (CS2) - the companies offering the least services, specializing in selected services, offering niche services. It is assumed that these forms are implemented by the business model: specialist, TFL niche service operator (MB3). Cluster 3 (CS3) – companies offering basic services, such as transport and

shipping. It was assumed that companies are implementing a business model: a traditional TFL service provider (MB2). Subsequent grouping of companies consisted in selecting similar groups due to the branches of transport used. To this end, companies were surveyed for the use or non-use of the following transport sectors: road, rail, air, sea, inland waterway, rail-road combined. This resulted in three clusters of companies: companies using mainly road transport in their operations (CT1), companies using road, rail and combined transport (CT2) and companies using all branches of transport (CT3).

## 6. CONSLUSION

Results obtained during grouping were used to examine the relationship between the specificity of the business model used and the financial condition of the companies. For this purpose, another method of multivariate statistics was used - analysis of correspondence. The variables concerning the numbers of cluster (CF, CS, CT) obtain during classifications and geographical scope of activity with variants: "Europe", "also outside Europe". The results are presented graphically (Fig. 3).

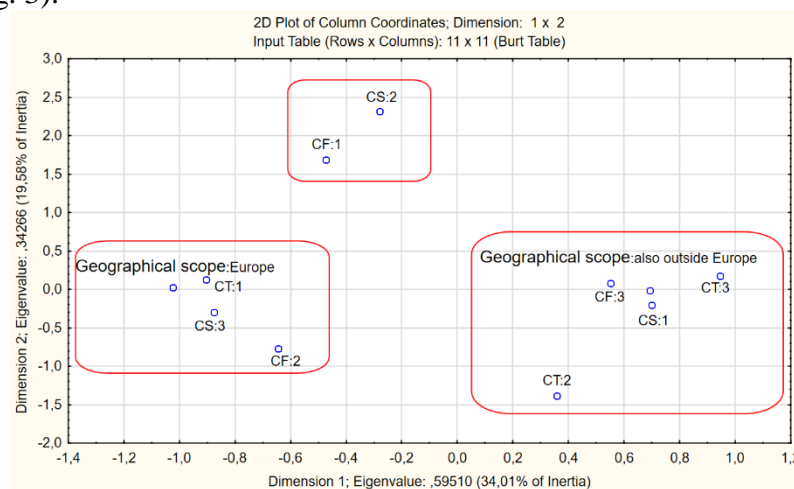


Figure3: Relationship between financial condition and elements of business model – correspondence analysis (source: own elaboration)

Enterprises (CS2), which offer, in addition to standard services (transport, storage and forwarding), additional services in the form of cargo consolidation, complex logistics solutions, terminal logistics, supply and distribution logistics, e-logistics, are characterized by the best financial standing (CF1). This group contains mainly those enterprises which represent the MB3 business model that is TFL niche service operator. Companies that offer the most variety of services (CS1) and use all their branches of transport (CT3) while also providing services outside Europe are the companies with good financial standing (CF3). Companies that offer only basic logistic services (CS3) and use only road transport in their activities (CT1), which is limited to Europe only, are companies in the weakest financial condition (CF2).

The outcome of the research have confirmed the relation between the kind of business model and the financial condition of enterprises of the TFL sector. Those enterprises which offer wider range of logistic services using various means of transportation and operating on a larger area, undoubtedly offer higher value not only for the customers but also for themselves. Their financial condition is an unquestionable proof of it. In addition, the results confirm that the used multidimensional statistical analysis methods (cluster analysis, k-means method, correspondence analysis) may be useful in the study of business models.



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## COURIER SERVICE QUALITY IN THE LIGHT OF SCIENTIFIC PUBLICATIONS

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### **ABSTRACT**

*The specific features of courier services caused that they have recently become a critical component of logistics systems and the supply chain of many manufacturing and service enterprises. The aim of study is a critical analysis of literature concerning the courier service quality and identification of theoretical but also methodological gaps which can become the subjects for potential further research. Although the express branch has developed rapidly worldwide and the service quality is one of the key priorities of courier operators, the overview of literature has shown that only a few authors focused their research interests on this aspect both in Poland and worldwide.*

**Keywords:** *courier service quality, CEP market (courier, express, parcel)*

### **1. INTRODUCTION**

The courier branch, known as the CEP market (courier, express, parcel) has been developing dynamically worldwide. Poland, where a fast-growing economy has adopted modern logistics practices, constitutes one of the fastest growing courier markets in Europe. Considering the period of 2011-2015, the total value of estimated revenues of the CEP market in Poland amounted to over 1 million euro in 2015 and was 32% higher than in 2011. Experts predict that the growth rate of the courier market in Poland will increase much faster in near future than worldwide - in the years of 2017-2019 the average annual increase in courier operators' revenues in Poland will reach 12% in comparison with 5.78% globally (Global courier, express and parcel market..., 2014; Urban et al., 2016). The specific features of courier services such as timeliness, speed and security of delivery caused that courier services have recently become a critical component of logistics systems and the supply chain of many manufacturing, commercial and service enterprises (Rutkowski et al., 2011; Marcysiak et al., 2013, pp. 29-38). Courier branch has developed rapidly, because of beneficial conditions of the market such as higher export activity, increasing popularity of e-commerce and highly-qualified staff. Furthermore, courier companies invest in modern technology and care about the quality of customer service. In condition of growing competition on courier market, service quality has recently become the key issue both for clients and operators. Therefore, searching and implementation of innovative ideas and solutions considering the service quality is the area of potential cooperation between practitioners and scientific researchers. Nevertheless, the overview of literature has shown that only a few authors focused their research interests on this aspect both in Poland and worldwide. The aim of study is a critical analysis of literature concerning the courier service quality and identification of theoretical but also methodological gaps. The article is based on the overview of Polish and foreign scientific publications concerning courier service quality especially in terms of methods measuring service quality but also the factors determining courier service quality.

### **2. CHARACTERISTICS OF COURIER SERVICE**

Courier service is usually understood as “fast, door to door, local or international, pickup and delivery service for high-value goods or urgently required documents” (Business Dictionary, 2017). Courier services are distinguished from ordinary mail or logistic services by features such as speed, security, tracking, specialization and individualization of services, the role of

courier and guaranteed short delivery time. Courier services are very diversified in terms of scope, delivery time, type of customer, the range of operator activities and the geographic area (Rutkowski et. al, 2011). The most typical among courier services are standard-size cargo such as documents or valuable electronic equipment. However, due to the varied and changing expectations of the customer, operators also offer personalized delivery of untypical postage requiring appropriate conditions, special packaging or short delivery time in terms of transport of fresh food, animals, plants, medicines or hazardous materials. Moreover, courier services often include added value - additional benefits for the customer for example defined delivery time with exact date and time, choice of payment method, pickup network, change of pickup location, and status reports of shipments delivery (Pliszka, 2008, p. 119; Rutkowski et al., 2011; Marcysiak et al., 2013, pp. 30-31). Due to the delivery time, couriers offer both standard delivery (economical) with longer but guaranteed delivery time (1-2 days) but also express delivery with defined short delivery time called as same-day-delivery or next-day-delivery to selected countries abroad or overnight delivery. Due to the prize of services, clients usually prefer the standard than premium services at a cost of longer delivery time. Due to the type of relationship between the recipient and the sender, the courier services can be divided into:

- B2B services - between institutional entities - commercial, service and production companies, which more often outsource full logistics service to courier operators;
- B2C services concerning the delivery from institutional entities to individual customers - an important part of courier services due to the increasing popularity of on-line shopping which generates a vast volume of deliveries. Operators offering courier services have to face specific challenges connected with e-commerce especially the dynamic management of place and time of delivery (called as last mile), the high volatility of demand for goods and the volume of shipments, delivery of non-standard goods, return service, (Kawa, 2014);
- C2X services - relate to individual shipments due to online shopping and return of consignments.

In the face of increasing popularity of e-commerce and changing demands of clients, operators and carriers continually adjust their offer looking for new idea and solutions to improve service quality. The most important trends include:

- applying advanced ICT technologies and technological innovations such as RFID, biotechnology, nanotechnology, robotics, intelligent systems, human-computer interface;
- applying new solutions due to the increased importance of e-commerce (last mile, same-day-delivery, e-fulfillment, crowdsourcing);
- 'specialization' of services - adjusting the offer to the needs of a particular industry or branch;
- providing comprehensive services and merging of orders (Rutkowski i in., 2008; Kawa, 2014).

Although service quality is one of the most important priorities for courier operators, the data indicate a growing number of complaints about courier services in Poland for recent years (Raport o stanie rynku pocztowego..., 2017). Comparing 2016 with 2015, the number of complaints increased by as much as 41,59% and the majority of the complaints concerned delaying and damage of shipments. Other explorations also confirm that courier companies should pay special attention on timeliness, security of consignments and customer service especially readiness to assist clients (Dyczkowska, 2005, pp.119–134; Frąś, pp. 297–317, 2013; Ingaldi, 2015, pp.1-8).

### 3. OVERVIEW OF SCIENTIFIC PUBLICATIONS CONSIDERING COURIER SERVICE QUALITY

In the theory of service quality, there is a lack of consensus on the conceptual definition of service quality that is why researchers have created various models of service quality and methods of its measuring (Seth et al., 2005, pp. 913-949; Duggal and Verma, 2013, p.135; Gulc, 2017b, pp. 36-45). As far as client's perspective is concerns, one of the most frequently used measurement tool of service quality is SERVQUAL method developed on the service quality model called the gap model. According to SERVQUAL the perceived quality is measured as the difference between service expectations and performance considering the following dimensions: tangibles, reliability, assurance, responsiveness, and empathy dimensions (Parasuraman, 1988, pp.12–40; Parasuraman et al., 1985, pp.41–50). However, it had its own share of criticisms mainly because of its general character as it does not take into account the specificity of various kinds of service. The critics claim that the authors of SERVQUAL method did not distinguish the difference between the satisfaction as the result of provided service and the service quality itself (Gulc, 2017b, pp. 36-45).

This section presents the critical overview of chosen publications concerning the academic achievement in the field of courier service quality especially methods of measuring service quality, dimensions of courier quality assessment in order to systematize the knowledge and indicate possible research gaps. Although, CEP branch has developed rapidly and the courier service quality is one of the key goals for courier operators on the competitive market, there are only a few articles concerning this issue both in the foreign and polish literature. As far as the methods of service quality are concerned, some of analysed studies are based on the most popular one - SERVQUAL or its modification. The research of Fraś was dedicated to the evaluation of perceived quality according to SERVQUAL scale. The research result were showed that the lowest rated criterion was responsiveness, and the highest - tangibility. The author did not characterize the research sample or explain if the questions in the survey were adopted into the specificity of courier service (Fraś, 2014, pp. 297–317).

Unlike the mentioned above research, Yee and Daud' s study was focused on how the dimensions of service quality (tangibility, reliability, assurance, responsiveness and empathy) affected the customers' satisfaction of parcel service delivery. It was found that tangibility, reliability and assurance had an impact on customer satisfaction, while empathy and responsiveness had no significant effect on customer satisfaction. However, the authors indicate some limitations and suggestions for further research - larger sample and repetition of the tests to observe changes over time (Yee, Daud, 2011, p. 1-10). Among analysed studies, there are also those which are focused on the assessment of service quality or customers' satisfaction considering the specific features of courier service. Some authors use rich scientific achievement considering LSQ scale but others try to develop original set of dimensions (tab. 1).

The study of Liu and Liu concerned the evaluation of the express logistics service quality in one of county in China on the basis of SERVQUAL but also Logistic Service Quality (LSQ) scale so the dimensions of service quality were adjusted to the specificity of analysed region. The five-factor-scale included the following dimensions: reliability, protection, security, empathy and perception. The research results showed that that customers were not satisfied with the service quality of express logistics in case of protection, reliability and empathy, which should demand a great deal of attention and efforts for courier companies.

The authors recommend that the scale developed in this study may need further testing and presented conclusions may not be generalized to other regions or country as the sample in this



study was drawn from particular region of China (Liu and Liu, 2014, pp. 542-546). Similarly to previous research, Tabassum et al. based their research on SERVQUAL method in its original form so the main objective of this study was to determine the gap in services offered by courier firms with special reference to expectations of customers and services performance. It should be outlined that a part of dimensions of service quality were more precisely formulated according to the specificity of courier service including: tangibility - physical appearance, materials, and branch locations; reliability - dependability, problem solving, and large network; responsiveness - prompt service, service timing, and right service; assurance - knowledge, safety, and courteousness; empathy - operating hours, specific needs, and personal attention. The highest gap was observed in case of reliability and responsiveness. This should be a matter of concern for courier firms and reflects the need for service improvements in these areas. When it comes to empathy, it is clear that customers do not attach much of the importance (Tabassum et al., 2014, pp. 1-11).

An original theoretical approach presents Zhang et al., who deliberated the method of courier quality service improvement called a Two-Stage Quality Functional Deployment (QFD on the basis of Parasurman, Zeithaml, Berry's model (gap model) and the fuzzy set theory (Parasuraman, 1988, pp.12-40). The aim of the method is to transform express service demand into the express service resources. The authors verified this method in express industry but suggest that it can be adopted to all branches of service sector. Unlike the mentioned above publications, the study of Zhang et al. was focused on eliminating factors, which influence negatively service quality within internal enterprise, namely the gap 1-4 in the model, but it did not verify the fifth gap measuring the difference between the perceived and experienced service quality (Zhang et al., 2012, p. 885-889).

The paper of Ho et al. applies the LSQ scale, using variables which include: timeliness, condition/accuracy of order, quality of information, and availability/quality of personnel in order to determine the most effective dimension in providing courier service quality to achieve customers' satisfaction in the existing market condition. A multiple regression analysis indicated that timeliness, which is usually one of the most important dimension, was replaced by condition/accuracy of order as courier services customers' priority. The snowball sample of individual respondents mainly students limits the generalizability of this study. Therefore, authors suggest the selection of respondents from various groups including working adults and business organisations who might provide a different scope of service quality expectations among logistic service providers (Ho et al., 2012, pp. 113-117).

Considering the moderating impact of age, gender and ethnicity on consumer behaviour, the purpose of study of Valaei et al. is to investigate courier service quality elements and the impact of perceived service quality on overall service quality. The study was built on SERVQUAL method, however the authors formulated the scale in the context of courier service labelled as 'CouQual' including the following determinants: promptness, convenience, accuracy, safety, and tangibles. The results implied that promptness, safety and convenience are the main contributors while accuracy and tangibility do not positively contribute to perceived service quality. The authors indicate some limitations of the study and conclusions for further research as there are other factors that need to be researched in logistic courier services for instance, economic efficiency, dependability, education and income in the courier industry delivery.

Finally, the authors emphasised that the model should be implied in different countries in order to make evidence how the results may differ cross-culturally (Valaei et al., 2016, p. 144-167).

In Polish literature, there are only a few papers concerning courier service quality. The research of Chodak, Latus and Prałat focuses on B2B service in order to assess the cooperation between courier companies/postal operator and e-shops. The clients assessed service quality with regard to timeliness, delivery damage and loss, but also courier attitude and time of settlement in case of cash payment. The clients were content more with courier service than postal service, which confirms that courier service market is a competitive branch, forcing operators to improve the service quality continually (Chodak et al. 2010, pp. 18-26). The further research on cooperation between courier service and on-line shops in Poland were conducted by Chodak, Chodak and Latus. The main parts of articles show the analysis concerning methods of delivering purchases in Polish online stores, evaluation of courier service quality and determinants of the choice of courier company (Chodak, Latus, 2011, pp. s. 16-22; Chodak, 2013, pp. 21-32).

The study of Dmowski et al. concerns the assessment of service in two courier companies from the perspective of business clients. The research focused on the following dimensions of service quality: knowledge and competence of staff, level of customer service, time of response and time of delivery, communication between courier companies and clients, the willingness and engagement to solve problems. The research has revealed that a high overall quality assessment depended on “soft” dimensions of service quality (Dmowski et al., 2013, pp. 167-179).). Dyczkowska’s paper presents an analysis of factors deciding on the choice of transport or courier company, evaluation of particular companies and delivery services by customers (individual and institutional) and the reasons of making complaints. Timeliness and staff competence was assessed highest and the reasons of making complaints were lateness and loss of delivery. The study involves the following limitations: research sample was very limited and the author did not explain which dimensions are related to service quality (Dyczkowska, 2005, p. 119-132).

The study of Ratajczak and Lorenc has a very fragmentary character as it focused on assessment of only one dimension of service quality - the time of delivery in one local courier company in Poland. The data showed that the level of timeliness was very differentiated each month of 2014 year. The authors also indicated the main reasons of clients’ complaints meaning timeliness, damage and loss of delivery. The research result cannot be generated as it covered one single company and presented only one aspect of the service quality, i.e. timeliness (Ratajczak and Lorenc, 2015, pp.1251-1261).

Inspired by the concept of aging of quality indicators outlined by Franceschini (Franceschini et al., 2000, pp. 49 – 59), the author of this paper took attempt to carry out a pilot research concerning the present and future expectations of clients using courier service. On the basis of literature and current trends on courier market, the author prepared a set of thirteen indicators determining the choice of courier service. The respondents, who were individual and business clients of courier companies in Poland assessed the weight of each criteria nowadays and in in the perspective of the next 5–10 years. In the future, the expectations of clients will increase in the case of all criteria, except for the price, the importance of which will decrease. The growing importance will be seen in the following dimensions: comprehensive service, service individualization, tele-technologies, and modern packaging solutions, that would be a precious tip for courier companies (Gulc, 2017a, pp. 36-45). To summarize the literature overview, the table 1 presenting the overview of quality dimensions confirms that researchers have not still deliberated one universal set of criteria to assess courier service quality and each author proposed a different point of view.

Some of them used general criteria based on the SERVQUAL scale (D) while others proposed more detailed ones considering the specificity of courier service for example timeliness,

accuracy of order or communication with clients (A–C; E–I). Most often were analysed technical dimensions connected with “hard” aspects of process of courier service such as timeliness and time of delivery but also condition and accuracy of order. However, functional dimensions called as “soft” aspects, which are nowadays more important for clients, were also taken into account, i.e. client service, availability and quality of personnel, time of response. Although the courier service constantly changes and offers clients modern technical innovations, the presented dimensions do not reflect current trends and expectations of clients.

*Table 1: Overview of dimensions of courier service quality*  
(author's elaboration on the basis of: **A** - Ho et al., 2012; **B** - Zhang et al. 2012; **C** - Dmowski et al., 2013; **D** - Frąś, 2014; Liu & Liu, 2014; Yee, Daud, 2011; Tabassum et al., 2014; **E** - Chodak et al. 2010; **F** - Ratajczak & Lorenc, 2015; **G** - Chodak, Latus, 2011; Chodak, 2013; **H** - Dyczkowska; **I** - Valaei et al., 2016).

Quality dimensions	Author								
	A	B	C	D	E	F	G	H	I
Technical dimensions									
Timeliness/time of delivery/promptness									
Condition/accuracy of order									
Quality of information									
Complexity of offer									
Reasonable and formal charges									
Small number of compliments									
Time of settlement in case of cash payment									
Tracking and choice of delivery hours									
Convenience									
Functional dimensions									
Client service									
Communication with clients									
Availability/quality of personnel									
Willingness and engagement of staff									
Time of response									
Staff competence									
Service quality									
SERVQUAL dimensions									
Reliability									
Empathy									
Responsiveness									
Assurance									
Tangibility									

In addition, the table 2 summarize critical overview of the chosen publications considering courier service quality. Almost all studies are quite recently conducted, which is essential in case of changing conditions on courier market. Among analysed researches, there are those conducted in Asian countries (Malesia, India and China) and in Poland. Most of them focus on B2B services while two of them on B2C, however three authors did not specified the respondents type. As far as the dimensions of service quality are concerned, some of analysed studies are based on traditional SERVQUAL scale, which is formulated general and does not take into the specific features of courier service (Liu & Liu, 2014; Tabassum et al., 2014; Yee, Daud, 2011). However, some authors use Logistic Service Quality scale (Ho et al., 2012) while others try to develop original set of dimensions regarding the specific features of courier service (Chodak et al. 2010; Chodak, Latus, 2011; Chodak, 2013; Dyczkowska, 2005; Dmowski et al., 2013; Valaei et al., 2016). The differences are also seen in case of the aim of studies: some of studies are focused on assessment of clients' satisfaction (Ho et al., 2012, Yee, Daud, 2011) while others on perceived quality (Chodak, Latus, 2011; Chodak, 2013; Chodak et al. 2010; Dmowski et al., 2013; Dyczkowska, 2005; Valaei et al., 2016) or measuring the gap between expected and perceived service quality (Liu, Liu, 2014; Tabassum et al., 2014). Moreover, the

results cannot be generalized because of limited research sample and local character (Ho et al., 2012; Liu & Liu, 2014; Ratajczak and Lorenc, 2015; Yee, Daud, 2011). Summing up, it is problematic to compare the research results as the studies are differentiated on account of quality dimensions (tab. 1), service quality scale, aim of research and type of service (tab.2). Moreover, the analysed studies confirm the conclusions of Furrer that the factors related to perceived service quality are associated with the culture of the country and in each country the results could be different, as national culture of each country is unique and non-identical to other nations (Furrer et al., 2000, pp.355–371). However, the presented research results can be taken into consideration both researcher and courier companies in order to develop and implement improvements of service quality.

*Table 2: Overview of scientific publications considering courier service quality*

Author	Service quality scale	Type of courier service/country	Aim of research	Research results
Yee, Daud, 2011	SERVQUAL	Non-defined Malesia	Assessment of customers' satisfaction	Tangibility, reliability and assurance has an impact on customer satisfaction; while empathy and responsiveness have no significant impact on customer satisfaction.
Ho et al., 2012	Logistic Service Quality (LSQ)	B2C Malesia	Assessment of customers' satisfaction	Timeliness, which is usually one of the most important dimension, was replaced by condition/accuracy of order as courier services customers' priority.
Tabassum et al., 2014	SERVQUAL	B2B India	Measurement of the gap between expected and perceived service quality	The highest gap was observed in case of reliability and responsiveness and this should be a matter of concern for courier firms
Liu, Liu, 2014	SERVQUAL and LSQ	Non-defined China	Measurement of the gap between expected and perceived service quality	The dimension of security achieved the highest weight while protection received the lowest. The respondents were dissatisfied with protection, reliability and empathy.
Valaei et al., 2016	CouQual model – based on SERVQUAL	Non-defined Malesia	Assessment of perceived service quality	Promptness, safety and convenience are the main contributors while accuracy and tangibility do not positively influence perceived service quality.
Dyczkowska, 2005	Author's own scale	B2B and B2C Poland	Assessment of perceived service quality and the factors deciding on the choice of transport or courier company	Timeliness and staff competence are assessed the highest and the reasons of making complaints are lateness and loss of delivery.
Dmowski et al., 2013	Author's own scale	B2B Poland	Assessment of perceived service quality	High overall quality assessment depended on staff knowledge and competence, fast reaction to complete orders and high engagement of company employees in solving current customer problems
Chodak, Latus, 2011; Chodak, 2013; Chodak et al. 2010	Author's own scale	B2B Poland	Assessment of perceived service quality and the factors deciding on the choice of courier company	Taking into account timeliness, delivery damage and loss, but also courier attitude and time of settlement of cash payment, courier services are assessed higher than postal ones. The determinants of choice of courier service are: timeliness and price.

#### 4. CONCLUSION AND PROPOSITION FOR FURTHER RESEARCH

Critical analysis of previous research allowed to infer the following conclusions:

- the courier market will develop dynamically in coming years primarily due to the increasing popularity of e-commerce and the courier services quality will be an important determinant of its development;

- so far the research carried out on courier services were often fragmentary and situational - they concern a narrow group of respondents (Ho et al., 2012, Dyczkowska, 2005), focus on the selected region of the country (Liu, Liu, 2014; Ratajczak, Lorenc, 2015) or only one factor was assessed by customers (Ratajczak, Lorenc, 2015);
- researchers distinguish a varied range of dimensions of the courier service quality but some of them are formulated in a general way based on SERVQUAL model (Frąś, 2014; Zhang et al., 2012; Yee, Daud, 2011) while others take into account the specificity of courier services (Ho et al., 2012; Zhang et al. 2012; Dmowski et al., 2013; Tabassum et al., 2014; Chodak et al. 2010; Ratajczak & Lorenc, 2015; Chodak, Latus, 2011; Chodak, 2013; Dyczkowska; Valaei et al., 2016);
- research concerning dimensions of courier service quality most often took into consideration the perspective of one of the stakeholders involved in courier services – the individual (Ho et al., 2012) or business clients ((Dmowski et al., 2013; Ho et al., 2012; Liu, Liu, 2014; Rutkowski et al. 2011; Ratajczak, Lorenc, 2015) omitting the perspective of organization - courier company;
- so far academic achievements were mainly focused on the identification of criteria/attributes/factors influencing the quality of courier services and the ways in which they can be evaluated without taking into account existing relationships between factors and functions they perform. However, the experts of service quality emphasize that examining the services quality from the customer's perspective (external quality) and organization (internal quality) and finding relationships between them can give new insights into quality in service and thus allows to formulate key quality directions of quality improvement (Urban, 2013);
- the rapid development of the e-commerce market requires a new approach to service quality that takes into account the perspective of three stakeholders participating in the courier delivery namely the business customer (online shop), the courier company and the final customer (individual client) but also their relationship with the environment (Fig.1.).

The author of this study is going to conduct research focused on the quality courier service operated between business and individual clients (B2C service) in e-commerce due to its increasing importance and the specificity of the service - the participation of three stakeholders having different demands towards service quality.

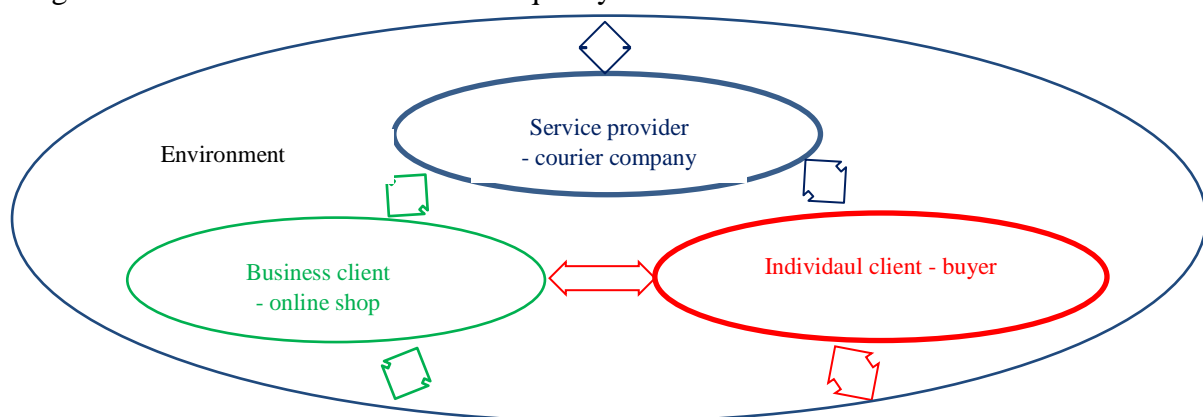


Figure 1: A network of stakeholders engaged in the process of courier service operating in e-commerce

Source: own study.

The aim of planned study will be the identification of the factors influencing the courier service quality in e-commerce and the relationships between them, taking into account the perspective of three stakeholders: service receivers – individual and business clients and service provider –



courier enterprise. In result of exploratory research, the author will elaborate the original relational model of system shaping courier services quality in e-commerce, which will constitute on one hand a theoretical contribution into science of management, but on the other - a practical tool facilitating implementation of quality improvement activities by courier companies.

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## RISK ASSESSMENT AS A FUNCTION OF INTEGRATED MANAGEMENT SYSTEMS – A CASE STUDY

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### ABSTRACT

*Risk management is considered to be an important aspect of good corporate management of a successful institution wherein the risk assessment itself represents a part of the process that provides identification of the threat and the evaluation of its impact on the performance of the organization. Risk assessment represents a systematic method of work activities monitoring, considering what could go wrong in the workplace, and deciding on appropriate control measures aimed at loss, damage or injury prevention. The goal of this method is to identify sensible measures to control workplace risks. Through analysis and risk assessment methodology via the FMEA (Failure Mode and Effect Analysis) method, this paper discusses an integrated management system with the emphasis on risk ranking for operation processes in the company providing public services.*

**Keywords:** FMEA method, integrated management system, risk assessment, workplace risk

### 1. INTRODUCTION

An organization has to fulfill several demands in order to survive in the market. One of them is to align its management system with appropriate standards. For the leadership of the organization, the biggest issue is to coordinate the management system with these different standards, while at the same time there are no major financial costs. This way of working is a huge challenge and task for any organization, as well as for the leadership itself. Operation and development of any organization requires properly coordinated activities for its leading and management. An appropriate management system is required, which will establish policy and goals, and thus ensure the realization of these goals (Melnik et al., 2003). In addition, emphasis should also be put on the safe execution of tasks in which organization is engaged. The fact is that there are various processes and operations where there is a risk, which, depending on their specifications may be high or low. Primarily, risk assessment is used to identify risky places and then, depending on the determined level of risk, adequate measures are taken to reduce the level of risk in these places. An essential prerequisite for carrying out working activities in a proper and safe manner, which minimizes the probability of any deviation, is the existence of adequate procedures and instructions, i.e. appropriate documentation which defines responsibilities and regulates precise rules that must be followed by all participants in the analyzed process (Vulanović, 2014).

### 2. INTEGRATED MANAGEMENT SYSTEMS - IMS

The latest concepts that organizations are discovering are: continuous improvement, self-assessment, customer retention and paying attention to what customers appreciate. However, we should not discard the old methods that can be used again. All concepts are important components of the system called the Integrated Management System – IMS. *Integration* means combining and setting up internal management systems into a single system, but not as separate components. In order for these systems to become an integral part of the management system of the company, there should be a compact connection between processes (BSI, 2012). IMS implies to a system in which the requirements of three specifications are met at the same time: ISO 9001 (Quality Management System), ISO 14001 (Environmental Management System) and OHSAS 18001 (Safety Management System for Health at Work). However, today the number of standards is growing in accordance with the needs, so it is necessary to meet the

requirements of information security, business continuity, IT management and other services ISO/IEC 27001, ISO 22301 and ISO/IEC 20000. For companies, this is an ideal situation to create a unified management system in which all these standards should be incorporated and entitled “integrated management system” (IMS). Thus, integrated requirements originate from the needs of the company to survive in the market and they become the input specification for the regulation of the business system. Due to the presence of risk analysis in all spheres of the organization, the idea was that the risk management incorporates the management system of an organization into IMS.

### **2.1. Risk management in IMS**

Risk management is an integral part of management decisions. In circumstances where there is a real risk of loss of human life, demolition, fire and financial damage, risk management ensures that limited resources (and they are always limited) are directed towards reducing the danger, or its complete elimination. Risk management allows the identification of potential risks and prediction of their occurrence, and undertakes adequate measures which minimize, mitigate or eliminate the risk. Risk management is not limited to the individual protection of people, assets or the environment, but also, as a universal tool can be utilized in the creation of IMS. In theory, the IMS is almost completely defined, while in practice it is at the beginning of its development and implementation (Karović & Komazec, 2010). The risk represents a potential problem. It occurs in all spheres of work of an organization, so it is therefore necessary to analyze it or, rather, manage it. According to ISO terminology, the risk is: “The combination of possibility (probability) of an event and its consequences”, and in some situation the risk is “a deviation from the anticipated”. Organizations are faced with various forms of risk, so the need arose for the existence of a management system which will specifically treat risks (Karović & Komazec, 2010).

### **2.2. Risk analysis implementation**

According to the standard of ISO “risk is a probability that some adverse event will occur as a result of some other event”. Also, risk can be defined as a probability of loss, damage, injury, etc. due to an adverse event. Thus, one can talk about series of conditional probabilities (Bosković, 2004):

- Probability of occurrence of initial event (for example, malfunction of the valve because of the poor maintenance);
- Probability of occurrence of adverse event (probability that at that time the pressure of the water vapor increases over normal state);
- Probability that a threat lasts long enough to break pipe/boiler;
- Probability that there are people in the area where the accident occurred in a moment when the pipe/boiler breaks, etc.

In addition to the probability of an adverse event, risk analysis involves assessment of consequences, which considers the effects on people, environment, property and finances. The procedure of risk analysis is well known and thoroughly documented in the scientific literature and bylaws such as Regulations on the procedure for risk assessment in the workplace and working environment (“Official Gazette of RS”, no. 72/06, 84/06, 30/10, 102/15). In these bylaws the procedures are principally defined, which create the space for every organization to define the risk assessment, taking into account their specificities, but at the same time respecting the generally accepted methods for risk analysis (Kesetović & Keković, 2008). Risk analysis is carried out by trained multidisciplinary team, comprised of people who are well acquainted with the working process, the properties of substances that occur in the process, the associated dangers and other technical parameters, and also the theory of company organization, laws, regulations and standards (Zivković, 2011).

### 2.3. FMEA model for implementation of risk assessment based IMS

FMEA (Failure Mode and Effect Analysis) analysis of failure modes and their consequences is a systematic method for identifying and preventing problems before they occur, both in products and processes. FMEA method is focused on the prevention of deviations, improving the safety and increasing satisfaction of customers, so the above mentioned term “failure” can be widely viewed as any kind of deviation (McDermott et al., 2009). FMEA does not require the use of complex statistical tools, and still can bring significant savings for the company. The main output after the implementation of FMEA methods is the estimated level of risk which is quantifiably expressed with risk priority number (RPN). RPN number is generally used for determining priority when defining and implementing appropriate measures in order to lower the risk (Carlson, 2014). FMEA method is mostly based on the experience, knowledge and ideas of team members, as well as on the input data they provide during the process of implementation of these methods. Companies must be prepared to provide the selected team enough time to do their job thoroughly. For the purpose of this study, FMEA matrix used for risk assessment is proposed by Vulcanović (2014).

## 3. CASE STUDY

### 3.1. Company description

The company profile discussed in this paper provides public services. Within this scope, the company also does designing, planning, a project management, construction, a project commissioning and maintenance of its infrastructure. These works are directed toward civil engineering, road works and construction, and construction of infrastructure for electric power supply. The company executes all works on construction and maintenance of local, regional and main roads as well as highways, and improves the existing electric power supply infrastructure for its clients. The company also improves the existing capacities, both electrical and construction infrastructure in order to upgrade performance and efficiency of its clients.

### 3.2. Application of FMEA method in the company

Based on identified operation processes in the company, given in Table 1, the risk assessment was done, i.e. the risk ranking as per FMEA method.

Table 1 gives processes and activities where some deviations regarding injuries and diseases at works are possible. The other deviations regarding both process quality and environment degradation are not considered.

*Table 1: A list of processes in the company (Own source)*

No.	Process
1	Market survey
2	Human resources management
3	Designing and technical control
4	Monitoring
5	Construction of facilities
6	Maintenance of roads
7	Production of asphalt
8	Machinery management
9	Storage
10	Managing of equipment, tools and PPE
11	Waste management



Risk ranking for all aforementioned company processes in presented in the following tables.

Table 2: Risk ranking by using FMEA matrix for the process under 1 (Own source)

Process: Market survey									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Propaganda and promotion	Injury due traffic accident with tragic outcome	10	Violation of traffic rules	5	Driver's training and using navigation system with audio warnings	2	100	2
				Drunk driving	3	Alcohol test	1	30	1
				Behavior of other traffic participants	3	Process is hard to be controlled	3	90	2

Table 3: Risk ranking by using FMEA matrix for the process under 2 (Own source)

Process: Human resources management									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Realization of the training	The training does not correspond to requirements – adequate knowledge has not been transferred which may result in poor performance, injuries at work or negative environmental impact	7	Poorly defined request for training	2	Review of request for training	2	28	1
				Trainers are not competent	4	Review of trainers' references	2	56	2

/Table following on the next page

Table 4: Risk ranking by using FMEA matrix for the process under 3 (Own source)

Process: Designing and technical control									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Detail Design preparation	Defects of musculoskeletal system due to long-lasting sitting in front of a computer	6	Working place does not have ergonomic design; a body is in non-physiological position	5	Comparing measurable characteristics of working place to ergonomic recommendations	2	60	2
		Cuts due to paper blade use	5	No protective measures	2	Periodical blade testing	2	20	1
		Consequences of stress (hypertension, insomnia, heart problems, etc.)	5	Work overload and great responsibility of work executors	8	Control of designer's work overload	2	80	2
2	Technical control and project verification	Verification of a project which has some omissions - possible consequences in safety of users and negative impact on environment during exploitation of the designed infrastructure	10	Lack of conscientiousness when verifying the project	3	Visual inspection of the process	2	60	2

Table 5: Risk ranking by using FMEA matrix for the process under 4 (Own source)

Process: Monitoring									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Monitoring	Monitoring failures – possible consequences in quality of facility, safety of users and negative impact on environment during exploitation of the facility	10	Incompetence of assigned Engineer	2	Review of Engineer's previous experience	2	40	1
				Irresponsibility and accidental omissions	2	Process is hard to be controlled	3	60	2

Table 6: Risk ranking by using FMEA matrix for the process under 5 (Own source)  
(Table continues on the next two /2/ pages)

Process: Construction of facilities									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Preparation for execution of works	Inadequate conditions for HSE at work and fire protection on the site – increased risk for injuries and fire	8	The study on HSE at work does not include all necessary elements	6	Checking a control list of elements included in the study	2	96	2
				Preparation of the site has not been done in accordance with the study	5	Checking execution of preparation works for providing protection	2	80	2
		Poor arrangement of the site (intersecting of people, machine and material courses) – increased risk of injuries and fire	8	Dynamic plan is not harmonized with conditions on the field	7	Overviewing all protection conditions at work and fire protection on the site	2	112	3
2	Execution of works	Hits and pinches due to use of construction machines	10	Inadequately trained machine operators	6	Periodical tests for operator's skills	2	120	3
				Failures of construction machines	5	Regular technical inspection and testing (attesting) for machines	2	100	2
				Inattention of executors – intersecting people and machines	8	Visual inspection / limited access to machine operating area	2	160	4
		Injuries (strokes and cuts) due to use of hand tools and working equipment	8	Workers are not trained for safe operation	6	Periodical check of skills	2	96	2
				Equipment is not safe for operation	5	Periodical checks of work equipment	2	80	2
		Same level falls	6	The site is untidy	8	Regular visit and cleaning of the site	2	96	2
		Falls from height	10	The site is not secured	7	Installation of protective fences where possible and their check	2	140	3

		Harmful effects on worker's respiratory system	6	Toxic asphalt fumes and exhaust fumes from transport vehicles and machines	10	Periodical medical checkups	2	120	3
		Burns and harmful effects of the heat	8	Inattention during management of hot asphalt and parts of equipment	8	Process is hard to be controlled	3	192	4
		Electric shock	10	Temporary electric installation is not appropriately secured	6	Periodical inspection of electric installations	2	120	3
			9	Workers are not trained for safe operation with electric equipment	5	Periodical check of skills	2	90	2
			10	Cutting or damage of underground or overhead lines due to inattention	7	Process is hard to be controlled	3	210	4
		Injuries and damage of musculoskeletal system	7	Hard physical work (severe strains, lifting and carrying weights)					
		Fire/explosion	10	Cutting / damage of gas pipelines or oil pipelines					
		Harmful effect of noise and vibrations	7	Personal protective equipment is not used	8	Everyday inspection	1	56	2
				Use of protective equipment for work at increased noise and vibrations levels	7	Periodical testing of equipment	2	98	2
3	Quality control of executed works	Injuries in laboratory technician during taking samples on the site	5	Inattention of executors – intersecting people and machines	4	Visual inspection / limited access to machine operating area	2	40	1
4	Preparation for inspection of a facility	Injuries and damage of musculoskeletal system during arrangement of the area	7	Hard physical work (severe strains, lifting and carrying weights)	10	Periodical check of skills for proper lifting and carrying weights	2	140	3
5	Closing the site	Injuries and damage of musculoskeletal system during removal of temporary facilities and installations	7	Hard physical work (severe strains, lifting and carrying weights)	9	Periodical check of skills for proper lifting and carrying weights	2	126	3

		Hits and pinches due to use transportation equipment during removal of temporary facilities and installations	10	Inattention of executors – intersecting people and machines	8	Visual inspection / limited access to machine operating area	2	160	4
6	Maintenance of a facility during defect notification period	Injuries during maintenance activities	7	Hard physical work (severe strains, lifting and carrying weights)	7	Periodical check of skills for proper lifting and carrying weights	2	98	2
		Hits and pinches due to use of machines during maintenance of a facility	10	Inattention of executors – intersecting people and machines	6	Visual inspection / limited access to machine operating area	2	120	3

Table 7: Risk ranking by using FMEA matrix for the process under 6 (Own source)  
(Table ends on the next page)

Process: Maintenance of roads									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/ elimination of deviation	Possibility of	RPN	Risk rank
1	Execution of works	Hits and pinches due to use of construction machines and transportation equipment	10	Poor skills and inattention during control of construction machines and transportation equipment	6	Periodic tests for operator's skills	2	120	3
		Fatal injury in case of traffic accident	10	Violation of traffic rules and driver's inattention	6	Periodical test of driver's skills	2	120	3
		Injuries (strokes and cuts) due to use of hand tools and work equipment	7	Worker do not wear adequate protection equipment	6	Periodical check for wearing protection equipment	2	84	2
		Same level falls	6	Inadequate footwear	7	Check of using footwear with anti-slip soles	2	84	2
		Harmful effects on worker's respiratory system	6	Toxic asphalt fumes and exhaust fumes from transport vehicles and machines	8	Periodical medical check ups	2	96	2
		Injuries and damage of musculoskeletal system	7	Hard physical work (severe strains, lifting and carrying weights)	9	Periodical check of skills for proper lifting and carrying weights	2	126	3



		Harmful effect of noise and vibrations	7	Personal protective equipment is not used	7	Periodical check	2	98	2
				Use of protective equipment for work at increased noise and vibrations levels	6	Periodical testing of equipment	2	84	2

Table 8: Risk ranking by using FMEA matrix for the process under 7 (Own source)  
(Table continues on the next two /2/ pages)

Process: Production of asphalt									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/ elimination of deviation	Possibility of	RPN	Risk rank
1	Preparation of production	Injuries of drivers when getting in/out from transportation equipment – breaks and sprains in limbs	6	Unsecured locations for entrance and exit of trucks on the vehicle scales	6	Safety inspection of treads	2	72	2
		Injuries of drivers and other visitors during their stay within the area of asphalt production site – burns, hits by tools and equipment, and similar	7	Inattention and moving within restricted area	8	Inspection of safe behavior within the asphalt production site	2	112	3
				Protective equipment is not used	7	Check for wearing helmets and adequate footwear	2	98	2
		Hits and pinches due to use of trucks and loaders in the asphalt production site	9	Unskilled operators for operating transportation equipment and machines	5	Periodic tests for operator's skills	2	90	2
			9	Failure on transportation equipment and machines	5	Regular technical inspection and testing of machines	2	90	2
			9	Inattention of executors – intersecting people and machines	9	Visual inspection / limited access to machine operating area	2	162	4
		Fire – possible many fatal outcomes	10	Inattention of executors during transfer of fuel oil from a tanker to a silo	7	Process is hard to be controlled	3	210	4
		Harmful effects on worker's respiratory system	5	Exhaust fumes from transportation equipment and machines	9	Periodical medical check ups	2	90	2

		Burns and harmful effects of the heat	8	Inattention during transfer of bitumen and handling with hot parts of the installation	8	Process is hard to be controlled	3	192	4
2	Production	Hits and pinches due to use of transportation equipment and machines	10	Unskilled operators for operating machines	6	Periodic tests for operator's skills	2	120	3
			10	Failure on transportation equipment and machines	5	Regular technical inspection and testing of machines	2	100	2
			10	Inattention of executors – intersecting people and machines	9	Visual inspection / limited access to machine operating area	2	180	4
		Same level falls	6	Untidy area of the asphalt production site	8	Regular visit and cleaning of the area	2	96	2
		Falls from height	10	Unsecured levels in the asphalt production site	7	Installation of protective fences where possible	2	140	3
		Harmful effects on worker's respiratory system	5	Toxic asphalt fumes and exhaust fumes from transport vehicles and machines	9	Periodical medical check ups	2	90	2
		Burns and harmful effects of the heat	8	Inattention during operation with hot parts of installation	8	Process is hard to be controlled	3	192	4
				Leakage of hot asphalt from a transfer basket or when unloaded to a truck	8	Limiting of moving areas	2	128	3
		Electric shock	10	Electrical installation is not appropriately secured	5	Periodical check of electrical installation	2	100	2
		Injuries during operation of rotating parts and conveyors (ripping/squeezing of limbs)	9	Rotation parts and conveyors are not appropriately secured	8	Installation of cords for stopping operation around all rotation parts and conveyors	2	144	3
		Fire and explosion	10	Leakage of inflammable components onto hot parts of the equipment	6	Process is hard to be controlled	3	180	4

3	Monitoring production process	Emergency during operation procedure – operation termination, fatal outcomes, long-term contamination	10	Process parameters (temperature, time, pressure) are not kept within admissible limits	3	Process parameters are continuously monitored with a computer	1	30	1
4	Laboratory analysis of the finished product	Injuries during taking of asphalt samples	5	Inattention of executors	4	Process is hard to be controlled	3	60	2

*Table 9: Risk ranking by using FMEA matrix for the process under 8 (Own source)*  
(Table ends on the next page)

Process: Machinery management									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Employing drivers and borrowing vehicles and equipment	Employing incompetent driver – potential danger for workers and traffic participants	9	Unsecured locations for entrance and exit of trucks on the vehicle scales	6	Safety inspection of treads	2	72	2
				Omission during review of candidate's documents	3	Check whether criteria for selecting new staff is met	2	54	2
		Impossible adequate reaction in case of state of emergency due to missing equipment (fire extinguisher, first aid kit, etc.)	10	Omission during check and borrowing of the equipment	6	Regular inspection of transportation equipment and equipment as per already defined check list	2	120	3
2	Exploitation of transportation equipment (TE)	Hits and pinches on the site due to use of transportation equipment	10	Unskilled operators for operating construction machines	6	Periodical check of driver's skills	2	120	3
			10	Failures on TE	6	Inspection of TE and regular servicing	2	120	3
			10	Inattention of executors – intersecting people and TE	8	Visual inspection / limited access to machine operating area	2	160	4
		Injuries due to traffic accident	9	Violation of traffic rules due to driver's inattention	6	Process is hard to be controlled	3	162	4
		Explosion / fire during transportation of	10	Inattention during load/unload of hazardous matters	6	Process is hard to be controlled	3	180	4

		explosive / inflammable matters		Violation of ADR rules due to driver's inattention	6	Process is hard to be controlled	3	180	4
3	Maintenance of TE	Injuries during operation with rotating and moving parts of the equipment (grinders, air guns, drills, jacks)	6	Inattention of an executor	8	Process is hard to be controlled	3	144	3
		Chemical hazards due to inhaling dust, fumes and hazardous vapors	7	Ventilation is not adequately designed	7	Periodical check of air quality in the workshop	2	98	2
		Physical hazards due to exposing to noise and vibrations	7	Protective equipment is not used	7	Periodical check of noise and vibration levels	2	98	2
		Hazards due to work within scanty area and long-term irregular body posture	6	Poor work organization	7	Visual inspection of the process	2	98	2
		Injuries due to manual transportation of the weights	7	Workers are not trained for safe lifting and carrying of weights	10	Periodical check of skills for proper lifting and carrying weights	2	140	3
		Burns due to contacts with hot motor parts or exhaust pipes	6	Protective equipment is not used	7	Check for use of protective equipment	2	84	2
		Injuries due to tire explosions	9	During tire compression, protection cage is not used	7	Check for use of protective cage	2	126	3

Table 10: Risk ranking by using FMEA matrix for the process under 9 (Own source)  
(Table ends on the next page)

Process: Storage									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/ elimination of deviation	Possibility of	RPN	Risk rank
1	Receipt of goods	Injuries during handling with procured equipment of hazardous chemicals, due to missing documents	7	Reception of goods without accompanying documents (manuals, safe operation and maintenance)	7	Checking documents as per already prepared check list	2	98	2

2	Storage of goods	Injuries and damage of musculoskeletal system during carrying and lifting goods	6	Adequate manipulation equipment is not used	5	Checking maximum weight and dimension of goods which can be carried and lifter manually	2	60	2
				Workers are not trained for safe lifting and carrying of weights	4	Periodical check of skills for proper lifting and carrying weights	2	48	1
		Hits due to falling goods from shelves in the storage	7	Unsafe disposal of goods onto the storage locations	7	Periodical check of skills for safe storing of goods	2	98	2
				Adequate manipulation equipment is not used	5	Checking maximum weight and dimension of goods which can be carried and lifter manually	2	70	2
		Fire/explosion of inflammable matters in the storage	9	Inflammable and explosive matters are not safely stored	4	Checking storage conditions	2	72	2
				Negligence and disobedience of prohibitions (smoking, use of open flame, etc.)	3	Checking storekeeper's conduct in accordance with rules (video surveillance)	2	54	2
		Spilling / evaporation of hazardous matters and contamination of soil / air	8	Hazardous matters are not safely stored	4	Checking storage conditions	2	64	2
				Careless handling	5	Process is hard to be controlled	3	120	3

Table 11: Risk ranking by using FMEA matrix for the process under 10 (Own source)  
(Table ends on the next page)

Process: Managing of equipment, tools and PPE									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Keeping records on equipment, tools and PPE	Worker's health is impaired due to missing required PPE	6	Omissions while keeping records on lending PPE	7	Internal control of records	2	84	2
2	Exploitation and regular maintenance	Injuries during operation with rotating and moving parts of the equipment (grinders, air guns, drills, jacks)	6	Inattention of an executor	8	Process is hard to be controlled	3	144	3



		Chemical hazards due to inhaling dust, fumes and hazardous vapors	7	Ventilation is not adequately designed	7	Periodical check of air quality in the workshop	2	98	2
		Physical hazards due to exposing to noise and vibrations	7	Protective equipment is not used	7	Periodical check of noise and vibration levels	2	98	2
3	Failure reporting	Injuries due to use of fault equipment	8	Employees do not report failure occurrence	6	Inspection of the equipment by the manager	2	96	2
4	Failure rectification	Minor injuries during failure rectification (cuts, scratches)	3	Inattention of an executor	7	Process is hard to be controlled	3	21	1

Table 12: Risk ranking by using FMEA matrix for the process under 11 (Own source)

Process: Waste management									
No.	Activity	Possible consequences of deviation	Severity of	Possible causes of deviation	Plausibility of	Measures for identification/elimination of deviation	Possibility of	RPN	Risk rank
1	Waste classification and disposal	Impaired health of a worker during classification and disposal of waste	4	Employees are not trained and there is no control	7	Testing of skills and supervision of work by the manager	2	56	2
2	Reuse / removal of waste	Impaired health of a worker due to non-use of required PPE during waste removal	4	Non-use of PPR due to irresponsibility of employees	7	Supervision of work by the manager	2	56	2
				PPE are not provided	3	Control of minimum PPE stocks	2	24	1

#### 4. CONSLUSION

Risk analysis is an important segment which is proved as inevitable wherever is to decrease uncertainty when making important decisions. Regarding standards for management system, well conducted analysis will include all aspects of business and it will provide guidelines for system filing, for reducing environmental impacts and impacts on employees at the same time, because work environment is a part of life environment. A procedure for conducting a risk analysis, analysis subjects, as well as tools for providing valid information on existence of risks, are all proscribed by various legal documents, which depends on the field where risk is being assessed. Organizations which have separately accepted all or some of the existing systems should take into account a possibility to create IMS from these systems. Integration brings possibility for essential improvement of business efficiency and quality of products and/or services, as well as improvement of processes related to environment, health protection and health and safety at work. Moreover, it helps an organization to clearly define its aims and business strategy, stimulate innovations and creativity, etc. However, it should be considered that, in addition to all possibilities given by IMS, a process of creation, maintenance and development of IMS is not easy at all. The most important segment or factor which affects creation of IMS is risks in different spheres in both life and work. For successful business and for improving performances of someone's organization to a higher level, management must harmonize business processes and executed activities with business goals by continuous monitoring, measuring and controlling of business performances.

Moreover, it is necessary that all project participants put their efforts in order to enable the installed system to help business promotion, to reduce occurrence of accidents and decrease of risk because this is what contributes to continuous promotion and integration of management system is achieved. Risk assessment results can be used for defining additional measures for mitigation of the risk. Creation of data base with all potential deviations, their possible consequences, appurtenant risks and applied measures, which every organization should prepare for itself, would facilitate organization risk management to a great extent. Accordingly, implementation of integrated systems in protection can reflect on safety features because it reduces incident rate, and consequently reduces risks for injuries and possible damages. At the same time, work conditions are improved, and this further grows motivation in employees and reduces their absence from work; on market competition, which actualize a positive influence of companies on the market, reflects high reputation among other companies, keeps at high level of productivity and innovation; as well as on economic and financial features, it can have a positive influence on good sale, high profit and profitability.

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## MARKETING ASPECTS OF AN INNOVATIVE INVESTMENT PROJECT - CASE STUDY ANALYSIS

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### **ABSTRACT**

*The main aim of the article is identification and description of the scope of marketing activity during innovative investment project. Today innovation is becoming an integral part of the functioning and development of every organization. Marketing stimulates the creativity of the enterprise and motivates research and development departments to develop new technologies and products. The presented conclusions have been supported by the results of the analysis carried out in 2014 and connected to the assessment of an innovative undertaking concerning the implementation of new technology, namely RFID. The realization of this task was accepted by a company which has been the subject of the analysis mentioned above and whose main area of activity includes the development and production of systems for the identification of farm animals as well as systems for the control of industrial processes.*

**Keywords:** *research and development activity, marketing, innovations, investment process investment project*

### **1. INTRODUCTION**

The main aim of the article is identification and description of the scope of marketing activity during innovative investment project. Today innovation is becoming an integral part of the functioning and development of every organization. Marketing stimulates the creativity of the enterprise and motivates research and development departments to develop new technologies and products. Implementation of research and development activities should be based on a market analysis and supported by knowledge regarding the needs of target markets in both B2B and B2C relationships. This means that the enterprise cannot conduct development activities relying solely on the basis of intellectual and technological capital which it possesses. It has to remain aware that the knowledge gained and processed through research and development activities must be useful from the perspective of customers. The enterprise should evaluate the potential of the market on the basis of both ex-post and ex-ante analyses. The presented conclusions have been supported by the results of the analysis carried out in 2014 and connected to the assessment of an innovative undertaking concerning the implementation of new technology, namely RFID. The realization of this task was accepted by a company which has been the subject of the analysis mentioned above and whose main area of activity includes the development and production of systems for the identification of farm animals as well as systems for the control of industrial processes.

### **2. MARKETING AND THE PROCESS OF DEVELOPING AND IMPLEMENTING AN INNOVATIVE INVESTMENT PROJECT – THEORETICAL ANALYSIS**

An investment process includes all activity essential for the realization of a given investment and is always connected with the realization of that particular investment project. The investment process and, therefore, all investment projects become an integral element in the operation of a modern business focused on innovation based development. The realization of an investment project consists of the following phases (Grzyl, 2013, pp.593-596):

- the pre-investment phase,
- the planning and design phase,
- the task contracting phase,

- the investment realization phase,
- the investment exploitation phase.

Each phase depends on the completion of pre-defined tasks which are crucial for the correct progression of the process. An investment project is subject to risk that is reduced when an enterprise has at its disposal knowledge concerning internal factors and the environment by which it is constrained. As a result, decisions related to the realization of an investment project can occur under the following conditions:

- Certainty (the decision maker knows the state of the environment within which the enterprise operates),
- Risk (the decision maker knows the probability for the occurrence of various states of the environment within which the enterprise operates),
- Uncertainty (the decision maker does not know the probability for the occurrence of various states of the environment within which the enterprise operates meaning he is not aware of every variant and risks connected to each of them nor probable consequences of the choices he makes),
- Incomplete information (the decision maker does not possess knowledge regarding all possible variants occurring in the environment within which the enterprises operates and/or possible decisions and their results).

In practice the management of an investment project is connected to a permanent process of making decisions regarding selecting the best possible action available. It is a dynamic process and because of the diversity of determining factors it is connected with considerable risk (Grzyl, 2013, p.593). Nowadays a decision to initiate an investment project as well as its implementation hinges on market knowledge. The main reason for the initiation of new investments as well as the improvement of existing ones is the customer and his needs. In the process during which an enterprise makes a decision to launch a new investment project the customer plays a two-fold role – he participates in its start as well as at its end (see Figure 1). It is his needs which become the main premise for the initiation of innovative activities and it is the customer who (most often indirectly) assesses the effectiveness of this process.



*Figure 1: The customer within the investment process (designed by the author)*

The inclusion of the customer into the investment process confirms the fact that the realization of the marketing function within an enterprise does not solely depend on the improvement of the sphere connected with commerce and promotion but also permeates the sphere linked to production and the implementation of new technologies. According to the concept of modern marketing engineers who do not possess adequate knowledge regarding the market are not capable of creating products or technology which will add to customer satisfaction. The assumption of the market perspective during the analysis of the investment process leads to the pursuit of relations between innovation and customer satisfaction. In today's market it is impossible to build lasting relationships with customers without innovations (Toma et al., 2014,

pp. 323-331) thanks to which customers gain added value, new products as well as experience new technologies (Dobiegala-Korona, 2010, pp. 229-238). However, it must be stressed that as the result of the realization of the investment process the customers may come to control and use products which fulfill their needs more completely but the creation of such products will not be possible without gaining the knowledge which those customers possess (Mikula, 2006, pg. 174). In today's reality the customer is not only the user but most of all the creator or co-creator of ideas for new product or technologies (Mahr et al., 2014, pp.599-615). The development of a new product is an important element of the contemporary marketing concept seen as a certain set of actions and activities connected to the creation of new value for the customer. This mainly concerns the company's activity in areas including (Galli, Kaviani, 2017, p.16): generating ideas for new products, market research, offer positioning or new product testing. At the same time it should be stressed that, within current market conditions, not being able to adjust to the needs of target markets even with the utilization of advanced promotional activity results in defeat and increases the risk of failure. As has been shown through research (Li et al., 2015, pp. 216-218) customers focused on innovative products purchase them more often but only when they see them as unique. Only new products which fulfill this condition exert a positive stimulus for purchasing them and may contribute to the creation of a lasting relationship between the consumer and the producer.



*Figure 2: The marketing dimensions of an investment projects (designed by the author)*

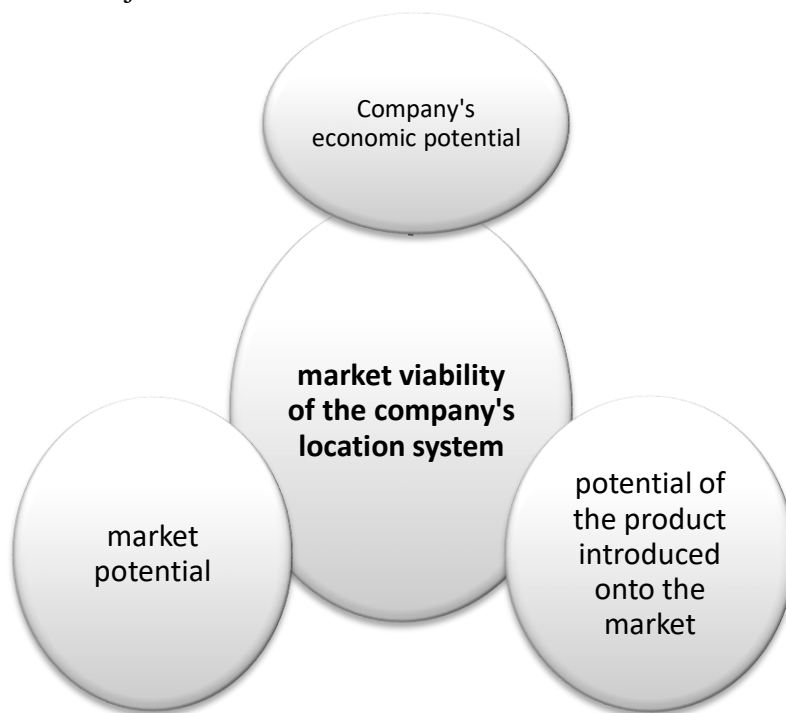
At present management science emphasizes the "holistic" approach to innovative ventures which stresses that even the most perfect technological concept is not enough to ensure the success of an investment process (see Figure 2). It should include the simultaneous and parallel combination of the technological aspect with the creation of new marketing strategies, development of new channels of distribution and even making changes to the company's organizational structure (Vega-Jurado et al., 2015, p.89). This type of approach facilitates focusing on attaining desired effects of an investment process oriented at potential consumers and not focused solely on production.

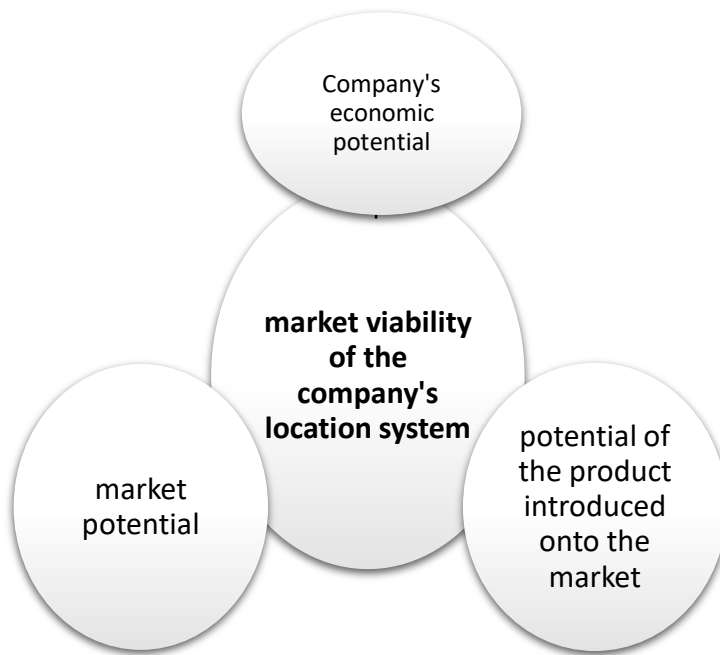


### 3. METHODOLOGY

The research method used to fulfill the needs of this article was the case study. This method is commonly used by management science since it allows analysis of multiple variables and attributes as well as the clarification of particular phenomena from various perspectives (por. Zainal, 2007). The subject of analysis consisted of an innovative project realized in 2014 by an enterprise located in North-East Poland whose operations consist of introducing to the market products improving the functioning of modern agricultural businesses. The main aim of the company related to the realization of the investment project was to gain a strong presence on the market of object identification using RFID technology as well as on the broadly understood automation of the agricultural industry. The assessment of the project was completed by a panel of experts lead by the author of this article. The realization of the investment project was connected with the consideration of a number of various determinants the most significant of which included (see Figure 3):

- the company's economic potential – defining its ability to initiate investment activity in regard to the development of a new product and its introduction to the market,
- market potential – defining the buying power of consumers as well as the strong and weak points of competition,
- product potential – defining the attributes of the system facilitating the identification and location of objects.





*Figure 3 Conditions having the greatest influence on market viability of the identification and location system developed by the company (designed by the author)*

The assessment of the investment project required the utilization of diverse research methods whose selection resulted from the following presumptions:

- the high level of innovativeness of the product being introduced to the market,
- the character of both the actual as well as the potential target markets with special consideration for farmers as the main target of the developed technological solution,
- the dual context in the development of economic aspects of the system for the identification and location of objects requiring not only the assessment of the internal potential of the enterprise but also the comparison of its economic capabilities to the abilities of the competition,
- the diversity of possible uses for the product being introduced,
- market organization in regard to mobile and location systems in relation to both objects as well as persons,
- changes in the social and business spheres focused, on the one hand, on taking advantage of mobile systems and computerization but on the other not having adequate knowledge about them.

Taking into account the presumptions listed above the research goal realization was based on the following three foundations (see Figure 4):

- desk research analysis,
- economic analysis,
- qualitative analysis.

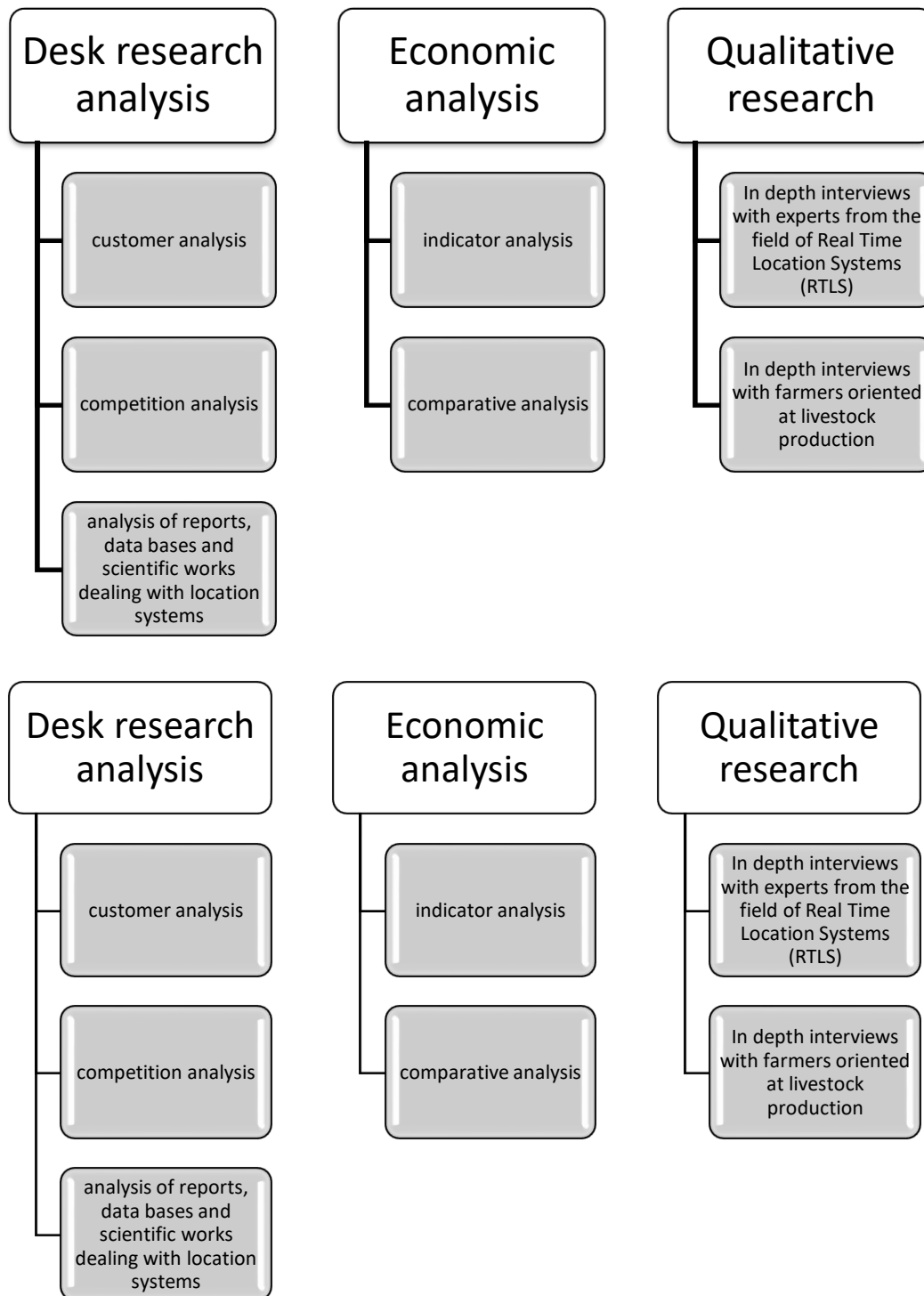


Figure 4: Foundations of the research process (designed by the author)

The research process had several stages. The first stage consisted of becoming familiar with materials made available by the company being studied. Next, an analysis of publications and various materials concerning the development of similar innovational products in Poland and around the world was performed. Based on those and on information contained in available data bases, analyses of competition and customers using the subject-oriented approach, the geographic approach and market segments were performed. At the same time an analysis of the economic capabilities of the company being studied connected to the realization of the

implementation process of research activities was initiated. On the basis of desk research and economic analysis the formulation of lists of expert questions were prepared and then distributed among dedicated respondents. IDIs were conducted by 20 experts performing market assessment of perspectives of introducing a new product onto the market. The selection of study participants was deliberate. The obtained research material allowed the formulation of conclusions and recommendation for the company's innovative project considering the dual context of accounting and marketing aspects in the implementation of development work (Dyhdalewicz, Widelska, 2016, pp.430-438). Conclusions focused solely on the assessment of the marketing context of the innovative project being realized.

#### **4. RESULTS OF ANALYSIS**

Completed research allowed the identification of marketing related factors determining the course of the investment process resulting in the market implementation of an RFID system, the new product. Marketing factors which favor the implementation of the process included:

- civilization and social development based on mobile systems,
- computerization of society and business,
- favorable structure of agricultural production of which livestock production is an important part,
- the reduction of the share of traditional farming in favor of innovational livestock and crop production,
- favorable change in the age of those running agricultural production with most agricultural businesses operated by young farmers (innovators) who are more accepting of innovation,
- diversity in the fields and target markets expressing demand for location systems due to its multiple varied applications,
- locating systems are still showing an upward trend which favors intensified sales through both B2B as well as B2C relationships,
- market concentration of locating system related products and good market organization creates greater ease for operating within these structures,
- unsaturated national market and low popularity of these types of systems among companies and agricultural producers in Poland,
- the existence of a number of relationships which could favor intensified sales of these types of systems by influencing opinion leaders (the relationship between vets and farmers),
- the possibility to find additional market niches, for example, in security systems,
- the possibility for obtaining external financing for the development of product innovations,
- locating systems are currently the object of scientific interest which favors the popularization of knowledge about them becoming an important promotional tool.

Factors which limit the process of market implementation include:

- a low level of knowledge concerning locating systems among main target groups, most of all farmers,
- dissatisfactory level in the recognition of the brand of the company among potential target groups,
- market development success is greatly dependent on marketing expenditures connected with expanding the product line,
- strong competition,
- parallel expansion into the market of many companies both in regard to the Polish market as well as to foreign ones,

- diverse expectations regarding new technologies among potential customers resulting in the need for multidimensional product improvement,
- short life cycle of innovative products,
- low level of trust to innovative products among farmers,
- greater focus of farmers on current rather than future development of their businesses,
- the development of regional smart specializations within food production industry including agricultural production.

## 5. CONCLUSION

In conclusion investment process and investment projects are not an isolated marketing category but rather holds a special position in the area of marketing activity connected with the development of new products but also in gathering and processing of knowledge about customers and from customers. Marketing stimulates the creativity of the enterprise and motivates research and development departments to develop new technologies and products. An enterprise cannot make the conducting the development activities dependent on solely on the basis of the owned intellectual and technological capital. It is aware that the processed and generated knowledge in the form of research and development activities must be useful from the perspective of customers. The enterprise evaluates the potential of the market based on both ex post analysis, as well as the ex-ante analysis.

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## THE IMPACT OF THE PSYCHOLOGICAL PRICE ON CONSUMER'S BEHAVIOR

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### ABSTRACT

*Turbulent market environment imposes new conditions of market behaviour. Hypercompetition directs the focus of enterprises towards the analysis of each individual consumer. In the mentioned environment, customer relationship management is the key feature of competitiveness. Therefore, enterprises focus not only on the research of a target group of customers, but also on the detailed analysis of competition and market conditions with the aim of determining appropriate prices of their own products or services. The mentioned factors influence price setting. Moreover, each numerical mark in the price has symbolic and visual importance, which should be thoroughly considered while setting the price. In addition to the following statement, enterprises use additional marketing tools for price setting. They also use the aspects of psychological price setting in order to make the price of a product or service more attractive to the consumer. Therefore, it is necessary to analyse the way in which the psychological price influences consumer behaviour and product or service purchase decision-making. The key hypothesis of this paper is: 'Psychological price has a significant influence on consumer behaviour and on purchase decision-making. Research of the impact of the psychological price on consumer's behaviour in practice was carried out with the aim of analysing the above mentioned issue on the market. The research was conducted via questionnaire on the sample of 100 participants. Through the offered questions, the participants showed how they perceive both the price and the importance of the price in product or service purchase decision-making process. The results of the carried out analysis show the importance of the impact of price on consumer's purchase decision-making, as well as strong impact of the psychological price on guiding consumer decisions.*

**Keywords:** consumer's behaviour, consumer's decision, price, psychological price

### 1. INTRODUCTION

Price is an inevitable part of a consumer's everyday life, which is perceived from two sides. One side determines the price, and the other accepts the price. Therefore, it is all about the seller and consumer. Price is a very interesting element that everyone encounters, and people as consumers are often not aware of the influence it has on them, that is, on their decisions. On the other hand, they are sometimes not aware of the meaning of a certain price and why a certain price is expressed by a specific amount. The subject of this paper is the impact of the psychological price on consumer behavior. The paper explains how consumers perceive prices, how it affects their decisions and what its role is in consumer decision-making process. Consumer price awareness is a very relevant field of research for all suppliers on the market because there are always and everywhere present two types of consumers, those who are price

conscious and those who are not. From the point of view of suppliers, it is crucial to determine product or service prices that are acceptable to the both groups of consumers. Therefore, the focus of this paper is to show the results of analysis of the impact of the psychological price on the consumer behavior. The aim of the research was to determine how important the price is for the consumers while purchasing certain products, that is, how much an average consumer is willing to pay for a specific category of products.

## **2. THE IMPORTANCE OF PRICES IN THE MARKETING MIX**

Great importance of marketing is clearly seen in the market economy, which implies that marketing goals cannot be achieved without the marketing mix (Tolušić, Zmaić, Deže, 2002:785), on a strategic, tactical and even on operational level (Lončarić, 2009:9). Therefore, creating the marketing strategy means achieving a balance between elements that are used to achieve the company's goals and satisfy buyers' needs and desires (Paliaga, Bašić, Strunje, 2010:215) with the aim of gaining competitive advantage (Zuber, Mandić, 2013:190), as well as getting desired reaction on the target market (Kotler, Wong, Saunders, Armstrong, 2007:34). The marketing mix includes four variables: product, distribution, promotion and price. Among the mentioned variables, it can be seen that the most elastic variable is the price (Kotler, Keller, Martinović, 2014:383) and it should be observed with most interest. However, buyers demand more from price by analyzing their own cost of obtaining, using and disposing of the product and appropriate availability of a product or service (Kotler, 2006). That is why a price is not only a number, 'the price appears in various forms and has many functions' (Kotler, Keller, Martinović, 2014:383). The difference between the price and other areas of the marketing mix is that the price generates revenue, while other elements create expenses. 'Traditionally, the product price is determined by taking into account market demand, production expenses and competitor's prices on the market' (Lončarić, 2009:11), which is why 'companies strive to assess the impact of the price increase on the profit' (Kotler, 2006:109). It is important to distinguish the desired and achieved price from the point of view of sellers. While determining the prices, a great number of companies determine it based on expenses. However, on the current market, increasing importance is given to determining the price based on perceived value. So, it can be stated that the basis for price setting is the product's value assessed by the buyer (Lončarić, 2009:12). In other words, the price is primarily seen as perceived value and potential 'consumer surplus' that a user of product or service will achieve (Kotler, 2006). Hence, prices must be consistent with the company's marketing strategy, but also with the needs of target market and brand positioning (Kotler, Keller, Martinović, 2014).

## **3. ELEMENTS OF PRICE SETTING**

Before creating the pricing strategy, a company must conduct a detailed research of the elements that directly influence the price level of their products/services. The said statement implies that the company must know and understand the market on which it wants to sell its products (buyers, suppliers, competition, substitutes), and continuously analyze the dynamics of changes on the chosen market in order to adjust to the occurred changes in time. It is necessary to determine from buyers' point of view the optimal combination of overall product or service benefit and the price they pay for it (Previšić, Ozretić Došen, 2007:183). Internal and external factors influence the company's decisions in determining the pricing strategy (Kotler, Wong, Saunders, Armstrong, 2007:666). Internal factors in price setting include marketing goals, the marketing mix strategy, expenses and organization, while external factors include the nature of the market and demand, competition and other surrounding elements (Kotler, Wong, Saunders, Armstrong, 2007). Internal factors are primarily focused on achieving company's goals and product positioning (from the pricing aspect) into the consumer's perception (Kotler, Wong, Saunders, Armstrong, 2007).

The company is capable of doing business as long as prices cover variables and a part of fixed expenses. Profit maximization is related to the market share because companies believe that bigger sales volume will lead to lower expenses per unit and to higher long-term profit (Kotler and Keller, 2008:438). With this aim in mind, companies set price levels as low as possible assuming that the market is price sensitive, and that such a strategy will cause bigger demand on the market. On the other hand, some companies use price skimming strategy and set very high pricing levels trying to achieve a higher level in consumers' perception. Although the price is an important factor in product positioning, it is crucial to consider the entire marketing mix in price setting. Consumers rarely buy a product only for its price, 'they look for product and service offers that give them the biggest value in terms of given benefits for the paid price' (Kotler, Wong, Saunders, Armstrong, 2007:670). Expenses determine the lower limit of the product price (Kotler, Wong, Saunders, Armstrong, 2007) while covering the expenses of production, distribution and selling, with the return for the invested effort and risk. However, along with expenses as the key internal factor in price setting, various external factors influence the pricing level of the product or service. External factors are beyond company's control. That is why the success or failure of every company depends firstly on the management ability to assess current and future events and to react accordingly (Rončević, 2006:756). External factors primarily mean the market itself. Expenses determine lower limit of product price, while the market and demand determine upper limit of the product price. Before marketing experts determine the price, they have to carefully analyze the relationship between the product price and demand for it. 'Efficient price setting oriented by buyers implies understanding the value that consumers attribute to the benefits that a product gives them, and setting the price appropriate to this value' (Kotler, Wong, Saunders, Armstrong, 2007:674). In the market research, that is, in qualitative customer research, sellers apply methods that are in psychology called motives research (Pavlek, 2008). 'However, motives often express self-justification for the act of purchasing, so it is not so easy to reach subconscious which greatly determines consumer preferences, because in their responses they will mention rational reasons for purchasing something' (Pavlek, 2008:171). It is quite difficult for the company to measure the values that consumers attribute to the product, although it should be taken into account that consumers hold onto those values while assessing the product price. If consumers believe, that is, perceive that the product price is too high, they will not buy it. If the situation is the opposite, the consumer will buy the product, but in that case there is profit loss for the seller. Not all consumers attribute the same value to various products. Different consumers attribute different values to products and then marketing experts have to use various pricing strategies for different market segments. Not every price that company demands for a certain product has the same level of demand. 'Historically speaking, since 1950 demand has been greater than supply, while in another period which is valid also today, supply is becoming stronger than demand, which leads to competitive struggle and price reduction' (Bilen, 2007:213). 'The increase of sales volume per sold item is the driving force behind many marketing activities' (Kotler, Wong, Saunders, Armstrong, 2007:677). Therefore, many marketing strategies focus on adjusting the prices in order to maximize their results.

#### **4. PRICE ADJUSTMENT STRATEGIES**

Companies have to determine the price adjustment strategy, not just set an individual price of a product or service. It implies that the strategy includes different products and reflects differences in geographic demand, expenses, differences in market segments and other factors (Kotler, 1999). It is possible to analyze seven price adjustment strategies (price discounts and rewards, price discrimination, promotional pricing, value-based pricing, international prices and psychological prices) (Kotler, Wong, Saunders, Armstrong, 2007).

In doing so, companies must be careful because profit can be less than the planned, and also products with long-term discounts can be perceived as less valuable by the target group. Unfortunately, most consumers are not aware of what extent they are the victims of companies' pricing strategies (Kotler, Keller, Martinović, 2014). In order to make pricing strategies more efficient, there has to be opportunity to divide the market to segments, and in the segments there have to be different levels of demand (Kotler, Wong, Saunders, Armstrong, 2007). In certain conditions, companies are obliged to set the product price below regular prices or even below expenses. Too frequent use of marketing pricing strategies can create 'discount-prone' buyers who will buy only when a certain brand is on sale. 'Many economists assume that consumers are 'price recipients' and that they accept prices 'by the minimum value', that is, they accept them as being 'set' (Kotler and Keller, 2008:434). Consumers actively process information about prices and interpret prices based on their previous knowledge obtained from past shopping experiences, from formal communication, such as advertising and brochures, from informal communication, such as information from friends and family and based on internet sources. Consumers make buying decisions based on how they perceive the price and on what is currently considered a realistic price. 'Understanding how consumers create their perception about prices is an important marketing priority' (Kotler and Keller, 2008:434). The consumer is the one that decides whether to buy a certain product or not. 'Decision-making process, however, is much broader and extensive because it happens not only on all levels (individual, group, organization and meta-organization), but also in all areas of human activities - from everyday life, consumption to organization and management, which gives it a particular importance and demands interdisciplinary approach in its research and understanding' (Buljan Šiber, 2005:459). The manufacturer should recognize how consumers perceive the price of the product or service. Therefore, the psychological aspect of the price has major impact on setting the pricing level. (Mazumdar, Raj, Sinha, 2005).

## **5. THE PSYCHOLOGICAL PRICES**

Using the psychological prices, sellers study the psychology of prices, not only their economic variable (Kotler, Wong, Saunders, Armstrong, 2007:697). 'Consumers do not look at the price only as an expense, that is 'sacrifice' that they have to endure in order to obtain a certain product or service, but they rather see the price as an indicator of product or service quality' (Monroe, 2003:159). Consumers often perceive the more expensive product as being more quality, which in reality is not always true (Kotler, Wong, Saunders, Armstrong, 2007). Prices are based on individual choice of decisions that consumers make every day. The task of marketing is to coordinate all the aspects of business (products, advertising, after-sales services, etc.) with the aim of satisfying all the consumer's needs (Foxall, Goldsmith, Brown, 2007:3). The success of the company definitely depends on consumers, their acceptance of the product, that is, service and how much they are willing to pay for it. Many factors influence consumer purchase decision-making. So, sellers skillfully manage the prices which have the impact on consumer's perception and psyche. These factors from the consumer's surroundings (culture, society, family, social groups...) are interconnected, but they are also interconnected with the processes that primarily take place within the individual (personal factors – attitudes, personality, knowledge..., mental processes – motivation, learning, memorizing) and they influence the consumer's decision' (Buljan Šiber, 2005:460). Moreover, consumers continuously and actively process the information and interpret them, evaluate, categorize, and finally, make buying decisions. In information processing, specific terminology, that is, semantic elements of phrases that are used to give information about the price, has great influence on consumer decision-making, (Shiffman, Kanuk 2004:145). The mentioned phrases potentially have bigger influence on the consumer's purchasing process, and maximum percentages in price discounts have particular impact on consumer's perception.



However, it is crucial to point out that consumers are less sensitive about the price when they do on-line shopping or when they use credit cards (Schiffman, Kanuk, 2004). With the aim of encouraging consumers to do more aggressive shopping, many psychological methods are used. It is crucial to mention some of the most often used captions ('on sale', 'free', 'gratis') whose main aim is to provoke the consumer to buy the product that they initially did not plan on buying (Kotler, Keller, Martinović, 2014). However, the same aim can be achieved by emphasizing psychologically set prices. 'Psychological price setting' (Foxall & Goldsmith, 1994) primarily means the use of number 9 which is used so that the price drops below a rounded number. The difference between the price 9,99 and 10 is not big. However, the consumer perceives the difference as being far bigger because by reading from left to right, the consumer firstly notices the initial number, which significantly reduces overall perception of the price. Although some studies show clear advantage of 9 as final number in the price (e.g. Anderson & Simester, 2003; Schindler & Kibarian, 1996, Foxall & Goldsmith, 1994), others show negative effects (e.g. Wedel & Leeflang, 1998). They point out the danger of perceiving the product as a product on sale, because its price is not round (\_\_,99) (Schindler, 2001). In other words, they want to point out that the stated price can make the end consumer perceive a product as the one of reduced quality. Although there is still discussion about the psychological prices and their economic effectiveness, it is clear that retail managers prefer setting the prices that end in number 9. Along with number 9, it is important to mention another attractive way of price setting, including prices that end in 0 or 5 because it is considered that consumers process and remember them more easily (Kotler, Keller, Martinović, 2014:388). All the mentioned psychological price setting strategies are broadly used, however, the paper focuses on non-rounded prices and their impact on consumer perception.

## **6. THE ANALYSIS OF THE IMPACT OF THE PSYCHOLOGICAL PRICE ON CONSUMER BEHAVIOR**

The research is focused on consumer's attitudes towards psychologically set prices and the changes in their attitudes caused by these prices. The key concern on which the research focuses is summarized in the question: Does the psychological price have significant impact on consumer behavior and their purchase decision-making. Therefore, it is crucial to explain the role and importance of the psychological price on the consumer behavior, which is also the aim of this paper. The hypothesis was derived from the stated aim:

*H. 'Psychological price has significant impact on consumer behavior and on purchase decision-making.*

The assumption is that there is a strong correlation between the psychological price and consumer purchase behavior. The data for the purpose of this research was collected via a questionnaire.

## **7. RESEARCH METHODOLOGY**

The research is aimed at finding the answer to the question of how strong is the impact of the psychological price on the changes in consumer attitudes and behavior while purchasing a product. The analysis was done on the results of the primary research. The research has given a clear presentation of the impact of the psychological price on the consumer. The research consisted of the gathered primary data via the testing method with the use of a structured questionnaire (Vranašević, 2014) on the sample of 100 consumers (n=100). Within the research were used latent variables which were supplemented with measurable indicators, and for the purpose of the research the focus was on consumer reactions to the consumer goods which they use in everyday life. Using the questionnaire, a descriptive statistical analysis was used in the analysis of the collected primary data. A descriptive analysis demonstrated a strength of correlation between the psychological price and consumer behavior, which would accept or reject the hypothesis H.



## 8. CHARACTERISTICS OF THE RESEARCH SAMPLE AND RESEARCH RESULTS

The primary intention of the conducted research was the insight into consumer attitudes towards the psychological price. There were 100 questionnaires in total. The sample of the research was random, and the structure of the sample is shown in the tables.

Gender	frequency	percentage	cumulative percentage
Men	35	35,0%	35%
Women	65	65,0%	100%
Total	100		

Age	frequency	percentage	cumulative percentage
18-20	44	44%	44%
21-25	24	24%	68%
26-30	7	7%	75%
31-35	5	5%	80%
36-40	4	4%	84%
41-45	5	5%	89%
46-50	4	4%	93%
51-55	4	4%	97%
56-60	2	2%	99%
61-	1	1%	100%

Table 1. The structure of the sample according to participants' gender

Obtained indicators from the mentioned table are shown in the charts below for the clarity of display.

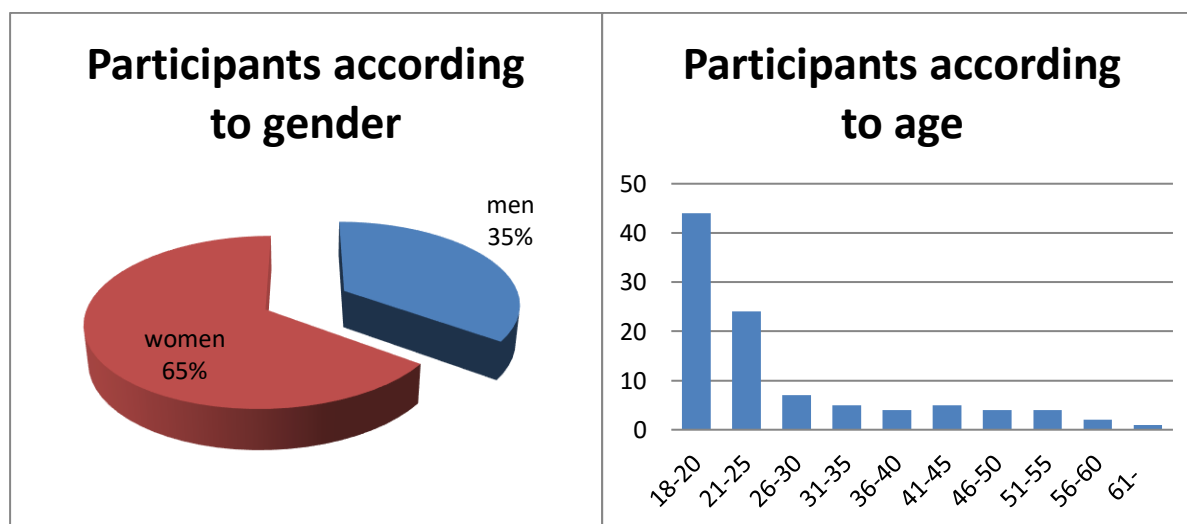


Image 1 The structure of the sample according to gender and age of participants

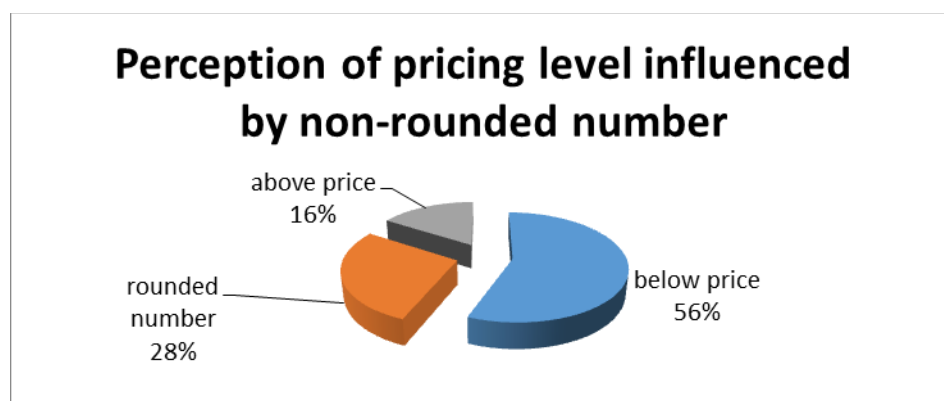
In the mentioned presentation it can be observed that the biggest number of participants belongs to the age group of 18 to 25 (68%) and that the majority of participants is female (65%). It is possible to assume that this population is most easily influenced by the use of the psychological price.

The assumption of the hypothesis is that there is a strong correlation between the psychological price and purchase decision-making. For this reason, a set of questions was created within the questionnaire which was handed out to participants with the aim of determining how strong the impact of the psychological price is (with the emphasis on non-rounded number in price setting) on the consumer's perception of product or service price. Advertising leaflet was shown to the participants with discount prices for 10 given products. While examining the discount leaflet, they were asked to write down in the questionnaire the product prices they had previously seen on the leaflet. Based on their answers, it was determined if they stated the price that was below the price of a product from the leaflet, above the price or they rounded the non-rounded number.

	<b>Below price</b>	<b>rounded number</b>	<b>above price</b>	<b>below price (%)</b>	<b>rounded number (%)</b>	<b>above price(%)</b>
<b>Product A</b>	51	30	19	51%	30%	19%
<b>Product B</b>	62	22	16	62%	22%	16%
<b>Product C</b>	52	32	16	52%	32%	16%
<b>Product D</b>	40	50	10	40%	50%	10%
<b>Product E</b>	45	49	6	45%	49%	6%
<b>Product F</b>	61	20	19	61%	20%	19%
<b>Product G</b>	53	25	22	53%	25%	22%
<b>Product H</b>	70	15	15	70%	15%	15%
<b>Product I</b>	72	12	16	72%	12%	16%
<b>Product J</b>	55	24	21	55%	24%	21%

*Table 2 The structure of participant according to the perception of product pricing level*

Obtained indicators from the mentioned table are shown in the charts below for the clarity of display.



*Image 2 The structure of participant according to the perception of product pricing level*

The assumption of the hypothesis is that 'The psychological price has a significant impact on consumer behavior and purchase decision-making.' Therefore, in this research could be confirmed that over 56% of participants perceived the price as being lower than the actual price due to non-rounded number, which implies that non-rounded number positively affects consumer behavior, and also encourages consumer to make buying decisions more easily. Because of the previous statement, the hypothesis can be accepted.

## 9. CONCLUSION

Research for the purpose of this paper was based on the question: Can it be stated that the psychological price has a strong impact on consumer behavior and on purchase decision-making. The aim of the hypothesis H was to determine whether there is a strong positive connection between the psychological price and the perception of the price, and if there is potential encouraging of consumers to make quicker purchase decisions. In fact, according to the stated results it is clear that consumers' reactions to the psychological prices are considerable, so the hypothesis H could be confirmed. Therefore, the research results lead to new findings about understanding company strategic behavior within the framework of setting the price level of products or services with the focus on the psychological prices.

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## CROSS-BORDER CO-OPERATION BY POLISH AND BELARUSIAN COMPANIES IN THE ASPECT OF INCREASING THE COMPETITIVENESS

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### **ABSTRACT**

*Increasing globalization of economic processes forces companies to strengthen intensively their competitiveness. The company's ability to build partnerships with business partners is the mechanism to achieve competitive advantage. One of the sources of competitive advantages is the internationalization of company operations. The use of geographical location in cooperation may be an additional source of increasing the attractiveness and competitiveness for border regions and enterprises. North-east part of Poland (and of EU) is a region where the factor limiting the possibilities for firms development is the distance from the markets. More intensive development of polish companies is possible through creation cross-border cooperation especially with companies from Belarus. The aim of the article is to present the results of studies which take into account factors affecting the level of cross-border cooperation of enterprises in north-eastern Poland and in neighbouring region of Belarus in the context of increasing their competitiveness. The article uses the method of critical analysis of the literature and statistical analysis of data from a study conducted on a group of companies in leading industries in Poland and in Belarus. The main statistical measures and correlation coefficients were used to interpret the results. The study found a low level of existing cooperation and the low possibility of its strengthening in the near future. Some recommendations and model solutions for potential areas of cooperation have been identified. They can improve the competitive position of the companies in Podlaskie region in Poland.*

**Keywords:** *companies, cross-border cooperation, competitiveness, border areas*

### **1. INTRODUCTION**

Increasing interest in the effectiveness of enterprise competition in the global market has also increased the importance of partnership-based relationships. In today's economy, cooperation between economic actors is a way to increase the competitive potential of businesses and regions. Companies are not able to implement significant innovations themselves, develop new products and services, introduce new technologies. For this purpose they have to make contacts with many external partners. Cooperation is becoming a tool to expand the ability to compete in an innovative environment (Leśniewski, 2011). Mutual cooperation between companies allows potential customers to offer consistent and comprehensive products and services. It also strengthens its competitive position in the domestic and international markets. In this context, the role of international links with other market participants is important (Christensen, Kowalczyk 2017). This applies in particular to border regions characterized by lower levels of economic development and lower competitiveness potential than centrally located areas. Therefore, the strengthening of the competitive potential of peripheral border regions should be realized through the development of cross-border cooperation (Bronisz et al., 2015). A factor limiting the development potential of the Podlasie region in Poland is the distance from the developed western markets. Podlasie is one of four regions in Poland that lie along the external borders of the European Union. The ability to cooperate and create networks of a cross-border nature will be decisive for its development potential (Dołzbłasz, Raczyk, 2010).



Analysis of research results indicates that there is not much regional research on cross-border business cooperation. Existing research on country-wide co-operation does not take into account regional specificities. This article fills an existing research gap. It contains the results of research on the role of factors that influence the level of current and potential co-operation between companies in the Podlaskie Voivodship in Poland and in the border area in Belarus. The research was analyzed in the context of the impact of cross-border cooperation on the competitiveness of the Podlaskie Voivodship in Poland. The results of the research will allow to deepen the knowledge of the forms of cooperation between enterprises. They will also contribute to enhancing the competitive potential of the region.

## 2. LITERATURE REVIEW

In recent years, there is a noticeable increase in interest in the issue of cooperation between the various participants in economic relations. Finding possible growth effects of cooperation is one of the most important aspects of modern organizations. Effective synergies, synergies, can strengthen the competitive position of collaborating organizations. (Chen et al., 1998, Smith et al., 1995, Schalk, Curs,eu, 2010). Cooperation is often associated with joint action by partners. These should be internally consistent and complementary to achieve mutual benefits and synergies (Wasiluk, 2013, Wasiluk, 2016). In order to achieve the above-mentioned benefits of cooperation in an effective manner, it is necessary to be willing to create mutual relations. In addition, co-operation should ensure that partners meet their individual goals as well as the goals of the joint joint organizations. Literature highlights the diversity of forms of cooperation between organizations (Bouwen, Taillieu, 2004, Schruijer, 2006). These include classic forms such as strategic alliances, consortia. Increasingly popular are also gaining innovative forms of cooperation. These include technology clusters, enterprise networks. It is important to match them to specific operating conditions.

The mechanisms of creating new organizational forms are also analyzed. They can be important for creating potential links between organizations. Another line of research is to pay attention to cooperation as a process that should be characterized by specific relationships between its components. Many authors express the view that in the process of cooperation, organizations cooperate and form relationships based on mutual benefits. In the short term, the competitiveness is influenced by: sector specialization, quality and density of infrastructure, other factors related to the effectiveness of activities in the region. In the long term, the level of competitiveness depends on factors related to the efficiency of the economy. The most important are human capital, technological capital, research expenditures and the structure of the economy (Huggins, Izushi, 2008, Jakubowski, Bronisz, 2017). Many authors note that the quality of the relationship between the cooperating entities is positive for the companies (Swann, Prevezer, Stout, 1998, Garanti, Zvirbule-Berezina, 2013).

It can be noted that the positive impact on the formation of various forms of inter-organizational linkages has a higher level of economic development of a given region. On the other hand, the lower economic potential of the region is associated with weaker mutual relations. Often they are based solely on pragmatic premises, with a great degree of mutual distrust. An extensive network of links between business entities is one of the important factors that has a very positive impact on their competitiveness, also internationally ( Gorynia, Jankowska, 2008; Leigh, Blakely, 2013; Daniluk, 2016). Competitiveness as a research subject is the potential, ability and ability of an individual to compete in the form of competition from other players. Competitiveness is also understood as an ability for long-term, effective development (Black, 2006; Bronisz, et. al. 2015). In this perspective, it is a function of dynamic growth, innovation and the ability to change (Góralski, 2009; Huggins, 2003).

The competitiveness of the region can be seen as its ability to produce products that buyers find in international markets and provide a high and sustainable income. It can be also defined as a set of characteristics that determine the attractiveness of a region from a capital investment perspective or as a place of residence. Regions that occupy top places in the rankings of competitiveness are also regions with high levels of innovation (Hollanders, Rivera León, Roman 2012; Porter 2001; Smętkowski 2013). As a prerequisite for sustainable economic development of the region, it is capable of creating knowledge and innovation. In order to achieve a high level of regional competitiveness, investments in a knowledge-based economy, such as human capital development and institutional support, are needed. Strengthening the competitiveness of different economic and territorial structures is a fundamental guideline for the regional policy of the European Union (Bronisz et al., 2015). This is particularly important for peripheral regions that are characterized by lower competitive potential. (Martin, Sunley, 2003; Brankman, van Marrewijk, 2013). The proximity of the high-leakage and low-permeability boundaries means that regions located at such boundaries acquire the features of peripheral areas in a socio-economic sense. This kind of border also limits the possibility of building cross-functional functional-spatial compounds. Strengthening the competitive potential of the outermost regions is possible by exploring opportunities for growth through external factors. The development of cross-border co-operation may be the main way (Fratesi 2015; Smętkowski, Olechnicka, 2017). The regional environment plays a major role in shaping the competitive potential of the peripheral region. Attention is paid to spatial concentration of economic operators that operate in the same or related sectors. This is a concept typical of business clustering concepts (Stern et al 2002; Porter 2003). Creating such clusters can lead to locational advantages and facilitate the diffusion of knowledge and innovation that are important for enhancing competitive advantage. The increase in the competitiveness of border regions is reflected in the activities carried out by the partners on both sides of the border. These activities allow to build, develop and strengthen socio-economic bonds and solve common cross-border problems. At the same time, they inhibit unfavorable processes and phenomena related to, for example, crime, smuggling and unemployment. In the Podlaskie voivodeship, unfavorable cross-border location is combined with significant structural delay (industrial and road infrastructure). You can also point to low labor productivity, low use of local assets, low innovative and technological potential. Research also confirms low level of communication accessibility and low level of cross-border development (Jakubowski, 2017; Miszczuk, 2013). These factors make the Polish-Belarusian border area less well-developed in both countries. For several years political and economic rapprochement between Poland and Belarus has taken place. There may be a mutual limitation of formal requirements for cross-border traffic. As a result of these actions, the EU's external border on the section of the Polish-Belarusian border is enlarged. This should be seen in the category of opportunity to break the negative trends on the socio-economic level. Such actions can positively influence the dynamics of the development processes taking place in the region of the Polish-Belarusian border.

### **3. METHODOLOGY OF THE RESEARCH**

This part of the article presents partial results of research carried out within the international research project "Readiness of enterprises to create cross-border networks". The project was implemented on the basis of an agreement between the Polish Academy of Sciences and the Belarusian State Academy of Sciences for the years 2014-2016. In Poland 381 companies were based in the Podlaskie Voivodeship. The companies represented the food industry, the wood and furniture industry, the metal industry, the machine industry and construction industry. In the Republic of Belarus, the survey covered 121 companies from similar industries. The study was not representative. A deliberate choice of sample was used, limiting the research to the specific subjects whose opinion is authoritative and most desirable.

The main objective of the study was to investigate cross-border relations between the surveyed enterprises in the context of the competitiveness of the Podlasie region. It was assumed that the willingness to cooperate between Polish and Belarusian companies could have a positive impact on the level of competitiveness in the region. Increasing willingness to cross-border cooperation in the near future may indicate the need to create more lasting relationships. They may be important in terms of increasing competitive potential in the cross-border region.

The research question was formulated in the form of the following questions:

1. To what extent are the identified factors influencing the current level of cooperation between Polish and Belarusian companies and what is their potential impact on the competitiveness of Podlaskie enterprises?
2. Has the company co-operated / intends to cooperate with a Polish / Belarusian company and is there a link between the cross-border cooperation declaration of enterprises in particular periods (past and present)?

The factors that have been identified on the basis of literature have been taken into account in assessing the impact of the declared level of cooperation on competitiveness. Discussions were also held with experts representing the academic and business community. Spearman's rank correlation coefficient was used to indicate the interdependence of ratings. Statistical calculations were performed using STATISTICA 12.5. The group of analyzed companies is presented in Table 1.

*Table 1: Characteristics of studied companies (own study)*

Companies					
Total N (%)	Including industry				
	Construction (C) N (%)	Food (F) N (%)	Metal and machine (MM) N (%)	Wood and furniture (WM) N (%)	
<b>POLAND</b>					
Company size - measured by the number of employees					
< 10 people	85 (22,31)	20 (26,32)	8 (9,64)	10 (13,16)	25 (30,49)
10 – 49 people	146 (38,32)	23 (30,26)	40 (48,19)	26 (34,21)	42 (51,22)
50 – 249 people	110 (28,87)	27 (35,53)	26 (31,33)	23 (30,26)	10 (12,19)
> 249 people	40 (10,50)	6 (7,89)	9 (10,84)	17 (22,37)	5 (6,10)
Company age - measured by the number of years of activity on the market					
< 1 year	3 (0,79)	1 (1,31)	0 (0,00)	0 (0,00)	0 (0,00)
1 – 3 years	28 (7,34)	12 (15,79)	0 (0,00)	2 (2,63)	8 (9,76)
4 – 10 years	67 (17,58)	15 (19,74)	13 (15,66)	13 (17,11)	13 (15,85)
> 10 years	283(74,38)	48 (63,16)	70 (84,34)	61 (80,26)	61 (74,39)
<b>BELARUS</b>					
Company size - measured by the number of employees					
< 16 people	17 (14,05)	6 (8,96)	1 (10,00)	1 (7,69)	7 (24,14)
16 – 100 people	36 (29,75)	24 (35,82)	6 (60,00)	3 (23,08)	3 (10,34)
101 – 250 people	18 (14,88)	12 (17,91)	3 (30,00)	0 (0,00)	6 (20,69)
> 250 people	50 (41,32)	25 (37,31)	0 (0,00)	9 (69,23)	13 (44,83)
Company age - measured by the number of years of activity on the market					
< 1 year	1 (0,83)	1 (1,49)	2 (20,00)	1 (7,69)	4 (13,79)
1 – 3 years	6 (4,96)	0 (0,00)	6 (60,00)	2 (15,38)	6 (20,69)
4 – 10 years	35 (28,93)	20 (29,85)	0 (0,00)	10 (76,92)	19 (65,52)
> 10 years	79 (65,29)	46 (68,66)	2 (20,00)	0 (0,00)	0 (0,00)

In the group of Polish companies the greatest was the share of entities representing food industry (21,79%), According to the size of the company, the largest share was made by small companies (38,32%), Most of the companies (74,38%) have been on the market for more than 10 years, They are therefore well known and close to customers, Most of them represent the small and medium business sector. In the group of analyzed Belarusian companies the largest share was represented by companies representing the construction industry (55,37%), Owing to the size of the enterprise, the largest share was in large enterprises, employing over 250 people (41,32%), Most of the surveyed Belarusian companies (65,29%) are experienced players who have been on the market for more than 10 years.

#### 4. ANALYSIS AND DISCUSSION OF THE RESULTS

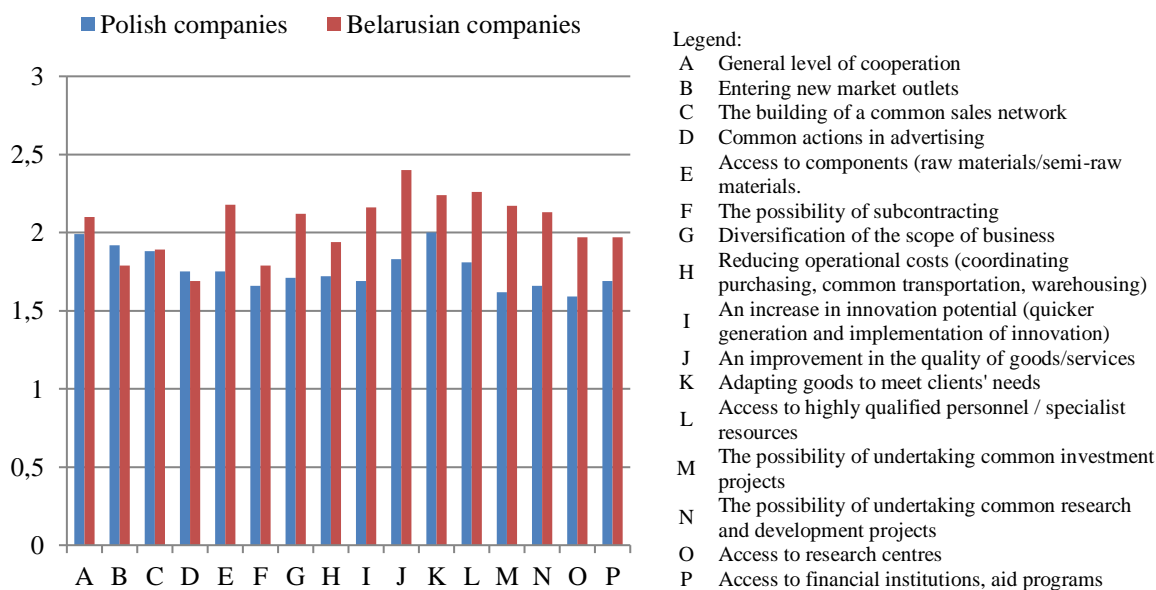
Taking into account the factors influencing the shaping of the level of competitiveness in Podlaskie voivodship, an assessment of the current level of cross-border co-operation in the group of enterprises surveyed was carried out. Polish and Belarusian companies have been self-assessing in the context of their tendency to cooperate. Respondents rated the factors analyzed on a 7-point scale (Table 2). The results show that respondents on both sides of the border are less likely to rate the current level of cooperation with foreign companies. The average rating is 1.99 among Polish companies and 2.10 among Belarusian companies (with a maximum possible value of 7). The dominance value of 1 is very significant for 236 out of 381 companies surveyed in Poland. This indicates a lack of any willingness to cooperate with businesses from Belarus. Equally not optimistic are the values of indications on the Belarusian side (dominance equal to 1 for a group of 59 enterprises). It follows that most Polish and Belarusian companies do not cooperate with companies from abroad.

*Table 2: The level of cooperation between Polish companies and Belarusian companies (own study)*

Companies	$\bar{x}$	$M_e$	D	$n_D$
Declared level of cooperation				
Polish companies	1,99	1,00	1	236
Belarusian companies	2,10	2,00	1	59
Kruskal-Wallis test (p <0,05000)				
	H		p	
Polish companies	14,6997		0,0021	
MM/C 0,0295; MM/WF 0,0466; MM/F 0,0471				
Belarusian companies	17,3676		0,0006	
MM/C 0,0019				

Statistical analysis indicates that the average ratings for individual sectors differ from one another, depending on the sector. Kruskal-Wallis test showed statistically significant differences between respondents in the metal and machine industries (MM) and respondents in other industries (Table 2). These are not positive findings, considering the potential of the competitive Podlasie region, based on endogenous factors. In order to deepen the analysis of the impact of cooperation on the competitiveness of the region, a deeper assessment of the prerequisites for cross-border cooperation between Polish and Belarusian companies was made. Areas of cooperation that have a direct and indirect impact on the competitiveness of the region in the short and longer term are considered (Figure 1). In this case, the analyzes concerned the entire population, without dividing the industry.

*Figure 1: Reasons for mutual cooperation between Polish and Belarusian companies  
(own study)*



The results confirm a disturbingly low level of indications, both for Polish companies and for Belarusian companies. Polish companies are willing to cooperate with Belarusian companies primarily because of their immediate benefits. The most important reasons for cooperation are the adaptation of products to the needs of customers, the possibility of entering new markets, the construction of a common sales network and the overall level of cooperation. These are therefore mainly marketing considerations, not requiring a deeper involvement of both parties' resources in the long run. In the group of highest rated factors, there are those that have a direct influence on strategic competitive opportunities. Opportunities such as the ability to carry out joint investment projects, the ability to carry out development projects, access to research centers were identified as having the least impact on cross-border cooperation. These results coincide with the observations made by other authors (Wasiluk, 2017, Tomaszuk, 2017, Daniluk, 2017). They confirm the low level of social capital, characteristic for Polish entrepreneurs. In the case of cross-border cooperation with entrepreneurs from the East, there are also issues of additional prejudice. In the case of Belarusian companies, most of the factors assessed were higher. In this case, the most important reasons for cooperation with Polish companies were: the ability to improve the quality of products or services, adaptation of products to customer needs, access to highly qualified personnel.

Thus, marketing factors also play a dominant role in this case. However, there are also issues of greater engagement in long-term cooperation. The most important point is to take joint advertising actions, the possibility of subcontracting and the construction of a common sales network. From the point of view of improving the region's competitive position, these are not positive perceptions. Companies on one side and the other side of the border regions surveyed have little confidence in each other. In addition, it is deepened by the large variability of political action at the state level. They introduce risk factors that limit the willingness of companies on both sides of the border to engage in development projects that involve significant capital.



*Table 3: Declaration on cooperation with foreign companies – respectively: Belarusian and Polish (own study)*

Companies		Has the company cooperated with the Belarusian / Polish company in the past		Does the company cooperate with a Belarusian / Polish company today		Does the company intend to cooperate with the Belarusian / Polish company in the near future	
		Yes % (N)	No % (N)	Yes % (N)	No % (N)	Yes % (N)	No % (N)
<b>Poland total</b>		36,48 (139)	63,52 (242)	21,78 (83)	78,22 (298)	45,67 (174)	54,33 (207)
including							
industry	construction	27,63 (21)	72,37 (55)	17,11 (13)	82,89 (63)	40,79 (31)	59,21 (45)
	wood and furniture	32,93 (27)	67,07 (55)	12,20 (10)	87,80 (72)	30,49 (25)	69,51 (57)
	food	22,90 (19)	77,10 (64)	12,05 (10)	87,95 (73)	32,53 (27)	67,47 (56)
	metal and machinery	50,00 (38)	50,00 (38)	36,84 (28)	63,16 (48)	63,16 (48)	36,84 (28)
<b>Belarus total</b>		28,93 (35)	71,07 (86)	17,36 (21)	82,64 (100)	47,11 (57)	52,89 (64)
including							
industry	construction	17,91 (12)	82,09 (55)	7,46 (5)	92,54 (62)	41,79 (28)	58,21 (39)
	wood and furniture	44,83 (13)	55,17 (16)	27,59 (8)	72,41 (21)	55,17 (16)	44,83 (13)
	food	10,00 (1)	90,00 (9)	10,00 (1)	90,00 (9)	40,00 (4)	60,00 (6)
	metal and machinery	61,54 (8)	38,46 (5)	46,15 (6)	53,85 (7)	61,54 (8)	38,46 (5)

The analysis of existing, current and future cross-border co-operation of companies in the industry is further analyzed. The investigated subjects were asked whether they cooperated / cooperated / intend to cooperate with foreign companies (Belarusian or Polish respectively). Aggregated results are presented in Table 3. Greater willingness to cooperate with enterprises representing industry in the region can have a significant impact on the growth of competitive potential. This is related to the concept of intelligent specialization. In the case of the examined enterprise group, the examined sectors belong to the priority ones, which affect the competitive potential of the Podlaskie voivodship. Analyzing the intensification of co-operation between companies and foreign companies in the long run, no particular relationship was found. Most companies, both in the past and present, as well as in the future declarations, do not see the need for closer cooperation with companies that are neighbors abroad. This applies to both Polish and Belarusian companies.

In all cases, most companies stated that they did not cooperate, cooperate and intend not to cooperate with foreign companies (respectively Belarus or Poland) (Table 3). This can be explained primarily by the closed nature of the Polish-Belarusian border and the resulting lack of information on potential areas and benefits of cross-border cooperation. Another stereotype is the stereotypical perception of the Belarusian economy as backward, devoid of innovative potential. This also translates into a lack of perception of the benefits of cooperation with companies as well as the lack of need to respond to possible cooperation offers on the other hand. There are also no favorable phenomena in the sector. There are no clear trends, for example, the expansion of co-operation in different time periods in particular industries. Generally, regardless of industry, the current level of declared cooperation is the smallest, with a slightly higher level in relation to the past.

The most favorable situation occurs in the metal and machinery industry. In each of the analyzed periods, the declarations on cross-border cooperation were the highest in this case. It is important that the metal and machine industries have a significant share in the revenue generation of the region on the Polish and Belarusian side. Some companies in this industry also cooperate with each other within a cross-border cluster, achieving great economies of scale. This may be a prerequisite for a positive perception of the potential for further cross-border cooperation in this area. At the same time it may be the basis for building the competitiveness of the Podlaskie region.

On the other hand, the assessment of declared cooperation in the food industry is unfavorable. It is strange that the studied regions on the Polish and Belarussian side are agricultural, with a large share of food processing. In this case, greater cross-border cooperation would certainly have a positive impact on knowledge sharing and market positioning of potential partners. The low level of evaluation of cooperation among food industry companies can be explained by differences in Polish and Belarusian health regulations. This largely limits trade in food products and the realization of research and development projects.

## 5. CONSLUSION

Border areas are generally characterized by lower levels of economic development and lower competitive potential than centrally located ones. Geographical peripheries therefore have an impact on the economic periphery. Geographic location influences the degree of economic cooperation and the possibilities of networking. Actions to strengthen the competitive potential of border regions should include an analysis of the potential for deepening cross-border co-operation with neighboring countries. Research and statistics show that this way of using geographic location can be an important source of competitive advantage. Peripheral regions do not have many other possibilities to strengthen their potential.

In the case of countries where the external border is at the same time the border of the European Union, institutional and political conditions are very important. Different legal, social and economic systems affect growth and reduce the competitiveness of such cross-border regions. The economic strength of the neighboring countries is important. Economically advanced countries, with a longstanding tradition of cross-border cooperation, can draw tangible benefits from close proximity. The mechanisms of cooperation are strongly influenced by internal and external conditions. In particular, it concerns the role of the human factor. In the context of globalization, the need for co-operation in multicultural teams becomes increasingly widespread. This makes intercultural differences an important factor in the effectiveness of cooperation.

The analysis shows that in the case of border regions of Poland and Belarus, the benefits of geographical location are not fully exploited by enterprises on both sides of the border. The research was attended by companies from industries recognized as key to strengthening the competitive potential of the region. The results show very low interest in cross-border cooperation in each of the analyzed sectors. Both the declared level of cooperation so far and the desire to strengthen such cooperation in the future are low. Most of the companies surveyed on both sides of the Polish-Belarusian border did not cooperate with foreign partners and did not intend to undertake such cooperation in the near future. Local authorities recognize the potential of cross-border co-operation between Polish and Belarusian companies. This is reflected in the declarations in the strategic documents. They do not, however, contain in-depth studies on the effectiveness of the proposed instruments for deepening cross-border cooperation.

They focus mainly on the analysis of strategic cooperation, for example as a starting point for enhancing the development of smart specialization. It is advisable to focus resources on these directions of cooperation, which can potentially play a major role in building the competitiveness of the region. On the other hand, it appears that bottom-up joint activities of cross-border companies have not yet reached critical mass. For example, emerging cross-border cluster initiatives are local, involving a small number of enterprises. Clearly, there is an initiative from central and, above all, local authorities. Apart from the records in the documents, they should take real initiating actions in the field of cross-border cooperation. The cooperation process should include not only companies and local government units but also business environment institutions and research and development units. It is only the coordination of all these groups within the Triple Helix model that the real potential of the companies operating in the border region can actually develop. In the longer term, this may increase the competitiveness of the Podlasie region.

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## REASONS FOR UNDERTAKING CROSS-BORDER COOPERATION BY POLISH AND BELARUSIAN ENTERPRISES

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### **ABSTRACT**

*For many years, border areas have been seen as problematic regions, economically belated and doomed to marginalization. Now the scale of political and socio-economic transformations indicates that they should be seen as core areas, of vital importance not only in the regional system, but also in the context of integrating Europe. Cross-border cooperation allows the synergies effect to be achieved by cooperating regions and the elimination of disadvantages associated with the peripheral position in the country. Analysis conducted on the basis of statistical data only, which define the number of projects completed, the size of the invested funds or the number of completed communication or technical infrastructure facilities seems to be insufficient. They should be supplemented with research on the real relationships between the different actors in business, including primarily enterprises. On the other hand the conditions of cross-border cooperation show high variability and require continuous, thorough monitoring. In the literature of the subject there are reports on national cooperation of enterprises, but there are no analyzes on cross-border cooperation of enterprises, especially with Belarus. This text fills the gap. The main purpose of this text was to present the results of research on assessment of the reasons for undertaking cooperation by Polish and Belarusian companies so far and to identify prospects for its possible tightening in the near future. The research covered 381 Polish companies based in Podlaskie Province and 121 Belarusian companies. Statistical measures and central tendency standards were used for the interpretation of the research results. Spearman's rank correlation coefficient was used to indicate the correlation coefficient between the ratings, followed by the t-Student test to examine its significance. Statistical calculations were made using STATISTICA programme version 12.5.*

**Keywords:** *companies, cooperation, cross-border cooperation*

### **1. INTRODUCTION**

Contemporary economic conditions force businesses to behave differently towards other economic entities than they did in the 20th century (Nester, 2010a; Caputa, Szwajca, 2010). Dynamic processes of globalization (e.g. Scholte, 2005; Nester, 2010b) and strong market competition at both local and world levels (Lou, 2007) forces them to intensify their cooperation (Leśniewski, 2011), including international one (e.g. Lou, 2005; Talar, Sporek, 2011; Christensen, Kowalczyk 2017). Business cooperation is now recognized as one of the most important factors in their market success (e.g. Tzu-Ju, Pike, Johnson, Göran, 2012; Poznańska, 2016). For many years the border areas have been seen as economically belated problematic regions. With their periphery nature they were often doomed to marginalization. At present, the scale of both political and socio-economic transformations indicates that they should be seen as core areas, of vital importance not only in the regional system, but also in the context of the integrating Europe (Miłkowski, 2013). Cross-border cooperation, considered as an important factor for international cooperation between neighbouring countries (e.g., Dołzbłasz & Raczyk, 2010) enables synergies in the cooperating regions and eliminates disadvantages associated with the peripheral location in a country (Kosiedowski, 2009; Cappelin & Batey, 1993). The analysis of cross-border cooperation should be constantly supplemented by studies devoted to real relationships between various entities of economic life including primarily enterprises.

It should be borne in mind that the conditions for cross-border cooperation show high variability over time and therefore require continuous, thorough monitoring. In subject literature there are reports on cooperation of enterprises in national approaches, but there are no analyzes on cross-border cooperation of enterprises, especially with Belarus. This text fills this gap.

## 2. REVIEW OF THE LITERATURE

The increase in importance of cooperation between independent actors is considered one of the most important development trends in contemporary value creation mechanisms. Management science and organizational theory present many concepts referring to the increased importance of inter-organizational cooperation (e.g. cooptivation, network management, project management), as well as works on new organizational forms (e.g. clusters, networks, partnerships, alliances) (Koźmiński, Latusek-Jurczak, 2014). Networking is becoming one of the key categories in management science (Sydow, Windeler, 2000; Rief, 2008; Czakon, 2012; Glückler, Dehning, Janneck, Armbrüster, 2012). The need to strengthen inter-organizational cooperation is evident not only in theoretical considerations, but also in the assumptions of many European and government programs (European Commission, 2010). The quantity and, above all, the quality of relationships between actors play an important role in enhancing the competitiveness of both companies and entire regions (Swann, Prevezer, Stout, 1998; Baptista, 2000; Garanti, Zvirbulė-Berezina, 2013), especially those with lower competitive potential and low level of urbanization (Martin, Sunley, 2003; Andersson, Schwaag-Serger, Sörvik, Hansson, 2004; Brankman, van Marrewijk, 2013). It is noted that the higher the level of economic development of a given region the easier it is to create networks between organizations and partnership is easier. And conversely, the lower level of development the weaker links between organizations and often include distrust or even hostility (Górzyński, Pander, Koć, 2006). A strong and broadly linked network of entities is, in addition to technical and social infrastructure and efficient strategic management, one of the factors determining their international competitiveness (Gorynia, Jankowska, 2008; Daniluk, 2016).

Cooperation seems to be a commonly understood concept, identified as mutually compatible and complementary activities, interactions to achieve mutual benefits and synergy (Wasiluk, 2013). Subject literature emphasizes that willingness of entering into relationships and simultaneous realization of both individual and common goals by partners are characteristic for cooperation. This simultaneous realization of various objectives by the cooperating companies results in complex sometimes cooperative relationships (Mazur, 2011). Cooperation plays a very important role in international relations, especially with neighbouring countries. Cross-border cooperation can be distinguished here, which is defined as "local and regional cooperation in neighbouring areas of two or more countries" (Dołzbłasz i Raczyk, 2010). This cooperation covers not only state activity, but also activities of private entities, associations or the society. Cross-border cooperation includes also cooperation between Euro regions. In this case cooperation is between territorial units and most often its purpose is to increase the competitiveness of the region, the quality of life of its population, investments or industrial development. It should be noted that in subject literature the concept of cross-border or borderland area is differently defined and covers different areas of land, depending on the country's legal regulations (Dołzbłasz and Raczyk, 2010). Under the assumptions of the Polish policy of economic cooperation and trade with countries of the former USSR, Belarus is classified as one of the major economic partners (Maksimczuk, 2013, pp. 158-159). In 2015 the trade turnover between the two countries reached \$1.8 billion. Export of Belarusian goods to Poland amounted to \$767 million, while Polish to Belarus - \$1.1 billion. Poland is the sixth trade partner of Belarus (Ambasada..., 2017).

Cooperation between Polish and Belarusian companies can bring mutual benefits. Belarusian companies, through the Polish market, have access to the European Union market (500 million consumers) and Poles through Belarusian companies have access to the Eurasian Economic Union (more than 180 million users) and other Commonwealth of Independent States (CIS) markets. However, it should be emphasized that the achievements in Poland's economic cooperation with Belarus are significantly influenced by the integration process of the CIS countries, especially of Russia and Belarus (Świerzak, 2010). There is a permanent feedback between development of interstate political and economic relations, cross-border cooperation and development of border regions (Maksimczuk, 2013, p. 12).

### 3. METHODOLOGY OF THE RESEARCH

The main purpose of this text was to present the results of research on assessment of the reasons for undertaking cooperation by Polish and Belarusian companies so far and to identify prospects for its possible tightening in the near future.

Keeping in mind the objective set, the research problem was formulated in the form of the following questions:

1. What have been the reasons so far of the respondents for undertaking cooperation with foreign firms (Belarusian and Polish respectively)?
2. How do respondents rate their readiness to improve current cooperation with foreign companies?
3. Is there a correlation between the current level of cooperation and the readiness to improve it in the near future?

The analyses presented in this text are based on the results of extensive research (in which the author of this text was a part of the research team), carried out as part of an international research project under the agreement between the Polish Academy of Research and the National Academy of Research of Belarus (in the years 2014-2016) „*Readiness of enterprises to create cross-border networking*”. 381 Polish construction and industrial businesses (with headquarters in the Podlasie province) and 121 Belarusian companies (Table 1) were included in the analyses. The businesses participating in the study were chosen from various databases. Some of the respondents were sourced thanks to the use of the »snowball« procedure, that is, the recommendation of certain respondents by other participants of the study. A questionnaire, along with a request of its completion was sent to the owners or members of top management of the companies that qualified for the research. Respondents rated situations on a 7-point scale, with a score of 1 denoting a complete lack of cooperation/a complete lack of readiness to improve cooperation and a score of 7 denoting very good cooperation/a very high level of readiness to improve cooperation.

Table 1: Characteristics of the studied companies (own study)

	Companies			
	Polish N (%)		Belarusian N (%)	
Size of the studied companies (number of employees)	Up to 9 people	85 (22,31)	Up to 15 people	17 (14,05)
	10 – 49 people	146 (38,32)	16 – 100 people	36 (29,75)
	50 – 249 people	110 (28,87)	101 – 250 people	18 (14,88)
	250 people and more	40 (10,50)	More than 250 people	50 (41,32)
Age of the studied entities (number of years on the market)	Up to 1 year	3 (0,79)	Up to 1 year	1 (0,83)
	1 – 3 years	28 (7,34)	1 – 3 years	6 (4,96)
	4 – 10 years	67 (17,58)	4 – 10 years	35 (28,93)
	More than 10 years	283(74,38)	More than 10 years	79 (65,29)

The identification of the most significant reasons for undertaking cooperation was made on the basis of an analysis of subject literature as well as discussions carried out with experts from both academic and business environments. In the interpretation of the results of this study, the following statistical measures were used: measures of central tendency – mean ( $\bar{x}$ ), median ( $Me$ ), dominant ( $D$ ) and a measure of dispersion – the coefficient of variation ( $V$ ). In order to show the strength of co-dependency between ratings, the coefficient of Spearman's rank correlation was used, after which the t-Student test was used to study its significance.

#### 4. ANALYSIS OF THE RESULTS AND DISCUSSION ABOUT THEM

The results gained from this study do not induce optimism. The majority of respondents, both Polish and Belarusian, do not cooperate with foreign companies at all (Table 2). Polish businesses undertake cooperation with foreign firms above all with the aim of adapting their products to meet the needs of clients, the possibility of entering new market outlets and the building of a common sales network. It should therefore be stated that the principle reasons for undertaking cooperation had a market character and aimed to increase sales possibilities. Entering the Belarusian market opens the possibility of sales in the entire Eurasian Economic Union, thus entering also the Russian, Kazakh, Armenian and Kyrgyzstani markets (Czerewacz-Filipowicz, 2016). The least common reasons for undertaking cooperation were access to research centres, the possibility of realising common investment and development projects and subcontracting. The problem of Polish business undertaking cooperation with other economic entities has been raised in other publications, both by the author of this text Wasiluk, Daniluk, 2013; Wasiluk, 2016a; Wasiluk, 2016b) and other authors. These indicate that Polish companies are reluctant to undertake cooperation not only with other businesses, but also with academic institutions, business environment entities and local governments. This stems in part from the low level of social capital attributed to Poles. In the case of cross-border cooperation with Belarus, prejudices and stereotypes are added to the mix. For Belarusian respondents, the most important reasons for undertaking cooperation with Polish firms were, however, the possibility of improving the quality of their goods or services, access to highly qualified human capital or specialist resources, and a better adaptation of products to meet clients' needs. The least significance was given to undertaking common actions in advertising, subcontracting and building common sales networks. In the case of researched firms, both Polish and Belarusian, there is a very strong differentiation of ratings by respondents.

*Table 2: Reasons for undertaking cooperation by Polish and Belarusian companies  
(own study) – Table ends on the next page*

Reasons for undertaking cooperation	$\bar{x}$	$Me$	$D$	$n_D$	$V$
Polish companies					
Belarusian companies					
General level of cooperation	1,99	1,00	1	236	79,39
	2,10	1,00	1	59	69,96
Entering new market outlets	1,92	1,00	1	244	77,83
	1,79	1,00	1	79	82,52
The building of a common sales network	1,88	1,00	1	251	80,78
	1,89	1,00	1	77	77,72
Common actions in advertising	1,75	1,00	1	265	77,11
	1,69	1,00	1	82	74,65
Access to components (raw materials/semi-raw materials.	1,75	1,00	1	261	78,55
	2,18	1,00	1	66	77,83
The possibility of subcontracting	1,66	1,00	1	276	78,34
	1,79	1,00	1	75	70,50

Diversification of the scope of business	1,71 2,12	1,00 1,00	1 1	261 67	74,07 76,75
Reducing operational costs (coordinating purchasing, common transportation, warehousing)	1,72 1,94	1,00 1,00	1 1	263 71	75,85 77,03
An increase in innovation potential (quicker generation and implementation of innovation)	1,69 2,16	1,00 1,00	1 1	262 65	73,42 74,03
An improvement in the quality of goods/services	1,83 2,40	1,00 1,00	1 1	254 61	77,40 75,26
Adapting goods to meet clients' needs	2,00 2,24	1,00 1,00	1 1	244 63	81,35 74,05
Access to highly qualified personnel / specialist resources	1,81 2,26	1,00 1,00	1 1	264 67	80,49 80,42
The possibility of undertaking common investment projects	1,62 2,17	1,00 1,00	1 1	276 71	74,41 80,93
The possibility of undertaking common research and development projects	1,66 2,13	1,00 1,00	1 1	273 70	75,23 80,77
Access to research centres	1,59 1,97	1,00 1,00	1 1	284 74	74,81 79,02
Access to financial institutions, aid programs	1,69 1,97	1,00 1,00	1 1	278 76	78,79 82,74

There is also little optimism to be seen in the ratings of the level of interest of researched firms in undertaking cooperation with foreign firms (Polish or Belarusian respectively) in the next 2-3 years (Table 3). The majority of respondents continue to be reluctant to undertake these actions. Polish respondents, similarly to the present situation, express a readiness to undertake cooperation above all with the aim of entering new market outlets, adapting their products to clients' needs and building common sales networks. However access to research centres and the possibility of undertaking investment or development projects are the least common reasons for undertaking this kind of cooperation.

Belarusian respondents, however, declared the largest interest in strengthening cooperation with the aim of entering new market outlets, improving the quality of products or services and the possibility of undertaking common investment projects. The possibility of subcontracting and undertaking common promotional activities continued to be the least common reasons for undertaking cooperation. Belarusian firms also indicated a very weak need to strengthen cooperation with Polish firms in order to lower operational costs. Although the coefficient of variation continues to indicate a strong or very strong differentiation in the ratings of respondents, it should be underlined that this is higher in the case of Polish respondents.

*/Table following on the next page*



Table 3: The evaluation of respondents' readiness to improve cooperation with foreign firms (respectively Polish and Belarusian) in the near future (own study)

Reasons for undertaking cooperation	$\bar{x}$	$M_e$	$D$	$n_D$	$V$
Polish companies					
Belarusian companies					
General level of cooperation	2,91 3,22	3,00 3,00	1 1	136 31	65,51 58,25
Entering new market outlets	3,18 3,55	3,00 4,00	1 1	136 34	64,80 58,23
The building of a common sales network	2,76 3,14	2,00 3,00	1 1	151 41	67,58 64,12
Common actions in advertising	2,56 2,97	2,00 3,00	1 1	171 38	70,53 61,06
Access to components (raw materials/semi-raw materials.	2,47 3,07	2,00 3,00	1 1	179 38	72,65 64,12
The possibility of subcontracting	2,31 2,93	2,00 3,00	1 1	190 41	72,15 63,27
Diversification of the scope of business	2,41 3,42	2,00 3,00	1 1	175 32	69,19 57,32
Reducing operational costs (coordinating purchasing, common transportation, warehousing)	2,44 3,02	2,00 3,00	1 1	180 39	70,47 62,94
An increase in innovation potential (quicker generation and implementation of innovation)	2,35 3,39	2,00 3,00	1 1	180 33	70,58 56,17
An improvement in the quality of goods/services	2,65 3,54	2,00 3,00	1 1	169 35	71,96 60,75
Adapting goods to meet clients' needs	2,86 3,41	2,00 3,00	1 1	151 31	68,32 57,20
Access to highly qualified personnel / specialist resources	2,50 3,40	2,00 4,00	1 1	178 34	73,49 58,69
The possibility of undertaking common investment projects	2,27 3,49	1,00 3,00	1 1	198 38	73,19 61,95
The possibility of undertaking common research and development projects	2,19 3,26	1,00 3,00	1 1	203 38	72,70 63,38
Access to research centres	2,16 3,21	1,00 3,00	1 1	202 41	72,94 63,39
Access to financial institutions, aid programs	2,44 3,14	2,00 3,00	1 1	183 41	72,85 66,20

The carried out Spearman's rank correlation indicates a significant co-dependency between the rating of current cooperation and the readiness to strengthen it in the future (Table 4). The higher the researched businesses rated current cooperation with their competitors, the higher they declared their readiness to strengthen it in the future. This co-dependency is somewhat higher in the case of Polish respondents. In the case of ratings of cooperation for two factors – the possibility of entering new market outlets and the adaptation of products to meet clients' needs – by researched Belarusian firms, we can state a low correlation; in the remaining cases there is a significant correlation. In the case of Polish respondents, the correlation is highest in the case of factors such as undertaking common investment or research and development projects.

It can therefore be assumed that companies which until the present moment participated in such cooperation intend to strengthen it in the future. In the case of Belarusian respondents such a situation occurs with factors such as the possibility of reducing operational costs through coordinating purchasing, common transportation and warehousing as well as the possibility of undertaking common research and development projects.

*Table 4: Spearman's rank correlation for the rating of current and future cooperation (own study)*

Reasons for undertaking cooperation	Spearman's rank correlation	
	Polish	Belarusian
Entering new market outlets	0,4612	0,3350
The building of a common sales network	0,5146	0,4296
Common actions in advertising	0,5268	0,4412
Access to components (raw materials/semi-raw materials.	0,4747	0,4929
The possibility of subcontracting	0,5373	0,4746
Diversification of the scope of business	0,5459	0,4602
Reducing operational costs (coordinating purchasing, common transportation, warehousing)	0,5838	0,5429
An increase in innovation potential (quicker generation and implementation of innovation)	0,5400	0,4052
An improvement in the quality of goods/services	0,5667	0,4608
Adapting goods to meet clients' needs	0,5542	0,3683
Access to highly qualified personnel / specialist resources	0,5179	0,4326
The possibility of undertaking common investment projects	0,6005	0,4880
The possibility of undertaking common research and development projects	0,5841	0,5054
Access to research centres	0,5796	0,4658
Access to financial institutions, aid programs	0,5163	0,4374

p<0.05

## 5. CONSLUSION

State borders still have an interdisciplinary dimension: political, economic and social, and other issues including the ones of economic nature and the consequences of their particular shape are often extremely complex. Depending on the political nature of this formula referring to the territory of a particular state, they can determine the various implications for the mutual relations between neighbouring countries. There is no doubt that for companies and regions bordering with other countries the use of their geographical location may be an additional source of competitive advantage. However, as the results of carried out analyses indicate neither Polish nor Belarusian companies use the opportunities of such position. Both the level of cooperation so far and the degree of interest in tightening it in the near future do not induce optimism. Most of the studied businesses do not cooperate with foreign entities (Polish or Belarusian respectively) and the readiness to undertake or tighten it in the near future is small. What is interesting the research results indicate that the companies which rate higher the level of their existing cooperation are more optimistic about the possibility of tightening it in the near future. Decision makers on both sides of the border should therefore focus on initiating collaborative actions by companies. Strategic documents are not sufficient incentives to create such activities.

Especially on the Polish side the problem of low confidence of public and therefore of entrepreneurs to foreign entities from the East is still unsolved, which makes it difficult to undertake cooperation based on partnership.

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## SERVITIZATION OF MANUFACTURING COMPANIES – A PROPOSITION OF FACTORS FOR STEEPVL ANALYSIS

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### **ABSTRACT**

*The aim of the article is to propose a set of factors to ascertain whether conditions for the servitization of manufacturing company are favourable or adverse. The analysis of these factors may be conducted according to the STEEPVL methodology. This set includes both external and internal aspects, and can be used to assess the possibilities and opportunities in the local market, as well as risks and uncertainty of expanding product offerings by adding services or shifting into service dominance. Furthermore, the company resources can be analysed and assessed to determine the scope and scale of servitization of its activity. The factors have been gathered and proposed on the basis of a literature review, supported by the outcomes of interviews with the machinery manufacturers from Poland. This article is conceptual and is a preface to the further research.*

**Keywords:** *products and services integration, servitization, STEEPVL analysis*

### **1. INTRODUCTION**

Manufacturing companies operate currently in very harsh conditions, partly because of the competition from developing economies in Asia or the Middle East (Matusek, 2015), and also due to rising client expectations and requirements. Manufacturers increasingly apply new solutions such as service-oriented business models, by adding new services to their core product or integrating services with products into a system solution (product-service systems). Some firms even shift their activity to service sector, for instance Xerox now offers "document management" instead of selling printers or copiers ([www.services.xeros.com](http://www.services.xeros.com)), and Rolls Royce provides integrated power solutions to the aerospace, marine and industrial power systems markets (e.g. "power by the hour" service package, [www.rolls-royce.com](http://www.rolls-royce.com)).

This process is discussed in the scientific literature under different terms and with several approaches. The term servitization was first coined by Vandermerwe and Rada in 1988, and since then it has been widely studied in academic literature (Vandermerwe and Rada, 1988; Baines et al. 2009; Neely, 2009; Smith and Maull, 2014 ). At the same time, the concept of product-service systems (PSS), which, in fact, refers to the same subject, have been proposed and discussed (Goedkoop, 1999; Mont 2000; Manzini and Vezzoli, 2003).

All authors though agree that services play increasingly important role in developed economies, in every industry. The average weight of services in the sales of European manufacturing companies from over 20 sectors was around 6% in 2007 (source of data: Eurostat), and in some sectors it exceeded 10% (Santamaria, Nieto and Miles, 2012). In the Table 1 weight of services sold by manufacturing firms from selected sectors is presented. A manufacturing company that is on the path of servicing can face many difficulties in achieving the potential benefits of new service activities (Matusek, 2015). Furthermore, not always servitized companies generate higher net profits, as a percentage of revenues, than pure manufacturing firms (Neely, 2009), and conversely, extending the service activity in manufacture industry leads to higher costs and so called "service paradox" (Gebauer, Fleisch, Friedli, 2005).

*Table 1. Weight of services in the sales of European manufacturing companies from selected sectors and countries (adapted from: Santamaria, Nieto and Miles, 2012, p.145)*

Sector	Average weight (% of total production of each sector)	Country	Average weight (% of total production of all manufacturing sectors)
Manufacture of machinery and equipment	<b>6,5</b>	Spain	<b>5,0</b>
Manufacture of office machinery and computers	<b>10,8</b>	Italy	<b>5,2</b>
Manufacture of electrical machinery and apparatus	<b>8,1</b>	Portugal	<b>1,4</b>
Manufacture of radio, TV and communication equipment	<b>13,6</b>	Germany	<b>5,7</b>
Manufacture of motor vehicles, trailers and semi-trailers	<b>5,9</b>	Sweden	<b>7,5</b>
Manufacture of other transport equipment (ships, aircrafts etc.)	<b>6,0</b>	U.K	<b>8,3</b>
Manufacture of medical, precision and communication equipment	<b>7,2</b>	Belgium	<b>6,5</b>
Other manufacture (e.g. furniture)	<b>8,5</b>	Netherlands	<b>12,7</b>

Nonetheless, there is some evidence that the share of services in the manufacturing sector grows (Neely, 2007; Crozet and Milet, 2014; Baglin & Malleret, 2004 referenced by Crozet, Milet 2017, p.3), and around 30% of manufacturing (medium and large) firms globally may be classified as servitized (Neely, Benedetinni, Visnjic, 2011), but clearly smaller firms are more likely to achieve higher profits from servitization than larger firms, to which it seems more problematic (Nelly, 2009). A study in French market proved that for small manufacturers (with less than 50 employees) servitization is also correlated with higher sales and production of goods (Crozet, Milet, 2017). It should be emphasize though that the servitization process requires deep changes of strategy and the business model (ibid.) because the service innovations in manufacturing firms differ from those of product or process innovations, consequently necessitate more customer-centric organization (Santamaria, Nieto, Miles, 2012). It can be noticed that the sector of manufacturing of capital/durable goods is relatively often studied, (Gebauer, Fleisch, Friedli, 2005; Smith and Maull, 2014; Baines, Lightfoot, Benedettini, Kay 2009; Oliva, Kallenberg, 2003), with quite often reference to machinery manufacturing sector. Manufacturers of investment goods are more prone to servitization, as they usually represent mature industry, where product margins are diminishing and the strategic differentiation through product innovation and technological superiority is difficult to maintain in long-term perspective (Fisher, Gebauer and Fleisch, 2012, p. 2). For those companies service activity is a potential source for profits and way to keep competitive advantages. In this study, main focus is on small and medium enterprises from the machinery and industrial equipment manufacturing sector as well. The empirical research (interviews) is limited to Poland, but its role is only to support a literature review in the subject.

## 2. LITERATURE REVIEW

Servitization (Vandermerwe and Rada, 1988; Baines et al. 2009; Neely, 2009; Smith and Maull, 2014 ) and product-service system (PSS) (Goedkoop, 1999; Mont 2000; Manzini and Vezzolli, 2003) are the most common terms used by scholars, referring to the phenomenon of changes in the manufacturing sector, occurring globally, that in turn leads to increase of the importance of service activity. The main idea of servitization is to create value to the customer by adding services to the product offering, or selling more service-based solutions, e.g. replacing the sale of a tangible product with the offer of its usage – rent, lease or share (intangible service). For manufacturing firms it means a major shift in a strategy, business model and customer relations (Santamaria, Nieto, Miles, 2012), and the expected results (higher profitability, customer loyalty, increased competitiveness) are not always as obvious as it seems (Gebauer, Fleisch, Friedli, 2005).

While, in fact, services can create value for the customer and society in many ways, for instance by longevity of the product lifecycles, increasing the performance, or lowering costs (Mont, 2004), for manufacturing company this value is more difficult to grasp, in some circumstances even unavailable, and also has been questioned in some research (Neely 2009, Gebauer, Fleisch, Friedli, 2005). As the process of delivering services is generally very complex and requires different approaches than managing products, from designing to delivery phase, the manufacturers need guidance of how to become a successful service provider. There are research and works which propose and discuss some useful approaches and highlight on that matter (Oliva, Kallenberg, 2003; Gebauer, Fleisch, Friedli, 2005; Reinartz and Ulaga, 2008; Cohen, Agrawal and Agrawal, 2006; Pieroni et al. 2016). To ensure that decisions made at the beginning and during the servitization process are rational and wise, Ziout and Azab propose to employ a PESTEL analysis (Ziout, Azab, 2015), and Pieroni et al. suggest the Business Model Generation methodology as a basis of business analysis, which should be the first step of the transition to more service-oriented models (Pieroni et al. 2016). The literature review conducted by the author indicated that success factors of the servitization process are of different nature and are rooted inside and outside of the company, therefore the STEEPVL analysis, as advanced and comprehensive method, is proposed to examine the conditions for extension the product offerings by adding services in manufacturing sector.

## **2.1 Success factors for servitization of manufacturing companies**

Manufacturers traditionally offer products with some services as “add-on” to the core product. The more services integrated with the tangible product (e.g. lease or rent, maintenance, remote control, managing etc.) the more advanced the level of servitization. In this process the manufacturer takes a position at so called “product-service continuum” (Oliva, Kallenberg, 2003), which is adopted from the concept of continuum from pure-product to pure-service providers (Chase 1981, referenced by Oliva, Kallenberg, 2003). In the literature related to the term of product-service systems, there are three main types of services that can be integrated with products, namely product-oriented, use-oriented and result-oriented (Tukker, 2004). The result-oriented type of services represents the most advanced model of integration and corresponds with the highest level of servitization. At this point, products are not sold but their functionality is offered to the customers as a service offering. Mont (2004) points out, that while in B2B relations it is more common to accept the resignation of the ownership of products and buy services instead, in B2C relations the socio-cultural and historical context of each society play important role in its consumption habits and the attitude to ownership. Hence, a means to overcome obstacles that manufacturers may encounter on their way to servitization is the effective infrastructure, design and management of the service system, along with institutionalization of all its elements (Mont, 2004). One of the model examples of the company which transformed entirely into service provider from a pure manufacturer is International Business Machine (IBM) Corporation. A detailed case study of a path from the product-oriented to service-oriented business of this world leading computer and communication technology provider enables to infer that the key factors of their successful servitization are: creating a service vision, strategy development, leadership and teamwork, value sharing and communication and also anchoring a new service culture (Ahamed., Inohara, Kamoshida, 2013). Oliva and Kallenberg (2003) researched the machinery manufacturing industry and showed that a particular order of actions should be kept to tackle the challenges and develop capabilities for successful transition from product to services, so there is no point of introducing more advanced services like e.g. maintenance, without having proficiency in basic product-oriented services. In this process the critical success factor is the creation of a separate organization unit to handle the service offerings, with a dedicated sales force, service technicians and information infrastructure for management of service activities (Oliva,

Kellenberg, 2003). Similarly, Gebauer, Fleisch and Friedli (2005) point out the need of organizational and behavioural changes in order to extend the service business successfully. To avoid the “service paradox” in manufacturing companies, which means that extending service activity brings an increase of costs that overweight the expected returns, the authors suggest to put stress on the managerial motivation and organizational arrangement. And that should include: establishing a market-oriented and clearly define service development process, focusing service offers on the value proposition to the customer, initiating relationship marketing, defining a clear service strategy, establishing a separate service organization and creating a service culture (Gebauer, Fleisch, Friedli, 2005). Basing on further research, Gebauer and Fleisch in cooperation with Fisher, developed comprehensive guidelines for managers and researchers seeking recommendations of how to develop an effective service business in manufacture sector. They pay attention to the modifications of the operational capabilities of manufacturing firm evolving into the service providing business, and these should cover key aspects such as: corporate culture, human resource management, organisational structures, service development processes, IT support for the service business (Fisher, Gebauer, Fleisch, 2012, p. 145). The scale of modifications depends on the service strategy or the level of servitization. The authors distinguish four strategies (stages) that support the process of changes to become a service or solution provider, and these are: an after-sales service strategy, a customer support service strategy, a development partner, an outsourcing partner as well as a solution provider (ibid., p. 130).

Schnürmacher, Hayka and Stark (2015) formulated the requirements that original equipment manufacturer (OEM) should fulfil to become an original solution provider (OEM). A case study carried out by the authors, confirmed the need of meeting all the requirements identified in the literature, in the works of Oliva and Kallensberg’s and Gebauer’s et al, mentioned above. Additionally, they found out that in the machinery manufacturing sector technical and technological factors are of a great importance, and these are: ability to wireless transfer of data in a real time, tools for automated data analysis, and for integrated product and service development. This obviously imply the requirement for appropriate skills for analysing the operating data. The authors also identified some legal aspects that appear along with the services delivering, like: allowance for using operating data, or data security (Schnürmacher, Hayka, Stark, 2015). Ulaga and Reinartz (2011) see the success of delivering hybrid offering (a combination of products and services) in the unique resources and distinctive capabilities of a manufacturing firm. They find four resources as critical, namely: product usage and process data related to the installed base of tangible products of the company, product development and manufacturing assets, an experienced product sales staff and network of distributors and an organization of field services. To deploy these resources, a manufacturers should build five critical capabilities: service-related data processing and interpretation capability, execution risk assessment and mitigation capability, design-to-service capability, capability of mixing offering sales and hybrid offering deployment capability. This way the transition from product-centred manufacturer to integrated product-service provider will resulted in two advantages: differentiation and cost leadership (Ulaga, Reinartz, 2011). The analysis of value creation process of over forty globally operating manufacturers, who adopted service-oriented approaches in their firms, brought Visnjic Kastalli and Van Looy to the conclusion that the effect of servitization on the profitability in manufacturing sector is generally positive, though the greatest positive impact may be noticed at the low level of servicing, and after a certain critical mass of service activity is achieved. At medium-scale level of servitization, profitability is probable to decrease temporarily.

Therefore, it is advisable to estimate the potential of service business appropriately in advance, so that provider of integrated product-service offerings could overcome the investment



obstacles. The authors also put stress on the need of applying an integrated product-service business model – which enables to develop both elements, products and related services, and refers to services as complement to products. If services are viewed as “add-on” to activity, the profitability of it will be also limited. The positive effect of service activity on products activity may be also achieved by increasing the labour-intensive service offerings and, thereby enhancement of the customer proximity (Vicnjic Kastalli, van Looy, 2013). Matusek notices that not only the resources of the enterprise play crucial role in successful servitization process, but also external conditions of the company environment, taking also into account other organizations operating in the same market (Matusek, 2015). Pieroni et al. suggest the need of assessment of external aspects of four main areas of the firm environment (based on the Business Model Generation methodology). These are: key trends (regulatory, technological, cultural), macro-economic forces (global market conditions, commodities), industry forces (value chain, stakeholders, competitors) and market forces (segments, needs). To explore these areas as thoroughly as possible, different people inside the organization and external players should be interviewed (Pieroni et al., 2016). In sum, there are a lot of crucial aspects of successful transition from a pure manufacturer to the service or integrated solution provider. The detailed and comprehensive analysis should be conducted by manufacturing company management at the very beginning of taking the path of servitization.

## **2.2 STEEPVL analysis**

STEEPVL analysis is a strategic management method for identification of social (S), technological (T), economic (E), ecological (E), political (P), values (V), and legal (L) factors that influence the development of a given research area (Ringland, 2007, Kononiuk, 2010) or object (Vestergaard, 2012). It is an extension of traditional PEST analysis, which enables to evaluate only four group of factors (political, economic, social and technological). Expanding the PEST analysis area to seven dimensions of STEEPVL allows to more accurately identify the factors of the analysed area that could be overlooked in the traditional PEST analysis (Nazarko et al. 2017). It has come a lot of modifications and extensions to new group of factors over years (PESTE, STEEPE, PESTEL). STEEPVL analysis primarily serves to identify potential driving forces (scenarios) (Ringland, 2007) and to capture unprecedented events that break down trends, such as wild cards or weak signals (Mendonça et al., 2004). It was mainly used in foresight research (Kononiuk, 2010; Szpilko, 2015; Nazarko et al., 2017). However, the results of the method can provide valuable input to other analyzes, such as SWOT analysis (Czaplicka-Kolarz, 2007, p.11), to facilitate identification of opportunities and threats (Nazarko, Kędzior, p. 11). It is a good practice to generate the list of STEEPVL analysis by brainstorm method with the expert panel (Nazarko et al. 2017, Kononiuk, 2010). However, while considering the business use of the method, big and large companies probably can afford such research, but most of small or medium enterprises would abandon such study and they are more likely to use the STEEPVL method if the list of factors is previously prepared, developed and proven. Thus, the author believes that the findings of this study may be applicable for SME from industry sector, in particular machinery and industrial equipment manufacturers. The STEEPVL analysis outcomes (factors) should be afterwards assessed and classified in terms of uncertainty, relevance and significance, in order to reduce the factors number to those, which are the most important and crucial for development of the studied phenomenon (Schwartz, 1996; Postma and Liebl 2005). This part of research is most reliable and comprehensive if conducted by the expert panel. For the business purposes, the experts may come from the inside of the company.

However, to maintain the principle of the triangulation of experts and data it is advisable to, at least, involve in this part of analysis employees of different levels, genders, age and area of expertise, though the ideal solution is to include some experts from outside of the company. On



the basis of the results of STEEPVL analysis, a scenario building for development of the analysed field (or object) is possible. At this point, structural analysis (Arcad, 1994, p. 7; Nazarko, 2011, s. 15.) or factor analysis may be used (Nazarko et al., 2017).

### 3. STUDY RESULTS

In this section the results of the conducted literature study and the author's own research are presented. The author proposes a set of factors that may be helpful to analyse whether the conditions to become more service-oriented are favourable or not for the manufacturer. STEEPVL analysis is primarily used for examination of the business environment, however, there are no contraindications to study simultaneously the internal conditions (resources) of the institution as well.

#### 3.1 Findings from interviews with machinery manufacturers

In order to identify the aspects that are crucial in the servitization process from the manufacturer point of view, 21 structured interviews were conducted with polish entrepreneurs operating in the sector of machinery and industrial equipment manufacturing. The managers represented mainly small and medium manufacturers, as proposed STEEPVL analysis is dedicated to this sector. The companies mostly sell their products on the domestic market to business clients (85% of interviewed companies). All of them were asked two questions, among others, concerning the conditions of successful transition into service provision by manufacture businesses. Question 1 (a multiple choice list): “What information do you find essential and necessary in the process of servitization of manufacturing companies?”. And Question 2 (own answer): “What factors in your opinion have a significant impact on the success of the process of servitization of manufacturing?”. Table 2 presents the answers to the first question.

*Table 2.: The answers of manufacturers to Question 1*

Answers	Percentage of all answers	Number of all answers
Customer requirements and preferences	80,95%	17
Economic and financial analysis	57,14%	12
Cost of providing services	33,33%	7
Technical organization of service processes	33,33%	7
Technical and organizational aspects of integration of production and service processes	28,57%	6
Relationships, stakeholders, and partners in service processes	28,57%	6
Legal conditions for the provision of services	19,05%	4
Ecological aspects of production and service activities	14,29%	3
Added value for clients and the company	9,52%	2

Source: own elaboration

Surprisingly, while "customer requirements and preferences" were the first choice of most of the interviewers, the added value for clients and the company were only chosen twice. Although a number of research on servitization focuses on value creation to the customer (eg. Gebauer, Fleisch and Friedli, 2005; Visnjis Kastalli, Van Looy, 2013; Pieroni et al. 2016), on the example of polish manufacturers it can be noticed that for small or medium machinery producers the relation between value creation and servitization is unclear, despite the fact that they find their clients' preferences as critical in this process. Interviews also showed, that the economic aspects of servicing are the second key factor for the manufacture companies on their way to servitization.

As for factors that have a significant impact on the success of the process of production companies servitization (Question 2), the interviewers indicated:

- the willingness of costumers for transition to authorized services
- relationships with the clients and suppliers

- quality of provided services
- economic aspects of service provision
- advanced and extended service infrastructure (preferably modern machining centres) which enable to provide professional, fast and low-cost services for individual orders
- innovations in the service delivering process

One of the interviewers pointed out that in machinery sector most manufacturers are obliged to provide services for their products, and the extension of provision services is immanently linked to increasing production. However, extension in this case does not mean addition of new services but the increase of number of those that are already offered. Anyway, though the interviews confirmed that polish manufacture companies follow global trends for developing service offerings in the industry sector, this study aimed at acquiring knowledge about the experts opinions in given subject, so its results cannot be generalized for the whole sector or industry.

### 3.2. Proposition of factors for STEEPVL analysis for the machinery sector

On the basis of literature review and the analysis of case studies presented in the literature, taking also into account the results of conducted interviews with entrepreneurs from polish machinery sector, following input variables (aspects) are proposed to be assessed in frame of STEEPVL analysis:

1. **(S) Social** factors: • Education of the society • Mobility of society • Ability to acquire services • Ability to resign from the ownership of the product in favour of its usage • Willingness to share the product with other users • Global and local trends in consumer behaviour (e.g. fashion) • The level of wealth of society • Access to information • Manager motivation • Staff specialized in providing services • R & D resources (for product and services research and development) • Relational resources (with suppliers and customers)
2. **(T) Technological** factors: • The stage of the technology/product lifecycle • Opportunities for extending the lifecycle of the technology/product • The innovation level of the manufacture technology • The product architecture and complexity • Access to innovative IT tools and technologies • Capabilities for recycling and reuse of the technology/product • The database of products and their exploitation • The technology of the manufacturing of products owned by firm • IT technology owned by firm • Capabilities to ensure high data security • Service infrastructure • Tools and methods integrating development and design processes of products and services • Integration of product and services design processes • A system for monitoring and controlling the quality of both physical goods and services • Organization of on-site (field) services
3. **(E) Economic** factors: • Economic benefits for service recipients • Cost of extending the product/technology lifecycle • Cost of providing services • Cost of a product/technology modernization • Cost of exploitation and maintenance of machinery and equipment • Recycling costs • Cost of maintaining qualified staff • Marketing cost • Market/sector competitors
4. **(E) Ecological (Environmental)** factors: • The impact of industrial services on the environment • Environmental standards related to the recycling of machinery and equipment • Activity of pro-ecological groups • Energy and material consumption throughout the product lifecycle • The concept of sustainable development • The concept of corporate social responsibility
5. **(P) Political** factors: • Global/EU/foreign policy on innovative industrial solutions • State policy on innovative industrial solutions • Company strategy • Service offerings of the company • Strategy for the development of services in the enterprise • Relationship marketing (including service marketing) • The organizational unit in the structure of the

- company responsible for the service, including financial results • Financial and non-financial incentive system of the company
6. **(V) Values:** • Environmental awareness • Shaping the business relationship with the environment • Openness to the innovations • Impact on the health and life of society • Reputation, corporate image • Service-oriented business culture • Building and maintaining a customer service culture in the enterprise • Creation of value propositions for the customer
  7. **(L) Legal factors:** • Legal regulations for the provision of long-term services • Legal regulations on the functioning of the company • Legal protection of service consumers • Legal protection of data

The set of factors proposed above includes both external and internal aspects, and can be used to assess the possibilities and opportunities in the local market, as well as risk and uncertainty of expanding product offerings by adding services or shifting into service dominance. It enables to evaluate the external environment of company as well as its resources and capabilities. It was developed for machinery industry, however it may be easily transformed for another sector of investment goods i.e. products that are durable and capital-intensive, like for example: automotive industry, other vehicles and vessels manufacturing, furniture industry, manufacturing of different kind of highly specialized equipment (cooling, engine and turbine), computer devices etc. It can be applied as a recognition prior the decision-making process of servitization of the manufacturing company.

#### 4. CONCLUSION

Manufacturers, facing the harsh market conditions, increasingly apply new solutions such as service-oriented business models, by adding new services to their core product or integrating services with products into a system solution (product-service systems). A manufacturing company that servicing its activity, occur many difficulties in achieving the potential benefits and not always manage to generate expected profits. The servitization process requires deep changes of strategy and the business model, so it constitutes a major challenge from managerial point of view. The aim of this study was to develop a set of factors, that should be analysed by the manufacturing firm which is considering extension of service activity or transition from the product-oriented to service-oriented business model. The STEEPVL analysis was chosen, as a suitable tool to study both the external (broadly understood environment) aspects and internal capabilities of manufacturing firm for such undertaking. On the basis of literature review, supported by interviews with polish manufacturers of machinery and industrial equipment, seven group of factors (**S**ocial, **T**echnological, **E**conomic, **E**nvironmental, **P**olitical, **V**alues, **L**egal) are propose in order to assess the possibilities and opportunities in the local market, as well as risk and uncertainty of expanding product offerings by adding services or shifting into service dominance. The analysis can be applied as a recognition prior the decision-making process and new strategy building, and is dedicated for the capital goods manufacturers. The author is planning to verify the proposed set of factors of STEEPVL in further research. In particular, the factors will be evaluated by the expert panel from the machinery sector.

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## INNOVATION OF TRADING COMPANIES IN RELATION TO THE CONTENT OF ANNUAL REPORTS – RESEARCH RESULTS

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### **ABSTRACT**

*The field of interest of the following article includes the innovations of trading companies, their characteristics and scope, as well as the way information about them is related to external stakeholders in annual reports. In the world of business for many years accounting has been a system which delivers financial information as well as information supplementing data presented in financial reports. The annual report of an enterprise is the main tool used for communicating this information to external stakeholders. The needs of stakeholders expand the scope of the information reported by a business adding new areas in which the company has become involved in. In accounting the term "innovation" has not been defined in relation to financial reporting. As a result our research issue has been formed as a following question: should annual reports contain information regarding innovations and the innovativeness of enterprises? Does this area of a company's activity find reflection in annual reports and does the management acknowledge this information to be important enough to present it to stakeholders? The industrial era put more emphasis on production and product innovation and accounting related literature reflects this point of view. However, nowadays it is activities other than production that require more and more attention. With the end of the 20<sup>th</sup> century and within the postindustrial age the role of trading in economy has become more pronounced. The analysis of the issue of innovation from the perspective of a trading company will allow reaching conclusions regarding the character of marketing innovation in the reporting process of these enterprises.*

**Keywords:** *Accounting, Annual reports, Innovation, Marketing innovation, Trading companies*

### **1. INTRODUCTION**

The field of interest of the following article includes the innovations of trading companies, their characteristics and scope, as well as the way information about them is related to external stakeholders in annual reports. In the world of business for many years accounting has been a system which delivers financial information as well as information supplementing data presented in financial reports. The nature of accounting is to present an accurate and reliable picture of an entity's economic reality and achievements. The main tool used to communicate this information to external stakeholders is the company's annual report. However, those stakeholders expect to see not only financial information (shown as numbers or a depiction of the past), but also non-financial information (related as a description of business related matters) allowing the analysis of the results and the assessment of accomplishments which are significant in relation to the company's worth. The needs of the stakeholders expand the scope of the information reported by a business adding new areas in which the company has become involved. These areas need to be correctly presented and it is required that the accounting system to be adjusted to their specific character. This is the reason that a company's annual report, which more and more often is a comprehensive statement, is continually changing and includes a growing amount of information. One of the areas of which the stakeholders must be informed is innovations implemented by the entity. According to J. Nazarko (2013, p. 10) "Among the numerous stimuli which result in innovation-driven changes the ones that are most often identified deal with the company's attempts to become more competitive on the market". In the author's opinion the presentation of the field of innovation included within the annual report can convey conclusions which are cognitively significant.

From the perspective of an external stakeholder significant are those innovations which elevate the entity's position within the market, give it a competitive advantage within its field and create new market niches which are profitable. The competitive potential of an enterprise is understood as a set of tangible and intangible assets which the company needs to function on the market. Competitive advantage is the entity's ability to use its competitive potential in a way which allows it to create a market offer that adds value to its worth. A company's competitive advantage should ensure greater profits, higher dividends for its shareholders or owners as well as greater added value offered to its customers. On the other hand lack of innovation prevents the company from gaining competitive advantage and often leads to bankruptcy and the dissolution of the business. In light of the above it is possible, therefore, to pose the following questions: Should a company's reports include information related to implemented innovations as well as its innovativeness? Is this area of activity included in the company's annual reports and does its management consider this information as significant enough to be presented to its stakeholders? What is the reason for looking at innovativeness of trading companies? During the industrial era more emphasis was placed on the innovation of production and products which was reflected in literature dealing with accounting (Bispe, Otley 2004; Carlsson-Wall, Kraus, 2015 Lopez-Valeiras, Gonzalez-Sanchez, Gomez-Conde, 2016). Currently, more attention is paid to activities other than production. With the end of the 20<sup>th</sup> century and the start of the post-industrial era the role of trade within the economy has become more significant. In respect to trading companies it has been marketing innovations which have become the source of competitive advantage. Looking at the issue of innovation from the perspective of trading companies allows the formulation of conclusions regarding the character of marketing innovations included within reports of these types of businesses.

In light of these considerations the main aim of this article is the examination of innovations implemented by trading companies within both the theoretical as well as the empirical plane. The theoretical analysis includes the definition of these innovations and the inspection of how they are presented within the accounting system. The empirical portion presents the results of the author's research into the disclosure of information concerning innovation contained within annual reports of trading companies listed on the Warsaw Stock Exchange. The author proposes that the notion of innovation is known but not sufficiently presented in reports. This could be the result of the non-obligatory character of this type of information and the non-existence of a definition of this category within accounting law. Reporting marketing innovations which create important intangible resources having strategic meaning to their competitive advantage of an enterprise is particularly challenging to trading companies. Most of the time these resources are not included in the balance sheet due to conventions stipulated within legal regulations. Research methods utilized within this study include a review of literature as well as the use of indexing of disclosures for the analysis of annual reports.

## **2. THE MANNER IN WHICH INNOVATIONS ARE PERCEIVED BY TRADING COMPANIES**

The notion of "innovation" is both a multidisciplinary as well as an interdisciplinary category. It is difficult to find an unequivocal definition of this term in economics as well as in management science which proves that this concept is still being scientifically identified and defined. In a broader sense innovation is associated with the creation and introduction of something new into practice. This could be something that is new in relation to the company, the market or the world. These innovations can concern any area of human activity and may relate to changes in technology, in the structure of the economy, social systems or even nature. In a narrower scope the perception of innovation is limited to changes in production methods and products based on knowledge which is either new or has not been employed previously.

According to M. Rogers (1998, p. 5) "Innovation can be defined as the application of new ideas to products, processes or any other aspect of a company's activities. Innovation is concerned with the process of commercializing or extracting value from ideas; this is in contrast with 'invention' which need not be directly associated with commercialization". The sum of activities which result in innovation is called the innovation process (Piotrowska, 2013, s. 257). This process combines both intellectual and material aspects. A stimulus which is most often indicated as the cause of innovational changes is the organization's pursuit of increasing its market competitiveness. Innovativeness as a term derived from innovation is most often identified with abilities which an organization displays, such as the capability to discover, implement and popularize innovations. In the long run innovativeness is important in respect to the survival of the enterprise and to the maintenance of its market share and competitive advantage. Trade is a manner of doing business which is closely connected with the process of exchanging goods and is characterized by a high rate of change reflected in the scope of various performed functions, the creation of new types of economic entities as well as the implementation of new business models.

The main product of trade is a service or the creation of appropriate conditions for customers to acquire goods as well as ensuring that producers are supplied with the right level of service during the process of distribution. Under conditions created within a competitive market trading companies are forced to seek effective methods of operation in providing services to suppliers and the final customer (Sławińska, 2008, p. 7).

J. Chwałek is an advocate of the broader sense of the notion of innovation in trade. According to his definition innovation in trade is "every successful and accepted by market participants implementation of a new or significantly improved process of providing a commercial service or any significant element making up that service" (Chwałek, 2014, p. 88). An indicator of innovation is service (or a significant element of a service) being realized by a company which is perceived as new or substantially improved and that is positively assessed or accepted by market participants. Table 1 presents a classification of innovation in trade through the use of basic criteria applied in production.

Competitiveness of trading companies is connected to their innovativeness in the area of creating value for the customer. Marketing innovations, therefore, play a key role in regard to the changes occurring in commerce. Within the narrow scope they signify the introduction of new or considerable changes to the classic set of marketing instruments. Within the broad context these changes consist of the introduction of new elements seen, for example, in the addition of the aspect of personnel to the 4P mix to create the 5P mix and relate to new concepts of marketing or new methods of marketing research. New marketing operations aim to better adapt the product to the needs of the market, the needs and expectations of customers and change it so that it provides them with new benefits (Śmigielska, Wiśniewska, 2016, pp. 59-60).

These innovations may be tangible like, for example, the introduction of sales through vending machines, or intangible such as the introduction of changes to the atmosphere in which the product is sold. Marketing innovations also include the notion of the business model understood as a comprehensive concept of operation encompassing a set of elements and their relationships to each other which presents the manner in which a given enterprise operates within a specified field (Rajewska, Kowalski, 2016, p. 151; Medrano, Olarte-Pascual, 2016, p. 405).

*Table 1: Classification of innovation in trade (own research based on: Podręcznik Oslo, 2006, pp. 49-53, Mazurek 2013, p. 22; Chwałek, 2014, pp. 89-90; Sławińska, 2015, pp. 159-160; Śmigielska, Wiśniewska, 2016, pp. 59-60; Szuster, Szymczak, 2016, pp. 26-27; Sopińska. Mierzejewska, 2017, p. 22; )*

Selected criterion	Categories of innovation in trade
Market influence	Radical/crucial innovations: involve the implementation of completely new, never before used solutions. Incremental/evolutionary innovations: improve existing goods, processes or services, establish changes which are evolutionary in character.
Type of innovation	Technological innovations: are the result of the implementation of new technology. Non-technological innovations: changes in organization and marketing processes employed by the enterprise.
Uniqueness of changes	Creative innovations (also called epoch or pioneering innovations): discovery or invention of something new and using it for the first time. Imitating innovations (also called adaptive innovations): consist of imitation and recreation of initial changes.
Area within which changes occur (the object)	Product innovations: understood as the introduction to the market of new or significantly improved products or services within the scope of their characteristics or applications. Process innovations: implementation of a new or significantly improved method of providing services. Marketing innovations: consisting of the implementation of a new method of marketing connected to changes to the design/construction of a product or to its packaging, distribution, promotion or pricing strategy. Organizational innovations: consisting of the implementation of a new organizational method (management systems, organization of the work place or in relation to the environment).
The aspect of time and changes resulting from innovations	Strategic innovations: have long-term results and serve to realize strategic goals. Tactical innovations: concern current changes to products, technology, work organization and improve economic effectiveness.
Origin of creation	Supply-side innovations: changes are caused by technological achievements. Demand-side innovations: changes are caused by customer demands.
Source of creation	Open innovations: based on the transfer of knowledge and new solutions to and from the enterprise through an integrated network system of cooperating entities: businesses, research and development facilities, business environment institutions, public authorities as well as final customers. Closed innovations: realized using the internal resources of an enterprise.

The most important areas of innovation in trade include (Brojak-Trzaskowska, 2009, p. 196):

- 1) the products/services sphere – introduction of new, never before offered goods/services, introduction of existing products to new markets, development of a retail chain,
- 2) the organization and management sphere – introduction of new methods, techniques and instruments of managing an enterprise, establishing a pro-innovational culture within the enterprise, introduction of new methods of sale which require changes in work organization,
- 3) the technological sphere – the introduction of: new methods in the organization of the sale process, changes in the utilization of human resources, new fixed assets, modern IT systems,
- 4) the financial sphere – the use of systems supporting management such as the Management Control System (MCS), implementation of methods which improve liquidity and profitability in the short term, rationalization of prime costs,
- 5) the marketing sphere – continuous research and analysis of the competition and other environmental elements, research and analysis of strong and weak points of the enterprise, implementation of modern instruments for the intensive bolstering of sales and creating new market segments,
- 6) the logistics sphere – introduction of new or improved solutions into warehousing, purchase planning and realization, distribution and transport, management of the supply chain based on integration in managing sales, purchasing, shipping, distribution and servicing,
- 7) the human resource sphere – development of a motivation system allowing the employees to become more creative, application of unique methods for recruitment and selection of staff, development of a motivational system for the assessment of employees.

It must be stressed that innovative processes in trade or commerce may also concern various aspects of trading companies' activity which affect and depend on one another.

### **3. INNOVATION AND ACCOUNTING**

In accounting, in respect to financial reporting for general purposes, the notion of "innovation" has neither been defined nor identified as an element directly connected with the assessment of the company's financial situation. A significant indicator of the scope and importance of activities related to innovation are the expenditures made toward that goal. Innovations may be the result of the company's own research and development, its cooperation with other entities or result from the purchase of tangible or intangible knowledge. From the perspective of accounting, innovations are defined through the identification of tangible and intangible assets which are pro-innovative in character. However, the expression of expenditures for innovation within the balance sheet – as an element of intangible or tangible assets – requires the entity to prove that this item fits the definition of an element of an asset as well as fulfills the criteria required for its expression.

An enterprise which is innovative carries out a broad range of research and development work. It should be remembered, however, that only expenditures for development work are subject to capitalization while outlays for research are treated as a stage in the process of acquiring knowledge and are classified as costs of current operation. In practice development work is a stage in the preparation for the implementation of new products or technology. Expenditures for this work are usually incurred by manufacturers and so do not concern trading companies. According to B. Kucharska (2014) conducting research and development work is not essential for a company to be innovative (Śmigielska, Wiśniewska, 2016, p. 61). Knowledge, skills and the experience of managers, employees or customers may all be seen as internal sources of innovation, while suppliers, the competition, trade shows, conferences, data bases and the B+R sphere of may all be classified as its external sources (Szymański, 2013, pp. 73-74).



According to Polish accounting law only the main pro-innovative intangible assets acquired through acquisition and intended to be used by the entity are usually disclosed (The Accounting Act, art. 3. sec. 1 pt. 14). IAS 38 "Intangible assets" defines an element of intangible assets as "an identifiable nonmonetary element of assets without physical substance" (MSSF, 2011, p. 1024). This definition is very general and does not address the condition that an element of an intangible asset must be purchased or intended to be used for the needs of the entity. The conditions for the expression of such an element include identifiability, control, and the probability that it will bring economic benefits in the future which can be attributed to it as well as the ability to credibly assess its value. A significant portion of expenditures incurred for innovative intangible assets are added directly to current operational costs. In practice this hinders the assessment of innovativeness on the basis of financial information presented in the balance sheet. Enterprises, in observing the regulations of accounting law, do not express within their balance sheets intangible assets which they have created themselves that are used in the implementation of innovative solutions. This refers especially to such intangible assets as the company's: market or technical knowledge, customer relationships, market share, computer software, unique skills and abilities of employees, strategy, the quality of its organizational structure, know-how and internally developed brands. In relation to these elements it is problematic to prove that they fulfill the criteria included in the definition of an element of an intangible asset as well as those concerning their expression in financial reports. Usually they cannot be individually identified (singled out, sold separately). The entity also has no way of proving the exclusivity of their use or determining and controlling future economic benefits generated by them. It is also not possible to credibly and objectively determine the cost of their production and separate them from the entity's total costs of development which means that they cannot be expressed on the balance sheet. The structure of expenditures incurred for innovation is dominated by outlays spent on the acquisition of new tangible fixed assets (costs of buildings and structures, machines and equipment as well as transport). These expenditures are associated with technical or technological and process innovations. They attest to the implementation of technological advancements as well as new methods of operation. However, not all spending meant to exact changes in these assets can be ascribed as innovations since, for example, the purchasing of new equipment which is identical to that which the company already owns should not be included in this category. In conclusion, general purpose reporting facilitates the determination of expenditures made for innovational activity classified as intangible and tangible fixed assets.

#### **4. DISCLOSURES CONNECTED TO INNOVATION IN ANNUAL REPORTS OF TRADING COMPANIES LISTED ON THE WARSAW STOCK EXCHANGE**

The empirical portion of this research was divided into two stages: the first consisted of the analysis of financial reports while the second considered the remaining elements of annual reports with special attention to the management commentary. This research was based on qualitative methodology. The research problem was exploratory in character meaning it was meant to describe the problem rather than completing a large scale analysis of statistical data. The research sample consisted of 21 trading enterprises. Their selection depended on the availability of their annual reports through the "Investor Relations" tab on their web pages. Annual reports for the year 2016 were used where two companies applied the Accounting Act (1994) for their preparation and the remaining ten compiled them according to international standards. Table 2 presents the collective summary of the results of a review of annual reports in relation to disclosures connected to innovation. The completed analysis proved that within their presented accounting policy 15 enterprises (about 71%) defined intangible assets in accordance to their description in the IAS 38 Intangible Assets. In respect to five entities it is possible to include within this balance sheet item only acquired elements of assets since that term is included in their description.

*Table 2: Collective summary of disclosures connected to innovation in annual reports for the year 2016 of stock exchange listed companies (own research on the basis of the review of annual reports of selected currently operating commercial enterprises)*

Information type	Number of companies	Percentage
Financial report introduction, balance sheet		
Definition of intangible assets:		
a) acquired	5 (AB, EMPERIA, EUROCASH, EUROTTEL, MONARI)	23.81
b) acquired and created by the company	15 (ABC DATA, DELKO, DINO, GRODNO, HELIO, INTERSPORT, KOMPUTRONIK, KREZUS, LPP, NEUCA, OPONEO, PRIMA MODA, REDAN, TIM, WITTCHEN)	71.43
c) no definition	1 (CCC)	4.76
Cost of development:		
a) description	6 (ABC DATA, LPP, OPONEO, PRIMA MODA, REDAN, TIM)	28.57
b) no description	15 (AB, CCC, DELKO, DINO, EMPERIA, EUROCASH, EUROTTEL, GRODNO, HELIO, KOMPUTRONIK, KREZUS, MONARI, NEUCA, REDAN, WITTCHEN)	71.43
c) item expressed in the balance sheet	2 (OPONEO, LPP)	9.52
Know-how	0	0
Other intangible assets	21 (AB, ABC DATA, CCC, DELKO, DINO, EMPERIA, EUROCASH, EUROTTEL, GRODNO, HELIO, INTERSPORT, KOMPUTRONIK, KREZUS, LPP, MONARI, NEUCA, OPONEO, PRIMA MODA, REDAN, TIM, WITTCHEN)	100
Goodwill	14 (ABC DATA, CCC, DELKO, DINO, EMPERIA, EUROCASH, EUROTTEL, GRODNO, KOMPUTRONIK, LPP, MONARI, OPONEO, REDAN, WITTCHEN)	66.67
Management commentary		
The presence of the word innovation	1 (EUROCASH)	4.76
Other related terms:		
a) novelty/new	18 (AB, ABC DATA, CCC, DELKO, DINO, EMPERIA, EUROCASH, EUROTTEL, HELIO, INTERSPORT, KOMPUTRONIK, KREZUS, LPP, MONARI, NEUCA, OPONEO, TIM, WITTCHEN)	85.71
b) constant changes, improvements	3 (GRODNO, PRIMA MODA, REDAN)	14.28
Investment plans	11 (ABC DATA, DINO, EMPERIA, EUROCASH, HELIO, INTERSPORT, LPP, NEUCA, PRIMA MODA, REDAN, WITTCHEN)	52.38
a) Description	5 (ABC DATA, DINO, EMPERIA, PRIMA MODA, WITTCHEN)	23.81
b) Description and worth	6 (EUROCASH, HELIO, INTERSPORT, LPP, NEUCA, REDAN)	28.57
Actual investment expenditures for the year	4 (EUROCASH, HELIO, INTERSPORT, LPP)	19.05

All enterprises included in the study express and list typical elements usually contained within the balance sheet such as: trademarks, copy rights and licenses or computer software. Only one company (EUROCASH) listed their relationship with their customers as an intangible asset. The structure of intangible assets was described in the balance sheet as additional information. A very small group of companies (only six of twenty-one entities) disclosed the cost of research and development work and three of them stipulate that this item is not included in the balance sheet or does not concern their company. Only two enterprises (OPONEO, LPP) included in their balance sheet an element of an intangible asset which has been created as a result of development work done by the company:

- 1) OPONEO explains that expenditures made to design internet sites for the national as well as foreign markets have been classified as development work,
- 2) LPP points out that outlays directly connected to the design and construction of sample showrooms for selling clothing are treated as costs of development work.

After the fulfillment of specific conditions these expenditures are expressed in the balance sheet as intangible assets. More than half of the enterprises being considered in the research (approximately 67%) disclose in their balance sheets value which the company gained that has been created through the merger of economic entities. The analysis of the content of annual reports showed a lack of an element within the report devoted to innovative activity. As a result the informational portion of activity reports was analyzed with the conclusion that there is only one company (EUROCASH) which uses the term "innovation". This enterprise discloses information concerning the development of innovative retail sale formats as well as declares "Our operations are innovative and we consciously take risks in the belief that through this type of activity it we will become number one on the market". All innovations must contain an element of novelty. It is worth drawing attention to the fact that over half of all companies being considered use statements which are associated with this aspect: new products, new services, new channels of distribution, new retail space, new technology, new markets, new categories of consumers, new locations. Three of the reports contain expressions related to continuous development and improvement of solutions currently being used in various areas of operation which also may be associated with innovation. Management commentary should encompass information relating the company's more important achievements in the field of research and development. More than half of the enterprises included in the study convey information regarding this subject matter. Some companies being studied (5 entities) included only descriptive information with the remainder (6 entities) disclosing descriptive as well as value related information regarding their investment plans. Only four entities shared financial information connected to actual investment expenditures made during the fiscal year. All other enterprises emphasize within this portion of their management commentary that information regarding achievements within this area does not concern them. The analysis of descriptive information concerning main goods, information regarding markets, the character of external and internal factors crucial to development including elements of market strategy shows that the commercial enterprises being studied place considerable significance to new solutions ensuring benefits to the organization and its customers. These solutions may be associated not only with marketing innovations, technological or non-technological in nature, but also with organizational or process innovations. Changes implemented by the companies being considered are most often innovations whose aim is to improve operations and, therefore, usually mean modifying tools, technology or organizational solutions which are already in use. The main areas of development on the basis of which conclusions could be drawn regarding innovative processes of commercial enterprises include:

- investing in shopping centers through retail distributors, expenditures made for machines and equipment including those connected to the processes of automation and computerization,
- mergers and takeovers of existing commercial chains as a new stage of the process of concentration,
- modernization of existing commercial facilities – expansion of facilities, pro-ecological redesigns improving energy efficiency, optimizing costs and having a positive influence on the environment (reduction of CO<sub>2</sub>),
- investment into new computer technology facilitating integration of cooperating enterprises, optimizing the management process, helping to recognize customer needs and adapting to meet them, preparing market strategy on the basis of available knowledge,
- investing into e-commerce,
- so called soft investments which strengthen the company's own brand and build good relationships with business partners and customers (introduction of an own brand or loyalty program into the company's offer),
- implementation of new business models.

Retail sales enterprises predominantly invest into marketing innovations focusing on customer service while wholesalers are characterized by investing into process innovation.

## 5. CONSLUSION

From the perspective of reporting there is no notion to directly connect the achievements of a company in the area of innovation with their full presentation in annual reports. Reporting knowledge related to innovation is not a common business practice and is a challenge both to the practical as well as the scientific aspects of accounting. In the author's opinion the problem of innovation from the perspective of accounting requires further, in-depth study which is especially focused on research and development activity in relation to the type of operation as well as reporting innovations in company reports. The author proposes that necessary changes should include the implementation of subject related reporting or the reorganization of financial and non-financial information, presented mainly in management reports, so that it, to a greater degree, addresses the aspect of innovation and innovativeness. An innovative enterprise is characterized by systematic implementation of new scientific and technological solutions, high expenditures for activity related to innovation and carrying out extensive research and development work. For trading companies, where marketing innovation plays a key role, it is more difficult to gain information regarding expenditures made to promote innovative solutions. Marketing innovations mainly result from the need to stand out among the competition as well as to create additional benefits for customers. They are connected to making use of new solutions in various areas connected with customer service and most often are achieved through the efforts of the company, are the effect of internal conditions, employee creativity, customer needs and the monitoring of the competition and result in intangible assets created by the entity itself. These assets are seldom appraised in terms of value and expressed on the company's balance sheet. Very few of the enterprises considered by this study referred to costs of research and development and it was extremely rare for these expenditures to be included as part of intangible assets disclosed in the balance sheet. This fact should be seen as a barrier to the full assessment of the innovative potential of a commercial enterprise on the basis of presented financial information.

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## WHAT INFLUENCES USAGE OF EXTERNAL FINANCIAL SOURCES AMONG LARGE AND MEDIUM SIZED HOTELS IN V4 COUNTRIES?

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### **ABSTRACT**

*The paper focuses on financial issues of a hotel industry. Liquidity should always affect an ability of companies to take a credit. Furthermore, it is necessary to put a collateral behind the credit to create it more secure for a bank. The aim of the paper is to estimate whether liquidity and share of fixed assets has affected usage of external financial sources among hotels. Comparison is made through two ways. Firstly, it is compared the situation between large and medium sized hotels. Secondly, estimated relations are compared among V4 countries (Czech Republic, Hungary, Poland and Slovakia). As the main estimation method it is used Generalized Method of Moments with panel data from financial reports of those hotels. In particular it is used debt ratio, return of equity, liquidity quick ratio, liquidity current ratio and share of fixed assets. International financial database Amadeus has been therefore used for the analysis and in total 1,223 hotels have been analyzed. Estimation period is from 2006 till 2015. So, it is really possible to see in which conditions hotels used external financial sources within the period affected by the global financial crisis. From the results it is obvious that there are big differences between usage of collateral as well as level of liquidity, especially among hotels from the Czech Republic and Poland.*

**Keywords:** *Corporate Finance, Hotels, external financing, Generalized Method of Moments, V4 countries*

### **1. INTRODUCTION**

Using of external financial sources is broadly developed in modern world among all companies. Hotels are not the exception. Most common external sources come from a credit market in form of loans and bonds. However, they have to pay a price for that. The price includes a risk premium which often depends not only on a creditworthiness but also on a credit collateral. The collateral varies from the liquid i.e. liquidity to the illiquid i.e. properties in form of fixed assets. Liquid collateral is associated especially with lower risk premiums, and these loans perform better than those with illiquid collateral or no collateral (Berger et al., 2016). Current paper contributes to the issue above with the first investigation within a hotel industry. The aim of the study is to estimate whether liquidity and share of fixed assets has affected usage of external financial sources among hotels. The analysis is made for period affected by the global financial crisis, so it is possible to see how the hotels in V4 countries (Czech Republic, Hungary, Poland and Slovakia) were impacted by the crisis. Possible differences between large and medium sized hotels also motivated the paper. The paper is structured as follows. After the introduction it is briefly reviewed recent literature in Section 2. Next section describes used data as well as used methodology of panel GMM models. Then it is discussed the estimation output in Section 4. Finally, Section 5 concludes with a few open questions for future research.

### **2. LITERATURE REVIEW**

Even though there is a poor evidence connected with microeconomics of the hotels among literature, it is totally opposite to the hotel industry within whole economies (Dwyer et al., 2004; Atan and Arslanturk, 2012; Chou, 2013; Onețiu and Predonu, 2013; Tugcu, 2014; Seghir et al., 2015).

For instance, according to Tugcu (2014) tourism is perceived as an important source of foreign exchange that is used for financing economic growth. In his study, the causal relationship between tourism and economic growth in the European, Asian and African countries that border the Mediterranean Sea was investigated by using annual panel data covering the period 1998-2011. The results indicate that the direction of causality between tourism and economic growth depends on the country group and tourism indicator. Furthermore, the selected European countries seem to be the ones that benefit from tourism as an effective input and/or output for economic growth in the region. Nevertheless, according to the results of all studies above, tourism can really affect economies and somehow a society. Therefore it is necessary to fulfill this gap within its microeconomics evidence.

From the highlighted point of a view, the gap from previous paragraph, even hotels use two basic kinds of financial sources – internal and external. The usage of the external (i.e. loans, bonds) have, *ceteris paribus*, much more advantages than those internal (i.e. earnings). Even though their price, e.g. interest rate on loans, should reflect a credit risk, there are other factors that can impact on the price. To the knowledge of Berger et al. (2016), there are no attempts in the literature to explain why the empirical relation between measures of loan risk and collateral is sometimes positive and at other times negative. They found that the incidence of liquid collateral is associated with lower loan risk premiums. On the other hand they also found that loans secured by liquid collateral become delinquent or default less often than those with illiquid collateral. This is consistent with borrowers having greater incentives not to lose the more desirable liquid collateral. Similarly, lenders may have greater incentives to enforce their security interests and resist renegotiation pressures when collateral is liquid and can be sold quicker with smaller discounts in secondary markets. In our case only liquid hotels can make liquid collateral. Therefore it is appropriate to test whether or not the liquidity of hotels has significant impact on using debt.

A profit has key role within hotel industry as well. And of course, financial costs are not the only ones which can affect hotels' earnings. As it is usual not only among companies provided services, it is necessary to have e.g. costs for salaries, depreciation of tangible assets, or simply output consumption. For example, Chatziantoniou et al. (2012) even employed oil prices. In contrast with the tourism literature, they distinguish between three oil price shocks, in particular supply-side, aggregate demand and oil specific demand shocks. Their results indicate that oil specific demand shocks contemporaneously affect inflation and the tourism sector equity index, whereas these shocks do not seem to have any lagged effects. Aggregate demand oil price shocks exercise a lagged effect, either directly or indirectly, to tourism generated income and economic growth on the other hand. Their paper does not provide any evidence that supply-side shocks trigger any responses from the remaining variables. However, such costs as the oil price are unlikely impressible, neither from the hotel side nor from any other side within any European economy. We focus on the financial costs which can be influenced by the hotel in current paper.

### 3. DATA AND METHODOLOGY

It has been obtained data from Amadeus statistical financial database for period from 2006 till 2015. In particular it is used data to examine return on equity (ROE), debt equity ratio (DER), share of fixed assets (SFA), and hotels' liquidity, the quick ratio (L2) as well as the current ratio (L3). ROE is examined as the earnings after taxes on the equity. DER means total assets minus the equity and other current liabilities, whole divided by total assets. SFA is the fixed assets divided by the total assets. And finally, L3 is examined as current assets on the current liabilities, whereas in the case of L2 from the current assets the amount of stock is excluded.

Number of 1,223 hotels has been included into the analysis. Table 1 shows us particular numbers of the hotels to make a panel within each country of the V4, divided into those large and medium sized hotels.

*Table 1: Number of hotels from selected V4 countries (source: author's calculation)*

	Large hotels	Medium sized
Czech Republic	52	326
Hungary	19	280
Poland	52	303
Slovakia	13	178

### 3.1. Methodology

As the main estimation method it is employed a model with panel data. According to Heryán and Tzeremes (2017) the generalized method of moments (GMM) is used. The main relations of two-step GMM model using orthogonal deviations with fixed period effects are described by next equation (1):

$$DER_{it} = \alpha + \beta_1 DER_{i(t-1)} + \beta_2 ROE_{it} + \beta_3 LIQ_{it} + \beta_4 SFA_{it} + \varepsilon, \quad (1)$$

where the endogenous dependent variable  $DER_{it}$  is debt equity ratio of the hotels in  $i$  country in time  $t$ . GMM model includes lagged dependent variable  $DER_{i(t-1)}$  among regressors. Other exogenous variables are  $ROE_{it}$  which means hotels' return on equity,  $LIQ_{it}$  which varies between L2 and L3, and  $SFA_{it}$  which means share of fixed assets. All variables are stationary at their levels. Symbol  $\alpha$  and  $\varepsilon$  means constant and residuals. Within the analysis it has been differentiated between large and medium sized hotels from selected V4 countries.

## 4. DISCUSSION ON EMPIRICAL RESULTS

In this section it is described the output of the panel estimations. Relations among those large as well as medium sized hotels has been investigated. It has been estimated models with liquidity quick ratio (L2) and liquidity current ratio (L3) separately in columns within Tables.

Among the hotels in the Czech Republic in table 2 we see that the biggest impact on the debt ratio  $DER_{it}$  has the liquidity. There is no difference between L2 and L3. Otherwise, there are huge differences between impact of the liquidity among Large and Medium sized hotels in Czechia. We see positive impact among large hotels whereas it is negative and approximately five times higher among those medium sized. We argue that large hotels were increasing their liquidity  $LIQ_{it}$  while they were increasing the debt. Therefore they should have better interest rate on loans at lower level.

On the other hand, medium sized hotels were decreasing their liquidity  $LIQ_{it}$  while they were increasing the debt. If the medium sized did not used liquidity as the collateral they should have higher level of interest rate on loans then. Furthermore, decreasing of  $LIQ_{it}$  can have positive impact on hotels' returns on equity,  $ROE_{it}$ . Even though we cannot see any impact of  $ROE_{it}$  to  $DER_{it}$ , we see negative impact of the share of fixed assets,  $SFA_{it}$ . We also see much higher positive impact of  $DER_{i(t-1)}$  from the previous year.

Table 2: Estimation results for the Czech Republic (source: author's calculation in EViews 9)

<b>C Z E C H I A</b>	Large L2	Large L3	Medium L2	Medium L3
$\beta_1$	0.0240 <sup>a</sup>	0.0239 <sup>a</sup>	0.0021 <sup>a</sup>	0.0021 <sup>a</sup>
$\beta_2$	0.0000	0.0000	0.0001	0.0001
$\beta_3$	2.0130 <sup>a</sup>	1.9998 <sup>a</sup>	-0.1036 <sup>a</sup>	-0.1024 <sup>a</sup>
$\beta_4$	-1.1115 <sup>a</sup>	-1.1116 <sup>a</sup>	-1.6618 <sup>a</sup>	-1.6619 <sup>a</sup>
Fix period effects 2008	10.1216 <sup>a</sup>	10.1333 <sup>a</sup>	6.9753	6.9813
Fix period effects 2009	11.1919 <sup>a</sup>	11.3033 <sup>a</sup>	10.6948 <sup>a</sup>	10.7024 <sup>a</sup>
Fix period effects 2010	3.9285 <sup>a</sup>	3.9701 <sup>a</sup>	0.9004	0.8957
Fix period effects 2011	-0.8594	-0.8524	9.2190 <sup>b</sup>	9.2216 <sup>b</sup>
Fix period effects 2012	-6.8674 <sup>a</sup>	-6.9140 <sup>a</sup>	9.8699 <sup>a</sup>	9.8718 <sup>a</sup>
Fix period effects 2013	-6.3475 <sup>a</sup>	-6.3648 <sup>a</sup>	0.6204	0.6199
Fix period effects 2014	-8.1645 <sup>a</sup>	-8.2200 <sup>a</sup>	-8.6265 <sup>a</sup>	-8.6276 <sup>a</sup>
Fix period effects 2015	-4.3334 <sup>a</sup>	-4.2893 <sup>a</sup>	-2.4749 <sup>b</sup>	-2.4744 <sup>b</sup>
Obs.	357	357	1242	1242

However, within the case of Hungary in table 3 we cannot see any significant relations except two significant values of  $\beta_1 DER_{i(t-1)}$  among large hotels. Moreover, models for medium sized hotels suffered according to results of Sargan-Hansen test with not sufficient orthogonality. Therefore it is not possible to argue anything about Hungarian hotel industry in current study.

Table 3: Estimation results for Hungary (source: author's calculation in EViews 9)

<b>H U N G A R Y</b>	Large L2	Large L3	Medium L2	Medium L3
$\beta_1$	0.6709 <sup>a</sup>	0.5242 <sup>a</sup>	0.0192	0.0191
$\beta_2$	0.0002	0.0002	0.0000	0.0000
$\beta_3$	-4.9014	2.6883	0.0863	0.0453
$\beta_4$	0.1763	0.6949	0.0746	-0.1956
Fix period effects 2008	6.9447	2.7077	-2.9869	-2.9407
Fix period effects 2009	-1.5758	-0.2308	0.1106	0.9565
Fix period effects 2010	-7.0570	-1.8047	-2.5305	-3.1049
Fix period effects 2011	2.1553	1.8755	-3.1500	-2.2898
Fix period effects 2012	-5.5349	-2.2641	-1.2190	-0.4940
Fix period effects 2013	0.9393	0.2751	-2.6951	-3.1835
Fix period effects 2014	2.9932	3.0849	-0.8034	-1.0079
Fix period effects 2015	6.1626	3.8566	-0.9034	-1.2150
Obs.	123	130	1315	1613

Nonetheless, positive results have been reached again in the case of Poland in table 4. We see that the liquidity  $LIQ_{it}$  of Polish hotels impacted as well to their debt ratio,  $DER_{it}$ . Furthermore, it has been positive impact in both cases, of the large as well as of medium sized hotels. It means that all selected hotels should be able to reach lower interest rates on loans. We see that medium sized hotels'  $LIQ_{it}$  has bigger impact than within those larger. And it is also obvious that the liquidity current ratio (L3) influenced  $DER_{it}$  as the most. Apparently medium sized hotels have huge amounts of their stock in Poland. On the other hand, large hotels has big negative impact of the share of fixed assets,  $SFA_{it}$ , but just in their case, not in the medium sized. Obviously large polish hotels did not use  $SFA_{it}$  as the collateral. So, we can argue that the liquidity has a key role within usage of external financial sources of Polish hotel industry.

Bigger positive relation between  $DER_{it}$  and  $DER_{i(t-1)}$  from previous year is also evident in the case of large hotels.

Table 4: Estimation results for Poland (source: author's calculation in EViews 9)

<b>P O L A N D</b>	Large L2	Large L3	Medium L2	Medium L3
$\beta_1$	0.0418 <sup>a</sup>	0.0423 <sup>a</sup>	0.0010 <sup>a</sup>	0.0010 <sup>b</sup>
$\beta_2$	0.0000	-0.0001 <sup>a</sup>	0.0001 <sup>b</sup>	0.0000
$\beta_3$	0.0228 <sup>a</sup>	0.0252 <sup>a</sup>	0.1048 <sup>b</sup>	0.3032 <sup>a</sup>
$\beta_4$	-0.2308 <sup>a</sup>	-0.2333 <sup>a</sup>	-0.0320 <sup>a</sup>	-0.0316 <sup>a</sup>
Fix period effects 2008	-3.1334 <sup>a</sup>	-3.4018 <sup>a</sup>	-7.3175	-15.8732 <sup>b</sup>
Fix period effects 2009	1.1151	1.4047	5.5703 <sup>a</sup>	4.1467
Fix period effects 2010	-0.1791	-0.4632	4.6305 <sup>a</sup>	-1.4135
Fix period effects 2011	0.5202	0.9834	0.2879	0.7197
Fix period effects 2012	3.9240 <sup>a</sup>	4.5378 <sup>a</sup>	2.4665 <sup>a</sup>	2.9110 <sup>a</sup>
Fix period effects 2013	-1.7049 <sup>a</sup>	-1.6330 <sup>a</sup>	0.0916	0.3646
Fix period effects 2014	0.3749	0.6701	0.3775	-0.1300
Fix period effects 2015	1.1888 <sup>a</sup>	1.3250 <sup>a</sup>	-0.5708	-0.6350
Obs.	294	300	1525	1584

Nevertheless, we see almost all statistically significant results just within medium sized hotels in table 5 with the Slovak hotel industry. Against to previous results we see that the share of fixed assets,  $SFA_{it}$  has the biggest positive impact on  $DER_{it}$  among medium sized hotels. Even though medium sized hotels' liquidity  $LIQ_{it}$  has a little positive impact, we can argue that fixed assets are used as collaterals behind their loans in Slovakia. In the case of large hotels we just see that  $DER_{it}$  is highly positively influenced by  $DER_{i(t-1)}$  from previous year in the estimation period. Within medium sized hotels it is the only one negative relation between  $DER_{it}$  and  $DER_{i(t-1)}$ .

Table 5: Estimation results for Slovakia (source: author's calculation in EViews 9)

<b>S L O V A K I A</b>	Large L2	Large L3	Medium L2	Medium L3
$\beta_1$	0.6946 <sup>a</sup>	0.6977 <sup>a</sup>	-1.4985 <sup>a</sup>	-1.4986 <sup>a</sup>
$\beta_2$	-0.0031	-0.0037	0.0000	0.0000
$\beta_3$	32.0033	32.4733	0.0282 <sup>a</sup>	0.0275 <sup>a</sup>
$\beta_4$	-0.7655	-0.6862	0.7355 <sup>b</sup>	0.7350 <sup>b</sup>
Fix period effects 2008	-26.9027 <sup>b</sup>	-27.0349	41.6595 <sup>a</sup>	41.6640 <sup>a</sup>
Fix period effects 2009	-9.9982	-9.6879	36.4862 <sup>a</sup>	36.4910 <sup>a</sup>
Fix period effects 2010	9.7061	9.9443	28.3569 <sup>a</sup>	28.3678 <sup>a</sup>
Fix period effects 2011	-6.5517	-5.7580	46.7506 <sup>a</sup>	46.7627 <sup>a</sup>
Fix period effects 2012	4.3533	4.1238	49.3519 <sup>a</sup>	49.3471 <sup>a</sup>
Fix period effects 2013	-2.4005	-3.1140	48.9083 <sup>a</sup>	48.9200 <sup>a</sup>
Fix period effects 2014	12.2047	12.1800	9.7976 <sup>b</sup>	9.8134 <sup>b</sup>
Fix period effects 2015	4.9559	4.4824	5.4368	5.4492
Obs.	82	82	1186	1186

## 5. CONCLUSION



Current paper aimed to estimate whether liquidity and share of fixed assets affected usage of external financial sources among hotels. There were differences among V4 countries. Usage of external financial sources is affected by liquidity in the Czech Republic and Poland.

Large hotels in Czechia were increasing their liquidity while they were increasing the debt financing, whereas the medium sized were not doing so and their liquidity was decreasing, however. Otherwise, the large as well as medium sized hotels in Poland were increasing their liquidity while they were increasing their debt financing. Therefore it is argued that Polish hotels are in better condition to take a credit at lower level of interest rates on loans. The Slovak medium sized hotels were against to the previous the only ones that were highly increasing the share of fixed assets while they were increasing external financial sources. Even though there is no support for large hotels in Slovakia it is argued that companies within the Slovak hotel industry use fixed assets as collateral behind loans. In other countries it is the liquidity what matters as the collateral (which supports argumentation of Berger et al., 2016). Finally, however, there is no evidence to argue anything within Hungarian hotel industry. In future research it should be paid more attention to the Czech and also to the Polish tourism. Analysis can focus not only on the hotels. It would be appropriate to focus on the travel agencies, as well.

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## THE INFLUENCE OF FOREIGN OWNERSHIP ON CORPORATE SOCIAL RESPONSIBILITY IN SERBIAN COMPANIES

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### ABSTRACT

*In the last decade, not only the interest in corporate governance has increased, but the discussion has been significantly expanded and it includes some aspects of corporate social responsibility (CSR). The impact of the corporate governance mechanisms on social responsibility is a research area with increasing importance. Although there is evidence of a link between ownership structure, as a corporate governance mechanism, and CSR, there is not much knowledge about the impact of foreign ownership, as ownership type, on corporate social responsibility. The aim of this paper is to find out whether there are differences in the level of CSR in companies with a different share of foreign ownership, in the Republic of Serbia. For that purpose, we used the results of a survey conducted by the authors in 2016 on a sample of 24 corporations in Serbia. The analysis included five areas of social responsibility, namely: internal CSR, responsibility to customers, community responsibility, environmental protection and CSR disclosure. The empirical results confirm that there is higher level of CSR in companies with majority foreign ownership, which reaffirms the assumption of greater transparency of the operations of foreign corporations. However, we did not find statistically significant differences in other CSR areas. The findings improve understanding of the links between corporate governance and social responsibility and point to the necessity for Serbian companies to adapt the process of reporting on corporate social responsibility in accordance with European and global frames.*

**Keywords:** *corporate social responsibility, foreign ownership, corporate governance mechanisms, ownership type, ownership structure*

### 1. INTRODUCTION

The cases of recent corporate scandals, such as corruption and malpractices, as well as the global financial crisis, have increased the interest in firms' transparency and accountability. (Sánchez, Sotorrió, & Díez, 2011). Thus, it is necessary to analyze how corporate governance mechanisms can contribute to increasing corporate social responsibility. Specifically, there is a growing interest in the relationship between ownership type and corporate social responsibility (Dam & Scholtens, 2013; Oh, Chang, & Martynov, 2011; Graves & Waddock, 1994). When it comes to transition economies, such as the Republic of Serbia, one of the important ownership types is foreign ownership. The corporate sector in the Republic of Serbia was created as a result of the process of mass privatization of state-owned and socially-owned enterprises. Similar to other transition economies, the corporate sector in Serbia consists of "instant corporations" formed as the result of mass privatization, without the simultaneous development of legal and institutional structures necessary to operate in a competitive market economy (Babić, 2010, p. 562). Firstly, joint stock companies were formed and then the stocks were sold or freely distributed to employees and citizens or sold to investors, through various privatization models. Although the privatization process started in the 1990s, it has been intensifies since 2001.

In the period 2001-2008, 2199 companies in Serbia were privatized, mostly through auctions and tenders (Milovanović & Veselinović, 2009, p. 257), while the number has risen to date. Within the privatization process, there has been a significant inflow of foreign capital. Consequently, the business climate in the country has changed in certain segments and a huge gap has been created between domestic and foreign corporations, in terms of financial, organizational and many other business aspects, as well as in terms of corporate governance and corporate social responsibility. The foreign investors transfer business practices and know-how from countries of their origin and thus significantly affect the operations of domestic corporations. Many authors have investigated the influence of foreign owners on corporate governance and company performance in various countries. According to Jamali, Safieddine & Rabbath (2008, p.451) foreign companies in Lebanon are characterized by greater transparency compared to domestic ones. A research also shows that the participation of foreign investors in the ownership structure leads to improved financial performance, especially if they have critical voting rights and impact on management (Fogel, Lee, Lee, & Palmberg, 2013) or in the case of foreign corporations with a high share in the ownership of domestic companies, with a high level of commitment and a long-term perspective (Douma, George, & Kabir, 2006, p. 651).

Bearing in mind the influence of foreign ownership on corporate decision-making and performance in different business segments, it can be assumed that the decisions in the field of social responsibility are related to this type of ownership. Starting from the results of previous research that indicate the existence of the link between foreign ownership and CSR (McGuinness et al. 2017; Oh et al. 2011; Choi, Lee, & Park, 2013) and the knowledge about the Serbian corporate sector, briefly described in Introduction, the aim of this paper is to find out whether there are differences in the level of CSR in companies with a different share of foreign ownership, in the Republic of Serbia.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1. Corporate governance and CSR**

Although it is an area that has been relatively unexplored until recently and the research has largely been limited to the composition and roles of the board, corporate governance (CG) has gained immense importance over the last few decades and attracted the attention of scientists, due to a number of factors (Babić, 2003). With the development of the global economic crisis, it turned out that existing corporate governance models were insufficiently stable and reliable, as they failed to protect companies from excessive risk. Inadequate corporate governance is one of the causes of corporate scandals that have led to crises and / or collapse of large world companies, which has drawn public attention and led this field of research into the focus of interest and analysis. In addition, numerous negative consequences of irresponsible governance and management have confirmed the fact that the concepts of business ethics and social responsibility are important for corporate governance. Besides the economic goals and maximizing value for shareholders, corporations must also take into account the responsible attitude towards their internal and external environment. Balancing the interests of different stakeholders and finding ways to meet their (often conflicting) demands in an optimal way are difficult tasks that managers face on a daily basis. In this respect, it is possible to analyze the social aspect of corporate governance or the *social sensitivity of corporate governance*, which represents the “capacity of the corporate governance structure to respond to the interests of different stakeholders” (Sánchez, Sotorrió, & Díez, 2011, p.92). Hence, the stakeholder theory represents the basis for understanding the interdependence of CG and CSR. Expanding the domain of corporate governance from shareholders solely to other stakeholders is in line with the core CSR ideas.

The word "social" in the CSR concept refers to the responsibility towards a wide circle of stakeholders and can be viewed through two key dimensions, internal and external CSR (Commission of the European Communities, 2001; Hawn & Ioannou, 2016; Brunton, et al. 2015). Internal CSR encompasses: responsibility towards employees, adaptation to change and management of natural resources in production. External CSR is directed towards consumers, suppliers, partners, environment and local community, while CSR disclosure represents a separate area of growing significance and refers to the inclusion of social and environmental performance in company reports which makes the results comparable at an international level (Gray, Kouhy & Lavers, 1995). Nevertheless, the word "responsibility" implies that CSR is not only about good relations with stakeholders, but also means a step further, including voluntary, ethical and philanthropic activities (Carroll, 1991).

In addition, the basic CG principles require companies to promote transparency, accountability and honesty. Therefore, these three characteristics represent important touch points of CG and CSR. There are dilemmas whether CSR is a dimension of CG or CG is the basis of CSR, but the prevailing opinion is that these are the parallel concepts which belong to the same continuum (Jamali et al. 2008). Although CG is compliance driven, and CSR is voluntary driven, both concepts indicate the need for an interactive relationship between the company and stakeholders, which is characterized by openness and transparency. Consequently, they should contribute to the acquisition and retention of investors' and other stakeholders' confidence, as well as many long-term benefits, and above all business sustainability (Jamali et al., 2008). For example, a research shows that a combination of CSR and CG practices has a stronger positive effect on corporate financial performance than CSR alone, implying that CG positively influences the relationship between CSR and financial performance (Ntim & Soobaroyen, 2013). Starting from the interdependence of the CG and CSR, it is possible to explore whether and how CG mechanisms influence the behavior of the management in accordance with the requirements and needs of the society. The existence of well-developed and adequate corporate governance mechanisms is aimed at solving the principal-agent problem, i.e. reducing costs arising from the separation of ownership and control, as well as aligning the interests of owners and managers (Weir, Laing & McKnight, 2002). There are a number of corporate governance mechanisms that are most commonly classified in the literature as internal and external. The most important internal mechanisms relate to the ownership structure and governance boards, while the corporate control market and the legal / regulatory system are the most important external mechanisms of corporate governance (Denis & McConnell, 2003).

Having in mind the increasing number of theoretical and empirical studies dealing with the relationship between the ownership structure and the CSR (McGuinness, Paulo Vieito & Wang, 2017; Dam & Scholtens, 2013; Dam & Scholtens, 2012; Graves & Waddock, 1994), we focus of this very important CG mechanism in the paper. It is possible to distinguish two of its basic characteristics of ownership structure: concentration and ownership type. Starting from the package of shares held by owners, the ownership structure can be dispersed or concentrated. On the other hand, there are different types of owners according to their legal status, origin and other characteristics. The motives and goals of the majority owners significantly influence the basic corporate goals and strategy. Although maximizing the profit or market value of the corporation as the most important goal of the shareholders, this assumption is valid only when the market is complete (perfect). However, in the case of markets that are incomplete (imperfect), different types of owners may have conflicting objectives regarding the choice of a corporate strategy, due to different preferences in terms of risk taking, returns on invested funds, cash flow management, and the like (Thomsen & Pedersen, 2000, p. 692).

In addition, research confirms that different ownership types in different ways influence the making of strategic decisions (Oh et al., 2012), and that business performance largely depends on the ownership type (eg Hyun Tai, 2016). Owners can be classified into different types, according to various criteria. For example, there is state and private ownership, domestic and foreign ownership, as well as other types, such as: family ownership, institutional ownership, insider (managerial) ownership, bank ownership etc. Considering the specific area of the Republic of Serbia, where, due to the process of transition and privatization in the past two decades, there has been a significant inflow of foreign capital, and consequently an increase in the share of foreign owners as a of ownership type in corporate governance of many companies, we start with the questions: *Are there differences in the levels of CSR between companies with different level of foreign ownership in the Republic of Serbia?*

## **2.2. Foreign ownership and CSR**

Bearing in mind the influence of different national cultures and economies, it is quite logical that the consciousness of owners in terms of corporate social responsibility will vary depending on their origin, and the results of empirical research indicate this (McGuinness et al. 2017; Oh, Chang, & Martynov, 2011; Choi, Lee, & Park, 2013). These differences between domestic and foreign owners are particularly pronounced in economies that have gone through the transition process, such as the Republic of Serbia. One of the consequences of the transition was the privatization of many companies and the increase of foreign investors' share in ownership of domestic companies, as well as the opening of branches of foreign companies in the domestic market. Therefore, it is interesting to explore whether there are differences in the level of CSR between companies in majority domestic and majority foreign ownership.

On the one hand, it could be expected that the backward impact of the long-standing socialist system in Serbia, which implies the development of a collectivist spirit, will contribute to the concern of businessmen for society. In such a system, companies have largely practiced activities that could be characterized as socially responsible, such as donations, sponsorships, various forms of humanitarian aid, and the like. Certainly, the system was based on the central role of the state in the planning and decision-making of all areas of business, and therefore on those that are within the domain of socially desirable activities, which puts the state in the position of the only entity in charge of ensuring the welfare of the society as a whole. However, in modern business conditions, such position of the state is unsustainable and it is necessary that all business entities take part of the responsibility.

In a short time, capitalism has completely changed the value system, putting profit at the top of the scale of priorities. With the rapid transition from one system to another, there has been a sporadic development of corporate social responsibility. This was additionally contributed to by the unfavorable economic situation in the country. The lack of financial and other resources forces the companies to focus primarily on minimizing costs in order to generate a profit which enables survival, while the growth and development of corporations are still hampered. In such a situation, many owners ignore the importance of social responsibility, considering this aspect of business as an unnecessary spending of resources, and therefore do not support and encourage management to engage in such activities. On the other hand, in developed countries, the awareness of the necessity of a socially responsible business of all economic entities is highly emphasized, and the reasons for this are numerous and mainly result from a long-term orientation towards increasing the value of the corporation, in contrast to the short-term tendency to maximize profit. Also, the importance of CSR is very prominent in fast emerging countries such as China (McGuinness et al. 2017).



By investing in a domestic company, foreign investors bring with them capital, technology and know-how, but also the business policies, including an approach that implies the implementation of the concept of corporate social responsibility. Companies with the majority ownership of foreign investors are making significant efforts to achieve the "partnership relationship" with the environment in which they operate. Also, foreign owners are more focused on disclosing information on CSR and are aware of the importance of applying the appropriate reporting methods. This is reflected in the fact that 94% of the world's most successful companies use GRI guidelines, making GRI recognized as the world's leading standard for reporting on socially responsible practices that contribute to sustainable development (Mušura, 2007, p. 446).

Respecting everything stated above, we hypothesize ( $H_0$ ): *There is higher level of CSR in companies with majority foreign ownership*. If different CSR areas are considered, it is possible to decompose the basic hypothesis on three derived hypotheses:

*H1: There is higher level of internal CSR in companies with majority foreign ownership.*

*H2: There is higher level of external CSR in companies with majority foreign ownership.*

*H3: There is higher level of CSR disclosure in companies with majority foreign ownership.*

### **3. RESEARCH DESIGN AND METHOD**

The data on the first variable, foreign ownership are collected from the database of the Central Securities Depository ([www.crhov.rs](http://www.crhov.rs)). Two subsample groups are formed: one for majority foreign ownership companies (>50%) and another for minority foreign ownership companies (<50%).

The second variable, CSR is decomposed into three variables: are internal CSR, external CSR and CSR disclosure. External CSR is decomposed into following areas: consumers, environment and community. In order to measure the dependent variables in domestic enterprises, a survey was conducted in the territory of Central Serbia. For this purpose, a customized questionnaire was developed, developed by the author of the paper and used in previous research of this type (Stojanović-Aleksić, Erić-Nielsen & Bošković, 2016; Stojanović-Aleksić & Bošković, 2016), and based on the findings of Turker (2009), Dam & Scholtens (2012) Oh et al. (2011), as well as the questionnaire of the Serbian Chamber of Commerce. The questionnaire consists of 30 questions. The first part of the questionnaire includes statements about the key CSR areas (internal CSR, external CSR – consumers, environment, community and CSR disclosure) that respondents could answer using the Likert scale. General information about the respondents is collected through five questions that form the second part of the questionnaire, referring to gender, age, position in the organization, work experience and level of education. Secondary data on the ownership structure

The survey was carried out in several phases from January to December 2016, in companies from different industries, operating on the territory of the Republic of Serbia, and the results presented in this paper are only part of the results of the entire research. The total number of companies surveyed is 24, and their identity will not be disclosed, in order to retain the anonymity of the survey, as one of the key features of this method, which provides greater objectivity and quality of responses and minimizes the problem of socially desirable responses. Depending on the level of hierarchy in the company, we distributed 3 or 4 questionnaires per company, so the sample consists of 80 respondents, managers at different hierarchical positions. The characteristics of the sample according to foreign ownership are presented in Table 1.

*Table 1: Foreign ownership in the sample (Source: own research)*

Foreign ownership	No. of companies	No. of respondents
More than 50%	10	35
Less than 50%	14	45
Total	24	80

Data analysis was carried out using *Statistical Package for Social Sciences* - SPSS 20.0. The Cronbach's alpha coefficient is 0,890, indicating high reliability of the scale, taking into account the number of questions in the questionnaire. Then, the normal distribution of variables was tested, by means Shapiro-Walk tests, which has shown that none of the variables has normal distribution ( $p < 0,05$ ), so we applied a non-parametrical Mann Whitney U test of independent samples in order to compare the medians in two subsamples (majority foreign ownership – more than 50% and minority foreign ownership – less than 50%).

#### 4. RESULTS

In order to compare the statistically significant differences between the two independent subsamples, namely corporations with majority and minority foreign ownership, *Mann Whitney U test of independent samples* is applied (Table 2). The statistically significant difference is identified only in the area of CSR disclosure ( $p < 0,05$ ), while all other differences may be considered random. Namely, respondents from majority foreign owned corporations largely agree with the statements about CSR disclosure (Median=3,25) compared to respondents from the corporations with minority foreign ownership (Median=2,75).

*Table 2: Foreign Ownership and CSR: Results of Mann Whitney U test (Source: own research)*

	Internal CSR	External CSR			CSR disclosure
		Customers	Environment	Community	
Mann-Whitney U	613,000	712,500	663,500	703,500	520,500
Wilcoxon W	1243,000	1342,500	1698,500	1738,500	1555,500
Z	-1,699	-,732	-1,208	-,834	-2,602
Asymp. Sig. (2-tailed)	,089	,464	,227	,404	,009*
Majority foreign ownership (>50%)	N				35
	Median				3,25
Minority foreign ownership (<50%)	N				45
	Median				2,75

Based on the results presented above, we can conclude that CSR disclosure is higher when foreign investors' share is over 50% in the ownership structure of a corporation. Thus, there is limited support for initial hypothesis H0 and no support for the derived hypotheses H1 and H2. Such results are in line with some of the findings in emerging markets where only limited support was found for the influence of foreign ownership on social engagement of firms (McGuinness et al. 2017). However it is in contrast with other findings, where the broader evidence points to foreign owners' support of social-engagement (Oh et al., 2011). Nevertheless, we found support for the hypothesis H3 stating that the level of CSR disclosure is higher in companies with majority foreign ownership. This result reaffirms the findings of other authors who have also found that ownership structure matters for CSR disclosure (Habbash, 2016; Mohd Ghazali, 2007). It is also in line with the assumption about the greater transparency in foreign companies (Jamali et al. 2008). The result also points to the necessity of adopting the international sustainability reporting framework (GRI) in corporations with majority domestic ownership, both in state and private ones. Unfortunately, there is a lack of evidence of the observed relationship in transition economies, which would be interesting to compare to our results.

## 5. CONCLUSION

A review of the literature in the field of corporate governance and corporate social responsibility points to the actuality and importance of these areas for economic theory and practice. Starting from different theoretical considerations and results of numerous empirical research, one can conclude on the exceptional importance of the ownership structure for the achievement of the objectives in the field of corporate social responsibility. Corporate social responsibility is connected to both the ownership concentration and ownership type, as two key characteristics of ownership structure. Research shows that foreign ownership, as a type of ownership, is particularly significant for CSR in the search economy. We confirm these findings in the case of the Republic of Serbia, but only in the area of CSR disclosure. Based on the results of the statistical analysis, it may be concluded that there is a higher level of CSR disclosure in companies with majority foreign ownership. Still, we did not examine the cause-effect relationship between variables, so it is possible that foreign owners are more prone to invest in companies with higher CSR disclosure or that foreign ownership encourages and motivates the transparency in social responsibility reporting. Either way, the results are significant because they point to the importance of researching the relationship between foreign ownership and corporate social responsibility, and give rise to new knowledge about the relationship between the observed type of ownership and reporting on social responsibility. Although the results only apply to Serbia, the findings can also be valid for other countries with similar characteristics of the corporate sector and the approximate level of economic development. Also, we highlight the necessity for domestic owners to encourage the adoption of international guidelines on sustainability reporting, specifically the most prominent GRI framework that helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others ([www.globalreporting.org](http://www.globalreporting.org), 22.7.2017.). The research is certainly limited in some aspects. The paper only briefly describes the basic ideas on which the debate on the interdependence between CG and CSR is based. It is a complex and multidisciplinary area, to which more attention is paid in future research. In addition, the size of the sample can always be higher, and therefore represents the limitation and a chance to expand and deepen the research in the future, by involving a large number of companies, with different characteristics, in order to eventually consider the influence of some mediator variables on the analyzed link between foreign ownership and CSR. It would be interesting to conduct the same research in the neighboring countries in order to compare the results. Besides, by using non-parametric statistical tests, a statistically significant difference in CSR disclosure level was found in companies with different levels of foreign ownership, but it was not determined whether the foreign ownership represented an independent variable affecting CSR as a dependent variable. In future research, it should be tested if there is a causal relationship between the observed variables.

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## SUCCESS FACTORS OF A RESILIENT ENTERPRISE

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### **ABSTRACT**

*Current conditions observable on the present-day market are rather difficult from the perspective of enterprises and their operations. A great number of changes in the environment and their dynamics require continuous readiness for changes and swift reactions on the part of enterprises. Such a situation enforces changes inside enterprises that stem from their reaction to changes in the environment, not to mention some planned changes being a part of the development strategy and the necessity to react to continuous processes taking place inside an enterprise. Many enterprises cope with the abovementioned issues but some are unable to take advantage of the occurring opportunities and deal with limitations and managerial difficulties. Efficient management ensures stability and economic stability both for the enterprise as well as for the employees and the management team. The purpose of this paper is to indicate durability and stability factors of an enterprise in the period of intensive changes. Conclusions were drawn based on the analysis of quantitative and qualitative research. The base method comprised of a survey questionnaire which for the purpose of the conclusion drawing process was supported with an in-depth interview. Research has been carried out in May and June 2017 in eight enterprises from podlaskie voivodship that are recognised leaders in their area in Poland. These are large enterprises from construction, engineering and pharmaceutical industries. Each and every one of those frequently awarded enterprises has great experience, operates using modern technologies, has creative R&D departments and sells its products and services abroad. Enterprises for the research were selected intentionally, based on their position on the market, growth and economic stability and the ability to manage change. The main conclusions resulting from the research are related to factors conditioning market success that make those enterprises durable and resilient. The main factors include: effectiveness of change management, agile managerial staff, proper selection of target markets, the ability to identify goals and interests of both internal as well as external stakeholders, negotiation capabilities and the ability to control emotions in an effective way.*

**Keywords:** *change management, durability, resilient enterprise, stability, success factors*

### **1. INTRODUCTION**

Current conditions observable on the present-day market are rather difficult from the perspective of enterprises and their operations. A great number of changes in the environment and their dynamics require continuous readiness for changes and swift reactions on the part of enterprises. Such a situation enforces changes inside enterprises that stem from their reaction to changes in the environment, not to mention some planned changes being a part of the development strategy and the necessity to react to continuous processes taking place inside an enterprise. Many enterprises cope with the above mentioned issues but some are unable to take advantage of the occurring opportunities and deal with limitations and managerial difficulties. Efficient management ensures stability and economic stability both for the enterprise as well as for the employees and the management team. The purpose of this paper is to indicate durability and stability factors of an enterprise in the period of intensive changes. The thesis subject to analysis indicates that resilience of an enterprise is connected with efficient change management and allows to obtain durable business activity.



Conclusions were mainly drawn based on the analysis of qualitative research which constitutes a part of more extensive research, both quantitative as well as qualitative. The base method comprised of a survey questionnaire which for the purpose of the conclusion drawing process was supported with an in-depth interview. Research has been carried out in May and June 2017 in eight enterprises from *podlaskie* voivodship that are recognised leaders in their area in Poland. These are large enterprises from construction, engineering and pharmaceutical industries. Each and every one of those frequently awarded enterprises has great experience, operates using modern technologies, has creative Research and Development (R&D) departments and sells its products and services abroad. Enterprises for the research were selected intentionally, based on their position on the market, growth and economic stability and the ability to manage change.

## **2. DURABILITY AND RESILIENCE CONSIDERATIONS OF A BUSINESS ACTIVITY**

For years the issue of enterprises functioning in a turbulent environment and related consequences has been widely researched and analysed in the specialist literature. Research refer to change process analysis and also strategies and enterprise behaviour (Ansoff, 1985; Porter, 2001; Schwartz, 2004; Kotler, Caslione, 2009), mainly in the area of change management (see among others: Ackermann Anderson, Anderson, 2010; Bridges, 2008; Cannon, McGee, 2012; Foster, Kaplan, 2003; Jick, Peiperl, 2010; Kotler, Schlezing, 2008; Kotter, 2014; Kotter, 1996; book by multiple authors, 2007; Kotter, Cohen, 2007; Spector, 2012; Paszkowski, 2015), and also the issue of vigilance, resistance, resilience or durability of a business activity (Kotler, Caslione, 2009). The said issues are discussed not only from the perspective of economic crisis but also ecological, political, social upheaval or natural disasters. The importance of flexibility, creativity and corporate social responsibility (CSR) gets highlighted in the operations of enterprises and non-economic organisations. The ability to spot weak signs concerning threats and crisis in the environment is especially important (Watkins, Bazerman, 2003, pp.72-81; McGee, 2004; Day, Schoemaker, 2006). Creativity of the management staff and the developed organisational culture favouring changes constitute a basis for flexible activities. Change dynamics and diversity in the environment lead to the emergence of two types of situations, i.e. great susceptibility to threats and crises or the possibility to use the emerging chances and opportunities. In both cases it is necessary to react. On the one hand it is mainly about looking for the possibility to cut down some, not all, costs, on the other it is about taking actions increasing market share, entering new markets or strengthening the economic and marketing position on the already existing markets (Thomas, Lamm, 2012, pp. 191-203). Of course enterprise stakeholders matter a great deal (Freeman, 2010, p. 48; Harrison, Wicks, 2013, pp. 97-124). It is important to pay full attention to their goals and interests in order not to overlook or neglect them. In this respect effective communication and honesty, as well as mutual analysis of a given situation and designed activities is necessary. It is very important both in the case of external as well as internal stakeholders when emotional behaviour may be often observable. Activities in the area of corporate social responsibility may serve an additional stabilising role, especially as regards internal stakeholders (Paszkowski, 2014, pp. 7-14). In every case and in both types of situations competencies of the management and employees play a decisive role as at times they may hinder operations, which happens when their competencies are low or not good enough to handle complex situations and make difficult decisions. Nevertheless the process of increasing competencies and learning is much more important. If the said process is managed properly it may give rise to the development of high competencies that will be used later on during subsequent operations (Teece, Pisano, Shuen, 1997, pp. 509-533). In a turbulent environment such competencies let people focus on making use of the emerging little chances and market opportunities. At the same time enterprises also

use simple management rules and sometimes decide not to rigidly follow the rules and procedures enlisted in the corporate governance. Up to now such features and operations were attributable mainly to small and medium enterprises. Yet, at present such conduct seems necessary also in large organisations. In this way new operation rules are being created which on the one hand constitutes a deviation from the adopted rules and procedures, while on the other a necessity to maintain flexibility resulting from a changing enterprise. This leads to the creation of characteristic stabilisers which impact on the process of maintaining durability of a business activity based on vigilance, resistance and resilience. These features are described in the specialist literature from different perspectives: economic, social, ecological and CSR (Davoudi, Brooks, Mehmood, 2013, pp. 307-322). This paper primarily focuses on the economic aspect of resilience, assuming that resilience has profound significance for the operations of enterprises. From the business perspective resilience is defined similarly. Above all it is the ability to restore operational capabilities and efficiency and also the ability to regenerate (Hamel, Valikangas, 2003, pp. 52-63; Kotler, Caslione, 2009, p. 116; Petit, Croxton, Fiksel, 2013, pp. 46-76;). Such ability goes hand in hand with the ability to overcome short-term disruptions and belongs to the static perspective. While the dynamic perspective assumes using opportunities and chances. However, resilience gets discriminated from adaptivity. Adaptivity means a lasting change that adjusts an enterprise to environmental changes. This leads to permanent function and subsystem changes in the enterprise. Whereas resilience entails temporary changes which minimize threats and/or use the opportunities but with no or insignificant change to functions, processes or procedures. Resilience may lead to the emergence of adaptation capabilities in the enterprise provided that the learning and knowledge management processes are efficiently delivered (Duchek, 2014, pp. 861-866). Evolutionary changes related to the change management strategy impacting on the management model and strategy may be a consequence of this approach (Demmer, Vickery, Calantone, 2011, pp. 5395-5413).

### **3. RESILIENCE AND DURABILITY OF A BUSINESS ACTIVITY BASED ON OWN RESEARCH**

Management processes present in large enterprises in the north-east Poland function in line with the assumptions of the corporate governance. It is especially visible when external operating conditions are stable. Nevertheless, the developed procedures and operational rules relatively often get breached, mainly on the occasion of entering new markets and establishing new business contacts. Along with new contacts new, mostly unique relations arise which requires the management to act in a non-standard way. Such a situation may be viewed as natural provided that it does not disturb the operating standards already in place or the execution of existing contracts. Often it is the opposite. That is why flexibility in operations and frequent change of priorities often take place in the researched enterprises. Such situations may cause disorganisation which exacerbates problems with information flow. This has been pointed out by the management of each and every researched enterprise. On the other hand the need for flexibility does not cause disruption in functions that are delivered in a standard way or repeatable actions. This is because authorisation powers get delegated to functional departments that are in direct contact with external stakeholders and are competent to make decisions concerning internal units. In more complex situations the Board decides on coordination activities and defines priorities. In this way regular employees learn how to deal with difficult problems. This constitutes a basis for resilient behaviour in enterprises and a tendency to accept changes and often to initiate them. All the enterprises subject to research have stable economic situation and often long-term contracts that provide grounds for durable operations in the long run. This leads to stable behaviour, promotes replicating developed patterns, principles and activities. It is a beneficial phenomenon provided that there are no disruptions or crisis

situations. All the researched enterprises share a dominant feature, namely a tendency to extend their area of operations, enter new markets and innovate products. Yet an active search for new markets and launching new products must cause tension and crisis situations. As a consequence priorities become modified and changes are introduced into management processes. Not to mention internal turbulence resulting from staff shortage, mainly engineers. Another problem, according to CEOs, is a poor process of diagnosing situations and planning in complex, new or irregular situations and the measurement of the change course and effects. Thus the necessity to find qualified staff and invest in the already employed ones. “I am always ready to hire, I just need the right people”, said one of the CEOs responsible for the HR area. Enterprises are also dependent on macroeconomic conditions and, as any other, have gone through some difficult moments due to weak market times and economic crisis on different markets. Yet despite multiple threats and difficult situations, the enterprises subject to study have come up with features and behaviours that not only let them survive in a turbulent environment but also improve their economic position and reliability. All these features together may be defined as resilience of an enterprise. The interviewed CEOs indicated effectiveness in change management as the most important feature characterising their enterprises. Changes that were introduced during the period of undisturbed growth were described as minor but very frequent. “In our enterprise change is something permanent, there is no zero-change period, this is what I expect as the CEO but also this what the market requires. Since our situation is stable we don’t need big changes but they should happen continuously,” said one of the CEOs and his words give a full view of significance attached to change. Almost always changes were initiated by the management, they play the role of the change leader. This results from the fact that they care about their stakeholders, mainly external, whom the change directly concerns. Nevertheless, everyday change management was usually handed over to a person in charge of a department/area that the change concerned the most. This led to problematic situations in enterprises such as communication and negotiation issues or conflict of interests. Reaction was very quick - change was closely supervised by the change leader, the Board was interested in the course of the change process, and at times external advisory and training support was provided. The success of the changes depended on the ability of the change leader and managers to manage emotions and negotiations. At the same time the area of internal communication and emotions management have been indicated as an area requiring improvement. Such awareness results from learning which is characteristic for a resilient enterprise. As the time progressed, a new mechanism to introduce and implement bigger changes was developed. The role of the leader and person responsible for managing bigger changes has been assumed by the most competent managing director. Yet, this is a person who has “grown and matured” in the enterprise where, as J.P. Kotter defines, change has been embedded in the organisational culture (Kotter, 2007, p.197). Behaviour of the enterprises subject to study in the period of slump in trade and economic crisis was key from the perspective of durability of their business activity. Almost all these enterprises, except for one, required big changes. Reactions of enterprises were different. In one case market slump reached 80% of the sales volume. Under the implemented recovery plan (a survival plan) it was agreed with the employees that the remuneration of all the employees, including the Board, would be reduced by over 30% until they had overcome the crisis. Also, various types of expenses were reduced, except for outlays on training, the Research and Development Department and fringe benefits, e.g. they maintained an allowance for not smoking. Nowadays the enterprise is very innovative, it has won back its markets and entered new ones. The remuneration level has doubled compared to the level before the crisis. Reaching this point required courageous decisions from the owners and the Board and building trust among the employees, which bears fruit today (no one quit the job). “We have learnt to suffer together but also how to build mutual trust and belief in achieving success by developing key skills,” said one of the co-owners referring to that difficult period.

Another enterprise in the face of economic crisis decided to expand. They have taken over a few smaller enterprises from the construction sector. Thanks to market penetration and selection skills, considerable experience and negotiation skills of the Board the enterprise dealt with the crisis to become one of the biggest players on the Polish construction market and has gained a strong position mainly in Norway, Belarus or Russia. "Above all crisis is an opportunity but it requires that the company takes smart investment decisions, cares about its stakeholders and reliability." According to the co-owner of this enterprise the main source of success lies in responsible and competent Board and young, courageous management with high degree of empowerment. Another enterprise subject to study underwent in the past years a number of ownership changes while continuously expanding. As a result its production and sales capabilities have multiplied. At present the company is a leader on the Polish market in producing and building modular houses and one of the leading distributors and sellers on the German market. What is more the enterprise was active on several markets in Europe. It had to modernise and adjust to new operating conditions. In this way changes were inherent in its functioning. Faced with continuous shortage of engineers and specialist workers, the management had to change the rules and procedures and develop new ones. They decided to invest in employees, relatively high remuneration, considerable outlays on training and staff improvement. The evolution of the enterprise has shown the employees that is not worth being afraid of new challenges and that changes and dealing with different situations, especially logistic threats and changeable legal rules on various markets, is a norm which should be accepted. As the employees say: "we accept and think about continuous changes, this is our way of operating." At the same time they employ very creative employees, especially for the marketing, sales, logistics and R&D departments. The company is open to cooperation with research institutes and other enterprises, supports local vocational schools by training future staff. The enterprises subject to study are aware of their evolution, position and market opportunities but most of all they pay attention to a continuous need for improving operations as, according to the management, there are numerous areas of insufficiently developed (but not low) competencies. Yet this should not be a development barrier. Thus big investment in staff development and improvement of the efficiency of motivation systems. Nevertheless, experience gained in the meantime is of a key significance. This applies mainly to change management, conclusions drawn from crisis, learnt agile and swift reactions to the situation in the environment, and taking care of the interests of internal and external stakeholders. These elements guarantee enterprise resilience and condition the durability of business activity and further growth.

#### **4. CONCLUSION**

The main conclusions resulting from the research are related to factors conditioning market success that make those enterprises durable and resilient. The main factors include: effectiveness of change management, agile management staff, proper selection of target markets, the ability to identify goals and interests of both internal as well as external stakeholders, negotiation capabilities and the ability to control emotions in an effective way.

Recommendations:

- improvement of activities in the area of planning related to more detailed diagnosis of the situation and more effective anticipation of changes in the environment,
- improvement of the change management efficiency, among other things by precise measurement of processes and obtained effects and quick reaction,
- increased operating freedom and empowerment of the middle management,
- more efficient communication with stakeholders,



- further improvement of communication channels by introducing direct and faster contact with external stakeholders,
- increased creativity and innovativeness among the management and employees, e.g. more effective motivation schemes.

Resilience of enterprises and obtaining durability of a business activity already is and will be more and more important from the perspective of the company survival and development. Continuity of changes inside an enterprise along with lack of such continuity in the environment brings in the necessity to have the right management staff and employees in place for these processes. Then it is important to have simple management rules, act in a flexible and creative manner and be able to get back to well-tried rules and procedures under the current business model. Adopting change management processes to the organisational culture of a given enterprise is a condition of their resilience and will lead to durability of a business activity.

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## **Entrepreneurship Caught Between Creativity and Bureaucracy**

## SOCIAL ENTREPRENEURS' MOTIVES: SEARCHING FOR REGIONAL AND AGE DIFFERENCES

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### ABSTRACT

*The phenomenon of social entrepreneurship has been discussed widely, however, the similarities and differences in the motives of social entrepreneurs among regions and age groups are not studied deeply enough. The aim of our research is to explore the phenomenon of social entrepreneurial motives (reasons) to understand regional as well as age differences. Our research is based on the qualitative research method particularly focused on a phenomenological approach. To conduct the survey, we used such methods of data collection as randomly face-to-face interviews with social entrepreneurs and an online Google questionnaire. Our findings show that the motives of social entrepreneurs are not completely similar across regions, but more different between age groups. Young people are looking for enjoyment, networking and to get experience. Adults are led by their passion and need for professional fulfillment (to apply their experience). The regions matter a lot for motives' prioritization. The research results may provide a basis for further empirical studies on social entrepreneurs' motives in the context of generation, gender and training.*

**Keywords:** motives, social entrepreneurship, young and adult social entrepreneurs

### 1. INTRODUCTION

Every day people try to design and implement new products and services, new methods and processes. We call them entrepreneurs. Among these entrepreneurs there is a group of social entrepreneurs, whose primary purpose is to tackle social, economic and environmental challenges, but not for profit. What motivates them? Are there any differences in social entrepreneurial motives across the Omsk region and other regions of the world? Do young people and adults have similar motives to participate in social projects?

We begin our study from the existing definitions of social entrepreneurship trying to outline the framework for our research. Our research relies on the concepts of social entrepreneurship provided by Leadbeater (1997); Dees (1998); Austin et al. (2006); and Dacin et al. (2010). We also explore the recent studies of social entrepreneurship motives, incentives and antecedents, that provide a reliable foundation for further research in this field. Our research questions were raised from the research gaps identified by Nicholls (2010); Roy et al. (2014); Germak & Robinson (2014), that allowed us to formulate the aim of research as follow: to explore the phenomenon of social entrepreneurial motives (reasons) to understand regional as well as age differences. To answer our research questions, we use the qualitative approach, namely the phenomenological approach. Our semi-structured survey combines methods of face-to-face interview and online questionnaire. We conducted our survey in the Omsk region, Russia, and in the Jena region, Germany. Particularly, at Friedrich Schiller University of Jena we met people from different countries who participated in our survey. Our data contains answers from 73 respondents from Brazil, Germany, Italy, Nigeria, Pakistan, and Russia.

## 2. THEORETICAL BACKGROUND

### 2.1. The framework of the research: how we understand social entrepreneurship

According to Leadbeater (1997, p. 10) an idea of social entrepreneurship combines two components – “the social and the entrepreneur.” Chahine (2016, p. 3) claims that “social entrepreneurship refers to ventures and interventions targeting underserved populations, decreasing the gap between those who have access to social services and those who do not.”

Social entrepreneurs may act effectively in instances of market failure (Austin et al., 2006; McMullen, 2011) or government failure (Dees, 2007). “A problem for the commercial entrepreneur is an opportunity for the social entrepreneur” (Austin et al., 2006, p. 3). “Social entrepreneurs, operating outside of the constraints of government, significantly enhance our ability to find and implement effective solutions to social problems” (Dees, 2007, pp. 24-25). To answer the question “Who are Social Entrepreneurs?” we may start from the definition of entrepreneur.

Austrian economist Schumpeter (1947, p. 132) provides the definition of entrepreneur to which we most commonly refer today: “The function of entrepreneurs is to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of materials or a new outlet for products, by reorganizing an industry and so on.”

It was concluded that social entrepreneurship “is not a distinct type of entrepreneurship” (Dacin et al., 2010, p. 37). We would say that some features of social entrepreneurs are the same as Schumpeterian – entrepreneurs bring creative destruction, they reform or revolutionize, they innovate. But at the same time they differ from the Schumpeterian entrepreneur because they aim at a social impact. We would agree that “the core of entrepreneurship – in Schumpeter’s words, ‘the carrying out of new combinations’ – is context free, that is, it is the same regardless of where it takes place (Schumpeter, 1934). Yet social entrepreneurship differs from traditional ‘business’ entrepreneurship in several aspects” (Mair & Noboa, 2006, p. 121).

Modern literature suggests a number of definitions of social entrepreneurship. Our research is based on the following broad definitions of social entrepreneurship:

Dees (1998) considered theories of entrepreneurship and origins of the word “entrepreneur” and made a conclusion that “social entrepreneurs are one species in the genus entrepreneur. They are entrepreneurs with a social mission. However, because of this mission, they face some distinctive challenges and any definition ought to reflect this.”

“We define social entrepreneurship as innovative, social value creating activity that can occur within or across the nonprofit, business, or government sectors” (Austin et al., 2006, p. 2).

“Today social entrepreneurs act in the public, private and nonprofit sectors of an economy and serve unmet needs” (Keohane, 2013).

We would consider social entrepreneurship as innovative activity that pursues a social mission. The sector of the economy (such as nonprofit, business, public) matters, but it doesn’t determine the value of social entrepreneurship. Whereas business and government also take part in social entrepreneurship (McMullen, 2011), the nonprofit sector may be considered as its main sector (Stecker, 2014). However, the development of social entrepreneurship leads to “the blurring of the for-profit and nonprofit sectors” and leads to new hybrid forms (Stecker, 2014, p. 355).

## **2.2. Social entrepreneurial motives**

Social entrepreneurship was considered as an intersection of two cultures: the satisfactions of giving (i.e. culture of charity) and problem solving (i.e. culture of entrepreneurial problem solving) (Dees, 2012) and as an intersection of motives for commercial entrepreneurship (the need for achievement) and public-social sector work (a commitment to public interest and compassion) (Germak & Robinson, 2014). The study of two antecedents of social entrepreneurial intentions: perceived feasibility (i.e., perceived probability of success) and perceived desirability (i.e., perceived social impact) (Baierl et al., 2014) also represented ideas of the two motives of social entrepreneurship: need for success and social impact. Germak & Robinson (2014, p. 13) explored the motivation of nascent social entrepreneurs and found “the following themes related to social entrepreneurship motivation: (1) personal fulfillment, (2) helping society, (3) nonmonetary focus, (4) achievement orientation, and (5) closeness to social problem.” Dufays & Huybrechts (2014, p. 216) considered links between social networks and the emergence of social entrepreneurship and noted that “social networking is a critical skill” and “creating social networks” may be an objective or an outcome of social entrepreneurs. Up until now the motives for social entrepreneurship have not been so widely explored as motives for commercial entrepreneurship. From our point of view the study of the phenomenon of social entrepreneurial motives may be enriched by studying regional and age differences.

## **3. RESEARCH QUESTIONS AND METHODS**

### **3.1. Research questions**

Many authors notice that there is a paucity of empirical works in social entrepreneurship literature (Roy et al., 2014; Nicholls, 2010). Our study is focused on the social entrepreneurial motives. It was noticed that “While empirical study of the various facets of social entrepreneurship is on the rise, the motivation of social entrepreneurs – a key antecedent of social entrepreneurship – has received little attention. In contrast, substantial theoretical and empirical work exists on the motivation of commercial entrepreneurs as well as the motivation for public–social sector work” (Germak & Robinson, 2014, p. 5). “Future research should compare the motivation of different types of social entrepreneurs (nascent versus mature, trained versus untrained, etc.) to more comprehensively understand the proposed social entrepreneurship motivational framework and its impact on the social entrepreneurship outcomes” (Germak & Robinson, 2014, p. 19).

Hockerts (2017) in his recent study analyzes the determinants of social entrepreneurs. He tests the four social entrepreneurial antecedents (empathy, moral judgment, self-efficacy, and social support) recognized by Mair & Noboa (2006), that is how these four antecedents predict social entrepreneurial intentions. He also extends the model by including prior experience with social problems as an additional variable.

However, in the previous literature the social entrepreneurs' motives to join or run a social project are not explored deeply enough to understand regional as well as age differences and similarities.

It leads us to the following research questions:

- What are the main motives of social entrepreneurs to participate in social projects across the Omsk region and other regions of the world? Whether social entrepreneurs' motives differ among different regions or are the same?
- What are the differences in social entrepreneurial motives among young and adult social entrepreneurs?



### 3.2 Research methods

We followed a qualitative approach (Patton, 2002) to address our particular questions regarding social entrepreneurial motives. Phenomenological methodology was practiced by different researchers such as Germak & Robinson (2014); Shaw & Carter (2007) in their qualitative studies in social entrepreneurship. We conducted a semi-structured survey with social entrepreneurs to understand the phenomenon of social entrepreneurial motives. The data frame for this study includes respondents we met in the Omsk region, Russia, and the Jena region, Germany. We collected data using the following three steps: firstly, a survey among adult entrepreneurs in Omsk, secondly, a survey among young entrepreneurs in Omsk, and thirdly, we conducted our survey in Jena, Germany.

**Step 1.** The respondents for the first series of interviews were randomly chosen from the participants of the Presidential Management Training Programme (2015/2016) in the Omsk region. All participants of this Programme have more than 3 years' executive experience. The first in-depth interviews were held in autumn 2016 with 5 participants who developed new social entrepreneurial projects. The average length of each interview was about 1-1.5 hours. This first series of interviews allowed us to develop a semi-structured questionnaire for the next series of interviews and the online Google survey. Questionnaires included open questions concerning the motives to run a social project or participate in it. According to the phenomenological approach we did not suggest prepared answers to our respondents, because we wanted to know their opinion that would allow us to understand the phenomenon of social entrepreneurial motives deeper. In the spring of 2017, we asked the alumni of the Presidential Management Training Programme via email and phone calls to participate in the online Google survey. We got 27 respondents in this Google survey that gave us feedback from the social projects initiated in 2015 and 2016.

**Step 2.** In the spring of 2017, we also conducted a second series of semi-structured interviews with 31 young social entrepreneurs that developed and implemented social projects in Russia, the Omsk region. All these young social entrepreneurs were participants of the training courses in Social Entrepreneurship at Dostoevsky Omsk State University.

**Step 3.** In July 2017, we continued our research in the Jena region, Germany. At Friedrich Schiller University of Jena we met people from different countries (the city of Teresina in Brazil; Dresden, Heidelberg, Jena, and Roding, all cities in Germany; the city of Florence in Italy; the city of Lagos in Nigeria; the city of Islamabad in Pakistan) who participated in our survey. We also started from 5 in-depth interviews with participants of social projects that allowed us to test the questionnaire including its translation from Russian to English language and interviewers' willingness to answer particular questions. Then we sent e-mail messages and put an online survey link on Friedrich Schiller University Jena Facebook page with a request to participate in the online Google survey for this study. Afterwards, we had answers from 15 respondents by the end of August 2017.

Our final sample contains 73 individuals; among them 42 were young and 31 were adults at the moment when they participated in the social project. Our sample also includes information about gender: we have 23 male participants and 50 female participants. The content of the survey was codified and analyzed. Step by step the coded phrases were related to particular motive and combined in groups. It was an iteration process that allowed us to clarify the motives of social entrepreneurs. And finally, the achieved results were compared to understand regional and age differences and similarities in social entrepreneurial motives.

#### 4. ANALYSIS AND DISCUSSION

For the aim of research, we divided our respondents into 2 groups: the young (age 15-24) and adults (age 25-64). All interviewers participated in the survey as well, so the results below are given without double counting.

We asked our respondents to answer the questions “Why did you participate in the social project or did the volunteer work? What were your main motives and incentives?” Our findings are presented below.

##### 4.1. Motives of young social entrepreneurs in the Omsk region (31 respondents)

Most of our young respondents were very positive: 28 of 31 projects were considered as successful by their leaders. All the projects described were implemented. The actual age of young social entrepreneurs was between 19 and 24, including 6 male and 25 female respondents. All the projects were classified by their type: 12 educational projects; 10 ecological projects; 5 charity projects; and 4 sport projects.

Young people in the Omsk region have the following motives to participate in social projects:

1. Connections were mentioned in most of the interviews: 21 of 31 (67.7 %).

Respondents talked about “personal connections”, “familiar people”, “friends” they had. “We have friends that can help to complete the project successfully.” “We have connections.” “The connections: we thought that it would be easier to make arrangements.” The connections were a motive to start a particular project (not another one) because they constructed a friendly environment for the project, reduced risk, made the project implementation easier and cheaper. Young entrepreneurs wanted to use the connections they had as well as adults wanted to use the experience they had.

2. Passion and enjoyment was the second most popular answer among the young entrepreneurs: 16 of 31 (51.6 %).

The word “passion” has never been mentioned by this group of respondents, but the words “like” or “enjoy” were mentioned quite often. “We like reading.” “We enjoy taking care of animals”. “We enjoy spending our free time with children”. “We wanted to help dogs.” “We like birds.”

3. Experience: 10 of 31 (32.3 %).

Participants talked about experience or knowledge they already had and desired to apply in practice or the experience they wanted to get through the project’s implementation. “We have experience in this field.” “We needed experience in this field.” “We study this subject (finance). It’s our scope.”

4. Trend or anti-trend: 7 of 31 (22.6 %).

If the project idea is a trend or anti-trend, it makes the project actual. There are more chances to implement the project successfully if it’s in a trend. But it was the least popular answer among our young respondents. “Master classes for children are a trend”. “Smoking of e-cigarettes by teenagers is a trend. We wanted to convince them that it’s not cool and not safe.”

##### 4.2. Motives of adult social entrepreneurs in the Omsk region (27 respondents)

The adult social entrepreneurs were not as positive as the group of young respondents although they achieved more significant results and projects’ scales. Only 3 of 27 projects were described as successful whereas 13 of 27 have been implemented already, 4 remained in the planning stage and 10 were rejected, closed or changed. The actual age of adult social entrepreneurs was between 28 and 47 years, including 11 male and 16 female respondents. The following types of project were identified: 8 medical projects; 5 educational projects; 4 cultural projects; 3 sport projects; 2 ecological projects; 5 other projects (agricultural, political, industrial, science, transport).

Our findings show the following motives of adults in the Omsk region to participate in the social projects:

1. Experience: 23 of 27 (85.2%).

If young people wanted to get experience, the adults wanted to apply their experience and knowledge. “The idea of the hospital for horses was developed on the basis of my vet experience.” “The idea was based on practice.” “It’s my professional activity.”

2. Trend: 14 of 27 (51.9%).

Adults were more concerned about being in a trend than young people. Adults wanted to be in a trend and thereby to find funding, to get support. “The project idea is in a trend and we consider this project a new way to attract resources.”

3. Passion and enjoyment: 12 of 27 (44.4%).

Adults did not use the word “enjoy”, the most often used expression was “I wanted” or “I want” to help, to implement this idea, to change the situation etc. “I do volunteer work, because I am a leader.” “I want to find new ways to help people.”

#### **4.3. Social entrepreneurial motives of young people in Germany and other countries (11 respondents)**

For now, we have data from 11 respondents. Our respondents were from Germany, Italy, Pakistan, Cambodia, and Brazil, but we met these people in Germany. These projects were carried out in the home countries of the respondents as well as in such countries as Russia and Australia. The age of our respondents at the moment when they participated in the social projects was between 19 and 24, but the actual age at the moment of the interview was between 24 and 32, so many of the respondents talked about their past activities. Gender distribution was the following: 4 male and 7 female respondents. 9 of 11 respondents described their projects as successful. The following types of project were identified: 4 educational projects; 3 cultural projects; 2 political projects; 1 charity project; 1 ecological project.

Our findings show the following motives to participate in social projects at a young age:

1. Passion and enjoyment: 6 of 11 (54.5%).

“It was my interest.” “It’s friendship, having fun in a multicultural group.” “Have a great time together.” “My personal motivation - I want to be a leader.” “I like to help people.” “Having fun while playing, enjoying the time with old people from the retirement home.” “The main thing is to enjoy what you do. This way you will be motivated to do as much as possible to succeed.”

2. Connections: 4 of 11 (36%).

The respondents wanted to build new personal connections, establish new contacts. “To have contacts with locals.” “I like getting to know new people, so this was an interesting opportunity to meet people from all over the world.”

3. Experience: 3 of 11 (27%).

Being young these people wanted to get experience. “Well, I wanted to get to know and learn this different kind of culture. It was after school, I did not have a job or study, I wanted to get experience.” “Reference for CV, practice.” “This experience was useful for me.”

#### **4.4. Social entrepreneurial motives of adults in Germany and other countries (4 respondents)**

The respondents were from Germany and Nigeria. These projects were carried out in the home countries of the respondents as well as in such country as Panama. The age of our respondents at the moment when they participated in the social projects was between 25 and 34, the actual age at the moment of the survey was between 27 and 37.

Gender distribution was the following: 2 male and 2 female respondents. 2 of 4 respondents described their projects as successful, the other 2 were not sure about their project's success. The following types of project were identified: 2 educational projects; 1 ecological project; 1 agricultural project. Our findings show the following motives to participate in social projects at an adult age:

1. Passion and enjoyment: 3 of 4 (75%).

“If somebody talks to them in their mother language they feel happy.” “I felt personally obliged as I would have wished for such support myself.” “Creating social impact.” “I wanted to change the world.”

2. Experience: 2 of 4 (50%).

The adults mentioned the experience they had already and wanted to apply in practice. “We have experience ...”

To compare social entrepreneurial motives among young and adult people across the Omsk region of Russia and other countries of the world (Brazil, Cambodia, Germany, Italy, Nigeria, and Pakistan) we built a table as shown below.

*Table 1. Social entrepreneurs' motives across different regions and ages*

<b>Motives</b>	<b>Young / Russia</b>	<b>Adults / Russia</b>	<b>Young / Brazil, Cambodia, Germany, Italy, Pakistan</b>	<b>Adults / Germany and Nigeria</b>
<b>Connections</b>	#1 (67.7%) - to use personal connections to achieve the goal	0%	#2 (36%) - to build new personal connections	0%
<b>Passion and enjoyment</b>	#2 (51.6%) – to enjoy	#3 (44.4%) – to change the world	#1 (54.5%) – to enjoy	#1 (75%) – to change the world
<b>Experience</b>	#3 (32.3%) – to get new experience	#1 (85.2%) - to apply the experience	#3 (27%) - to get new experience	#2 (50%) - to apply the experience
<b>Trend</b>	#4 (22.6%) – idea is in a trend	#2 (51.9%) - idea is in a trend	0%	0%

The rank of the motive across the groups of respondents is presented by numbers (#1-4) and percentages (%).

From the table above we can see that social entrepreneurs across the Omsk region of Russia and other regions of the world have the following motives:

1) passion and enjoyment to do the project;

Passion and enjoyment are related to personal attitude. Passion may be considered as the motive of personal fulfillment (Germak & Robinson, 2014), need for social impact (Baierl et al., 2014), then enjoyment as a motive to do a social project can be related to the features of generation Z or to the features of young people.

2) getting or applying experience;

The motive to get experience or to apply experience is also close to personal fulfillment (Germak & Robinson, 2014).

3) using and building personal connections and contacts;

The motives to use or to build personal connections are related to social capital and may be considered as a need for social networking that is so important for new social ventures (Dufays & Huybrechts, 2014).

4) to be in a trend;

The motive to be in a trend may be considered as a need for success (Baierl et al., 2014) or achievement orientation (Germak & Robinson, 2014). This motive was found among social entrepreneurs in the Omsk region, while respondents from the other regions did not mention it.

Young social entrepreneurs in Omsk and other regions want to enjoy what they are doing. The adults want to change the world, implement their idea in practice, to help society and nature; they are more concerned about the project idea, more passionate about their project. Young people in the Omsk region and other regions mentioned personal connections they wanted to use or to build, they were concerned about making and using contacts. Adults did not mention connections at all. Our findings show that personal motives to participate in social projects depend more on the age of participants than on the geographical region.

Additionally, we noticed that our young respondents were more optimistic than adults and tend to consider their social projects as successful more often than adults. We also should mention that our data includes twice as many female respondents as male, that probably shows that the idea of social entrepreneurship is more attractive for females than males, but this fact should be tested in further studies.

## 5. CONCLUSION

This study analyzes the motives of social entrepreneurs among the young and adults in Russia (the Omsk region) and Brazil, Cambodia, Germany, Italy, Nigeria, and Pakistan. To understand the phenomenon of social entrepreneurial motives deeper we conducted the semi-structured survey with social entrepreneurs. In this study, the total sample includes 73 respondents who participate in social projects. Using a phenomenological approach to understand the motives of the social entrepreneurs, we found that social entrepreneurs across the Omsk region and other regions of the world have the following motives: 1) passion and enjoyment to do the project; 2) getting or applying experience; 3) using and building personal connections and contacts. The motive “to be in a trend” was identified only among social entrepreneurs in the Omsk region, Russia, which may be related to the training courses they participated in or to regional features. The differences in the motives between the age groups can be summarized as follows: young people want to get enjoyment and experience, expand their social networks, while adults have a passion to reach the social mission of the project and want to apply the experience they have. Overall, we can say that geographical regions matter for social entrepreneurs’ motives to participate in a social project. As we can see from our findings, networking through personal connections was the most favorite motive among young social entrepreneurs in Russia, while in other countries the enjoyment was more important. Further research in social entrepreneurial motives may be fruitful if it compares the motives of male and female of different generations with different level of education to participate in social projects in different countries.

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## TESTING QUANTITATIVE MEASURES OF PROACTIVENESS IN CONTEXT OF ENTREPRENEURIAL ORIENTATION

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### **ABSTRACT**

*Entrepreneurial orientation is a conceptualisation of organisational entrepreneurship. It consists of proactiveness, risk-taking, innovativeness, and (in some operationalisations) competitive aggressiveness and autonomy. The main question behind the paper is related to the possibility of employing quantitative data to measure the entrepreneurial orientation. In the paper, that question is examined in relation to one dimension: proactiveness. It is hypothesised, that quantitative data may be used to measure proactiveness. The hypothesis is tested within the sample of 85 small and medium-sized enterprises operating in Malopolska Region in Poland. In the questionnaire, the proactiveness was surveyed with items proposed by Covin and Slevin (1989), in parallel with quantitative items (e.g., "number of business-plans, applications and projects implemented" and "number of employees who found new ideas"). The results support the hypothesis and suggest some improvements of the configuration of tested items. In particular, it was found that items related to opportunity identification and employees' participation are highly correlated to proactiveness (measured with items proposed by Covin and Slevin). The recommendations include testing other items related to proactiveness, as well as to other dimensions of entrepreneurial orientation. That can enable to propose a quantitative scale of EO, that would be useful for future research. The paper contributes to the theory of organisational entrepreneurship through proposing some quantitative measures of proactiveness, what develop the research methodology of the field.*

**Keywords:** *entrepreneurial orientation, quantitative research proactiveness*

### **1. INTRODUCTION**

Entrepreneurial orientation is a conceptualisation of organisational entrepreneurship. There are several operationalisations and many measurement tools based on this concept. The dimensions comprising in the entrepreneurial orientation are proactiveness, risk-taking, innovativeness, and (in some operationalisations) competitive aggressiveness and autonomy. The scales utilised to measure the level of entrepreneurial orientation of organisation use mainly the opinions of respondents. The question behind the paper is related to the possibility of employing quantitative data to measure the entrepreneurial orientation and its dimensions. In the paper, that question is examined in relation to one dimension: proactiveness. The aim is to examine the correlation between proactiveness items included in EO scale proposed by Covin and Slevin (1989) and selected quantitative items related to proactiveness proposed in the paper. It is hypothesised that quantitative indicators may be used to measure proactiveness. The hypothesis is tested within the sample of 85 small and medium-sized enterprises operating in Malopolska Region in Poland. In the questionnaire, the proactiveness was surveyed with items proposed by Covin and Slevin (1989), in parallel with quantitative items. The hypothesis is tested by measuring the correlation between the quantitative items proposed in the paper and proactiveness items proposed by Covin and Slevin. The paper's structure is as follows. First, the entrepreneurial orientation is shortly introduced. Second, the proactiveness is described, including measures proposed in previous research. Then, quantitative measures of proactiveness are proposed. Afterwards, the research sample and methodology are described. In the next part, the results are presented, as well as its limitations and recommendation for future research.

## **2. ENTREPRENEURIAL ORIENTATION**

Entrepreneurial orientation is a conceptualization of the definition of entrepreneurial firm, that was proposed by Miller in 1983. According to that definition, such a firm ‘engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations. (...) A nonentrepreneurial firm is one that innovates very little, is highly risk averse, and imitates the moves of competitors instead of leading the way. We can tentatively view entrepreneurship as a composite weighting of these three variables’ (Miller, 1983, p. 771). The concept of entrepreneurial orientation was operationalised to multidimensional scales. One of them was proposed by Covin and Slevin (1989, p. 75), and it comprises three dimensions: risk-taking, innovativeness, and proactiveness. Another scale was proposed by Lumpkin and Dees (1996, p. 137) and it encompasses two more dimensions: autonomy and competitive aggressiveness. Hughes and Morgan (2007, pp. 657–658) have built their scale that reflects five dimensions proposed by Lumpkin and Dees. Other measurement tools based on conceptualisation proposed by Miller, Lumpkin, Dees, Covin and Slevin were developed by Venkatraman (1989), Morris and Paul (1987), Kreiser, Marino, Weaver (2002) (referenced by Wójcik-Karpacz, 2016, pp. 600–605). There is the ongoing discussion on the nature of the EO scale. Covin and Wales (2012, p. 677) note that two different measurement approach towards entrepreneurial orientation (unidimensional versus multidimensional) are “consistent with fundamentally different conceptualisations of the EO construct”.

Entrepreneurial orientation is perceived as one of the factors that influence a company’s performance. For instance, Hughes and Morgan (2007, pp. 657–658) found that proactiveness and, to some extent, innovativeness are essential to securing improved performance for firms at the embryonic stage of development, while uniform effort in all EO dimensions does not generate consistent gains in business performance. The entrepreneurial orientation has a practical implications and it can be useful for practitioners as a source of managerial recommendations (Schillo, 2011, p. 24). However, Frank et al. (2010, p. 194) basing on their research do not recommend to use EO when “a dynamic environment is combined with low access to financial capital”.

The methodology of EO still evolves. One of the challenges faced by entrepreneurship theory is a development of alternative measurement tools of EO. One of the proposed direction is implementation of objective indicators for each component of EO (Miller, Le Breton-Miller, 2011). Miller (2011) suggests that ‘these may be derived in part from secondary data concerning how funds are allocated among different investments, and across different time horizons and expense categories. Indicators may also comprise measures of unsystematic risk as manifested by idiosyncratic share price fluctuations, innovation as gauged by research and development expenditures, patents and patent citations, and new market initiatives as reflected in the percentage of sales going into new markets.’ Answering Miller’s call and previous research experience in the EO field, searching and testing quantitative measures related to dimensions of EO will be proceed. In that paper it will be limited to only one EO dimension: proactiveness.

## **3. PROACTIVENESS**

### **3.1. General characteristic**

Proactiveness is one of the three dimensions of entrepreneurial orientation distinguished by Miller. In general, proactiveness is related to anticipating the future. In the entrepreneurial context, it can be understood as anticipating future opportunities and, afterwards, preparing to exploit them. Lumpkin and Dess (1996, p. 146) suggest, that ‘proactiveness may be crucial to

an entrepreneurial orientation because it suggests a forward-looking perspective that is accompanied by innovative or new-venturing activity'. That implies that proactiveness is an important factor of an entrepreneurial process (especially at its early stages, aimed at founding a new organisation), and it is connected with innovativeness (that is a separated dimension of EO). The latter suggests the need to distinguish clearly proactiveness from innovativeness. In parallel, one of the dominant characteristics of proactiveness highlights the tendency to be first (before competitors) to the market with new products, what is one of the traits of innovative activity. Lumpkin and Dess questioned the idea of being the first, and they stated that 'a firm can be novel, forward thinking, and fast without always being first' (1996, p. 147). Moreover, firms can be successful not being the first. Thus, proactiveness is mainly 'about seeking new opportunities' (Venkatraman, 1989, p. 949 referenced by Lumpkin, Dess, 1996, p. 146) and striving to act quickly and influence the surrounding, including creating demand (Lumpkin, Dess, 1996, p. 147). Organisations should be proactive and reactive in parallel, that is exhibited in responding and adapting to new market conditions, including competitors' challenges (Chen, Hambrick, 1995, p. 57 referenced by Lumpkin, Dess, 1996, p. 147). Lumpkin and Dess clarify the meaning of proactiveness by contrasting it with passiveness, that is opposite to proactiveness and that can display in 'indifference or an inability to seize opportunities or lead in the marketplace' (Lumpkin, Dess, 1996, p. 147). In three-dimensional conceptualizations of EO, proactiveness refers also to relations with competitors. Entrepreneurial firms compete strongly with other market players, including actions aimed at eliminating competitors from the market. In five-dimensional concepts, relations with competitors are distinguished as 'competitive aggressiveness' dimension (clearly suggesting, that entrepreneurial firms are supposed to compete in an aggressive way). In a case of five-dimensional concepts, proactiveness is connected with taking the initiative toward clients, while competitive aggressiveness pertains to behaviour vis-à-vis competitors (Miller, 2011, p. 875).

### 3.2. Proactiveness in EO scales

As proactiveness is one of the dimensions of EO, in measurement scales there are items dedicated to it. In most of the previously utilised tools, researchers asked respondents to assess their organization or share their opinion or attitude towards actions representing firm-level entrepreneurial approach. In Covin and Slevin's three-dimensional EO scale, proactiveness is assessed in the view of relationship with competitors. Seven-point Likert's scale is employed there. In this scale, three items are related to proactiveness (Covin, Wales, 2012, p. 692):

1. In dealing with its competitors, my firm typically responds to actions which competitors initiate (1 point) or typically initiates actions to which competitors then respond (7 points).
2. In dealing with its competitors, my firm is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc. (1) or is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc. (7).
3. In dealing with its competitors, my firm typically seeks to avoid competitive clashes, preferring a 'live-and-let-live' posture (1) or typically adopts a very competitive, 'undo-the-competitors' posture (7).

In Hughes and Morgan's five-dimensional scale the following items related to proactiveness are included (Hughes, Morgan, 2007, pp. 657–658):

1. We always try to take the initiative in every situation (e.g., against competitors, in projects when working with others).
2. We excel at identifying opportunities.
3. We initiate actions to which other organizations respond.

But they also utilize three more items related to competitive aggressiveness as a separated EO dimension (while approach towards competitors is a part of proactiveness in some conceptualization). These items are:

1. Our business is intensely competitive.
2. In general, our business takes a bold or aggressive approach when competing.
3. We try to undo and out-maneuver the competition as best as we can.

The common trait of both approaches, that are represented by examples presented above, is a reference to opinions of respondents. The survey of Boling et al. (2016) represents different methodology. They use computer-aided text analysis (CATA) to examine the entrepreneurial orientation (including proactiveness) of the selected sample. They employed the software enabling to read the documents, that describe organisation (in particular company's 10-K annual reports) and search words and phrases that describe the entrepreneurial activity. Such words were suggested by Short et al. (2010) who examined the CATA-tools on an example of entrepreneurial orientation. Recognizing the strengths and possibilities offered by presented research approaches, their limitation should be taken into account. In some cases, the limited access to the respondents who can answer precisely queries leads to the need of utilising the quantitative and numerical data (however, in many cases they are less accessible, than managers willing to answer some general questions about their organisations). These numeric data can be also used to verify the data of another sort. In the following part, some quantitative indicators of proactiveness will be proposed.

### **3.3. Quantitative measures of proactiveness**

As stated before, we assume that EO's dimensions could be equivalently measured using quantitative data. In these paper, we examine the quantitative measures of proactiveness. Referring to subchapter 3.1, proactiveness is differently conceptualized. We will focus on aspects related to opportunity recognition and exploitation. From the perspective of the entire organisation, one of the challenges is increasing the opportunity-related abilities, including involvement of employees in the entrepreneurial process (that is understood here as a cyclical process involving both nascent entrepreneurs in embryonic organisations, and intrapreneurs in well-established entities (Kusa, 2017)). In relation to employees' participation, the following indicators can be proposed:

Q1. Number of employees having as his/her duties identification of new opportunities in the market.

Q2. Number of employees who found new ideas last year.

Because the nominal number of employees involved in opportunity identification and finding new ideas will differ depending on a size of the organization and, in particular, the total number of employees, two more derivative measures will be tested:

Q1b. Number of employees having as his/her duties identification of new opportunities in the market per total number of employees.

Q2b. Number of employees who found new ideas last year per total number of employees.

It is assumed that the effectiveness of employees is influenced by the work conditions, and in a case of creative work, especially by the level of their autonomy. This is reflected in five-dimensional scales in separated dimension of EO, that is autonomy. In three-dimensional scales it is included into proactiveness. Thus, one more measure connected with employees will be proposed:

Q4. Share of working hours, that employees may dedicate to identifying new opportunities and solutions, as well as achieving organizational tasks set by themselves (average per one employee, in a percentage of total working time).



In relation to opportunity identification the following indicator can be implemented:

Q3. Number of all kinds of new ideas identified in the organization (last year).

In relation to exploring opportunities the following indicators can be utilised:

Q5. Number of business-plans, applications and projects prepared (per year).

Q6. Number of business-plans, applications and projects implemented (per year).

Assuming that numeric data related to countable attributes of entrepreneurship can be used for measuring entrepreneurship orientation, the following hypothesis will be tested:

H1: Quantitative data may be used to measure proactiveness in EO context.

#### **4. RESEARCH METHOD AND SAMPLE**

The hypothesis is tested with correlation coefficient. The correlated items are proactiveness index based on items proposed by Covin and Slevin (1989) (we will refer to it as Covin-Slevin Proactiveness Index – CSPI) and eight quantitative items proposed in the paper (Q1-Q6, including Q1b and Q2b). The questionnaire consist of three groups of questions. First is a nine-question entrepreneurial orientation measurement tool proposed by Covin and Slevin (as presented by Covin and Wales (2012, p. 692), translated to Polish). In this part each item comprise two opposite statements. Respondents answer with a five-point scale, where 1 means ‘I completely agree with the first statement’ and 5 – ‘I completely agree with the second statement’. Three of these statements relate to proactiveness (they were presented in subchapter 3.2) and they are aggregated (by the summation) into CSPI that is one of the variables in the forthcoming analysis. Second group are quantitative items proposed in the previous subchapter 3.3 (items Q1-Q6). The answers are numeric data and, in one question (Q4), percentage values. Third group are questions related to sample demographic characteristic.

The data utilized in the following analysis were originally collected in a frame of the research project aimed at examination of entrepreneurial orientation of SMEs in the Malopolska region of Poland, and in particular at a relationship between selected company characteristics (a level of technological development and a stage of organizational development) and entrepreneurial orientation. The results of that research project are presented in Codogni et al. (2017). The sample comprises 95 small and medium-sized enterprises operating in Malopolska region (located in southern Poland, with Krakow as capital city), representing different levels of technology, in particular, manufacture of computer, electronic, and optical products (code 26 of PKD (Polska Klasyfikacja Działalności – Polish Classification of Economic Activities), manufacture of electrical equipment (code 27), and manufacture of furniture (code 31). Groups 26 and 27 represent very modern industries, while group 31 provides more-traditional products. The data were collected in September 2015. Because in case of 10 enterprises the data were uncompleted, the hypothesis was tested finally within the sample of 85 enterprises.

#### **5. RESULTS**

The correlation coefficient for eight pairs of variables (CSPI and each of eight quantitative measures of proactiveness, proposed in the subchapter 3.3) was counted with Statistica software. The correlation coefficients are presented in Table 1. The correlations coefficients shows the significant positive relationship between CSPI and Q1-Q4. That suggests that this items can be equivalently (with measures proposed by Covin and Slevin) utilised to measure proactiveness in entrepreneurial orientation context. However, it should be noted, that they differ in the level of correlation. The relationship between CSPI and Q5-Q6 are statistically insignificant.

*Table 1: Quantitative measures of proactiveness: descriptive statistics and correlations with Covin-Slevin Proactiveness Index (own elaboration)*

quantitative measure	av.value	st. dev.	correlation coefficient	p-value
Q1	3,2588	11,0810	0,9550	0,001
Q1b	1,2802	10,9457	0,9602	0,001
Q2	2,5882	10,9591	0,9661	0,001
Q2b	1,2623	10,9475	0,9603	0,001
Q3	6,4471	16,7321	0,6427	0,001
Q4	15,9176	23,0637	0,3897	0,001
Q5	38,1529	56,0460	0,1406	0,23
Q6	36,8941	48,8947	0,1625	0,26

The highest level of the correlation coefficient is observed in a case of measure Q1 ('Number of employees having as his/her duties identification of new opportunities in the market') and Q2 ('Number of employees who found new ideas last year'). They reflect the involvement of employees in the entrepreneurial activity of the organisation. Their derivative measures were tested as well. They were 'Number of employees having as his/her duties identification of new opportunities in the market per total number of employees' (Q1b) and 'Number of employees who found new ideas last year per total number of employees' (Q2b). It was found that, in their case, the correlation coefficient is almost at the same level as their base counterpart. This suggests that the implementation of them is unreasonable.

The item Q3 ('Number of all kinds of new ideas identified in organisation last year') is related to actions aimed at opportunity identification and it is highly correlated with CSPI. Finally, the item Q4 ('Share of working hours, that employees may dedicate to identifying new opportunities and solutions, as well as achieving organizational tasks set by themselves') is related to employees' work scope and their autonomy in the work place and it represents significant level of correlation coefficient, however it is much lower than Q1-Q3 items.

The item Q5 ('Number of business-plans, applications and projects prepared') and Q6 ('Number of business-plans, applications and projects implemented') are statistically uncorrelated with CSPI (low level of correlation coefficient and high p-value). However, it have to be note, that in this testing the reference point was proactiveness index based on three items proposed by Covin and Slevin, that are focused on competing with competitors, rather than opportunities seeking and improving organization in pursuing them. It could be a source of low level of correlation coefficient of our last two indicators (Q5 and Q6) that are not directly associated with competing (however, these activities indirectly, but significantly contribute to competition process). The low level of the correlation coefficient in their case could be a result of different conceptualizations of proactiveness that underlie Covin and Slevin's scale and a set of quantitative indicators proposed in the paper. The above results support the hypothesis H1, that proactiveness can be examined with quantitative measures.

The quantitative measures of proactiveness proposed in the subchapter 3.3 were tested as parts of quantitative proactiveness index (QPI). They were tested with Cronbach's alpha coefficient. The highest value of Cronbach's alpha was achieved with three of them, however that value was lower than 0,7. This means that the tested items are not consistent and, in fact, do not measure the same construct. Therefore, the results of reliability analysis indicates that the work on quantitative proactiveness index needs to be continued.

## 6. LIMITATIONS AND RECOMMENDATIONS

The conducted analysis has some limitation. First, the results are taken from the sample comprising small and micro-sized enterprises. Although, entrepreneurship flourish differently in big organisations. Thus, testing the quantitative variables within a population of big entities is recommended. Moreover, the sample was relatively small, what calls for testing within a bigger sample. The next limitation is connected with a local scope of the sample, while geographical differentiation of entrepreneurial activity can be relevant. Our testing was not verified from the perspective of a type of organisation (as in classical in the field research of Miller, who examined entrepreneurship-related differences in three types of firms), although they can influence the firm-level entrepreneurship. Second, in the testing, only basic statistics were employed. When testing the relation between qualitative and quantitative measures of proactiveness within bigger population and with more variables, more advanced statistics are recommended to be utilized. Third, this analysis focuses only on one dimension of EO: proactiveness. In relation to that dimension, only eight items were tested. Two of them were classified as statistically unrelated. These six items, that are significantly correlated with CSPI do not reflect all sub-dimensions of proactiveness; for example, eliminations of operations in later stages of their life cycles (pointed by Venkatraman in 1989), is not captured. Thus, the process of identifying measures of proactiveness needs to be continued. Additionally, these 4 items that are correlated to CSPI do not compose one index, that measure proactiveness (the Cronbach's alpha value is low, that indicates they do not measure the same construct). The other set of measures is needed to compose Quantitative Index of Proactiveness. Moreover, these items that underlie the confirmation of hypothesis H1 are correlated with proactiveness index based on Covin and Slevin's three-dimensional conceptualization of EO. It can be expected, than correlating quantitative items Q1-Q6 with proactiveness index based on other conceptualization of proactiveness will result with different correlation coefficients (and conclusions). Finally, the similar analysis related to other EO dimensions is recommended, and forming the quantitative-data-based index of EO is an expected outcome.

## 7. CONCLUSION

The aim of the paper was to examine the possibility of utilising quantitative measures of proactiveness in surveying entrepreneurial orientation. Eight quantitative measures of proactiveness were proposed and tested within the sample of 85 SMEs through correlating each of them with proactiveness index based on items proposed by Covin and Slevin (Covin Slevin Proactiveness Index – CSPI). It was found, that six of eight proposed quantitative measures are significantly correlated with CSPI and the correlations are positive. The values of correlation coefficients support the research hypothesis that proactiveness can be examined with quantitative measures. In particular, three quantitative items are especially recommended as alternative measures of proactiveness: 'Number of employees having as his/her duties identification of new opportunities in the market', 'Number of employees who found new ideas last year' and 'Number of all kinds of new ideas identified in the organization'.

The results suggest some solutions for developing quantitative proactiveness index. For instance, some items, that were preliminary proposed, were excluded to increase the level of reliability of the quantitative index. However, the paper does not offer the final, ready-to-use version of a quantitative proactiveness index. The process of developing quantitative measures of proactiveness needs to be continued. The recommendations for future paths of development include also testing other items related to proactiveness, as well as to other dimensions of entrepreneurial orientation. Taking into account the limitations connected with the sample, it is recommended to replicate the testing with other samples to confirm the findings. The paper contributes to the theory of organisational entrepreneurship through proposing some quantitative measures of proactiveness, what develop the research methodology of the field.

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## IMPACT OF SOCIAL CAPITAL ON THE GENERATION OF ECONOMIC CAPITAL IN CREATIVE INDUSTRIES

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### ABSTRACT

*The aim of this paper is to identify the forms of entrepreneurs' social capital in cultural and creative industries and to examine the impact of social capital on generating and increasing the entrepreneurs' economic capital. Due to the different approaches to the concept of social capital and the many definitions of social capital, there is a vague understanding of the concept. Thus, the theoretical framework of this work relies on Bourdieu's theory of practice and its definition of social capital. The research adopts a qualitative approach by using the method of phenomenological interviewing. In-depth semi-structured interviews were conducted on a sample of ten entrepreneurs in the Northwest Croatia. The research material was analysed by coding technique. In the first stage of the analysis of empirical material, open coding is performed. In the second stage, focused coding is performed. Research results show the diversity of strong and weak ties that represent a significant resource for entrepreneurs in creative and cultural industries.*

*Social connections of entrepreneurs with different actors allow them access to shared resources and open the possibility of transforming the social capital into the economic capital.*

**Keywords:** Bourdieu, creative industries, entrepreneur, qualitative approach, social capital

### 1. INTRODUCTION

Despite the fact that social capital is a concept with different definitions, there are three important aspects in defining social capital: social actors, resources and relationships among actors (Ignjatović and Tomanović, 2011). The three most cited authors in the domain of social capital are Bourdieu, Coleman and Putnam (Ignjatović and Tomanović, 2011). According to Coleman (1988) social capital is created among strongly interconnected elements. Putnam (2001) emphasizes the importance of all forms of association that can bridge and connect social actors. The theoretical framework of this work relies on Bourdieu's theory of practice and its definition of social capital. Bourdieu (1986) distinguishes between four forms of capital: economic, cultural, social and symbolic that can be converted from one form into another. According to Bourdieu (1997) economic capital refers to money and other financial resources and property, or all possessions that can be transformed into money. Cultural capital refers to the type and degree of education acquired. Social capital represents “resources which can be brought together through networks of relations of various sizes and differing density (Bourdieu, 2005). Symbolic capital is derived from economic, cultural, or social capital, these three types



of capital can be transformed into symbolic capital when they are recognized as legitimate in relevant fields. As Pret *et al.* (2016) have noted, until today not so much research has been done by using of phenomenological approach, which has a strong potential of connecting practice and theory. Their study encompassed entrepreneurs from UK, while other examples were also focused on entrepreneurs from developed and highly entrepreneurial countries, such as Fiet *et al.* (2013.) who studied entrepreneurs from the USA, or Korsgaard and Anderson (2011) who based their study on Danish case. Even though the world today is interconnected due to globalization processes and the internet, entrepreneurship in Croatia, a small post-communist country, is still a relatively young phenomenon. Due to the different development trajectory compared to previously mentioned developed economies, Croatian society, norms and relations represent quite a different setting for entrepreneurs. This is why we decided to study entrepreneurs in Croatia to see what the specifics of the social capital in this environment are. Additionally, since entrepreneurship relies much on innovation which is based on human creativity, our focus is narrowed down to cultural and creative industries.

## **2. CULTURAL AND CREATIVE INDUSTRIES IN CROATIA**

Creative enterprises are the drivers of increasing social well-being and the development of the economy. Their main resource, as stated by Greffe (2006, 9-10), is people and their knowledge, skills, abilities and talents, and therefore the underdeveloped countries also have the ability to develop creative businesses and thereby enrich their economy. The sector of cultural and creative industries includes film, art, photography, music, performing arts, design, crafts, architecture, new media, games, computer programs, electronic media, museums, libraries and heritage, publishing, market communication and advertising (Rašić Bakarić *et al.*, 2015, 17).

The very concept of the cultural industry encompasses the connection between artistic, often not-for-profit, industry with an industry that has always been driven by profit. It implies production, but not in the classical economic way, as is the case with other activities (Moore, 2013, 741). Cultural and creative industries are often used interchangeably, as though they were the same; however, it is important to notice the difference. The cultural industries consider the process of designing ideas to produce goods that have a symbolic value. Such goods are in many cases based on, supported or complemented by modern technologies. The creative industries include the goods that result from human creativity, innovation and talent, and create value and wealth, with an emphasis on intellectual property (Primorac, 2012, 8).

The creative industry is often considered to be a driver of innovation, growth of employment, general well-being and social networking (Rikalović, 2010, 27). It is often intertwined with environmental protection, which is why it tries to emphasize the importance of rational allocation of resources and the use of new, more efficient technologies (Moore, 2013, 741).

The gross value added of cultural and creative industries in Croatia in 2012 amounted to HRK 6.3 billion, which is 2.3 % of GDP, and the most important activities are publishing with 19.9 %, electronic media, museums and IT sector (Rašić Bakarić *et al.*, 2015, 73). In year 2013, cultural and creative industries accounted for 2.4 % of the total income of all companies in Croatia, or HRK 14.99 billion (Rašić Bakarić *et al.*, 2015, 85). The same industry employs 3 % of the total employed population of Croatia, of which 58% are men and 42% women, with an emphasis on publishing (21.2 %), advertising and market communication (14 %) and electronic media (12.8 %). Most employees have the least tertiary education level (completed higher education), and there is also a high share of self-employed persons, while the most common age of creative workers is between 25 and 49 (Rašić Bakarić *et al.*, 2015, 78).

The creative and cultural industries account for 5.7 % of the total number of business entities in the Croatian economy, of which most of them belong to the companies (58.3 %) and the rest ones include crafts (21.7 %) and independent workers (19.9 %). According to the size of the enterprise, micro enterprises are the most common (93.9%), while small (5.5%), medium-sized (0.5 %) and large enterprises (0.1 %) are not so common, which is in line with the entire Croatian economy structure (Rašić Bakarić et al., 2015, 81).

### 3 FORMS AND CONVESTRIONS OF SOCIAL CAPITAL IDENTIFIED IN THE RESEARCH

#### 3.1. Sample and methods of data collection and analysis

The research adopts a qualitative approach by using the method of phenomenological interviewing. The purposive sample consists of ten entrepreneurs from the Northwest Croatia who were interviewed by the procedure of in-depth semi-structured interviews. The respondents were picked on purpose to provide that that participants have an adequate experience and that they are willing describing it. The research material was analysed by coding technique. In the first stage of the analysis of empirical material, the data was open coded and in the second stage, the focused coding was performed.

#### 3.2. Identified forms of social capital

The entrepreneurs use a large number of different forms of social capital. Respondents point out that their membership in professional associations brings new contacts and co-operation on the domestic and foreign markets. The problem arises with legally mandatory membership in certain associations, from which our respondents feel they have no benefits and they still have to pay fees for membership. Another facet of this problem is the fact that these institutions are mostly outdated, and entrepreneurs point out that it is pointless to ask for advice from them.

*Table 1: Identified forms of social capital (examples from the raw data)*  
(Table continues on the next three /3/ pages)

Social capital	
<b>Association membership</b>	<ul style="list-style-type: none"> <li>• We are a member of ASIFA Croatia, ASIFA - International Animated Film Association, Croatian Film Association, Croatian Association of Technical Culture, ECFA - European Children Film Association and Youth Cinema Network. - Respondent 6</li> <li>• We are members of the Croatian Dancesport Federation - Respondent 7</li> <li>• ULUPUH Zagreb [Croatian association of artists in applied arts], Center for Creative Industry Graz, Association of Artists of Upper Austria. - Respondent 9</li> </ul>
<b>Connections, contacts, acquaintances</b>	<ul style="list-style-type: none"> <li>• The former director [of Technology park], who was very considerate and farsighted, has recognized creative industries as a good sector for creation of new economic values. - Respondent 1</li> <li>• Since my sister worked in the newspapers, she had many contacts with the media. There were some of the portals that wrote about us because they knew her [my sister] and she would send them an email about our company. - Respondent 3</li> <li>• We were recognized by a pharmaceutical company, which gave us a direction, so we started production with them in. This opened us new retail channel through pharmacies. - Respondent 4</li> </ul>

	<ul style="list-style-type: none"> <li>• A friend who has worked in the field of culture in Čakovec and later in Varaždin helped us to apply, so our association got some small funds from the city." - Respondent 6</li> <li>• While we have competed, when we were active in this dance world, we have met different dance instructors. We have lived in Ljubljana with very good dance instructors who are dance judges, who also helped us a lot and directed us, gave us tips. - Respondent 7</li> <li>• Through Hoyka [famous photographer], I have met a couple of ambassadors, whom I taught how to photograph. - Respondent 8</li> <li>• For example, for glass, for some technical things, I call my professor at the Academy, who introduced me to this glass, or I am looking for help, I work with Glaž, which is a glass craft. Mainly, I am contacting experts if I need some technical advice. - Respondent 10</li> </ul>
<b>International contacts</b>	<ul style="list-style-type: none"> <li>• We participate in international fairs and make more or less direct contacts; we have on-site meetings, list of all exhibitors. - Respondent 1</li> <li>• It just happens by itself when someone asks you. I photographed somewhere and then someone sees it and asks: "Could you do it for me?", then the others come and ask. One embassy was happy with my work, so they send you to another embassy and third, socialization is everything. - Respondent 8</li> </ul>
<b>Public and policy bodies</b>	<ul style="list-style-type: none"> <li>• We think that local authorities understand the notion of culture too narrowly, there is no awareness and the broadest possible spectrum of cultural creativity is not supported - Respondent 1</li> <li>• I have photographed some people who are in politics. - Respondent 8</li> <li>• Croatian Film Association [Public Body Buyers], Theatre, Archaeological Museum in Varaždin Toplice, I worked for Croatian photographic alliance - Respondent 10</li> </ul>
<b>Cooperation with other entrepreneurs</b>	<ul style="list-style-type: none"> <li>• I have other businesses as buyers of my costumes, not retail buyers but some shops - Respondent 2</li> <li>• We have had a co-operation with a girl who makes jewellery and we produced some bags together. Then, some Varaždin designers, when selling prom gowns, they send their customers to us so that the bag goes well with the dress. - Respondent 3</li> <li>• We meet from time to time with other tourist entrepreneurs, artisans and artists and then we try to think of various programs and contents we could offer. We encourage each other, guide each other and support each other. I do not test [ideas] in some kind of incubator or through a structured organization, but through some kind of verbalization we come to quality content. - Respondent 5</li> <li>• It is mandatory to network with colleagues, but in the way that everyone is autonomous. For certain projects when we work together, everyone works their part on their own, proprietary rights are known, and then there is no tension and there is a clear financial awareness of what belongs to whom. - Respondent 9</li> </ul>

<b>International cooperation</b>	<ul style="list-style-type: none"> <li>• We have provided a lot of services to foreign publishers. - Respondent 1</li> <li>• We had a partnership with a Parisian blogger, we have sent her a bag. But it is a bit tricky, because there is very high postage. - Respondent 3</li> <li>• We have started working with Italy and Slovenia. - Respondent 4</li> </ul>
<b>Networks</b>	<ul style="list-style-type: none"> <li>• We have entered the incubation process at the Technology Park and it was quite convenient at the start and we have got logistic support, a mentor... We have saved a lot because these were the subsidized terms. - Respondent 1</li> <li>• The contacts were mainly related to the payment of the bills. We did not get too much support and assistance from the Tech Park. I have been a member of the [online] Varaždin Crafts Portal since the beginning. I have a benefit in terms of promotion, the portal organizes some of their events and then calls us to do a fashion show, and anything that goes on in my business I can promote through the ads on the portal. Besides, I am also their columnist so they announce all my news, new collection, photo shooting, most often I do not need any additional engagement. - Respondent 2</li> <li>• I feel the advantage [of collective workshops], it means whatever you need, people are always around you, someone is always stepping in, I think it is better to be in the community. - Respondent 4</li> <li>• We in Varaždin had a kind of creative industry, I was part of the first team. It all came down to space renting a little bit cheaper, as in an incubator, but there was no further support. The technology park has changed this a bit. They have withdrawn some money from the [EU] funds, but we were not involved directly. They have got money based on our projects, but it did not return to our projects. - Respondent 9</li> </ul>
<b>Informal communities</b>	<ul style="list-style-type: none"> <li>• Well, there was also some kind of association of a more informal type, in which I was a member for a year or so, but I concluded that it was not worth it. I did not have time to devote much to that, compared to what I got back in a year. - Respondent 2</li> </ul>
<b>Family and friends' support</b>	<ul style="list-style-type: none"> <li>• Considering the situation in Croatia and the crisis in our industry, which is in fact a luxury [for buyers], it is not a personal need, of course I had to stand strong behind my choice, because I had to choose between a safe salary and a safe job and some unsafe adventures. - Respondent 2</li> <li>• I have had a support in the sense “You would be good in this, you should have no fears”. It has been a great and unquestionable support; without that I would probably not have the guts to start on my own. - Respondent 5</li> <li>• There has always been support from the family, but I never allowed anyone interfere, I always wanted it to do it all by myself, because when you make a decision, then you can implement your own ideas. As soon as you let someone else in, then you have to do what others want. - Respondent 7</li> </ul>

	<ul style="list-style-type: none"> <li>• That was actually the hardest, you have no support and you are mentally unstable, it is difficult, you have no money. - Respondent 8</li> <li>• Family support has always been there. I come from a very interesting family, my grandfather had had a hat factory, the first in Northwest Croatia, it was at the beginning of the 20th century and I have quite grown up with exhibitions, artwork. All in my family have always been a little creative and I must have picked it up a bit, my dad's hobby was photography, so I have learnt a lot. - Respondent 10</li> </ul>
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The results of this research indicate the importance of the social capital for our respondents because most of them have started their own business helped through business contacts from the previous job, private contacts, or friends who gave them space or advice, experts who introduced them into the business etc. International contacts have also been developed based on previous business acquaintances and contacts.

### 3.3. Usage of online social networks

With the emergence of social networks such as Facebook and Instagram, consumers can have previously far-fetched products by the click of a mouse, especially because of presentation features and rapid interaction on the social networks. All the interviewed respondents own Facebook profile on behalf of company, craft or association.

Respondent 1 states that they use a number of Internet services for business purposes, such as a webshop, a company portal, a Facebook profile, and a Behance profile: "...a portal we mainly use as a sales channel, because it is the easiest way to reach 200,000 parents through this portal compared to any other online video advertising, it's the fastest, simplest way we have ever seen." The social network profile besides for networking is used for paid promotional campaigns: "We typically do a variety of paid, promotional campaigns through Facebook and it can have a good conversion, for example, ten HRK invested in an ad campaign results in earning 100 HRK... much more cost-effective than maybe any other form of traditional sales, bookstores."

Respondent 2 uses the internet most often for promotion of products and novelties, but also for communication with domestic and potential foreign clients, which is why their web site is bilingual: "My website is translated into English, so there are two versions one in Croatian and another in English". The promotion is done through Facebook, paid ads, and memberships on business portals. In addition to the above, the respondent also has a profile on LinkedIn for networking.

Instagram as a visual media is particularly suitable for presenting products in co-operation with bloggers, so respondent 3 receives their orders from bloggers' followers: "... there are plenty of these Croatian and foreign bloggers. They are given a product and then they promote it on their blogs so many people get acquainted with the product." Respondent 3 stated that they organize gift giving on social networks, which have been very attractive lately, because they attract a large number of people, without much investment and cost. Some entrepreneurs in cultural and creative industries are so dedicated to their business that it often mixes with their private life: "From the beginning we have been constantly present on social networks since the association was established and we have a lot of followers and friends in personal networks and profiles. Our personal profile is also a business profile." - Respondent 7.



But, there are also some entrepreneurs in the creative industry who do not use the internet or the social network for the business promotion, because they have built a recognizable image based on the long tradition of business, so the customers contact them in spite of no online promotion. "We do not even have a web site ... we have our own customers so we do not consider this is as a lack of our business."

Respondent's 8 answer also indicates that the internet and social networks have a great impact on the success of promotion and networking of stakeholders in cultural and creative industries with their targeted audience: "... if you set up a website well, it will do everything for you."

### 3.4. Social capital conversions

Conversions of cultural, social and symbolic capital into economic capital enable entrepreneurs to generate revenues (Chandler and Hanks, 1998; Jonsson and Lindbergh, 2013; Pret *et al.* 2016) which is sketched in figure 1.

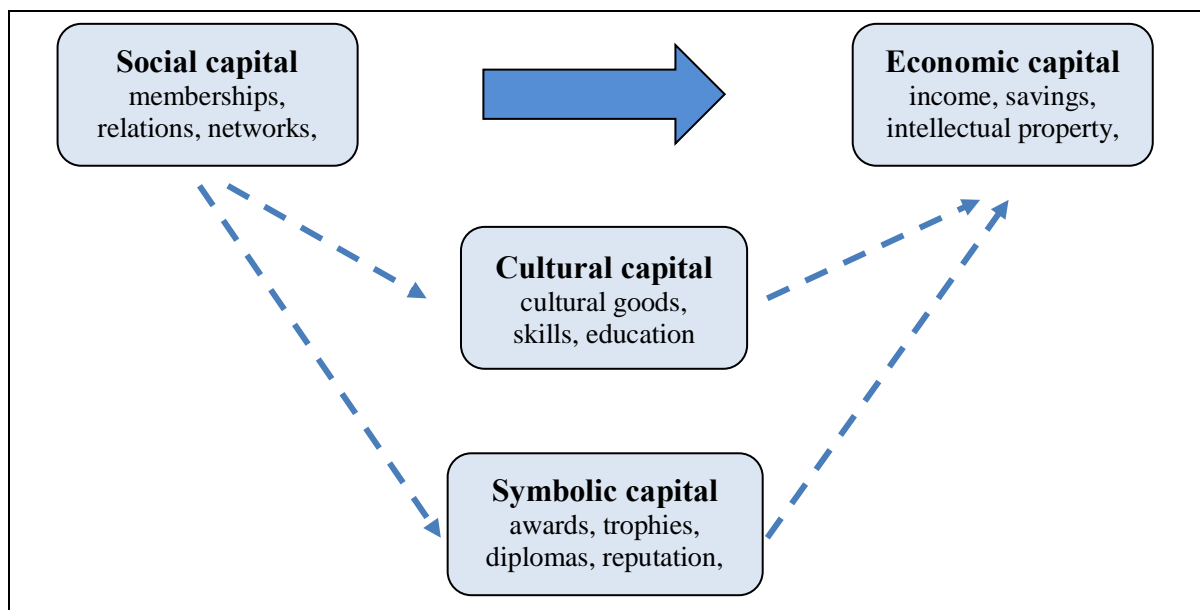


Figure 1: Conversions of social capital into economic, cultural and symbolic capital (adapted and complemented from Pret *et al.*, 2016).

The results of the research indicate possibilities for social capital conversions into economic capital but also into the other forms of the capital, namely, cultural and symbolic capital (see table 2).

*/Table following on the next page*

*Table 2: Conversions of social capital into economic, cultural and symbolic capital (examples from the raw data)*

Social capital conversions	
Economic capital	<ul style="list-style-type: none"> <li>• Ten years ago a person recommended me to the Society “Our children” and from then on I regularly make costumes [for their projects]. - Respondent 2</li> <li>• When I was in a high school, we started to buy equipment, well, my Dad was, since he did the same thing before. - Respondent 3</li> <li>• My dancing partner’s Mom had the opportunity to find some sponsorship. - Respondent 7</li> </ul>
Cultural capital	<ul style="list-style-type: none"> <li>• Then we used the help of a friend who was the director of the City Library, and he gave us a few hours a week [artistic] space for free, not to have to pay for it, and yet it was in the city. - Respondent 6</li> <li>• You can always get the advice [getting new knowledge from professional organizations], you can call and ask for an advice. - Respondent 7</li> </ul>
Symbolic capital	<ul style="list-style-type: none"> <li>• Well, Magicus wrote about us. They called us and offered to advertise through them and we did it. It is an alternative magazine. – Respondent 4</li> <li>• The real feedback is that for more than 30 years our association has always been enrolling many new members every year. Respondent 6</li> <li>• As we are the member of Croatian Dance Sports Federation, which is a member of the WDSF international organization, we are actually recognized internationally. We can visit international competitions, we actually do visit them and until recently we have also competed. We are in continuous contact with them. Also, we invite these international instructors to hold different workshops for us. - Respondent 7</li> </ul>

Despite the fact that social capital cannot always be directly converted into economic capital, it is possible to exploit the potential of social capital by indirect conversion through the other forms of capital.

#### 4. CONSLUSION

The research shows a large number of forms of social capital used by entrepreneurs in cultural and creative industries. Although the strong ties with close friends - family members, friends, partners - play an important role for the entrepreneurs, the weak ties have greater importance for business, because these enable the entrepreneur to easier acquire the necessary resources for a successful entrepreneurial venture and market positioning. Despite the variety of forms of social capital and the ability to convert it into economic, cultural and symbolic capital, the results suggest that conversion opportunities for entrepreneurs in cultural and creative industries are lower than anticipated given the large number of identified forms of social capital. However, as in creative industries capital conversions are relatively easy (Pret et al., 2015), it is possible to transform the other forms of capital brought about by social capital into the economic capital. Nevertheless, the research suggests probably greater influence and the role of cultural and symbolic capital in these industries due to the specificity of goods produced in these industries as well as the nature of the product creation process. In further research, it is necessary to explore the role of cultural and symbolic capital.

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## INTERFIRM COOPERATION TO CREATE COMPETITIVENESS: CASE OF BATIK BANJARNEGARA SMALL FIRM

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### ABSTRACT

*This paper propose Batik Banjarnegara Small Firms (BBSF) co-operation framework to support innovation. This framework created to analyse field of BBSF collaboration and to understand how BBSF cooperate. The constructs of this study are based on previous research on interfirm co-operation, which permits to cross validate results from different studies, combine their findings and to create the framework to obtain a global idea of BBSF cooperation. The BBSF cooperation framework combines in a unique model the three main dimensions involved in BBSF cooperation (strategic, management and social) with the internal and external factors influencing business collaboration. Using the developed framework, the author summarizes why BBSF should cooperate, the problems BBSF face adopting collaborative approaches and the factors influencing interfirm collaboration effectiveness. The findings of this work provide some important implications for managers concerned with adopting collaborative approaches. From a managerial perspective, it shows that co-operation between BBSF is a valid approach for improving their performance as long as the success factors are considered, which in turn, reduces the risk of alliance failure.*

**Keywords:** SMEs; collaboration; co-operation, competitiveness, Batik, Banjarnegara

### 1. INTRODUCTION

Traditionally, SMEs have had to face challenges for their survival with their limited resources and with little support from governments. This unfavourable scenario gets worse in uncertain economic periods like the current crisis because they do not have access to capital markets and their sources of external financing are much more limited than those of large corporations (LC) (Udell, 2009). In addition to these difficulties, globalization of the markets and increasing international competition force SMEs to search for new, innovative, flexible and imaginative ways to survive (Holland and Lockett, 1994). One popular alternative for small firms is the adoption of co-operative approaches with other organizations. From the 90s onwards, a considerable number of businesses in different industries began entering into a variety of cooperative interfirm relationships to perform their business activities (Hagedoorn, 1990). This new method of business was accompanied by a significant amount of research. Terms such as networking, co-operation or alliances have been widely used in literature (Hoffmann and Schlosser, 2001) but, in spite of the results of some studies like (Marti, 2009) indicating that SMEs prefer to collaborate with other SMEs, there is a considerable lack of studies focusing on collaboration between SMEs, and most of them are focused on LC-SME interactions

(Varamaki, 1996, Lorenzoni and Lipparini, 1999), leaving the interesting field of SME-SME collaborations with little evidence and without a clear consensus (Varamaki, 1999). Some authors have applied the same theories to both large and small firms but this is an incorrect approach because it fails to consider the special characteristics of SMEs and tends to produce outcomes and conclusions that are not applicable to real firms (Fletcher, 1993, Volery, 1995). Moreover, the results of several studies demonstrating the advantages of collaboration for SMEs have not been translated into a massive adoption of these approaches. There are two main problems in previous research concerning relationships between SMEs: *the lack of longitudinal studies* (Bronder and Pritzl, 1997; Borch and Arthur, 2007) and the abuse of *cross-sectional studies* assuming that interfirm collaboration can be measured at any time and applying the results from one sector to another, without considering possible biases (Varamaki, 1996). To overcome these problems and to obtain a holistic view of the topic it is necessary a secondary analysis including studies of SMEs from different regions, sectors, contexts and periods of time. Therefore, the main objectives of this study are: a) *to perform a deep literature review of SMEs collaboration* in order to b) *create a framework for a better analysis of the field* that must permit to c) present clear and useful information about the *reasons SMEs should adopt collaborative approaches*, the most *common problems and barriers* they face and the *factors influencing interfirm collaboration effectiveness*. For this purpose, firstly it is necessary to understand the particular context of SMEs and the current theories about interfirm co-operation.

## 2. RESEARCH METHODS

Individual theories like the ones presented in previous section are helpful to understand different perspectives of interfirm collaboration, but it is by combining them that is possible to have a holistic view of this topic, and therefore, to be able to carry out a complete analysis of this type of relationship. In order to analyse the literature, compare different studies and put together conclusions of different authors systematically, the author developed the SMEs cooperation framework which has been used to extract relevant conclusions of different aspects of SME collaboration and to deploy an exploratory and qualitative approach of previous Studies to cross-validate their results and combine their findings. The SMEs co-operation framework is the result of combining the above-mentioned theories in a single model. Therefore, it complements their findings, supplements their weaknesses and groups similar approaches into the following three dimensions that should be considered when analysing collaboration: the strategic dimension, the management dimension, the social dimension. The framework also includes the factors influencing business collaboration: internal factors and external factors.

## 3. RESULTS AND DISCUSSION

### ***Advantages of SME collaboration and how it can lead to improved performance and increased productivity***

The advantages of collaborative approaches have been widely covered in the literature. For example, in 1994 Kanter argued that a good way to achieve competitive advantage was developing collaborative relationships based on open systems and sharing of information (Kanter, 1994). Some authors have followed this initial concept, emphasizing the relationship between co-operation and innovation (Bullinger, Auernhammer, and Gomeringer, 2004). In the case of SMEs, this becomes more relevant due to their need to complement their internal knowledge with external sources (Sorama, Katajamaki, and Varamaki, 2004) and their difficulties in establishing successful partnerships. Reinforcing these ideas, some researchers affirm that success of SMEs against larger competitors may be determined by their ability to utilize external networks efficiently and create useful alliances (Nooteboom, 1994; Van Dijk, et al, 1997) or that competitiveness may, in fact, be determined more by its external network than its size (Van Dijk, den Hertog, Menkveld, and Thurk, 1997).



These studies show the importance of co-operation for SMEs and its relationship with innovation and success and help to understand why for decades governments and public organizations have been creating mechanisms to promote it. Although the relationship between innovation and cooperation is an important reason, it is not the only one. There are plenty of examples in the literature of studies analysing the reasons and benefits of small firms adopting co-operative approaches (Masurel and Janszen, 1999; Combs and Ketchen, 1999). Each study comes to different results, but some common conclusions can be easily identified. Assuming and understanding co-operation as a strategic option for SMEs to complement or change their businesses models, the author suggests that those should be grouped into: *external* (industry environment) and *internal* (the firm). The first group includes reasons related to position in the market, response to external threats, internationalization and relationship with competitors, customers or suppliers, while the second group embodies elements related to the internal mechanism of the firm: goals, values, resources and capabilities, structure, etc.

### ***Problems and barriers to SME collaboration***

The research performed in this work also permitted to identify a set of problems and barriers that SMEs face in order to collaborate. Although some authors refer to these factors as disadvantages of collaboration, the author suggests that they arise from inappropriate type of behaviour and/or incorrect formalization of the collaborative initiative, rather than the concept itself. For example, it has been argued that co-operating with firms with shared interests and know-how increases the risks of opportunistic behaviour and overlapping [48]. For the author, more than a disadvantage, this is consequence of a bad partner selection, one of the main problems they face in collaboration, and encourages keeping studying why, in spite of the advantages described in previous sections; collaboration is not common among SMEs. Similarly to the previous analysis of the advantages of SMEs collaboration, it is also possible to group the barriers into internal and external. Within the first group, the most important factor is lack of resources, for example time, employees or capital. This forces SMEs to focus on their daily activities, affecting other aspects like finding appropriate partners, devising new business opportunities or Internal and external reasons for SME collaboration investing in co operation formation and maintenance. As external factors, the poor efficiency of previous cases and the lack of objective mechanisms to evaluate their performance decrease their confidence in collaboration. Coordination mechanisms and power conflicts are other barriers to collaboration, closely related to the difficulties resulting from personal relationships and trust. In addition to the barriers of collaboration, it is also necessary to identify the factors SMEs should consider in order to ensure its success. The next section identifies some of these factors and demonstrates how a good knowledge of them can improve the effectiveness of interfirm co-operation.

### ***Factors influencing the effectiveness of interfirm cooperation***

Despite the amount of research about SME collaboration, there is no comprehensive theory of factors influencing cooperation success. Several reasons hinder this task. Firstly, each type of collaboration is different and it is therefore necessary to study each case specifically. Secondly, the intrinsic characteristics of the partners have a direct impact on the process and finally, as identified in (Van Dijk, 2001), collaboration between SMEs follows different phases and each phase is influenced by different factors depending on specific conditions of the environment or time. Following the same approach used before, the threedimensional framework has been used to determine the factors influencing the effectiveness of interfirm cooperation. Analysing the strategic, management and social dimensions separately permits to identify the factors. Although the number of factors identified in the social dimension is lower than the other two dimensions, it is necessary to remark that its influence on the others and on the whole co-operation process is very important.

Usually an appropriate social capital increases the efficiency of information diffusion between partners and trust substitutes the cost of monitoring, decreasing transaction costs and increasing the efficiency of the collaboration (Von Hippel, 2006). Finally, external factors such as the technological or market conditions of the industry have an influence on the co-operation process and partners should be aware of them before and during the process.

#### 4. CONCLUSION

By using the SME co-operation framework, and on the basis of the findings from the extensive literature review, the author explored the advantages, disadvantages and barriers to co-operation that SMEs face and the factors influencing its effectiveness. Although no primary research has been performed during this work, some contributions to the study of SME collaboration have been achieved. First, the developed framework groups the essential aspects and factors identified in the literature to be considered when analysing the topic and it provides a useful tool for future researchers studying the topic. Second, the use of the framework permitted to extract relevant information from previous studies, discard useless conclusions and summarize in a unique work important findings from previous studies about SME collaboration. It has been useful to analyse the interfirm collaboration field from different perspectives as it provides a holistic view of the topic and complements the few studies which exists on SME-SME collaboration.

The multi-method approach adopted to cross validate the findings from several studies permitted to understand the characteristics of SME collaboration and save time not re-inventing the wheel. Finally, the results of this work, presenting in a clear and practical way the advantages of SME collaboration, the barriers SME face in adopting collaborative approaches and the factors influencing its efficiency, represent a complete approach to the topic and provide a guide for managers thinking in adopting collaborative approaches. The results of the work show that co-operation between SMEs present a large number of advantages for the participants as long as the success factors are considered and included in a planned strategy. Having a clear prior idea about what is expected reduces the risk of failure and facilitates its governance. As mentioned before, the author believes that most of the problems SME face during collaboration are consequence of bad habits and decisions in the design and maintenance of it but that an accurate understanding of the process can minimize them.

In that sense, classifying the reasons and barriers to collaborate into external and internal categories facilitates its understanding and permits to address specific actions depending on the context. Similarly, the classification of the factors influencing the effectiveness of interfirm co-operation into strategic, management and social categories permits to design measures to ensure its implementation across the different management structures of an alliance. In addition, and in keeping with the findings of (Marti, 2009) or (Von Hippel, 2006), this study revealed that social factors are crucial to ensure collaboration success and part of the strategy of SMEs. It is necessary for the participants to have a clear understanding of why they want to co-operate and which results they expect before starting collaboration. This process requires a favourable attitude and an analysis of the individual characteristics of the participants in order to find complementarities and synergies while avoiding conflicts. Moreover, the nature of the partners and people involved is an important social factor. It is well-known that complementarity of resources and skills facilitates success but having compatible and similar cultures is also important. Despite the results included in this work were extracted from studies performing surveys to real SMEs, the author is currently working on an empirical survey to SMEs to add primary research, corroborate the findings and give continuity of this work.

In the meanwhile, future studies on SME collaboration can take advantage of the framework developed and improve their research on this topic. Many variables influence interfirm cooperation and specific analysis tools are necessary in order to understand it. The developed framework is one of these tools because facilitates systematic study of the topic, analysing different dimensions and factors involved separately.

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## COMPARISON OF HOMEWORKING IN THE CZECH REPUBLIC AND SPAIN

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### ABSTRACT

*Homeworking, teleworking or home office, is an interesting alternative for more and more companies to organize the way their employees work. Nowadays, it represents an interesting employee benefit also called the home office. At the same time, it can help to reduce company costs in certain situations, such as the costs relating to the creation of a new job and overhead costs. In the context of the increasing demand for labour and the gradual growth of the interest in part-time work, the active search for this possibility of work is mainly found among families with children under 15 years of age. The accessions of small and medium sized enterprises in the EU member states are not uniform, which is reflected in the frequency of the use of homeworking by individual employees on the one hand and the possibility of homeworking on the part of the employers. The aim of the paper is to compare the approaches of selected countries. The authors focus on the comparison of the Czech Republic, Spain and average values within the EU. The comparison is carried out according to the frequency of use, gender and the age structure of employees according to the selected statistical methods. From the data obtained, the wider use of homeworking in Spain towards the Czech Republic and simultaneously, the lower introduction of homeworking in both selected stakes compared to the EU average arise. The results also failed to demonstrate statistically significant differences between men and women in the selected countries and the EU.*

**Keywords:** *EU members, homeoffice, homeworking, teleworking*

### 1. INTRODUCTION

In most European countries, teleworking or homeworking is used in various forms that differ from one another by its legal regulation. According to the European Trade Union Confederation, telework is defined as a form of organizing and/or performing work, using information technology, where work, which could also be performed at the employers' premises, is carried out away from those premises on a regular basis (Implementation, 2006). Nevertheless, despite the differences in their legal regulation, teleworking or homeworking should always demonstrate several common features. Obviously, it is an employment relationship that precludes continuous employer control (Jouza, 2008) and it also requires more



trust amongst the parties, or a more detailed arrangement in a collective agreement or in an individual agreement with a domestic employee. Therefore, the employer should set out in advance appropriate working procedures, working tempo or labor standards, and contractually ensure compliance with health and safety at work (Bělina, 2015). Telework as a concept was first introduced as telecommuting by Jack Nilles (Nilles J., 1976). Telework is often defined as a way of work where information communication technology (ICT) enables employees access to work remotely, usually from home (Sullivan C., 2003). It means that telework is a superior concept to homeworking. Telework could be defined as a work that is carried out outside the central office involving modern technology that permits communication (Arvola R. et al., 2015). For the purpose of the research telework and homeworking are considered to be interchangeable. In the Czech Republic, teleworking or homeworking is regulated in Section 317 of Act No. 262/2006 Sb., the Labor Code. It is defined as the regime of work of an employee who does not work at the employer's place of work but, under the agreed conditions and who performs a negotiated job during the working hours he/she plans. Unlike the previous regulation (Section 267 para. 2, 3 of the Labor Code 1965), it is no longer a defining feature that it should be an employee working mostly at home. Employee can do work anywhere (outside the workplace) where it suits the nature of the work being arranged and will be agreed with the employer. Sections regarding working hours, overtime, compensation of wages, spare time off in case of overtime and compensation of wages in case of some personal obstacles at the employee's side. On the other hand, employers should compensate the costs paid by the distant/home employees, however this is regulated implicitly and that's why most employers do not keep the regulation and do not compensate the costs employees pay by doing their work from home. Therefore, the new novelization of Labor Code counts with the implementation of new regulation consisting in the specification of the employers' duty to compensate the costs arisen on employee's side. Home workers are not a novelty for a Czech legal regulation. Yet since the nineteenth century the domestic worker has been known and regulated. However, a domestic worker is a somebody who produces goods at home on behalf of somebody else. A domestic worker is a term related to the manufacturing industry while a distant worker relates more to services than to manufacturing industry (Bělina, 2010). Unlike the situation in the Czech Republic, in Spain, the employee has practically the same legal status as a "classical" employee. Spanish Labor Code regulates homeworking or rather to say teleworking in Section 13 of the Labor Code and Act on Social Security (Código Laboral y De La Seguridad Social, 2017). According to the above-mentioned section homeworking is defined as a work realized at home or at other place different from the employer's place without the aspect of the working hours which play a key role in the Czech definition of homeworking stated in the Czech Labor Code. Spanish Labor Code requires a written form of a distant working agreement concluded at the beginning of the employment relation or consecutively during the employment relation duration. According the Spanish Labor Code the distant workers have the same rights as the present workers except the rights that are inherent to the work performed outside the workplace, especially they have right to be equally remunerated. Employers are obliged to ensure their work development by sending them to schoolings or trainings and are explicitly obliged to inform their distant workers on the free inside jobs.

## 2. METHODOLOGY

Labor market statistics, including homeworking analyzes, are the priority points of many European Union policies. Homeworking statistics can be used for a range of analyzes, both macroeconomic, if we see work as one of the factors of production, as well as for analysis of productivity, or competitiveness in the labor market. Analyzes can also be carried out from the point of view of social aspects related to diverse ways of employing workers.

The aim of the paper is to analyze the use of homeworking within the European Union. The article is primarily concerned with comparing the use of homeworking in the Czech Republic and Spain and comparing these partial results with the results of using homeworking across the European Union. The partial target was the comparison of the use of homeworking with respect to the gender and frequency. The data tested for further analysis were obtained using publicly available Eurostat data (Eurostat, 2017). The comparison was based on several aspects, with the basic division being the use of homeworking in the individual countries of the European Union, the use of homeworking by gender (men, women) and the frequency of use (usually, sometimes). The survey was attended only by employed people aged 15-64. The comparison was made using the data from the period 2005 - 2015. The newer data were not available at the date of analysis. As regards the statistical methods used, the t-test was used for the difference test. The zero hypothesis  $H_0$  was set that both groups are equal over against  $H_A$ , where the two samples are different.

Test data were obtained using publicly available EUROSTAT (2017) data, compared to data for the period 2005 to 2015. In the statistical comparison of the use of homeworking, a t-test for a random sample from a two-dimensional layout was used for research purposes, with  $n \geq 2$  (Budíková, 2010; Freeman, 2017). Here we denote  $\mu = \mu_1 - \mu_2$  and introduce the difference random sample  $Z_1 = X_1 - Y_1, \dots, Z_n = X_n - Y_n$  whose sample mean and sample variance are (Freund, 2010; Anderson, 2013):

$$M = \frac{1}{n} \sum_{i=1}^n Z_i \quad (1)$$

$$S^2 = \frac{1}{n-1} \sum_{i=1}^n (Z_i - M)^2 \quad (2)$$

Statistically, it has always been tested at a significance level of 0.05 where:

Zero hypothesis  $H_0: \mu_1 - \mu_2 = 0$  against alternative hypothesis  $H_A: \mu_1 - \mu_2 \neq 0$ .

Before testing the hypotheses, the tests of both dispersions of both samples were always performed using the F-test. The calculation is based on the difference between the means of the two samples, the variability of the observed quantity and the size of the two samples. This test statistics is distributed according to Student t-distribution with  $n_1 + n_2 - 2$  degrees of freedom (Meloun, 2012). The degrees of freedom are a t-distribution parameter. Using the Statistica software, we find the exact p-value. This probability corresponds to the probability of occurrence of such or an even more extreme value of the test criterion  $t$  assuming the validity of the zero hypothesis. If it is less than 0.05, we reject the zero hypothesis. This means that the probability that the observed differences occur only by chance is less than 5%. The classical two-sample t-test, in addition to the normal distribution of the observed variable, also assumes that variances are the same in both groups. This assumption is tested by sample estimates of the standard deviations  $s_1$  and  $s_2$  by the F-test (Devore, 2015; Walker, 2010).

### 3. RESULTS

The aim of the paper is to compare the approaches to homeworking between Spain and the Czech Republic and then to compare them with the European Union mean from 2005 to 2015. As mentioned in the methodology to test the difference between the two groups, the t-test was used. The zero hypothesis  $H_0$  was set that both groups are equal over against  $H_A$ , where the two groups are different. First, the total utilization of homeworking of the two countries was tested, where, as it can be seen from table 1 below, the statistical difference between the two groups was not demonstrated and the p-value was equal to 0.7795, as it is illustrated in the table 1 and in the figure 1 (the left box plot), where the values of both medians are very close.

A more significant difference is here in terms of maximum values for Spain, where the value is close to 3.34. From statistical point of view, there was also a comparison of the two countries with the European mean where both countries rejected the zero hypothesis in favor of  $H_A$ , where in both cases the value of  $p\text{-value} = 0,0000$  expresses a significant difference between both Spain and the Czech Republic and the EU mean. The high negative value  $t$  means the significantly higher use of HW in the European Union. The CZ and Spain means are below 3, while the EU mean is close to 10.

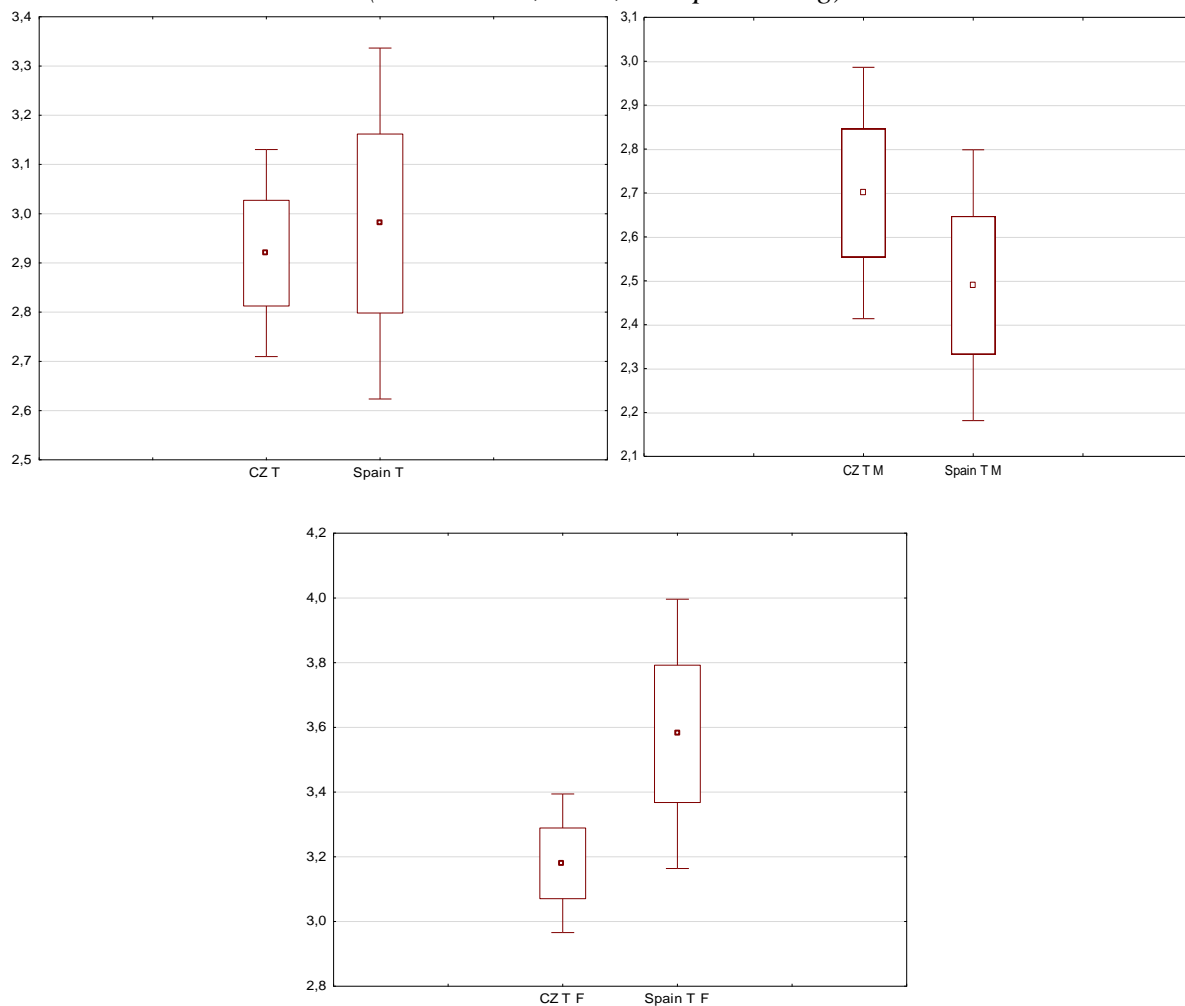
*Table 1: Comparing approaches to homework (EUROSTAT, 2017; own processing)*

	Mean group 1	Mean group 2	Value $t$	sv	p	Standard deviation Group 1	Standard deviation Group 2	F-propor- tion Variance	P Varian- ces
<b>CZ T vs. Spain T</b>	2,92	2,98	-0,284	18	0,7795	0,3392	0,5750	2,8725	0,1318
<b>CZ T vs. EU T</b>	2,92	9,80	-24,747	18	0,0000	0,3392	0,8110	5,7142	0,0160
<b>Spain T vs. EU T</b>	2,98	9,80	-21,692	18	0,0000	0,5750	0,8110	1,989	0,3201
<b>Spain T M vs. CZ T M</b>	2,49	2,70	-0,9781	18	0,3410	0,4976	0,4618	1,1609	0,8277
<b>Spain T F vs. CZ T F</b>	3,58	3,18	1,6751	18	0,1112	0,6713	0,3457	3,7695	0,0610

Subsequently, the use of homeworking of both countries from the point of view of access of women and men was compared, where neither men nor women could prove significant differences in significance level of 0.05. P-value in males was found at 0.3410 and in females 0.1112. In the figure 1 below, it is evident that men in the Czech Republic use homeworking more often because the median value and both upper quartets are of the order of 0.2 point higher (the right box plot). For women, the differences are even more significant in terms of graphical representation, with a shift of almost the entire chart by 0.3 points lower than in Spain, see box plot in the center below. Both box plots show a distinct difference in access between men and women where homeworking is more often used by men than in Spain, and the opposite is the case for women where Spanish women use homeworking more often than Czechs, all from the point of view of the graphical representation.

*/Figure following on the next page*

*Figure 1: Comparing of homeworking from the point of view of access of women and men (EUROSTAT, 2017; own processing)*



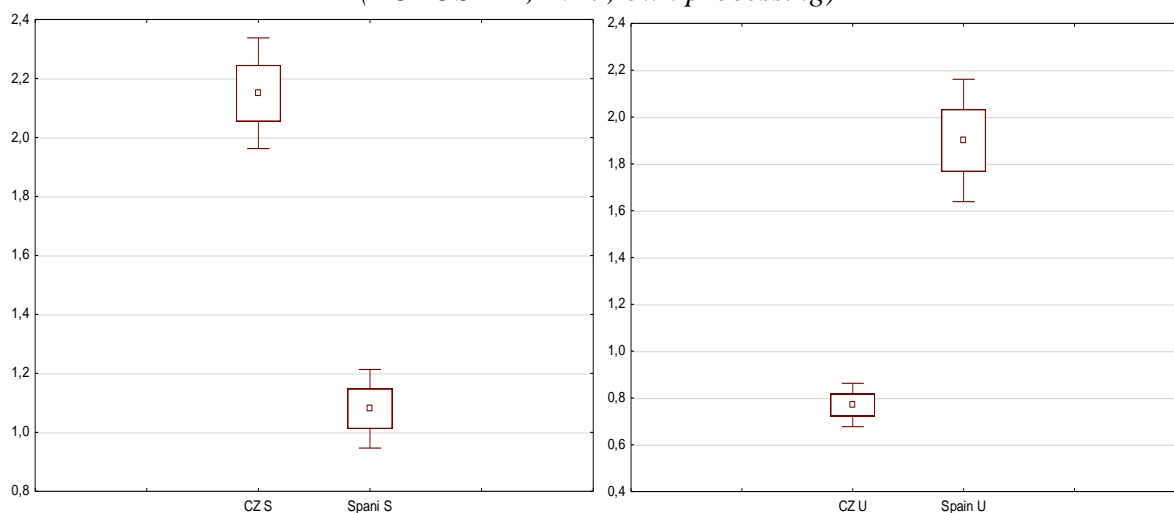
A further comparison is related to the approach within individual groups in terms of frequency of use of homeworking where frequencies were sometimes (which expresses some occasions but not always or often) and usually (which expresses the way that most often happens). In the first stage, we tested the total "usually" utilization between the two states where we succeeded in rejecting a zero hypothesis in favor of a right-handed alternative hypothesis when p-value came close to zero. Thanks to this, we can claim at a significance level of 0.05 that the Spaniards use homeworking much more frequently than the Czechs, as illustrated graphically below in the figure 2 (the left box plot). On the other hand, when the two samples were compared in a group "sometimes" where  $H_0$  was also rejected, but in favor of a left-hand  $H_A$  and p-value 0.0000, it was found that Czechs use homeworking much more often than the Spaniards, as we can see in the right box plot in the figure 2.

Subsequently, the differences in the use of homeworking in both groups (usually and sometimes) between men and women were examined. These results are shown in the table 2 below, but there were no significant differences compared to the assumption based on the previous results for the overall groups. For this reason, these results are no longer accompanied by graphical representation.

Table 2: The differences in the use of homeworking in both groups (U-usually and S-sometimes) between M-men and F-women (EUROSTAT, 2017; own processing)

	Mean Group 1	Mean Group 2	Value t	sv	p	Standard deviation Group 1	Standard deviation Group 2	F-proportion Variance	p variances
<b>CZ U vs. Spain U</b>	0,77	1,90	-7,9880	18	0,0000	0,1494	0,4216	7,9601	0,0049
<b>CZ S vs. Spain S</b>	2,15	1,08	9,1121	18	0,0000	0,3027	0,2149	1,9831	0,3223
<b>CZ S M vs. Spain S M</b>	2,19	1,04	8,8114	18	0,0000	0,3665	0,1897	3,7314	0,0629
<b>CZ U M vs. Spain U M</b>	0,51	1,45	-7,4469	18	0,0000	0,1100	0,3836	12,1559	0,0009
<b>CZ S F vs. Spain S F</b>	2,10	1,16	8,1271	18	0,0000	0,2666	0,2503	1,1347	0,8537
<b>CZ U F vs. Spain U F</b>	1,08	2,42	-7,2294	18	0,0000	0,3119	0,4962	2,5296	0,1830

Figure 2: Frequentation of using the homeworking groups (U-usually and S-sometimes) (EUROSTAT, 2017; own processing)



#### 4. DISCUSSION

It is of importance, how quickly the trend of teleworking has become accepted in CZ. Not so long ago, a study of Czech labor market focused on teleworking states that telework is a rather rare element in the organization of work and it is limited to multinational companies (Paleček, n.d., p. 90). Thus, in this regard, the Czech population has adopted this trend surprisingly quickly. However, several things, or preferably, differences, are worth mentioning. Unlike in other countries, including Spain, the gender situation is different in CZ.



Our data indicate, that mostly men are subject to implementing telework. This difference suggests that mainly economic reason explain the introduction – or an offer – of teleworking. Whilst a decent number of non-economic reasons serves as an argument in favor of teleworking, majority of these reasons applies to the situation of women, especially if children are present in the household (Arvola, Tint, Ph, Kristjuhan, & Ph, 2017). On the other hand, even a country so much oriented towards gender equality as Sweden is, states a slight underrepresentation of women in the group of teleworkers (Vilhelmson & Thulin, 2016, p. 86). The above-mentioned predominance of economic factors is supported by our data. Benefits of teleworking for the employer are manifold, our data show that in the Czech case other benefits – personal, social, work-life balanced, tend to be put out of equation in the perception of employers. Research also suggests focusing on several problems connected to implementation of telework and we strive to deal with these issues in our qualitative interviews. Two are worth mentioning. Firstly, it is the period of transition (i.e. the first months) to teleworking that brings a need to adjust for all involved parties (teleworker, management, household), as various surprises, misunderstandings and misperceptions can emerge (Tietze & Nadin, 2011, p. 331). Secondly, telework can turn into a really stressful experience especially for women, whose non-paid work in the household makes the paid telework “invisible” (Holloway, 2007; Sullivan & Lewis, 2001).

## 5. CONSLUSION

It is obvious that homeworking can help increase the employment of parents or people with disabilities, productivity and motivation of employees and businesses can lead to savings in office space and other facilities (Whyman & Petrescu, 2014). The obvious disadvantage of homeworking is the very difficult monitoring of employee performance or deterioration in quality of work or problems with maintaining professional development and improving skills or feeling of isolation of employees (Collins, Hislop, & Cartwright, 2016). Work from home is not suitable for all professions. From the statistical analysis, it is obvious that the use of homeworking in the Czech Republic and in Spain is relatively comparable. Both countries do not reach its use to such an extent as the average across the European Union. It should be noted that the use of homeworking within the European Union is highest in the Netherlands, Sweden and Germany (Eurostat, 2017). In terms of gender analysis, there are interesting differences between the use of homeworking for women and men in Spain and the Czech Republic. These differences are quite the opposite. While in Spain, homeworking is used by more women, they are men in the Czech Republic that use homeworking more. Therefore, the Czech Republic is fully confronted with the view that homeworking is more used by women for caring for children up to 15 years old. Regarding the frequency of homeworking and comparisons between Spain and the Czech Republic, it is significant that the Spaniards use homeworking more for several days a month, while the Czechs are only a few days away. This difference can be explained from the point of view of historical development, for the introduction of homeworking is a relatively new way of employment that does not have a long tradition in the Czech Republic.

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## Waqf-Based Endowment and Entrepreneurial Intention Among Students in Institutes of Higher Learning

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### ABSTRACT

*Waqf is an Islamic endowment that has contributed significantly to the development of many communities. Waqf assets were utilized for religious, social and economic purposes. Other than for funding religious activities, one of the popular usage of waqf is to fund education. Historically, waqf had a vital role in providing assistance to all levels of education, particularly institutes of higher learning (IHL). Waqf funds were used for development of IHL's physical infrastructure, academic activities as well as providing allowance for needy students. Despite the important role of waqf in ensuring accessibility to education, one of the area that the potential of waqf is not fully explored is the usage of waqf to develop entrepreneurs among students in IHLs. Promoting entrepreneurship among students is one of the focus of many education providers especially in developing countries such as Malaysia. However, studies shown that only a minority of the students were interested to become entrepreneurs or only chose entrepreneurship as their last career choice. Among the reasons cited was the influence of behavioral factors and the lack of capital to undertake entrepreneurial activities in IHLs. As for the latter, the availability of waqf fund in assisting would be entrepreneurs among IHL's student is a promising alternative. Based on the extended Theory of Perceived Behavior (TPB), this study examines the influence of attitude, subjective norm and perceived behavior control on waqf-based entrepreneurial intentions among students. Waqf fund for entrepreneurs is faith-based and its existence is not widely aware especially among the younger part of the population, as such this study also introduced two variables namely religiosity and waqf awareness into the TPB model. A survey of 400 hundred students at various IHLs in Malaysia was conducted for this study. Partial Least Square structural equation modelling (PLS-SEM) was used for the analysis. This study provides support that attitude, subjective norm, perceived behavior control, religiosity and waqf awareness are significant predictors for waqf-based entrepreneurial intention.*

**Keywords:** *Extended Theory of Perceived Behavior, Entrepreneurships, Institute of Higher Learning, Religiosity, Waqf-Based Endowment*

### 1. INTRODUCTION

Over the last decade, institutions of higher learning (IHLs) were assisted and developed through waqf. Until now, the role of waqf or pious endowment is significant in providing financial assistance to their communities as well as in strengthening the academic quality (Mahamood and Ab Rahman, 2015). Besides playing a role in financing IHLs activities, waqf has its own capabilities in generating income by adapting waqf-based entrepreneurship (WBE) activities

among students and preparing them with a broad range of benefits such as shaping the students' characteristics, and the establishments of student facilities. This paper sets up causal connections between behavioral components (Marques, Ferreira, Gomes, & Ricardo, 2012) by the Theory of Planned Behavior (TPB) and extended TPB to clarify the entrepreneurial expectation in deciding WBE among students. TPB was developed by Icek Ajzen in 1985, (1991) and has been widely used in predicting how an individual sees other individual interest in one field including entrepreneurship. Thus, the principle idea in the application of this theory is to analyze the formation of entrepreneurial intention whereby this interest can be assumed as the indication of how hard an individual is willing to try and how much effort they plan to use and to perform the entrepreneurship behavior (Ajzen, 1991). The rest of this paper proceeds as follows. The next section presents a comprehensive literature review addressing waqf-based entrepreneurship intention (WBEI) among undergraduate students in a variety of universities from several countries. This is later followed by the sample of the study, the methodology, and the result. The last section will conclude the study.

## 2. LITERATURE REVIEW

Most prior studies on WBE were heavily focused on promoting entrepreneurship in the world with interest free loans from cash waqf institutions (Ahmad, 2015), an analytical mechanism in sustaining WBE (Harun, Possumah, Shafiai, & Noor, 2014a), social entrepreneurship via corporate waqf (Zainol, Daud, Abdullah, & Yaacob, 2014), creating young entrepreneurs through waqf structuration framework (Ali, Ismail, & Saed, 2015), WBE incubator among student in IHLs (Harun, Possumah, Shafiai, Noor, et al., 2014) and research that proposed waqf model for education capital including entrepreneurship (Harun, Possumah, Shafiai, & Noor, 2014b). Among these previous studies, one by Ali et al. (2015) discussed factors determining the quality, durability, and high competitive WBE applied Adapted Structuration Theory (AST). The study found that WBE framework using AST may contribute significantly in order to produce the structure of waqf-based young entrepreneurs that will benefit undergraduate students. Based on the literature reviews, waqf is expected to become the new mechanism for mobilizing resources to the needy, especially through entrepreneurship investment. In utilizing business skills and entrepreneurial innovation to develop this social funding, waqf will be able to create employment opportunity through socio-economic development and at the same time reduce poverty especially among undergraduate students. Most of the previous studies on WBE however were inconclusive as they do not explain in detail the factors that influence an individual's intention. The studies also revealed that they were still lacking on being based and explored by theory especially the behavioral approach theories. The behaviorist fundamental study is the one of main fundamental studies that needs to focus on entrepreneurship besides liberalist, progressive, humanistic and radicalist (Hannon, 2005).

**Theory of planned behavior.** TPB was developed in 1985 by the introduction of Theory of Reasoned Action (TRA) by their founders, Martin Fishen and Icek Ajen (1975) (Ajzen, 1991; Ajzen & Fishbein, 1975). TPB was proposed by Icek Ajzen through the article titled "From Intention to Action: A Theory of Planned Behavior". TPB is found to be well supported by empirical evidence (Ajzen, 1991) by performing behavioral indifference area using predicting components which have high accuracy from the ATT towards behavioral, SN and PBC. This theory has been widely used in predicting how individual sees other individual's interest in one field such as entrepreneurship (Marques et al., 2012; Kautonen, van Gelderen, & Tornikoski, 2013; Gelderen et al., 2008) Thus, the principal idea in the application of this theory is to be able to analyze the formation of WBEI whereby behavior can be considered as the intention to become an entrepreneur.



**Extended theory of planned behavior.** The first scholars that used extended TPB are Conner and Armitage (1998). Their research focused on evidence supporting the extension of TPB in various ways. This research provided six additional variables to TPB. In suggesting for the extended study of the model that used the TPB model as a foundation, it was proposed that the additional external variables resemble a significant proportion of the variance in intention after all the existing variables of TPB have been taken into consideration (Hasbullah, Mahajar, & Salleh, 2014). In addition, Lortie and Cartogiovanni (2015) have disclosed that up until now, TPB has been facing many additions and alterations and they have been implemented by entrepreneurship scholars.

**Awareness.** One of the variables that is used for extended TPB in this study is waqf awareness (WA). Most of the studies have revealed the relationship between awareness factors and individual intention in a number of purchasing situations (Sharifi, 2013; Ko, Kim, Claussen, & Kim, 2012; Singh, Hangloo, & Kaur, n.d.). This demonstrated that awareness factors have been recognized as one of the critical elements in discussing human intention and it has a huge influence on human intention. In Islamic study, WA factor is related to waqf information exposure, WA factor as one of the important aspects in explaining human intention. It is not surprising that WA factor also influences WBEI especially among students in IHLs. Several studies have been conducted to describe the relationship between awareness factor and entrepreneurship intention-behavior (Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011; Liñán, 2004; Himel, Muniandy, & Rahman, 2016).

**Knowledge.** Other than that, this study tries to relate the function of waqf knowledge (WK) and WBEI. A study by Dohse and Walter (2012) has examined the effect of knowledge factor as a factor in influencing entrepreneurship among students in German universities with regional-level data from secondary statistics. The study revealed that knowledge factor has become a main factor in influencing student entrepreneurial intention and it is shown to demonstrate positive relationship. This study expected to find the relationship between WK and WBEI.

**Religiosity.** Entrepreneurship study also has indicated that religiosity (REL) plays an important role in creating entrepreneur intention in Malaysia (Mohd Dali et al., 2014). A study by Mohd Dali et al. (2014), has found that, religiosity has a higher influence on the intention to become entrepreneur than other factors. In fact, other studies also revealed that a high level of REL will result in a higher level of intention (Alam, Janor, Zanariah, Wel, & Ahsan, 2012; Harcrow, 2010; Shakona, 2013; Razzaque & Chaudhry, 2013), especially on entrepreneurship intention (Mohd Dali et al., 2014). Therefore, the use of REL in WBEI is a relevant issue to be studied. The discussion from various studies revealed that religious practice is important in the influence of WBEI. On the other hand, besides the discussion on the relationship between the REL factor and individual entrepreneurship intention, other studies also revealed the relationship between REL and human intention. For instance, the study by Razzaque and Chaudhry (2013), described the relationship between REL factor and Muslim consumers' decision-making process in a non-Muslim society. This study discovered that religiosity is an important factor in determining a Muslim's decision making.

### 3. DATA COLLECTION AND METHOD OF ANALYSIS

The population of the study is undergraduate students of IHL's in Melaka, a state in Malaysia. As of 2016, Melaka has 47,300 IHL students. The sample is derived from eight IHLs in the state. The sample size is 400 with 95% confidence level as determined by Yamane formula (Yamane, 1967). A questionnaire on WBEI was distributed to the students.



The questionnaire solicits information regarding attitude (ATT), subjective norms (SN), perceived behavior control (PCB), waqf awareness (WA), waqf knowledge (WK) and religiosity (REL) with regards to WBE. This study utilized two-stage PLS-SEM for its analysis. The first stage, which is the measurement model stage, is conducted by specifying the relationships between the manifest variables and its proposed theoretical construct. Once an acceptable standard is achieved, the next stage followed, to test the causal relationships between independent and dependent constructs in the structural model.

## 4. RESULTS

### 4.1 Assessing the Measurement Model (Model Validation Stage 1)

Table 1 illustrates the data met convergent validity. The entire value of item cross loading (WA, REL, ATT, SN, and PBC) is min 0.50, except WK. Besides that, the p-value for all items in the table is significant because the result is below than 0.5. Meanwhile, the result showed that the composite reliability is above 0.7. The result is accepted due to previous research that stated that the result for composite validity should be above 0.7 (Hair et al., 2010). The items AW, REL, ATT, SN and PBC in the questionnaire associated with each latent variable are understood by the respondents in the same way as they were intended by this research (Joe F. Hair, Ringle, & Sarstedt, 2011; Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014).

*Table 1: The Internal Consistency Reliability and Convergent Validity of the Measurement Model*  
(Table ends on the next page)

No	Construct	Measurement Items	Item Loadings	Cross Loading	P-value	Composite Reliability	Average Variance Extracted
1.	ATT	ATT_1	0.826	0.132	<0.001	0.934	0.701
		ATT_2	0.836		<0.001		
		ATT_3	0.845		<0.001		
		ATT_4	0.866		<0.001		
		ATT_5	0.806		<0.001		
		ATT_6	0.843		<0.001		
2.	SN	SN_1	0.888	0.104	<0.001	0.916	0.690
		SN_2	0.894		<0.001		
		SN_3	0.911		<0.001		
		SN_4	0.828		<0.001		
		SN_5	0.591		<0.001		
3.	PBC	PBC_1	0.886	0.093	<0.001	0.926	0.759
		PBC_2	0.911		<0.001		
		PBC_3	0.846		<0.001		
		PBC_4	0.839		<0.001		
4.	WA	WA_1	0.685	0.268	<0.001	0.873	0.536
		WA_2	0.716		<0.001		
		WA_3	0.68		<0.001		
		WA_4	0.851		<0.001		
		WA_5	0.803		<0.001		
		WA_6	0.634		<0.001		

5.	REL	REL_1	0.689	0.167	<0.001	0.881	0.600
		REL_2	0.627		<0.001		
		REL_3	0.814		<0.001		
		REL_4	0.861		<0.001		
		REL_5	0.854		<0.001		
6.	WBEI	WBEI_1	0.866	0.087	<0.001	0.953	0.803
		WBEI_2	0.904		<0.001		
		WBEI_3	0.922		<0.001		
		WBEI_4	0.913		<0.001		
		WBEI_5	0.873		<0.001		

Note: The assessment of standardized item loadings, average variance extracted and composite reliability of the measurement model

Table 2 represents the discriminant validity of the measurement constructs. The result indicated that, the square root of AVE value which is higher than the surrounding value.

Table 2: *The Mean, Standard Deviation (SD) and Discriminant Validity of the Measurement Constructs*

Construct	Mean	SD	WA	REL	ATT	SN	PBC	WBEI
<b>WA</b>	4.42	1.58	<b>(0.732)</b>					
<b>REL</b>	4.25	1.36	0.504	<b>(0.775)</b>				
<b>ATT</b>	4.89	1.24	0.406	0.339	<b>(0.837)</b>			
<b>SN</b>	4.54	1.50	0.433	0.391	0.641	<b>(0.831)</b>		
<b>PBC</b>	4.07	1.44	0.383	0.413	0.617	0.676	<b>(0.871)</b>	
<b>WBEI</b>	-	-	0.46	0.465	0.506	0.493	0.51	<b>(0.896)</b>

Note: Square root of AVE is in ( ) on the diagonal

Table 3 summarizes the loadings and alpha values. Cronbach's alpha of all latent variables accepted (WA, REL, ATT, SN, PBC) ranged from 0.823 to 0.915 thus exceeded the recommended value of 0.70.

Table 3 : *Results of Reliability Test*

Construct	Measurement Item	Cronbach's alpha	Variance Inflation Factors	Loading Range	No. Item
<b>ATT</b>	ATT1-ATT6	0.915	1.844	0.806-0.866	6
<b>SN</b>	SN1-SN5	0.882	2.094	0.591-0.911	5
<b>PBC</b>	PBC1-PBC4	0.894	2.090	0.839-0.911	4
<b>WA</b>	WA1-WA6	0.823	1.518	0.685-0.851	6
<b>REL</b>	REL1-REL5	0.829	1.495	0.627-0.861	5
<b>WBEI</b>	WBEI1- WBEI5	0.938	-	0.866-0.922	5

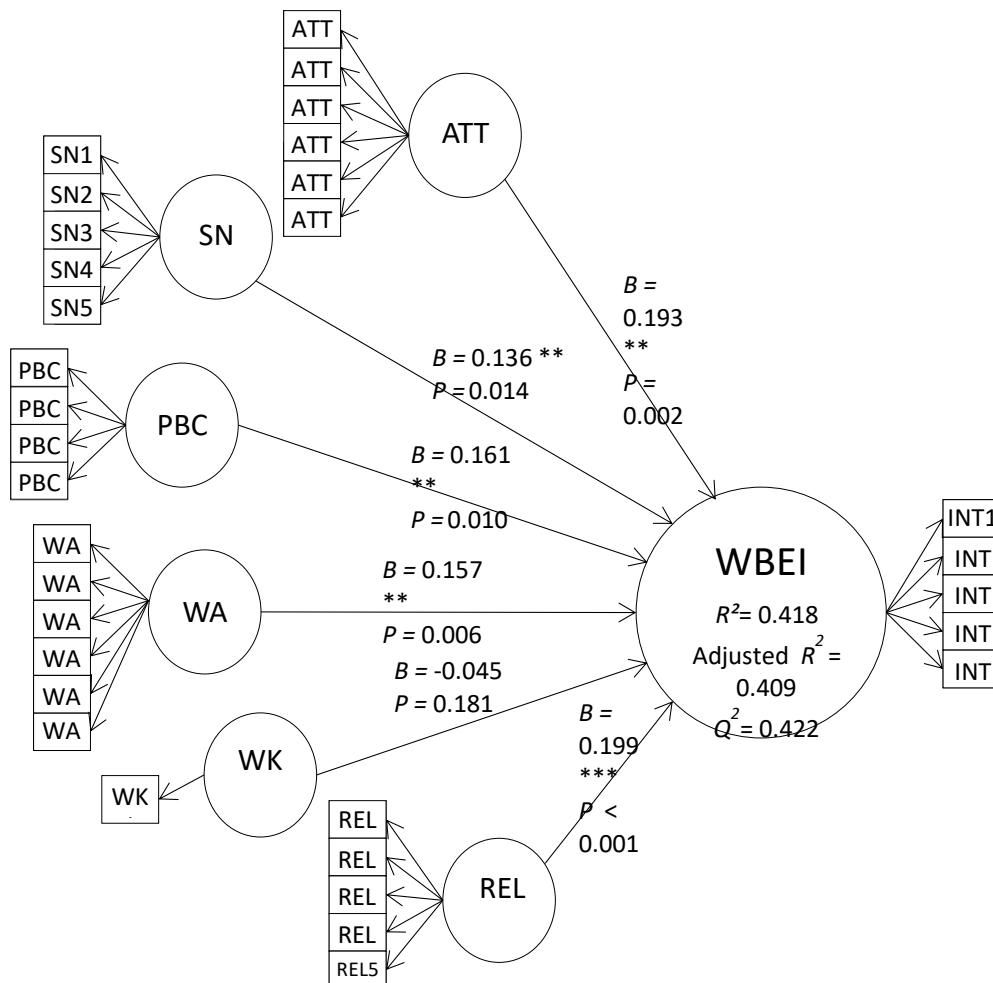
Reliability of the variables further supported by all the construct variance inflation factor (VIF) is less than 5 (Mat Roni, 2015). Hence the results indicate that the measurement items except WK are appropriate for respective latent variables and reliable. Moreover, the VIF is assessed for WBEI Construct.

Table 3 displays the VIF for each of the measurement item for construct WBEI; VIF for all measurement items was all lower than 5.0 which indicate the low degree of redundancy of each measurement items. The analysis in Model Validation Stage 1 of this study indicates that the nature of construct in this study is reflective measurement.

#### 4.2 Assessing the Structural Model (Model Validation Stage 2)

Figure 1 presented the structural model (Stage Two). The structural model was examined on the proposed relationship between the latent variables based on the hypothesized model. The proposed structural model has been specified to test six paths. According to the results obtained, one of the six paths namely WK-WBEI was not significant in the direction proposed.

Figure 1: Review of the Structural Model (Stage Two)



#### 5. CONCLUSION

Intention is generally regarded as a precursor to actual behavior at least within the scope of TPB. Similarly, this study finds that the theory holds within the content of WBE where the established predictors of intention demonstrated statistical significance. The finding reemphasized what has been understood in the TPB research domain with empirical supports. This study also provides support for the theory's applicability into WBE sub discipline. This research also lends contribution toward understanding to improve WBEI among students in higher educational institutions.

With the result indicating that REL being the most influential factors shaping intention, focus and efforts from the authorities should cluster alongside these variables. It is found that an increase in religiosity can strengthen the intention to engage in WBE. Similarly, positive attitude toward WBE can also improve WBE. While instilling a strong fundamental religious belief is broadly subjective, affecting attitude toward “approval” of WBE is rather more achievable. This can be done through sustained promotions at such funds. The marketing campaign run through electronic media such as television, radio, and internet can help shape positive attitudes toward WBE.

This study is also aimed at identifying the influence of waqf awareness (WA) on WBEI among IHL students. The study focuses on IHL undergraduate students to explore their awareness about waqf. Results show that WA values and WBEI have a positive relationship and the formulated hypothesis in this study is accepted. This indicated that the more aware the IHLs student on the availability and the benefits of waqf, the more they intend to be involved with the WBEI in their campus. This finding supported previous studies in the area of entrepreneurship intentional behavior (Liñán, 2004; Liñán et al., 2011).

This paper provides empirical evidence on the significant relationship between WA and WBEI among IHL students. Knowledge is explained on the student’s ability to understand the information, specially related to waqf on business or entrepreneurship, waqf concept, type of waqf, condition of waqf and other related information. Based on previous research, knowledge is an important aspect in influencing student entrepreneurship inclination or intention (Zegeye, 2013). However, to the contrary, the study found no statistically significant evidence to link waqf knowledge and WBEI.

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## **ROLE AND SIGNIFICANCE OF SMES IN POLISH ECONOMY – BARRIERS TO AND OPPORTUNITIES FOR DEVELOPMENT. EXAMPLE OF CENTRAL EUROPEAN COUNTRY**

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### **ABSTRACT**

*Many authors indicate the relationship between a large, well-developed SME sector and the innovativeness and development of the whole economy. In Poland, despite the fact that micro, small and medium-sized enterprises are the dominant group of business entities, Polish economy is not ranked among the world's most innovative economies. That is why the aim of this article is to identify the main barriers to the innovativeness and development of Polish SMEs, as well as to indicate the main directions of the development of these enterprises, which in consequence can influence the improvement of Polish economy's innovativeness. Additional objective is to investigate how strong is the relationship between a large and innovative SME sector and the innovativeness of an economy. To achieve this goal the results of author's own research and statistical data from secondary sources have been used.*

**Keywords:** *SMEs, barriers of development, innovative economy*

### **1. INTRODUCTION**

The fact that the sector of small- and medium-sized enterprises (SMEs) is crucial to economic development has been demonstrated by reports and studies published by the World Bank and other institutions fostering these businesses. This has also been shown by the policies of the European Union, resting on support for the development of SMEs as one of their pillars intended to drive economic growth, boost employment, and counteract poverty in particular regions. A broad range of research into SMEs has been published as well; however, a number of areas remain unexplored. The most-commonly-presented research focuses on small- and medium-sized enterprises, with few addressing micro-enterprises (employing fewer than 10 employees).

As a rule, the authors examine industrial enterprises while ignoring service businesses (although the latter is prevalent in EU countries). Therefore, this paper attempts to fill a gap by presenting results concerning the entire SME sector across all of its industries, including micro-enterprises. A hypothesis frequently posited in the literature states that a large share of small- and medium-sized enterprises is characteristic of innovative, well-developed economies. Therefore, this article aims to verify if there is indeed a dependence between a substantial SME sector and the innovativeness of an economy. As Poland has a considerable SME sector without boasting an innovative economy, my additional objective was to define key barriers to the innovativeness and development of Polish SMEs and to outline major lines for their development, which could ultimately improve the innovativeness of the Polish economy.

The paper consists of the following sections. The first is a review of international publications and a comparison between the SME sectors in Poland and other EU countries. Research addressing the barriers in the development of the Polish SME sector is then discussed and referred to the author's own results. In the end, conclusions and recommendations for the future of Polish SMEs are indicated, with reference to their innovativeness and development (which should translate into improving the condition of the Polish economy).

## 2. REVIEW OF THE SCIENTIFIC LITERATURE

EU programs supporting the development of small- and medium-sized enterprises in Europe (for instance, Entrepreneurship and Innovation, Intelligent Energy, or ICT Policy) and the amount of support earmarked by the EU (€3.6 bn) (EIPASCOPE, 2009, p. 3) are evidence of the significance of micro-, small- and medium-sized enterprise sector to our economies. The awareness of their role in the development of global and regional economies is rising as well. A number of authors have published their research into this issue; e.g., M. Ayyagari, T. Beck, A. Demircuc-Kunt (2007, pp. 415–434). They describe the contribution of the small- and medium-sized enterprise sector to the employment and per capita Gross Domestic Products of 55 countries worldwide. They examine factors determining the size of the SME sector, including the ease of market entry and exit, labor legislation, access to bank crediting, and support of aid programs (including EU assistance). They all ignore micro-enterprises. Exclusively, it is manufacturing enterprises that are analyzed. They prove the hypothesis that a large sector of small- and medium-sized enterprises arises in a competitive business environment that encourages new, innovative enterprises to enter the market, and they find no evidence to support the idea that a large SME sector is a consequence of economic slump and difficult barriers preventing an exit from that sector. Similar conclusions were reached by M. Ayyagari et al. (2007, pp. 415–434), who tested two mutually exclusive hypotheses. The first says that a large small- and medium-sized enterprise sector may be a result of high costs of exiting and financing (support programs), and the other states that a large sector of small- and medium-sized enterprises may be a result of low entry barriers and better availability of crediting. The authors failed to find evidence to support the first yet corroborated the other hypothesis.

Research into the role and significance of the SME sector was also conducted by Beck et al. (2005a, pp. 199–229), who explored the relationships between the nature of small- and medium-sized industrial enterprises and growth of per capita GNP as well as changes of income inequalities and relief of poverty. They demonstrated the existence of such a relationship. Beck et al. (2005b, pp. 37–179) also showed a dependence among the development of small- and medium-sized enterprises, the economic development of a country, and the counteraction of poverty. They also demonstrated that a substantial share of small- and medium-sized enterprises is characteristic of well-developed economies but is not the chief reason for their economic success. This paper is, therefore, a polemic against the above authors and posits the following central hypothesis: **CH: The size of the SME sector has no effect on the development and innovation growth of an economy.** It is an initial attempt at identifying features of an SME sector other than its ‘size’ that affect the economic development of a country. An additional objective was to determine the barriers to innovativeness and development of these enterprises and to designate factors that would contribute to the development and greater innovativeness of SME enterprises and, thereby, of an economy. In order to arrive at such an auxiliary goal, I have posited two hypotheses: H1: There is a directly proportional dependence between the size of an enterprise and the perceived barriers to its development (that is, the smallest enterprises experience more restrictions to their development than medium-sized enterprises do); and H2: There is a dependence between the legal form and the perceived barriers to development; namely, the simplest legal forms (i.e., natural persons and private partnerships) incur constraints on their development more frequently than commercial companies like limited liability companies or limited partnerships.

H1 was motivated by Schiffer and Weder (2001), who tested the hypothesis that size of an enterprise has an impact on the diverse perceptions of barriers to the SME sector’s development. Their sample of 10,000 respondents showed that small enterprises felt a greater and more-intense effect from the barriers than medium-sized and large enterprises did.

I have been encouraged to posit H2 by the results published by Eurostat in 2014, which show Poland is the only EU country with such a large share of natural persons in the SME structure (nearly 90% – a clear leader in this regard).

Jan Prusa (2010, pp. 343-363) demonstrated that the productivity of Czech SMEs is lower than the EU average, possibly due to the poor cooperation among entrepreneurs, inter alia. He compared micro and small enterprises to ants ‘unable to do much alone, yet capable of a lot when together. Small entrepreneurs build the economy from the bottom up and are therefore genuine discoverers of market niches.

The Czech SME sector has also been examined by E. Hamplová and K. Provazníková (2015, pp. 942-947). Their research sample consisted of 271 respondents, including 171 self-employed persons and 95 limited liability companies. The authors addressed the importance of SMEs in the Czech economy and barriers to the development of this enterprise group. They proved that the development of enterprises is not impeded by social security administration, though entrepreneurs complained of bureaucracy and difficulties in running their businesses (as reported in *Doing Business*, the Czech Republic ranks 146<sup>th</sup> out of 189 countries). The authors pointed out that barriers to the development of SMEs need to be searched elsewhere; e.g., in difficulties with finding sources of financing or accessing knowledge (p. 947).

### 3. METHODOLOGY

Two types of data have been employed in this article: the first is secondary data for the entire Polish SME sector derived from the statistics published by the Polish Confederation Lewiatan (PKPP) and the Polish Agency for Regional Development (PARP).

The PKPP runs an annual survey of Polish SMEs. The research sample is comprised of 1650 enterprises every year, selected in line with the prevailing statistical rules; thus, the results are reliable and can provide grounds for drawing conclusions regarding the SME sector in Poland. The PARP also carries out research into the SME sector on a cyclical, yearly basis. The most-recent study was undertaken in February/March 2017 and covered 12,000 active enterprises.

The other collection of data comes from my own research in Malopolska region of Poland concerning 2012-2015. The specially-designed research sample consists of 352 micro and small enterprises (82% of the former and 18% of the latter, respectively). The structure of the sample reflects the general population of micro and small enterprises in Poland, where micro-enterprises constitute 81% and small firms 16% of the general SME population. A survey questionnaire and structured interview were my methods of choice. The research was conducted as part of the author’s face-to-face meetings with entrepreneurs, which helped to eliminate potential errors arising from ambiguities.

The following statistical tests serve to verify the hypotheses: Pearson Chi-square and M-L Chi-square.

### 4. INNOVATIVENESS OF AN ECONOMY VERSUS SECTOR OF MICRO-, SMALL-, AND MEDIUM-SIZED ENTERPRISES

According to the 2017 Bloomberg Innovation Index<sup>1</sup>, South Korea has been the innovation leader for several years now, followed by Sweden, Germany, Switzerland, and Finland. Poland ranks 22<sup>nd</sup>, while the remaining Central European countries rank as follows: Hungary – 27<sup>th</sup>; the Czech Republic – 28<sup>th</sup>; and Slovakia – 36<sup>th</sup>. The report implies that Poland is tops among

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<sup>1</sup> It addresses a total of seven factors: percentage share of research and development spending in gross national product, share of added value output in GNP, productivity per employee, percentage share of high technology firms in the entire domestic business, local range of university education, percentage of individuals involved in research and development in the entire population, and local patenting activity.

the countries of Central and Eastern Europe<sup>2</sup>, even though it cannot be considered a highly innovative country. Similar conclusions were indicated by *Innovation Union Scoreboard 2015* (2016, p. 6), which defines the Polish economy as ‘moderately innovative’ (the low synthetic innovation index of 0.313 places it 24<sup>th</sup> in the EU-28 innovation ranking; as a comparison, Finland and Germany rank 3<sup>rd</sup> and 4<sup>th</sup>, respectively, with their very high index of 0.676).

In order to attain the objective of establishing if there indeed is a dependence between a large SME sector and the innovativeness of an economy, a comparative analysis of the SME sector in Poland as well as other EU countries is presented below. Particular attention is paid to such highly innovative countries as Germany and Finland and to the other Central European states (which serve as reference points for the purposes of analysis).

The foregoing literature review indicates a number of authors have proven micro-, small-, and medium-sized enterprises play a key role in an economy. This is demonstrated by the number of enterprises in the sector, their contribution to the GNP and gross added value, and number of personnel. The data published by Eurostat in 2014 indicates Poland is 6<sup>th</sup> among EU countries (Italy is the leader, followed by France, Spain, and Germany) and the leader in Central and Eastern Europe in respect to the respective number of registered SME businesses.

More than 134 million people work in the enterprises across the EU, most of them in Germany (27.8m), the UK (18.5m), France (15.8m), Italy (14.1m), and Spain (10.7m). This accounts for nearly two-thirds of all workers in the EU-28 (approx. 86.9m). More than 50 million people work in this enterprise sector in the remaining 22 EU countries, with Poland leading the group (8.4m in 2014 according to Eurostat). It should also be noted that Poland is the leader among the countries of Central and Eastern Europe (the only one in this group ranking above the EU average).

Both in Poland and the EU, around 70% of the total number of jobs are created by the SME sector. When the Polish data is compared to the EU average, however, it turns out that the significant number of workplaces in Poland are generated by micro-enterprises (above 35%; that is, ca. 7 percentage points higher than in the EU). On the other hand, approximately 7 percentage points fewer are employed in small enterprises in Poland than in the EU on average. This may be due to the fact that natural persons in the Polish SME sector are the most numerous in the EU. Poland tops the ranking at 90%, followed by the Czech Republic at 77% (a wide gap of 13 percentage points). The more-innovative economies of Germany or Finland exhibit distinctly lower shares of natural persons in their SME structures (60% and 38%, respectively). Capital forms like limited liability companies or limited partnerships prevail there (Eurostat, 2017).

The share of gross added value generated by the SME sector in the GNP of Poland and the EU is the third factor under analysis. The gross added value measured with prices of production factors in relation to GNP is only a little lower in Poland than the EU average. It stands at 44.1% now, compared to 46.2% for EU businesses. The UK (54.5%) and the Czech Republic (54%) come out on top, followed closely by Germany (53%) and Malta (51%). Poland ranks 16th, whereas Greece (28%) is at the bottom.

When the structure of gross added value generation at prices of production factors by classes of enterprise sizes is analyzed, the same dependence can be noted for both Poland and the EU. Micro- and medium-sized enterprises hold the largest shares and small enterprises lower shares in the structure of gross added value generation (Table 1).

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<sup>2</sup> The World Bank and OECD also treat the Visegrad Group countries (Czech Republic, Poland, Slovakia, Hungary) and Slovenia (due to ethnic, cultural and economic similarities) as Central Europe.



Table 1. Structure of gross added value generation at prices of production factors by enterprise sizes in Poland and the EU (Own study based on: the Raport PARP, 2016, p.11)

Enterprise size	Structure of gross added value generation at prices of production factors	
	Poland	EU
Micro	17.8%	20.9%
Small	13.9%	17.9%
Medium	20.6%	18.5%

Although the Polish SME sector (measured with numbers of registered and active enterprises, number of personnel, and share in per capita GNP generation) ranks high in the EU, an average Polish firm generates a lower gross added value (€0.12m) than a statistically average EU firm (€0.28m). This lower performance at gross added value is particularly notable among micro-enterprises (the gross added value produced by a Polish microfirm constitutes about a third of the value generated by a microfirm in the EU). An average Polish business generates ca. 46% of the gross added value of an EU firm. Only in the case of small enterprises does the value exceed half the added value of an average enterprise of the same class in the EU (Table 2).

Table 2. Gross added value at prices of production factors generated by average enterprise in Poland by classes of enterprise size (Own study based on: the Raport PARP 2016, p.12)

Enterprise size	Gross added value at prices of production factors generated by average enterprise in Poland relative to the average enterprise in the EU
Micro	34.3%
Small	51.4%
Medium	46.6%

Polish SMEs assign modest resources to investments; e.g., in 2016, a mere PLN 17,000 per individual micro-enterprise; more per small enterprise (PLN 329,300) and medium-sized firm (PLN 2,319,200). All in all, investment spending by the SME sector accounts for approx. 46% of the expenditure incurred by all enterprises. As an effect of this low investment spending, an average business in Poland spends €27,600 investing in its fixed assets. This is markedly less than in the majority of European countries (17<sup>th</sup> in the EU). Switzerland is the leader (€291,200), followed by Norway (€153,700), Luxembourg (€112,600), and the UK (€108,500). Greece ranks at the bottom with €11,000. In 2014, the number of businesses as well as their turnover, output, and added value of Polish enterprises rose a little faster than the average in the EU. However, during a longer term (2008-2014), the rate of growth of Polish enterprises was slower than the EU average. The dynamics of firm numbers and added value were distinctly lower at the time. Turnover variations were very similar, with only the dynamics of output changes somewhat above the EU average (Table 3).

Table 3. Dynamics of turnover, output, and value added in enterprise sector in Poland and EU during 2008–2014 and in 2014 ( Own study based on: the Raport PARP, 2016, p. 20)

Year	The number of enterprises		Turnover		Production		Value added	
	PL	EU-27	PL	EU-27	PL	EU-27	PL	UE-27
2014 (r/r)	103.7 %	103.2 %	103.2 %	102.0 %	105.8 %	105.0 %	105.3 %	105.2 %
2008–2014 (2008=100%)	99.5%	108.6 %	105.5 %	105.8 %	107.0 %	104.9 %	98.1%	106.2 %

Productivity of the enterprises in Poland was clearly lower in 2014 than the average in the EU. An average Polish firm made products at a value that was nearly twice as low, generated just above half the turnover, and had a bit more than half the added value. The average Polish employee was around half as productive as the average worker from the EU (Table 4).

**Table 4.** *Turnover, output, and added value per enterprise and worker in enterprises in Poland and EU in 2014 (€m) (Own study based on: the Raport PARP, 2016, p. 21)*

Productivity of enterprises	Turnover		Production		Value added	
	PL	EU -27	PL	EU -27	PL	EU -27
	0.57	1.13	0.41	0.76	0.12	0.28

In general, Poland ranks 6<sup>th</sup> in the EU with regard to the number of SMEs and their personnel – evidence of the substantial size of the sector. As far as the share of gross value added in the GNP and investment spending on fixed assets are concerned, however, the ranking is dramatically lower (16<sup>th</sup> and 17<sup>th</sup>, respectively). Polish micro-enterprises employ far more workers than on average in the EU, whereas the dynamics of turnover, output, and added value point to a slower rate of development than the EU average in Polish SMEs. Productivity is markedly lower than the EU average as well. Polish SMEs manufacture products of half the value, generate half the turnover, and their workers are less productive. These figures show that the size of an SME sector measured with the number of enterprises and their staff only fails to translate into the greater innovativeness of an economy, which confirms the CH: The size of an SME sector has no effect on the development and innovation growth of an economy. The factors of and barriers to the development and innovation of Polish SMEs (and, thus, the innovativeness of the Polish economy as a whole) have been identified below.

## 5. BARRIERS TO DEVELOPMENT AND INNOVATION OF POLISH SMEs

Surveys of Polish SMEs imply that entrepreneurs identified the major difficulties in their businesses in 2016 as high taxes (35%) and low turnover (15%). The latter may be a result of the poor internationalization of Polish SMEs, as the majority (ca. 70%) operate only in local or regional markets (Starczewska-Krzysztozek, 2013, p. 60). The respondents went on to indicate complicated regulations (13%) and the intense competition of large companies (9%). The data concerning a larger time-frame of 2003-2016<sup>3</sup> suggests that increasingly fewer entrepreneurs see excessive taxation (43% in 2003) and low turnover (22% in 2003) as barriers. Such remaining difficulties as the competition of other SMEs, bureaucracy, space constraints, qualifications, and cost of labor are of a more-limited significance. The fact that Polish entrepreneurs have no complaints about high labor costs comes as no surprise, as Poland ranks 23<sup>rd</sup> out of the 28 EU countries in respect to labor costs per worker. This means that Polish firms have taken advantage of the persistently lower costs of labor for years, which is an advantage when compared to enterprises in the other EU countries. Annual labor costs per worker in Poland were lower than €12,000. They were the highest in Sweden and Belgium – more than €50,000, while the EU-28 average was €27,000. Poland and Hungary can boast of minimal costs of labor (€12,500) per worker even among countries of Central and Eastern Europe, with Slovenia running the highest costs (€22,000) (PARP, 2016, p.14; Departament Strategii Rozwoju MR, 2017, p. 6). Analysis of the figures for the particular size classes demonstrates a directly proportional dependence between the enterprise size and numbers of indications. High taxes and low turnover are experienced most intensely by micro and small enterprises, whereas medium-sized entrepreneurs most-commonly complain about the high costs of labor (although they are lower than in other EU countries) and competition of large companies (Table 5).

<sup>3</sup> The data is presented in the longer term especially for the purpose of capturing changing trends over time

*Table 5. Barriers to development of Polish SMEs in 2016 per classes of enterprise size (Own study based on: the Rapport Departament Strategii Rozwoju MR 2017, p.7).*

Barriers to development	Enterprise size		
	Micro	Small	Medium
Too high taxes	35%	19%	5%
Too small turnover	18%	15%	5%
The lack of appropriate qualifications of the employees	3%	9%	10%
High employees costs	4%	6%	21%
Complex legal regulations	7%	11%	5%
Bureaucracy	4%	9%	11%
Competition from other SMES	7%	11%	11%
Problems with corruption	0%	0%	0%
The competition from large enterprises	9%	9%	16%
Time to wait for payment from contractor	5%	9%	0%
Quality of premises	2%	0%	0%
It's hard to say	2%	2%	11%
Other	4%	0%	5%

Polish SMEs also face difficulties obtaining sources of financing and, consequently, spend little on investments in fixed assets. Their own equity continued as the dominant source for investment financing during 2004-2015 (64-67%). The percentage of enterprises using bank crediting has been relatively low (13-15%), chiefly due to their short history of operations in the market, (particularly micro-enterprises), lack of adequate securities, and brief credit histories. As a result, banks consider these enterprises as riskier and offer more-adverse terms of crediting. On average, credits for micro-enterprises bear one to three percentage points of interest more than those offered to small enterprises and two to five points more than for medium-sized. In the face of the difficulties securing bank credits, micro-enterprises especially have resorted to leasing (10-13%), which partly fills the capital gap (PKPP, 2004–2012, pp. 41–42; Departament Strategii Rozwoju MR, 2011- 2015 (pp. 22-24).

The results of my own research in one of the more-innovative regions in Poland (Malopolska region of Poland) are discussed below.

## 6. BARRIERS TO DEVELOPMENT AND INNOVATION OF MALOPOLSKA REGION OF POLAND SMEs – RESULTS OF AUTHOR’S RESEARCH

An analysis of the results presented in Table 6 suggests that micro and small entrepreneurs Malopolska region of Poland agree that high taxation, payment backlogs due to the ineffective recovery of receivables, rigid labor laws, restricted access to bank crediting, and administrative obstacles are the major barriers to their development and innovation. On the other hand, medium-sized entrepreneurs more-frequently claim that they have trouble securing bank credits, and they often encounter administrative barriers (contacts with tax authorities) and sustain payment backlogs. Fewer of them point to excessive taxation. Some diversity is notable in respect to the barriers experienced, though it is not statistically significant (as demonstrated by the Pearson Chi-square [12. 67, df=16, p=0.7005] and M-L Chi-square tests [15. 95, df=16, p=0.45]). Thus, hypothesis H1 cannot be reaffirmed: There is a directly proportional dependence between the size of an enterprise and the perceived barriers to development (that is, the smallest enterprises experience more restrictions to their development than medium-sized enterprises do).

Table 6. Barriers to development of Malopolska SMEs. ( Own research)

Enterprise size	Labour law	Access to bank credits	Admini- stration	Payment backlogs	Too high taxes	Certifica- tion costs	Other barriers
<b>The percentage of companies</b>							
Micro	37.9%	29.0%	37.9%	39.9%	54.4%	6.9%	4.4%
Small	40.0%	22.2%	33.3%	55.6%	62.2%	8.9%	0.0%
Medium	40.0%	40.0%	60.0%	80.0%	20.0%	20.0%	0.0%
<b>Legal forms</b>							
Natural Person	32.4%	33.6%	25.8%	32.8%	34.4%	44.9%	6.6%
Partnership	31.8%	31.8%	22.7%	18.2%	40.9%	59.1%	0.0%
Ltd. Company	28.6%	25.0%	21.4%	30.4%	41.1%	48.2%	5.4%
Other	44.4%	44.4%	5.6%	44.4%	50.0%	50.0%	11.1%

Explanation: the values do not sum up to 100 because one could indicate more than one answer.

The figures in Table 6 show a differentiation between the legal form and numbers of enterprises experiencing these difficulties. The differences are especially pronounced among simple organizational formats, like natural persons and private partnerships, limited liability companies, and other legal forms<sup>4</sup>. These differences are statistically significant, as confirmed by the Pearson Chi-square test (65.265; df=27; p=0.00005). Hypothesis H2 can therefore be validated: There is a dependence between the legal form and the perceived barriers to development; namely, the simplest legal forms (i.e., natural persons and private partnerships) incur constraints on their development more frequently than commercial companies like limited liability companies or limited partnerships.

The respondents were also requested to indicate what would improve their development opportunities and, thus, the competitiveness of their enterprises. They most-commonly pointed to greater demand, tax relief, access to knowledge about innovations, improved access to external sources of financing, and the potential for raising equity. The data in Table 7 demonstrates the negligible diversity between micro-, small-, and medium-sized enterprises. These differences are not statistically significant, as proven by the Pearson Chi-square (10.78; df=20; p=0.951) and M-L Chi-square tests (12.76; df=20, p=0.887).

Similar results are obtained in respect to the particular legal forms. The Pearson Chi-square (16.408; df=27, p=0.95) and M-L Chi-square tests (18.655; df=27, p=0.882) indicate an absence of statistically significant differences between the form of organization and the development factors selected by entrepreneurs. This means that, regardless of the legal form and firm size, entrepreneurs believe that increased demand for the goods they offer (both in the Polish and EU markets) would contribute to their development. More choices for greater demand in the Polish market may be explained by the fact that an overwhelming majority of Polish SMEs are only active in the domestic market.

/Table following on the next page

<sup>4</sup> Limited and general partnerships are designated as other legal forms.

Table 7. Factors enhancing competitiveness of Malopolska SMEs ( Own research)

Factors	Legal forms				Enterprise size		
	Natural Person	Partnership	Co. Ltd.	Other	Micro	Small	Medium
Demand in Poland	47.7%	54.5%	42.9%	55.6%	60.7%	57.8%	60.0%
Demand in UE	24.6%	13.6%	25.0%	33.3%	29.3%	33.3%	60.0%
Tax reliefs	39.1%	50.0%	44.6%	66.7%	52.4%	53.3%	60.0%
Export	11.7%	4.5%	12.5%	11.1%	13.1%	20.0%	0.0%
Knowledge about innovation	37.5%	36.4%	44.6%	38.9%	48.5%	46.7%	80.0%
Reliefs on R&D	12.5%	9.1%	8.9%	5.6%	15.7%	8.9%	0.0%
External funding	43.0%	50.0%	53.6%	27.8%	55.9%	55.6%	60.0%
Increase in equity	18.8%	9.1%	14.3%	22.2%	24.0%	13.3%	20.0%
Competition	5.1%	9.1%	8.9%	11.1%	7.9%	6.7%	0.0%
Implementing ISO	7.8%	4.5%	3.6%	5.6%	9.6%	4.4%	0.0%
Other	0.8%	0.0%	0.0%	5.6%	0.9%	2.2%	0.0%

Explanation: the values do not sum up to 100 because one could indicate more than one answer.

## 7. CONCLUSIONS AND PRACTICAL RECOMENDATIONS

Theory has no single clear answer to the question of why large SME sectors are present in some countries. Many authors mention the ease of entry and exit from this sector, availability of support (including EU funds), and external sources of financing (on the one hand) and the high costs of entry and exit, inflexible labor laws, and limited access to external sources of financings (on the other) as possible influences on the emergence of large sectors of micro- and small businesses that encounter barriers and are prevented from expanding and becoming large enterprises (Ayyagari, Beck, Demirguc-Kunt, 2007, pp. 415–434). The latter scenario would correspond to the case of Poland, with a very high number of SMEs (Poland ranks 6<sup>th</sup> in the EU) and entrepreneurs facing a range of development barriers such as inflexible labor legislation, high taxes, and limited access to external sources of financing. Low spending on innovative investments and R&D as well as a rate of growth slower than the EU average are a couple more characteristics. As a result, although 99.9% of all Polish businesses belong to the SME sector, their contributions to GNP and gross added value are far above 50% and they employ more than 70% of all workers, they develop more slowly than comparable EU enterprises and are weakly innovative, which translates to the low innovativeness of the Polish economy confirmed by the innovation rankings in the 2017 Bloomberg report and *Innovation Union Scoreboard 2015* cited above.

These observations suggest the conclusion that the size of an SME sector fails to translate into the innovativeness of an economy, so other factors or dependences must be explored. The specialist literature also offers a claim that SME sectors encountering many barriers to development (like in Poland) contain the most micro and small enterprises that are unable to expand due to such difficulties (Ayyagari, Beck, Demirguc-Kunt, 2007, pp. 415–434). I would counter such conclusions, as countries like Germany (84%) or Finland (92%) (Eruostat, 2017) have similarly high proportions of enterprises in their SME sectors, yet their economies are more innovative than those of Central and Eastern Europe. My research has found no dependence between enterprise size and the barriers encountered. H1: There is a directly proportional dependence between the size of an enterprise and the perceived barriers to development; that is, the smallest enterprises experience more restrictions to their development than medium-sized enterprises do has not been corroborated, going against the hypotheses



advanced in the literature. Therefore, the small 'size' of an enterprise does not condemn it to failure, in line with the assumptions of the resource-based theory, after all. The results introduced above appear to suggest a differentiation between the form of an organization and its perceived barriers to development. H2 is then reaffirmed: There is a dependence between the legal form and the perceived barriers to development; namely, the simplest legal forms (i.e., natural persons and private partnerships) incur constraints on their development more-frequently than commercial companies like limited liability companies or limited partnerships.

These are, however, not the sole factors that contribute to the development of SMEs and translate into the innovativeness of an economy. R&D expenditure (Poland ranks 35<sup>th</sup> among the EU countries, earmarking a mere 0.47% of its GNP, whereas innovative economies like Germany or Finland assign 1.95% and 1.94% of their GNPs, respectively, ranking 3<sup>rd</sup> and 4<sup>th</sup> in the same list), the productivity of workers (Poland ranks 35<sup>th</sup> among the EU countries), the percentage of high technology businesses (22<sup>nd</sup>), and scientific cooperation with business are some more factors.

Polish enterprises very rarely work with universities to carry out R&D, whereas instances of countries like Finland and Austria (Nieminen and Kaukonen, 2001, pp. 30-109) show that such a cooperation helps an SME sector (micro and small enterprises in particular) to secure deficient resources and become more innovative and, thus, competitive in the market (which would enhance the innovativeness of an economy). These factors require further in-depth research and analysis, which I intend to undertake in subsequent studies.

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## SOURCE OF FINANCING AND DIGITAL TRANSFORMATION – CASE STUDY OF VARAZDIN AND MEDJIMURJE COUNTY

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### ABSTRACT

*Digitalization is becoming a part of everything today and enterprises are not an exception. Many enterprises in the world (especially in North America) are digitally educated and because of that, they have high ROE every year and its benefits are being shown in the country GDP and employment rate. That is not the case in Varazdin and Medjimurje counties, whose condition is being observed in this paper. These counties show very low investment rate in R&D and do not have full digital transformation because of the inertness of employees and financial hostility of the management because digital transformation is being considered as a very costly move and it does not show any instant benefit in the close future (speaking in the ROE). Many financing and R&D programs are shown in this paper like MOOCs, national programs and strategies (i.e. S3). Since Croatia is in the EU, European funds and national institutions (i.e. HAMAG BICRO) play a large role in financing investments in digital transformation and innovations.*

**Keywords:** *Digital transformation, SMEs, R&D, financing program*

### 1. INTRODUCTION IN STATUS AND FINANCING OF DIGITAL TRANSFORMATION IN CROATIA

SME<sup>1</sup>s have an increasing importance in the Republic of Croatia regarding to the employment rate and GDP, which has been recognized by the relevant institutions of the Republic of Croatia especially after the financial crisis in 2007 providing a greater financial opportunities to small entrepreneurs simultaneously encouraging process of self-reliance of citizens (Bedeniković, 2017). In 2013, productivity of SMEs (share of added value) amounted 54% and employment 67, 9% of total Croatian labour force (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016). Most of these small and medium sized enterprises are digitally mature except their digital literacy and business process digitalization which are not on the same level. The reason of these recognized problems is insufficient knowledge of digital business models as an heir to the Business Model Canvas (BMC). There is general agreement about complexity of digital literacy, and this phenomenon is observed from different perspective (individual, corporate, national, etc.) (Cartelli, 2010). There are a lot of different definitions, but one of more accepted is “*Digital Literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage,*

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<sup>1</sup> In accordance with the Accounting Act (Official Gazette, NN 109/07, 54/13), companies are classified as small, medium and large, depending on the amount of total assets, the amount of revenue, and the average number of employees during business year. Small companies have the following conditions: Total assets 32,500,000.00 HRK; Revenue 65,000,000.00 HRK; Average number of employees during business year: 50.

*integrate, evaluate, analyse and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process”* (Martin, 2005). To be competitive SMEs have to develop new business strategies involving investments in ICT which are crucial to compete successfully against other companies and raise the potential of e-business. (Vieru, 2015). SMEs with digital competencies can survive in the digital era. Business Model Canvas designed initially by A. Osterwalder is a strategic tool for designing companies' business models. It is very well accepted in academic and corporate world. But still, during the last decade, the business environment has become more digital and digital technologies had a major impact on transforming business strategies and business processes (Bharadwaj et al., 2013). According to Plačko et al. (2017) digitalization of the entire business system leads to higher added value, and in the case of SME the added value is recognized through higher realized price, availability and targeting of new market segments, respectively in visible quantitative information that can be measured. From the Graph 1 we can see the total amount of added value of ICT sector in Croatia in observed period from 2006 to 2013 indicating variation of the added value where the higher value have been achieved in 2008 in amount of 1,78 billion EUR. Furthermore, in the observed period it can be seen that the financial crisis did not have a negative impact at the added value of ICT sector.

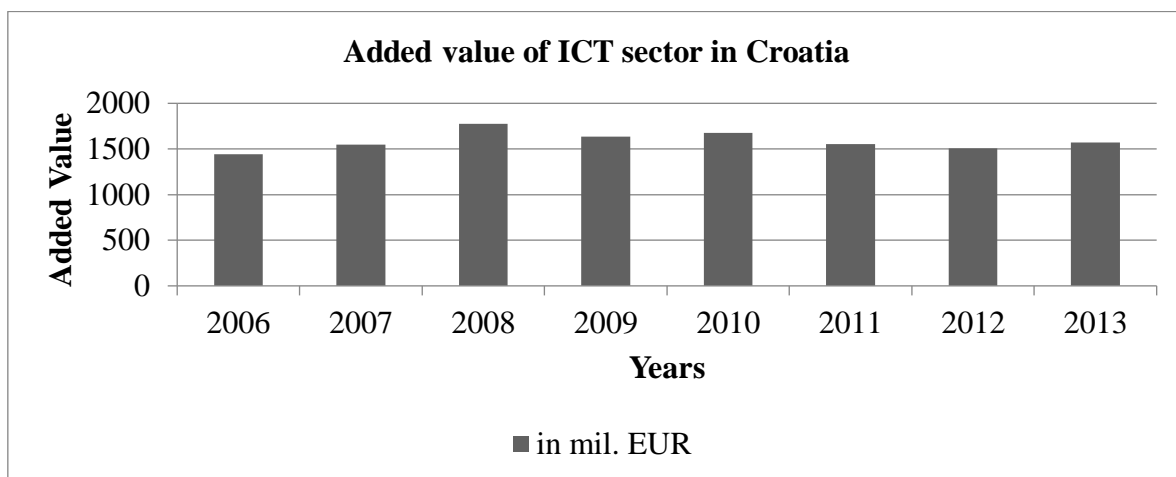


Chart 1. Added value of ICT sector in Croatia (European Commission, Digital Scoreboard, 2017)

For the purpose of the DIGITRANS<sup>2</sup> project, the interviews with the owners and managers of the small and medium sized enterprises in Varazdin and Medjmurje counties have been conducted. According to them, digital transformation is no longer a question of technology and the process of digital transformation is at the very beginning in the observed region in Croatia. Although this process has been ongoing for years, there is still some resistance due to the unwillingness of the workforce to fully adopt to it, depending on the type of sector (Plačko et al., 2017). The level of employee training cost which improve their ICT skills for the observed period from 2012 to 2016 are shown on Graph 2. With years, the percentage of SMEs that improve ICT skills of their employees is decreasing, and in the last observed year (2016) only 20, 4% of the analysed enterprises were improving ICT skills of their employees which confirms the conclusion that employees hardly accept the process of digital transformation. On average, only 17, 4% of small and medium sized enterprises employ ICT specialists, which is not enough for full process of digitalization transformation without external experts.

<sup>2</sup> Digital Transformation in the Danube Region – DIGITRANS, Interreg Danube Transnational Programme

Mentioned highlights the difference in ICT skills between EU and the Republic of Croatia indicating further negative impact on the participation in e-commerce, e-government and e-practice in general due to unbalanced development of the entire digital economy. (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016)

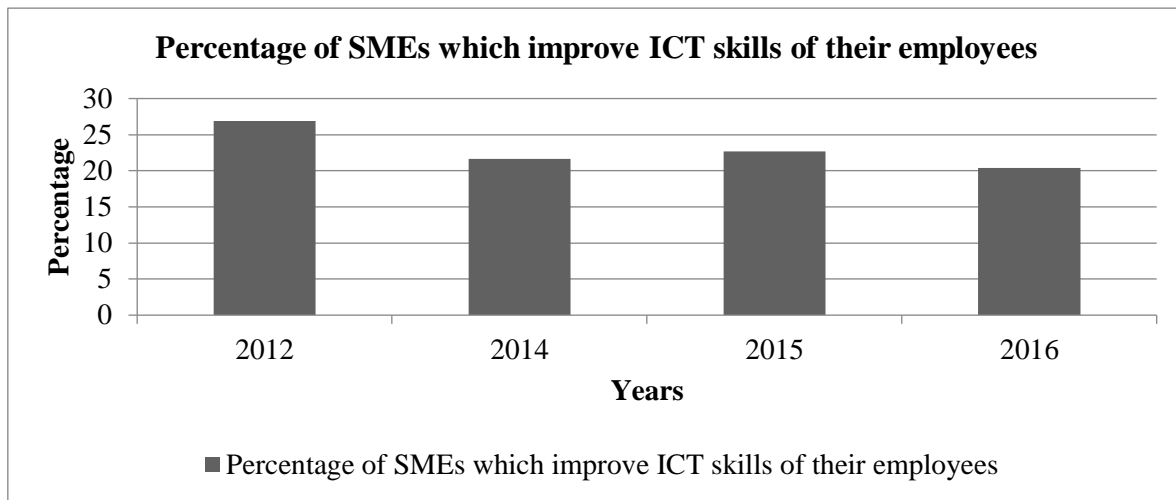


Chart 2. Percentage of SMEs which improve ICT skills of their employees (European Commission, Digital Scoreboard, 2017)

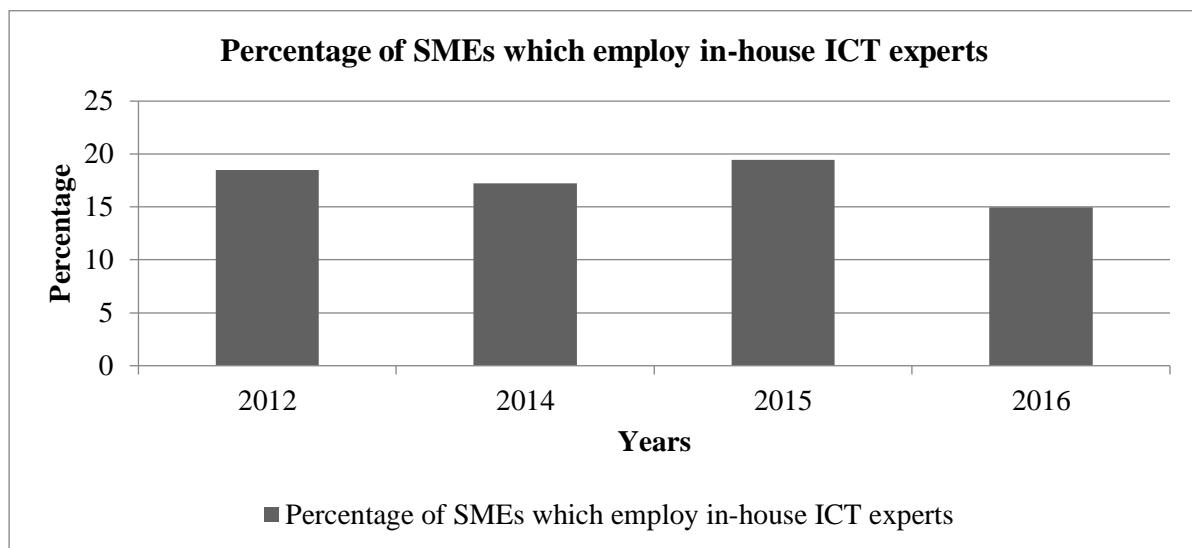


Chart 3. Percentage of SMEs which employ in-house ICT experts in Croatia (European Commission, Digital Scoreboard, 2017)

Therefore, one of the reasons for insufficient digitalization in SMEs in both analysed countries is the low investment in R&D and lack of financial resources needed for the implementation of a new (digital) business model. Most of small and medium sized enterprises in both analysed countries are not present on the capital market consequently they do not have large amounts of available capital which can be collect through bond or stock trading. This actually leads toward a closed system pointing out the issues of transparency in business procedures which is opposite to the premise of digitalization which is considered to be an open procedure (Plačko et al., 2017) According to the GEM survey in 2010, shown in Graph 4, average grade of R&D in Croatia was 2, 8 out of 5, and average investment of the ICT sector in R&D amounted 32, 7 million EUR (Graph 5).



In line with the Croatian Smart Specialization Strategy for the period from 2016 to 2020, 25 percent of respondents consider that the main barriers for the R&D development are limited access to internal and external resources such as investment funds and skilled labour force, as well as market factors such as unfair competition, insecurity of demand, financing costs and innovations (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016; CEPOR, 2012).

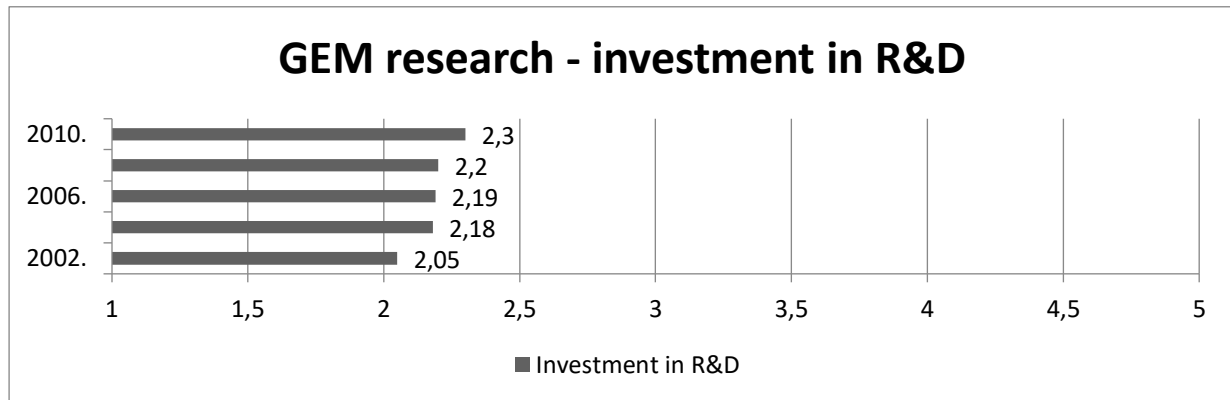


Chart 4. GEM research – investment in R&D (CEPOR, 2012)

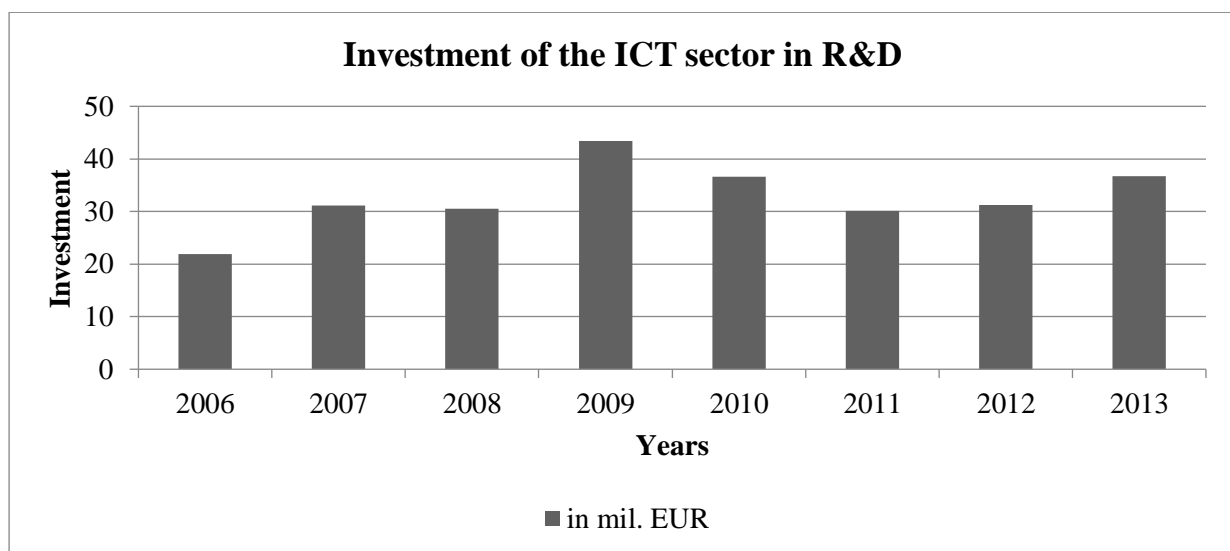


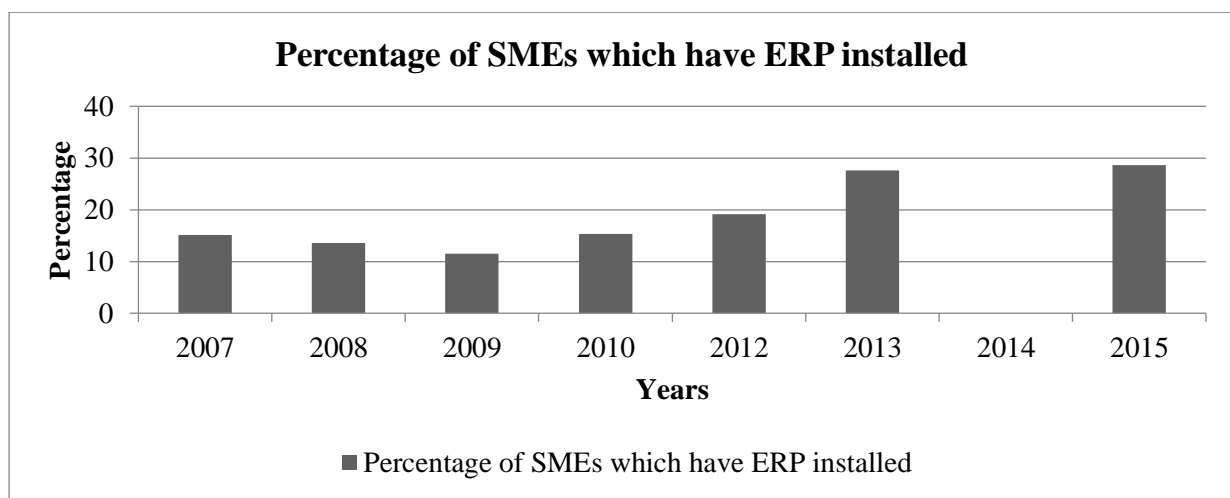
Chart 5. Investment of the ICT sector in R&D  
(European Commission, Digital Scoreboard, 2017)

## 2. DIGITAL TRANSFORMATION IN INDUSTRIAL AND ICT SECTOR IN CROATIA

In the world of highly developed technology, digital transformation of small and medium sized enterprises is considered a continuous and inevitable process if they want to be competitive on the global market. Predisposition for the process of digitalization is creating and writing a digital transformation strategy for which it is not clear whether it should be separated from the strategic plan and what it must contain. Many of these companies began their digital transformation by implementing an Enterprise Resource Planning System (ERP) into one of the business units, specifically unit that does not have a lot of employees and whose activities are not so complex, such as accounting or procurement, to make adjustment faster and better. This type of business software enables the development of different operating processes of the enterprise and it tends to automate data processing and running such process in general.

However, it often remains only on the implementation of such software without any further technological transfer to other business units in order to achieved complete digitalisation. From the Graph 6 we can see the percentage of SMEs which have ERP installed for the observed period from 2007 to 2015, where the information for 2014 was unavailable. In 2015 only 28, 67% of small and medium sized enterprises have had implemented ERP system as a predisposition for the process of digitalization, consequently less than 30% of small and medium sized enterprises accessed the process of digitalization.

These percentage is in line with the information obtained from the trainers and consultants in Medjimurje and Varazdin counties. The results indicates that SMEs accept digitalization as an incremental process, and the first step in the process is to introduce and implement ERP system into one of the business units. However, most of SMEs in the analysed counties have not been fully digitized, due to the lack of R&D and financial resources (Plačko et al., 2017).



*Chart 6. Percentage of SMEs which have ERP installed  
(European Commission, Digital Scoreboard, 2017)*

If we are analysing the types of employment of ICT experts in SMEs in the past two years, shown in Graph 7, it can be concluded that most of small and medium sized enterprises employed outsourcing ICT experts (56%), due to only 14% of them which employ in-house ICT professionals who are fully acquainted with the business system in which they work and who can easily implement digital solution that are fully adapted to the internal need of each individual enterprise.

Observing all sectors of the economy, it can be concluded that the ICT sector will adopt more quickly to the digital transformation since it is the sector that creates digital solutions for the implementation in small and medium enterprise with ability to use in-house training and education, which is not always possible in the manufacturing sector (Transnational Digital Readiness Report, 2017). The similarity of the observed ICT and manufacturing sector can be seen in reduced possibility of applying for EU tenders, due to the lack of innovativeness and products that would result from R&D investment, which can be solved by the development of Competence Centres (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016).

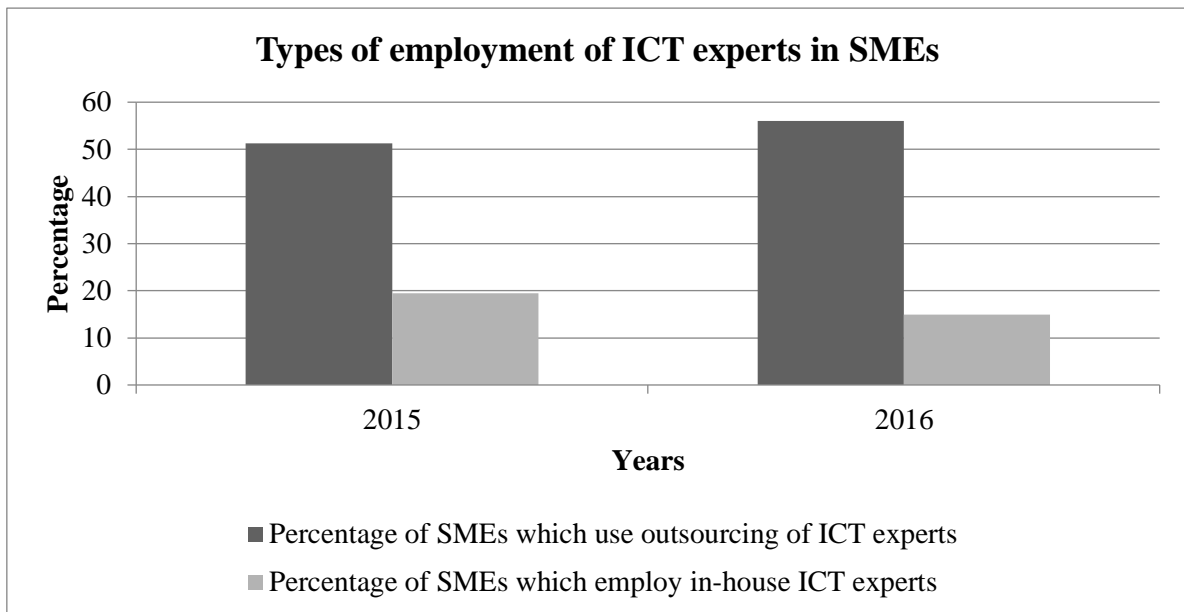


Chart 7. Percentage of SMEs which use outsourcing and employment of ICT experts  
(European Commission, Digital Scoreboard, 2017)

### 3. ANALYSIS OF THE DIGITAL TRANSFORMATION STATE IN MEDJIMURJE AND VARAZDIN COUNTIES

In the Varazdin County, most of the enterprises are dealing with manufacturing industry, construction and trade, while enterprises in Medjmurje County deal mostly with metal processing industry, construction and trade. In order to represent the state of digital transformation in the selected counties three different sectors within the counties were analysed, specifically manufacturing, health care and creative industry, i.e. the ICT sector. Sector features are shown in Table 1. In May 2017, a survey was conducted regarding the digital transformation of small and medium enterprises in Varazdin and Medjmurje County conducting interviews with owners and managers of the SMEs. The results indicate that most of SMEs are not ready for the implementation of a digital business model due to low technology and ICT knowledge, however they are willing to adopt digital transformation if they will have added value to that process in the form of higher ROI. Small and medium enterprise are not aware of potential benefits primarily because they are not familiar with business cases with the positive implementation of digitalization. According to the conducted survey, enterprises in Medjmurje and Varazdin County are not incline to digitization, unless there is distorted competition, and what has not yet happened. (Plačko et al, 2017). In addition to that, in Medjmurje County GDP per capita was in amount of 66.271 HRK, and in Varazdin County it amounted 64.458 HRK (Croatian Chamber of Commerce, 2017). In 2010, Varazdin County was declared as the most competitive county in the Republic of Croatia due to large realized export, which represent 8,2% of total Croatia export (Bedeniković, 2017). In the same year, Croatia Chamber of Commerce index of economic strength of the county amounted 89,7 for Medjmurje County, and 96,6 for Varazdin County (Croatian Chamber of Commerce, 2017). In times of financial crises and even now, most of owners and employees of SMEs have conservative opinion which represent a major obstacle to the process of digital transformation. Specifically, conservative opinion implies efforts to maintain day to day business in order not to lose competitive advantage, and lack of strategic planning for further, higher competitiveness through digital transformation.

For small and medium enterprises is very difficult to digitize if the digital transformation is not implemented by the public sector, i.e. primarily the state in its sectors (health, justice ...) due to lack of one type of model, specifically top down model that would motivate SMEs that represent the down top model in the process of digital transformation. (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016).

*Table 1. Features of three analysed sectors of Medjimurje and Varazdin County (FOI, TICM, 2017)*

Features	Manufacturing	Health care	ICT sector
Size of the enterprise	medium	SMEs	micro
The existence of state funding programs for innovative solutions	Yes	Yes	Yes
The maturity phase of the enterprise	Yes	N/A	N/A
Sufficient skills of the employees	No	No	Yes
Link between R&D and the development/implementation of innovative IT solutions	No	No	No
Insufficient motivation to invest financial resources in modernizing business processes	Yes	Yes	Yes
Absence of S3 plan	Yes	Yes	Yes
The existence of a strategic plan for digital transformation	No	Yes	Yes

The results from the conducted research indicate lack of knowledge and skills in ICT and digital field among employees and owners of analysed SMEs. Therefore, it is necessary to conduct various seminars, educations, consultations so these targeted group can acquire necessary knowledge and skills, consequently reducing inertia and resistance in the process of digital transformation. The experts in both analysed countries conducted that while implementation of digitalization is unique to each enterprise, training in ICT field should be organized in the form of case studies and work in real projects, avoiding theoretical approach while implementation of digitalization is unique to each enterprise. If owners or their employees are interested in the theoretical approach, there are many resources in the Internet such as Coursera and other MOOCs that provide enough theories and practices to understand the benefit of digital transformation where MOOCs courses are most often designed for younger employees who also have higher digital literacy compared to senior employees, who would better learn through training, seminars and traditional education (Plačko et al., 2017).

According to the Smart Specialization Strategy of the Republic of Croatia for the period from 2016 to 2020, manufacturing industries are classified as medium-high or high level of profitability oriented towards product exports. Furthermore, the metal industry and the production of vehicle equipment which are linked to the automotive industry, contributes to the added value as well as employability of the county in its work, i.e. Varazdin County. The mentioned strategy emphasizes that the features of the ICT sector are innovation and high dependence on continuous technological progress, simultaneously being the source of changes in other industrial activities due to the introduction of digital solution.

Activities of the ICT sector such as computing, consulting and other similar activities indicate high added value and as such it is recognized as a strategic industrial activity (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016).

#### 4. FINANCIAL PROGRAMS OF DIGITAL TRANSFORMATION PROJECTS IN CROATIA

Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO) represents domestic institution which provides financial support to innovative and technology-led entrepreneurs by increasing the commercialization of knowledge (transforming knowledge into product/service) and supporting the transfer of knowledge and technological solutions from the scientific sector to the economy creating a link between R&D and the economy, as a recognized problem in all sectors which were analysed in DIGITRANS. For example, BICRO's program TEHCRO has funded the development of innovation structures such as entrepreneurial incubators, technology parks and competency centres which provide support in the implementation of R&D in the business sector (Croatian Agency for SMEs, Innovations and Investments, 2017). Other programs that provide different possibilities for financing digital transformation for SMEs are: (1) RAZUM that provides initial funding for newly established companies and fund R&D of existing companies; (2) IRCRO which finances cooperation between SMEs and scientific institution on joint R&D programs based on which the industry benefits. Programs funded by HAMAG BICRO in the observed period from 2007 to 2013 are shown in table 2. (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016).

*Table 2. Programs funded by BICRO in the period 2007. – 2013. (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016)*

Program	Number of pre-generated entries	Number of entries	Required resources (mil. EUR)	Number of contracted projects	Contracted value (mil. EUR)	Total value (mil. EUR)
POC – Innovative concept check program	916	710	24	161	5	8
RAZUM	163	52	42	24	15	22
IRCRO	63	57	5	24	2	5
TEHCRO	13	13	14	8	9	21
TEST – Technological development projects	132	38	26	31	6	6
EUREKA	29	22	-	10	1	3
KONCRO – Business Consulting for SMEs		88	-	41	0,3	1
<b>Total</b>	<b>1316</b>	<b>980</b>	<b>111</b>	<b>299</b>	<b>38,3</b>	<b>66</b>



The best source for financing the financial resources needed to finance digital transformation are EU funds. Programs that emerge from the EU structural and investment funds are called STP I and II, which encourage technology transfer. Specifically, funding the R&D and their transfer to SMEs. Financial crises in 2007 directly led to neglecting of equipment in favour of preserving jobs and reducing material and operating cost. Now, all institutions and companies needs to be modernized and improved so that R&D in research institutions like faculty can be on Europe level, forming predictions of digital transformation (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016).

Another problem which characterized digital transformation is lack of Competence Centres that will initiate research and development providing added value to small and medium enterprises. Generally, the Competence Centres (CEKOM) are specialized companies that run research projects (development or production) with specific competence in certain areas and support the process of integration between the private and public sector. In the future, the Croatian Cluster of Competitiveness will be in charge of mentioned development competence in Croatia. Technology parks as a support infrastructure in Croatia exist but they are not sufficiently recognized and exploited by their tenants. (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016). There is a possibility that the companies carries out R&D in its headquarters, but such investments are currently very low due to the decreasing number of R&D business, insufficient financial resources especially at an early stage and the barriers to cooperation between industry and science (Smart specialisation strategy of the Republic of Croatia for the period from 2016 to 2020, 2016).

## 5. CONCLUSION

There are different funding mechanisms which can be used for fostering investments in digital infrastructure and promoting deployment of small and medium sized enterprises in digital era. Mastering digital transformation is important for having smarter society and economy and access to source of financing is crucial for reducing information asymmetry between financial intermediaries and SMEs, but also it is important to strengthen the management to participate in IT financing (Hanna, 2016). In this paper, it is shown that many of the SMEs in Varazdin and Medjimurje counties are not prepared for a full digital transformation of its activities and processes. The reasons for that is because the majority of employees are not ready to improve their digital skills and inertness of the employers to develop a digital transformation strategy. Both employees and managers need a set of education and practical skills to be shown that digital transformation does not need to be costly and can expect multiple ROE in the future. National programs, strategies and educational programs (i.e. MOOCs) can help employees and managers to cope with their lack of digital skills.

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## MEASURING THE DEGREE OF INNOVATION IN RETAIL AND SERVICES' MICRO AND SMALL ENTERPRISES

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### ABSTRACT

*Micro and Small Enterprises (MSE) are considered the most dynamic and flexible arrangement of activity. In the economy, the foundation and development of these features is important for the creation of the so-called "normal" economic environment. In the recent past it was enough for companies to meet their needs in a profitable way to stay in the market, but that scenario has changed dramatically. Currently, it is necessary to be one step ahead towards the future, because the strategies that have worked well in the past are not guarantees of forthcoming sustainable success. The key to longevity and business competitiveness lies in innovation. Accordingly, the main objective of this research is to present a research model of innovation in Micro and Small Enterprises to analyse: first, the degree of innovation of Micro and Small Enterprises, and second, how the innovation is handled by existing Micro and Small Enterprises as a result of its business environment. The research made is based on a sample of 550 MSE distributed over 6 cities across the Brazilian State of Piauí. The data was collected using the Innovation Radar application, which is owned by the SEBRAE Local Innovation Agents program. Statistical techniques of descriptive, exploratory and inferential nature were used for corresponding data treatment and results validation. The results obtained suggest that MSE have innovation capacity between the "Little Innovative" and "Occasional Innovative" range, and also that the average and the distribution of innovation levels are similar amongst MSE analyzed.*

**Keywords:** *Retail; Services; Micro and Small Enterprises; Innovation Management; Competitiveness; Brazil*

### 1. INTRODUCTION

In the recent past it was enough for companies to meet their needs in a profitable way to stay in the market, but that scenario has changed dramatically. It's no longer enough simply to meet needs in a profitable way; at present it's necessary to be one step ahead towards the future, because the strategies that have succeeded in the past are not guarantees of sustainable success, which can be exemplified by Tidd et al. (2005, p.42) asserting that "organizations build capacities around a particular trajectory, and those that may be strong at a later (specific) stage of an established trajectory find, in general, next".

Accordingly, organizations should seek tools and capabilities to assist them in gaining competitive advantages, which in Martín and López (2007, p.267) conception refer to a "situation of superiority or favourable conditions that one thing has over another, or as the authors themselves point out, "the concept of competitive advantage is understood as any characteristic of the company that differentiates it from the others, placing it in a relative position of superiority to compete" (p.267), which Tidd et al. (2005) effectively elect as innovation, although a competitive advantage may arise from size or heritage, among other factors, the scenario gradually shifts in favour of those organizations that continuously manage to mobilize knowledge, what they already have; Information, or what is available in the environment, and the creativity to design the creation of novelties in their offerings, be they products or services, and the ways in which they create and launch these offers.

An innovation according to the Oslo Manual, which is a reference in the subject in several countries, is the implementation of a new or significantly improved product or service, or a process, or a new marketing method, or a new method organization of the workplace or in external relations (OCDE & FINEP, 2005).

Innovation is the specific instrument of business activity. It's the action that endows the resources of a new capacity to create wealth. Innovation actually creates the resource. A "resource" is something that does not exist until man discovers a use for something existing in nature and thus endows with economic value (Drucker, 1987).

Ultimately, as Tidd et al. (2005, p.30), "the truth is that, whatever the technological, social or market conditions involved, the key to creating - and maintaining - competitive advantage tends to belong to those organizations that innovate continuously". However, it should be noted that there are significant differences in the way large organizations innovate compared to their smaller counterparts, particularly Micro and Small Enterprises (MSE). Large organizations may have large resources invested in Research and Development (R&D) or market research, which is almost impossible for MSE due to their financial fragility and the strong competitive pressure from the globalization of markets. While large organizations are apt to develop large-scale innovations, MSE often adopt innovation strategies through technology acquisition (Tidd et al., 2005).

Given the importance attributed to innovation, the present research has the primary objective of verifying how the innovation presents itself in the MSE of the State of Piauí, considering that innovation is now considered as the key to obtaining competitive advantages, creating positive results both for the companies involved in the innovation process and for the economy as a whole. Besides this brief introduction, the article is structured in four points. The following is the framework of the study, where the main concepts that guided the investigation are explained. Subsequently, the conceptual model and the research hypotheses are presented. Next, the methodology and the analysis of the results are presented, being this the core of the present investigation and, finally, the contributions of the accomplishment of this investigation.

## **2. THEORETICAL FRAMEWORK**

### **2.1. Concepts of Innovation**

Reichert et al. (2015) postulate that innovation is the result of the capacity of companies, taking into account the technological and market patterns in each branch of activity, of absorbing, adapting and transforming knowledge into technology and this into operational, managerial routines and commercial practices that lead companies to achieve superior performance, in keeping with Drucker's (1987) thinking that innovation is action that provides the resources of a new capacity to create wealth. In the words of Drucker (1987, p. 42), "Innovation creates, in fact, the resource. A resource is something that doesn't exist until man discovers a use for

something existing in nature, and thereby endowing it with an economic value”. Schumpeter (1997), considered by some authors (e.g., Titu et al., 2015, Bayarçelik et al., 2014, Tidd et al., 2005) as a pioneer in innovation studies, states that innovation would be a spontaneous and discontinuous change in the flow channels, disturbance of equilibrium, which forever changes and shifts the pre-existing state of equilibrium, a new combination of elements in the economic system, a "creative destruction", as the result of this combination would break with the existing standards giving rise to new standards that would be followed by all the economic agents who could adapt to the new circumstances. It is a dynamic process in which new technologies replace old ones. For OCDE and FINEP (2005) innovation can be understood as the implementation of a new or significantly improved product (product or service), or a process, or a new marketing method, or a new organizational business practices, the organization of the workplace or in external relations. The minimum requirement for defining an innovation is that the product, process, marketing method, or organizational are new (or significantly improved) for the company. This includes products, processes and methods that companies are the pioneers to develop and those that have been adopted by other companies or organizations (OCDE & FINEP, 2005).

## **2.2. Innovation and Competitive Advantage**

The concept of competitive advantage is related to any characteristic of the company that differentiates it from the others, placing it in a position of relative superiority to compete. Martín and López (2007), explain that a competitive advantage must meet three criteria, must be related to a key factor of success in the market, must be substantial enough to give the company a differential and be sustainable in the face of changes in the environment. Although in the long run none is totally free from attacks by competitors.

In today's economy, which is considered to be a knowledge-intensive economy, innovation management is becoming one of the main drivers of change and gaining competitive advantage (Apak and Atay, 2014).

Thus, given the current competitive conditions in the markets, the only form of competitive advantage is continuous innovation at a faster pace than rival organizations (Toivonen, 2015).

Rusu (2016, pp.166-167) states that “successful companies to survive and thrive introduce innovations that generate change within companies by implementing processes that have consequences on their business model enabling profit generation”.

It's clear that the company of the present century is operating in an increasingly globalized environment, and that resources and capabilities and innovation should be considered as key elements in the strategy and in the maintenance and development of competitive advantages (Molano and Campo, 2014). For Seo and Chae (2016, p.708), “the business world harbours a number of threats and uncertainties requiring a high degree of innovation as a factor of success. A strong degree of innovation can cover several risks when facing the market”.

Specifically, innovation means efforts by companies to create economic value for consumers by positively increasing the difference between the perceived value of consumers and the economic costs incurred by companies. Companies will have a competitive advantage when they can create marginal economic value greater than their competitors. Thus, innovation can be a source of competitive advantage (Hamdani and Wirawan, 2012).

The competitiveness of a company in the market depends on the ability to “capture the market” using ideas and marketing innovation through business relationships. In this way, the competitiveness of the markets demands of the companies an innovative position, especially in what concerns the marketing (Gupta et al., 2016).



### 2.3. Innovation in Micro and Small Enterprises

Innovation and the development of innovative capabilities in MSE entails a number of difficulties, as Rovere (2001, p.22) states “the innovative capacity of MSE depends on several factors related to the organization of the sector and the system of innovations in which they meet”. Paula (2014) says that for MSE it’s possible to notice a greater difficulty in the innovation process, because they have less access to sources of information on technologies and sources of financing, complemented by the lack of resources, few or non-existent investments in Research and Development (R&D), strong dependence on technology acquisition (Machinery and equipment) and limited managerial capacities (Demonel and Marx, 2015, Reichert et al., 2015, Taborda et al., 2013), which leads them to operate with equipment and technologically outdated facilities, carrying out low investment in Research and Development, being slow and reluctant to adopt managerial and organizational innovations (Rodrigues, 2003).

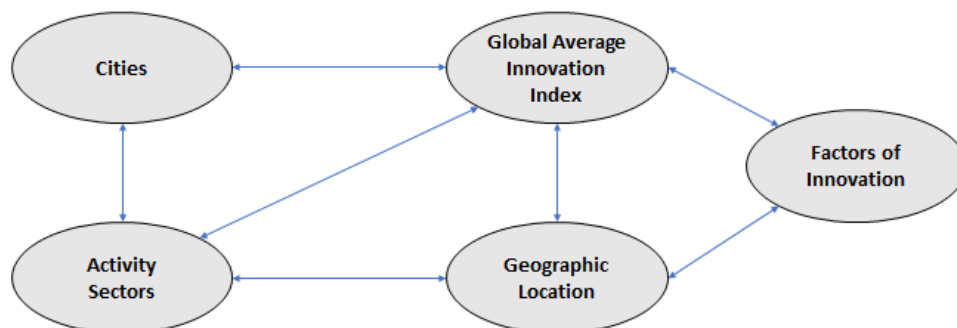
Pereira et al. (2009) argue that, even though MSE have difficulties in assimilating managerial professionalization, precarious levels of control, financial problems such as lack of working capital and incipient knowledge of the market in which they operate, most MSE entrepreneurs associate innovation less with the differentiated elaboration of products and services and more as a business model.

As a result of this context, innovation in MSE presents itself as the result of simple actions, in some cases with its own development, acquisitions of new equipment, adoption of innovation management practices and, usually, incremental innovations, presenting as an alternative types of advantages, resulting from attributes such as quality, processes, offer of new products that promote the differentiation of the organization, since they have particularities that are presented as sources of competitive advantage when compared to large companies. They usually have a leaner and more flexible organizational structure, placing them in closer contact with their clients, as well as carrying out activities with low capital intensity and high labour intensity, which can lead to differentiated production conditions (Rodrigues, 2003; Paula, 2014).

## 3. RESEARCH METHODOLOGY

### 3.1. Conceptual Model

The Figure 1 presents the conceptual research model proposed to evaluate how innovation presents itself in MSE. The proposed model was developed based on recommendations of the Oslo Manual (OECD & FINEP, 2005), considering innovation as a system of interactions and interdependencies.



**Conceptual Model**

The justification of the model is based on Skibinski and Sipa (2015). They claim that MSE because they have limited internal resources should make use of external knowledge sources. In this way, the ability to exploit and use the knowledge that comes from abroad becomes a key element and predictor of successful innovation, which makes the environment in which they are located and the development of appropriate tools to exploit it. The general and classic models of innovation presented by Rothwell (1994) define innovation as a set of processes that should be undertaken by the organizations in isolation for the development of innovations, especially in the development of new products. Recent models of innovation such as Cooper (1988), Khurana and Rhosental (1997), Koen et al. (2001), Flynn et al. (2003), Boeddrich (2004), Reid and Brentani (2004), Wihtney (2007), Brem and Voigt (2009) and Kurkkio et al. (2011), besides being strictly theoretical, focused on large companies and on processes that companies must undertake in isolation, they also emphasize the development of products to the detriment of the development of other types of innovation, such as services, processes, marketing and organizational. The theoretical model presented in this paper differs from the models listed by (i) being a model that seeks to investigate how the degree of innovation is configured to the detriment of the business environment, having a more comprehensive perspective than the company object alone, as is the case with the abovementioned models; (ii) to characterize itself as a suitable model for the investigation of innovation in Micro and Small Enterprises by presenting a system of interactions between Micro and Small Enterprises and their business environments, thus enabling the investigation of the degree of innovation according to location geographical; (iii) to provide information on Micro and Small Enterprises innovation in a global way, not limited solely to the development of products.

### **3.2. Objective of study and Research Hypotheses**

The main objective of this research was to present a research model of innovation in Micro and Small Enterprises to analyze (1) the degree of innovation of Micro and Small Enterprises, (2) how the innovation is presented in the Micro and Small Enterprises as a result of its business environments.

Accordingly, with the main objective of testing the conceptual model presented in Figure 1, the following research hypotheses are established:

H<sub>1</sub>: The Micro and Small Enterprises of the State of Piauí present little innovative.

The conceptual framework of the research hypothesis 1 is based on Demonel and Marx, (2015); Reichert et al. (2015) and Taborda et al. (2013), because they say that innovation in MSE entails greater difficulties related to lack of resources, scarce or nonexistent investments in Research and Development (R&D), strong dependence on technology acquisition (Machinery and equipment) and limited managerial capacities. Nevertheless, in developing countries (DC), as Rojas and Carrillo (2014) point out, market failures such as imperfect competition, externalities and information asymmetries have a negative impact on companies' capacity for innovation, that they assume defensive and merely reactive strategies

H<sub>2</sub>: Innovation in Micro and Small Enterprises in the State of Piauí presents itself differently due to its business environments (geographical location and sectors of activity).

H<sub>2.1</sub>: The Global Average Innovation Index is different for cities;

H<sub>2.2</sub>: The Global Average Innovation Index is different for the activity segments;

H<sub>2.3</sub>: The Global Average Innovation Index is different for geographic location.

The conceptual framework of the research hypothesis 2 is based on Aarstad et al. (2016), since they point to the geographic environment as an important factor influencing growth, profits and business development, including survival and innovation performance. In this sense, as established by Skibinski and Sipa (2015), innovation in MSE may be associated with its ability to explore and use the knowledge that comes from its environment.

### 3.3. Data Analysis

The instrument used for data collection was a questionnaire survey. The instrument is composed of 32 items that evaluate 13 dimensions of the innovation, resulting from an adaptation made by Bachmann (2011) for application in MSE of the Innovation Radar, of Sawhney et al. (2006), originally constituted of 12 (Twelve) dimensions. The innovation dimensions assessed by the Innovation Radar are: (1) Supply; (2) Platform; (3) Brand; (4) Customers; (5) Solutions; (6) Relationship; (7) Value Aggregation; (8) Processes; (9) Organization; (10) Supply Chain; (11) Presence; (12) Network and (13) Innovative Ambience.

The study was conducted with a sample of 550 Micro and Small Enterprises of the State of Piauí, Brazil, during the months of October 2014 to October 2015. For the treatment, analysis and interpretation of the data were used the software SPSS Statistics in its version 22 and Numbers in its version 3.1. The statistical techniques used were descriptive, exploratory and inferential in order to describe, analyse and interpret the behaviour of the attributes under study. Thus, in the first phase we chose to calculate the Global Average Innovation Index (GAII), obtained by means of the simple arithmetic mean of the above mentioned 13 (Thirteen) dimensions of Innovation Radar (Equation 1).

$$GAII = \frac{1}{n} \sum_{i=1}^n X_i \quad [1]$$

At where,  $n$ , corresponds to the number of independent variables of the Innovation Radar;  
 $X_i$ , corresponds to the independent variables of the Innovation Radar ( $i = 1, \dots, 13$ )

$$GAII = \frac{1}{13} \sum_{i=1}^{13} X_i \quad [2]$$

At where,

$X_1$ , Supply;  $X_2$ , Platform;  $X_3$ , Brand;  $X_4$ , Customers;  $X_5$ , Solutions;  $X_6$ , Relationship;  $X_7$ , Value Aggregation;  $X_8$ , Processes;  $X_9$ , Organization;  $X_{10}$ , Supply Chain;  $X_{11}$ , Presence;  $X_{12}$ , Network;  $X_{13}$ , Innovative Environment.

A sample error of 4,17% and a significance level of 5% was used to calculate the sample size. In order to make the decisions regarding the different hypotheses of investigation, a level of significance of 5% was assumed throughout the analysis.

#### 4. ANALYSIS AND PRESENTATION OF RESULTS

The study sample consists of 550 MPEs distributed among six cities in the State of Piauí, as follows: Teresina 371 (67.5%); Bom Jesus 46 (8.4%); Floriano 39 (7.1%); Piripiri 32 (5.8%); Picos 30 (5.5%) and Parnaíba 32 (5.8%). Regarding the distribution of MSE by activity sectors, it is estimated that 61.3% and 38.7% represent the Services and Commerce segments, respectively. Regarding the location, 67.5% of the MPEs in the sample are located in the state capital, while 32.5% are located in the interior of the State. In order to answer the first research hypothesis, the Global Average Innovation Index (GAII) was calculated by means of the simple arithmetic mean of the 13 dimensions of the Innovation Radar, whose overall mean value was 2.00 points (deviation standard of 0.92), denoting globally that the MSE of the study sample have innovation capacity between "Little Innovative" and "Occasional Innovative", according to the adapted classification of Neto and Teixeira (2011), in which the final average score 1 (One) means "Little Innovative"; The final average score 3 (Three) means "Occasional Innovative" and the final average score 5 (Five) means "Systemic Innovative". The mean standard deviation of 0.92 indicates that the firms analysed responded to questions related to the Innovation Radar in the same sense, that is, there was little variability around them.

Since the MSE of the sample have a GAII of 2,00 points (standard deviation of 0,92), indicating that they are between "Little Innovative" and "Occasional Innovative", responding to research hypothesis 1, we intend to verify If there are differences in the GAII average for cities, geographic location and activity sectors to answer the research hypothesis 2.

The verification of the existence of differences in the GAII average for the cities is done through the application of One-Way ANOVA. In order to be a parametric test, some assumptions need to be validated, namely if the variables follow the normal distribution in the different independent groups (using the Kolmogorov-Smirnov test), homogeneity of variances (Levene test), and Independency between groups, assuming a significance level of 5%. Considering the normality test, Kolmogorov-Smirnov test, it was concluded that at a significance level of 5% there is enough statistical evidence to state that the study variable does not follow a normal distribution in the independent groups under study.

Given the violation of the first assumption for the application of the parametric test, the non-parametric alternative, in the case in question, was immediately applied to the Kruskal-Wallis test, in order to compare the GAII distributions in the six cities (Independent groups). Using the Kruskal-Wallis test, considering that the obtained value was 0,394, it can be concluded that there is no statistical evidence at the significance level of 5% to state that at least one of the GAII distributions is different for the six cities. In order to verify if there are differences in the GAII mean for the Geographic Location, the t-Student parametric test was used for two independent samples, whose application assumptions are normal population or  $n \geq 30$  observations and unknown standard deviation.

However, once the sample size is different in both groups, the Levene test was applied to verify if the variances were homogeneous assuming a significance level of 5%. From the results obtained it is concluded that there is not enough statistical evidence to affirm that the variances are significantly different for a level of significance of 5%, since the obtained value was 0,310, higher than the level of significance assumed. In relation to the t-Student, considering that the test value is 0,704, higher than the level of significance assumed, it is concluded that there is enough statistical evidence to affirm that the average GAII is equal for the MSE of the interior and the capital to a level of significance of 5%. In order to verify if there are differences in GAII mean for the Activity Sectors variable, the t-Student parametric test is applied once again for two independent samples, which as referred to has normal or  $n \geq 30$  and normal deviation and unknown standard.

However, given the differences in sample size for both groups, the Levene test was applied to verify if the variances were homogeneous assuming a significance level of 5%. It is concluded that there is not enough statistical evidence to state that the variances are significantly different at a significance level of 5%, since the obtained value was 0,144, higher than the level of significance assumed. In relation to the t-Student, considering that the test value is 0.992, higher than the level of significance assumed, it is concluded that there is enough statistical evidence to state that the mean GAI is equal to the MSE of the segments of Commerce and Services for a level of significance of 5%.

Based on what has been presented previously, it is concluded that the research hypotheses have not been validated, that is, since the Average Global Innovation Index obtained through the average of the 13 dimensions of the Innovation Radar applied in the 550 MSE of the State of Piauí was 2.00 (standard deviation of 0.92), the MSE of the sample under study had an innovative capacity between "Little Innovative" and "Occasional Innovative", resulting in a non-validated research hypothesis 1. However, because the GAI distribution is the same among cities, the GAI average is the same between the sectors of activity and for the geographical location, the research hypothesis 2 is not valid since there is sufficient statistical evidence to affirm that the innovation presents itself homogenized for the MSE of the study, using the control variables City, Activity Sectors and Geographic Location.

Šoltés and Gavurová (2014) argue that the effective development of innovation requires a functional innovation system composed of institutions, policies and tools to create conditions that promote innovation. After all the inferential analysis carried out, contrary to the literature on the subject (*e.g.*, Demonel and Marx, 2015; Taborda et al., 2013) that present MSE as not very innovative, it is possible to state that there are indications that the functional innovation system that promotes the promotion of innovation by MSE is to a certain extent present in the State of Piauí, although in an incipient form, since MSE have innovation capacity between "Little Innovative" and "Occasional Innovative", leaving room for fundamental improvements in the degree of innovation, and that this capacity is homogenized for the MSE of the study.

## 5. RESEARCH CONTRIBUTIONS

As mentioned above, the main objective of the present investigation was to verify how the innovation presents itself in the MSE of the State of Piauí, so that the following hypotheses of investigation were established: H1: The Micro and Small Enterprises of the State of Piauí present themselves as little innovative; H2: Innovation in Micro and Small Enterprises in the State of Piauí presents itself differently due to its business environments (Geographical Location and Sectors of Activity).

Overall, the MSE of the sample under study has innovation capacity between "Little Innovative" and "Occasional Innovative", since the Average Global Innovation Index (IGMI) obtained through the average of the 13 dimensions of the applied Innovation Radar in the 550 MPE of the State of Piauí was 2.00 (standard deviation 0.92). Since the classification usually adopted establishes that the final average score 1 (One) means "Little Innovative"; The final average score 3 (Three) means "Occasional Innovative" and the final average score 5 (Five) means "Systemic Innovative", it can be affirmed that the MSE of the sample under study have innovative capacity between "Little Innovative" and "Occasional Innovative", resulting in a non-validated the research hypothesis 1.

In order to verify in a general way how the GAI of the MSE presents as a result of the variables of control City, Activity Sectors, and Geographic Location, using inferential analyzes, it was observed that the distribution of GAI is the same between Cities and that the GAI average is the same between activity sectors and geographic location.



Because the distribution of GAI is the same among cities; of the innovation average is the same among the MSE of the Commerce and Services segments, as well as between the MSE in the interior and the capital, the second research hypothesis is also not validated, since there is enough statistical evidence to affirm that innovation It is homogenized for the MSE of the study, using the control variables City, Activity Sectors and Geographic Location.

The results obtained provide an important practical contribution to the management and monitoring of innovation in Micro and Small Enterprises in a given region by presenting an indicator that reflects how much innovation is present, serving as a parameter for potential improvements both by companies and by the public power. As theoretical contributions, the presented model leads to useful and systematic information on how innovation presents itself in Micro and Small Enterprises in a global way as a result of its business environments, and can thus be useful as a model that serves as a parameter for the Improvement of innovation through public policies aimed at improving the business environment that increase the degree of innovation of the companies that constitute it, and therefore validate the theoretical model in the case in question. Possible public policies are the establishment of partnerships with universities and local research institutes, with a view to obtaining the necessary resources for innovation, the formation of innovation networks between Micro and Small Enterprises and financial subsidies by the government for companies that join the innovation networks.

The limitations of the study are the unavailability of information on the number of employees, turnover, investments in R&D and training efforts, which would be useful for more detailed analyses of the innovation capacity of the companies studied. In addition, although the theoretical model presents useful information of the global form as the innovation presents itself, it does not make it possible to identify in detail the types of innovation developed by the companies studied, considering the innovation as a homogeneous whole within a given business environment. As future research, we intend to develop studies that identify the factors that serve as obstacles or that facilitate innovation in MSE, the relationship between innovation and economic development, and how the quality of human resources influences MSE innovation capacity.

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## BUSINESS PROCESS INCONSISTENCIES IN POLISH SMALL AND MEDIUM ENTERPRISES

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### ABSTRACT

*Effective implementation of the process approach in an enterprise requires identification and comprehension of the occurring problems and constraints. This should determine the scope and purpose of the undertaken improvements, as well as facilitate the selection of appropriate methods and techniques. While in Western-European companies, the process approach and process-based methodologies are firmly established, in transition economies, including Poland, they are not commonly known or implemented. Passive transfer and adaptation of Western ideas, failing to take account of the specific conditions of transition economies, such as Poland, may contribute to the emergence of certain inconsistencies of the re-organized processes.*

*In acknowledgement of the significance of these issues, the main purpose of the paper is to identify inconsistencies of business processes in Polish small- and medium sized enterprises (SMEs). The paper presents the results of empirical surveys which enabled the author to identify business process inconsistencies and to analyse them in the context of the companies' level of process orientation maturity. The surveys were conducted among Polish managers from the SMEs. The performed analysis revealed that in enterprises with higher levels of maturity, process inconsistencies primarily stemmed from failure to understand the ideas of strategic alignment and process governance. Meanwhile, the inconsistencies observed in firms which were just beginning to implement the process approach were rooted in human resources and a lack of process culture. A comparison of the obtained outcomes with those of similar studies conducted in Western companies indicates a certain diversity in terms of the types of process inconsistencies occurring in enterprises at higher maturity levels.*

**Keywords:** maturity, process inconsistency, process orientation, SMEs

### 1. INTRODUCTION

According to data from the European Commission, small and medium-sized enterprises (SMEs) represent 99% of all businesses and in the past five years have created around 85% of the new jobs in the EU. Globalisation, dynamic changes in the market, and changes of customer requirements are causing SMEs to be more inclined to implement Business Process Management (BPM) initiatives. They are becoming increasingly aware that an improvement of competitiveness can be achieved through a shift from a functional to a process-oriented approach. As a consequence, SMEs tend to regard Business Process Orientation (BPO) as a potentially successful way to face new challenges (Singer, 2015, pp. 1-8; Chong, 2007, pp. 41-58). Although a process approach is mostly analysed and discussed from the perspective of large organisations (Roeser, Kern, 2015, pp. 692-718), some scholars (Chong, 2007, pp. 41-58; Weitlaner, Kohlbacher, 2015, pp. 44-61) underline that SMEs can benefit from process management just as large companies do. But it is emphasised that the specific nature of SMEs may determine the methods and results of applying BPM frameworks and best practices (Cholez, Girard, 2014, pp. 496-503; Singer, 2015, pp. 1-8). According to Gabryelczyk, Jurczuk and Roztocki (2016, pp.1-10), the stage of economic development could strongly determine the application of a process-based construct. In addition, the review of relevant literature reveals that a limited number of studies provide insight into BPM/BPO practices, methodologies and guidelines built on the experience of SMEs, especially from transition economies (Imanipour, Talebi, Rezazadeh, 2012, pp. 1-18; Roeser, Kern, 2015, pp. 692-718). This paper attempts to identify and analyse process inconsistencies in the context of the process orientation of Polish SMEs.



The relationship between the level of maturity and inconsistencies of business processes in SMEs from transition economies has not been widely studied (Jurczuk, 2016, pp. 42-48). Therefore, the research questions (RQ) addressed in this paper are as follows:

- **RQ1.** What level of BPO maturity do chosen Polish SMEs represent?
- **RQ2.** What kind of process inconsistencies exist in Polish SMEs?
- **RQ3.** What inconsistencies occur on particular levels of BPO maturity?

Analysis of managers' perception of BPO maturity level in the context of process inconsistencies makes it possible to recognize the challenges and potential areas of improvement. Moreover, research outcomes allow for better understanding of the process-oriented evolution and triggers for change within SMEs from transition economies.

The research objectives have been reached through literature studies and an empirical survey. This paper is organised as follows. Sections 2 and 3 describe the synthetic background and context for this research. The research framework and methodology are submitted in Section 4. The findings of the empirical study are discussed in Section 5. The last section of the paper provides conclusions and limitation of the conducted research.

## **2. BUSINESS PROCESS ORIENTATION MATURITY VS. INCONSISTENCIES**

Hammer and Stanton (1999, pp. 108-120) remark that building a process-oriented enterprise is a matter of a comprehensive and multidimensional approach which includes, among other things, process ownership, process performance, the training of employees, and their beliefs and attitudes. McCormack and Johnson (2001, pp. 51-61) define process orientation as a level at which an organisation pays attention to its processes. They have distinguished three fundamental dimensions of BPO: the process view, the process management and measurement, and the process jobs. This approach includes two supporting components: cooperation based on horizontal thinking and customer satisfaction. A similar attempt to define the dimensions of BPO is presented by Kohlbacher and Reijers (2013, p. 245-247). As a result of a literature survey, they have identified seven dimensions that represent similar factors: process design and documentation, management commitment, ownership, performance, culture, methods, and organisational structure. Chen et al. (2009, pp. 213-227) define process orientation using six different perspectives: employee understanding, resource allocation, process performance goals, process outcome measurement, process owner designation, and employee reward mechanism.

Process-oriented development of an organization is supported by maturity models. They delineate a sequence of stages that together form a path from an initial to a desired maturity level. Fraser, Moultrie and Gregory (2002, pp. 244-249) also conclude that a maturity model describes specific requirements at a number of maturity levels. They represents capabilities of an organisation as regards specific BPO dimensions and application domains. The achievement of a particular maturity level means that an organization has met a specific set of requirements (McCormack and Johnson, 2001, pp. 51-61; Röglinger, Pöppelbuß, Becker, 2012, pp. 328-346). Maturity transition describes how the organization's capability can evolve by achieving higher maturity levels (Fraser, Moultrie, Gregory, 2002, pp. 244-249). Each stage builds on the achievements of the previous one. Moreover, a change of the BPO maturity level could be regarded as the ability to achieve predefined goals through the identification and elimination of process inconsistencies (Jurczuk, 2016, pp. 42-48).

Maturity assessment is the positioning of current practices in an organization against a maturity scale (Gulledge, Sommer, 1999, pp. 158-165). It helps identify areas of inconsistency which could be eliminated or minimised by successful improvement initiatives (Škrinjar, Trkman, 2013, pp. 48-60). Moreover, from the BPO perspective, planning and implementation of process orientation should be based on knowledge of the current strengths and inconsistencies of an organization's capabilities.



It determines the aim and scope of a process improvement initiative and maturity progress (Chen, Tian, Daugherty, 2009, pp. 213-227). Higher levels of BPO are associated with fewer process inconsistencies. A process inconsistency (PI) means a deviation from the applicable rules, frameworks, internal and external regulations determining the functioning of an organization. From the BPO maturity perspective, a process inconsistency means a deviation from the requirements defined for each dimension of the BPO model. In this context, a PI can be also defined as a lack of ability to adapt to present or future requirements of the process stakeholders. A PI is perceived by process participants as an obstacle and/or divergence that requires elimination (Sommerville, Sawyer, Viller, 1999, pp. 784-799).

The main sources of process inconsistencies are related to process execution, organization and its perception by the process stakeholders (Sommerville, Sawyer, Viller, 1999, pp. 784-799; Hammer, 2015, pp. 3-16). A PI might also appear as a result of using inappropriate methods for measuring the degree of goal achievement, as well as improper use of company resources (Škrinjar, Trkman, 2013, pp. 48-60; Gulledge, Sommer, 1999, pp. 158-165). A process inconsistency can derive from the existing business model, communication system, and/or a BPM competence gap (Hammer, 2015, pp. 3-16). The existence of process inconsistencies is caused mainly by a lack of common process understanding and consistent perception, lack of an efficient inter-functional communication and top management support. Furthermore, it is a matter of employees' and company's knowledge related to level of BPO (Davenport, 2010, pp. 17-35; Škrinjar, Trkman, 2013, pp. 48-60). The types and strength of process inconsistencies depend on the ability to implement business process orientation in an integrated manner.

### **3. PROCESS ORIENTATION: SMES PERSPECTIVE**

Process-based constructs and methods are firmly established in Western countries and mostly analysed and discussed from the perspective of large organisations (Roeser, Kern, 2015, pp. 692-718). Although research findings, including maturity models, critical success factors, triggers and barriers to Business Process Management usually focus on big businesses, some scholars (Chong, 2007, pp. 41-58; Weitlaner, Kohlbacher, 2015, pp. 44-61) have underlined that SMEs can benefit from process management just as large companies do. Weitlaner et al. (2015) note that although the flat structures of SMEs should make it easier for them to shift towards process-orientation, they adopt BPM practices rather slowly comparing to large companies. In addition analysis of the literature reveals several main barriers to process evolution in SMEs. Cholez and Girard (2014, pp. 496-503) indicate that on the one hand, SMEs are capable of reorganising their processes, but on the other hand, they are limited in their resources in terms of money, time, and skills. According to research conducted by Chong (2007 pp. 41-58), it is the lack of available (financial and organisational) resources that most strongly inhibits the implementation of BPM in SMEs. This, in turn, could be a significant barrier in the complex implementation of process management and a process-oriented evolution of SMEs. Another influential factor which determines the implementation of a process-based approach is the stage of economic development. Gabryelczyk et al. (2016, pp. 1-10) suggest that different social, political and economic circumstances in transition economies affect the success of adaptation of BPM methodologies and practices. In addition, a passive transfer of Western ideas, failing to take account of the specific conditions of these economies, may contribute to the emergence of certain inconsistencies in the re-organized processes (Lang, Steger, 2002, pp. 279-294). Having diagnosed the process maturity of Polish SMEs, Okręglika et al. (2015, pp. 121-131) conclude that they are on a relatively low maturity level and require methods and tools for its improvement. The main barriers include an insufficient level of BPM knowledge and a shortage of employees with more specialized knowledge. Polish SMEs adopt too general a definition of processes and activities and that inappropriate definition is the main source of BPO inconsistencies (Lemańska-Majdzik, Okręglika, 2015, pp. 394-403). Research conducted in Slovakia (Gazova, Papulova, Papula, 2016, pp. 197-205) is consistent with these observations. Moreover, Gazova et al. (2016) have demonstrated that the implementation of the BPM approach

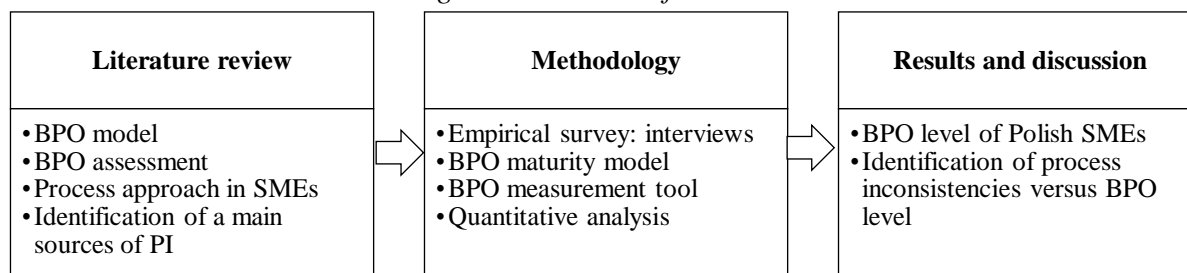
in Slovakian SMEs represents a level similar to that in Poland. They also conclude that an insufficient level of BPM competencies among the employees and their attitudes are significant sources of inconsistencies that thwart the process-based evolution of SMEs in their country. Research conducted by Rolínek et al. (2014, pp. 203-217) finds that Czech SMEs only partially apply the principles of process management mainly because of a lack of resources and support on the part of top management. The results of research carried out in other transition economies (Serbia, Slovenia) show that the perception of the BPM construct is in line with the perspective which is dominant in developed countries. The major impediments to broad process-oriented initiatives are lack of top management involvement and low accessibility of resources (Stojanović, Tomašević, Slović, Gošnik, Suklan, Kavčič, 2017, pp. 1-12). Škrinjar et al. (2010, pp. 5-19) conclude that the current managerial practices, organizational structures, organizational culture and communication, as well as measurement practices have an influence on the process-oriented evolution in Croatia and Serbia (64% SMEs in the sample). In an empirical study, Stojanović et al. (2017) highlight the visible differentiation of BPM success drivers even between countries from transition economies. A process-based evolution with integrated maturity models is perceived by SMEs as too expensive and time-absorbing. In addition, these frameworks are perceived by them as too complicated and incompatible with their needs (Staples, Niazi, Jeffery, Abrahams, Byatt, Murphy, 2007, pp. 883-895; Swinarski, Parente, Kishore, 2012, pp. 129-134; Dallas, Wynn, 2014, pp. 25-46). According to the findings of Baars et al. (2016, pp. 1-26), organizational characteristics have a crucial impact on successful application of BPM maturity models. Paim et al. (2008, pp. 694-723) suggest that it could be caused by the lack of full understanding of the principles of process improvement and the role of maturity models.

#### 4. METHODOLOGY AND RESEARCH FRAMEWORK

##### 4.1. Research framework and data collection

In order to examine the perception of BPO maturity level and identify process inconsistencies I have followed a three-phase research approach. It includes a literature review, the development of a methodology to assess BPO maturity and an instrument for its measurement, as well as a qualitative and quantitative analysis of the obtained results. The research framework is given in Figure 1.

*Figure 1: Research framework*



To answer the research questions, interviews were carried out among 51 managers from 17 Polish SMEs based in Podlaskie Voivodeship. It means that three respondents from each company were interviewed separately. This triangulation made it possible to gain a realistic picture of the BPO levels and the existence of process inconsistencies. The survey was conducted in May and June 2016 by instructed pollsters. It should be mentioned that SMEs prevail in the region's economy (more than 95%, excluding the financial sector). The selection of companies involved the use of the non-probability sampling technique and was based on a sample of convenience. This method of sampling was dictated by the availability of companies and their willingness to participate in the research. Table 1 presents the profile of respondents.

*Table 1: Sample overview (own research)*

Sample overview	Industry profile			Respondent's position	
	Production	Services	Commerce	Owner, CEO	Manager, supervisor
Number of respondents	15	18	18	15	36

In the sample, about 70% companies represented the medium sized group and 30% were small firms. The industry profile of the analysed companies is balanced. The majority of respondents were employed as managers or department supervisors (90%). All of the respondents had been working for a company for more than two years. This factor was taken into account to achieve better understanding of the companies' strengths and weaknesses. The average period of employment of all the examined respondents was about 10 years.

#### 4.2. Methodology of inconsistencies identification and BPO maturity assessment

The empirical study includes structured interviews aiming at self-assessment of BPO maturity of Polish SMEs and interviews aiming at identification of process inconsistencies. BPO maturity was assessed using a model and measurement instrument adopted from McCormack and Johnson (2001, pp. 51-61). This model was deemed to be the most suitable for the study's requirements and for self-assessment by non-process-management professionals. A similar approach has been used and empirically validated in surveys made within SMEs in countries from transition economies (Gazova, Papulova, Papula, 2016, pp. 197-205, Czyż-Gwiazda, 2014, pp. 67-82; Mijoska, Levkov, 2015, pp. 1829-1834). The BPO model includes four stages that an organization undergoes to become process-oriented: Ad Hoc, Defined, Linked, Integrated. It was assumed that the BPO maturity level is the range in which an organization is able to fulfil adequate requirements from three dimensions: Process View (PV), Process Management & Measurement System (PM), Process Jobs (PJ).

For each dimension, a set of statements representing key features of a process-oriented organisation was formulated. The assessment of BPO maturity was based on the perception of an organization by its employees. The questionnaire used in the research consisted of 12 statements. Compared with the original model, they were modified to fit the research context and to reflect the results of similar studies in this field (Chen, Tian, Daugherty, 2009, pp. 213-227, Kohlbacher, Reijers, 2013, pp. 267-283). The statements representing the BPO dimensions are given in Table 2. To avoid problems with understanding, the formal description of a process-oriented organization was simplified. Moreover, due to the managers' unwillingness to take part in scientific studies, the number of questions was so designed as to limit the amount of time required for the interview.

*Table 2: Operationalization of BPO construct (adopted from McCormack, Johnson, 2001, pp. 51-61; Chen, Tian, Daugherty, 2009, pp. 213-227, Kohlbacher, Reijers, 2013, pp. 267-283)*

Dimension	Statements
PV	All processes are described, documented and documentation is systematically updated.
	Documents, templates needed for process execution are available and up-to-date.
	Everyone believes that he/she is responsible for the quality of products.
PM	Processes are monitored, performance and outcomes are measured.
	Information about the execution of processes and results of their evaluation are communicated to employees.
	Customer needs are systematically evaluated and used for improvement of processes.
	Requirements and needs of cooperating departments are well known and completely fulfilled.
PJ	Mistake-proofing is a routine approach, we know why we do not have problems.
	Process owners and managers are assigned in organization and are responsible for managing entire processes.
	Process teams from different business areas are assigned in organization and are responsible for processes.
	Routine activities are automatized to optimize our processes.
	Our company values resources and innovative attitudes of employees.

For each statement representing an adequate dimension (Table 2), a five-point Likert scale was used. Having analysed the set of defined statements, the managers of SMEs expressed their opinions. There were five alternative answers, namely: *strongly agree* (5), *mostly agree* (4), *undecided* (3), *rather not, occasionally* (2), and *strongly disagree* (1). This scale was used to measure agreement with the provided statements in regard to the respondent's company. The answer *undecided* in the final assessment had a value equal to zero. The rest of answers had the above mentioned values. The average value of all the individual scores from the interviews was used to assess each company's BPO maturity level. The criteria for BPO level assessment used in the study are as follows: *Ad Hoc* – average score from 0 to 2, and respectively *Defined* –from 2 to 3, *Linked* –from 3 to 4, *Integrated* –from 4 to 5.

Although this approach to BPO assessment represents a certain simplification of complex evaluation, it can be a valid point of reference for a debate about process inconsistencies in SMEs. In the second phase of the survey, each respondent was asked to describe the process inconsistencies (PI) that existed in their companies. In accordance with the main aim of the study (RQ3), the identified process inconsistencies were assigned to the perceived level of BPO. The achieved results allowed me to analyse and describe the process-oriented evolution and its barriers within SMEs. These steps also helped to verify the subjectivity of BPI self-assessment.

## 5. RESULTS AND DISCUSSION

According to the research methodology, the perception that the interviewed SMEs managers had of their company's BPO stage was analysed. It was contrasted with their opinions about the existence of process inconsistencies in the investigated businesses. A synthetic overview of the results of the survey is given in Table 3. The list is not ranked in order of importance. Due to the fact that only one organization from the sample reached the *Ad Hoc* level, it was omitted in the final collation of the survey results. In addition, because of the substantial number of process inconsistencies reported during the interview and editor limitations, it is impossible to present all of them in this paper. On the basis of the conducted BPO assessment, it can be concluded that a majority of the analysed Polish SMEs (58%) represent the third maturity level (Linked). The achieved results are comparable with the conclusions presented by Czyż-Gwiazda (2014, pp. 67-82). Private manufacturing companies prevail in this group. Only three companies are perceived by their employees as process mature (Integrated). They belong to the group of medium-sized enterprises and represent three different industry profiles: production, services, and commerce. These companies are based only on domestic capital. The same number of SMEs have proved to be at the second level of BPO maturity (Defined).

Table 3: Process inconsistencies versus BPO maturity level (author's own research)

Process inconsistencies (PIs)	BPO maturity level		
	Define	Linked	Integrated
Problems with responsibility and separation of duties	×		
Excessive time needed to launch a new product/service			×
Necessity to conform to a new regulation, policy	×	×	×
Incomplete or conflicting information needed for decision making	×		
Insufficient, inadequate role of managers in business processes	×		
Overly complicated processes	×	×	×
Low performance and productivity	×		
Low productivity at work	×	×	×
High staff turnover	×		
Competency gaps of new employees	×	×	
Competency gaps of employees	×	×	×
Problems with customer relationships	×	×	
Insufficient quality control	×	×	
Problems with cross-functional communication of process participants	×		×
Necessity to improve work		×	×
Problems with work safety		×	



The majority of the inconsistencies belongs to the dimensions PM and PJ (Table 3). It is worth mentioning that in a survey previously conducted in Poland, these areas were assessed to be on a moderate level (Czyż-Gwiazda, 2014, pp. 67-82). It may suggest that SMEs still encounter problems with the adoption of BPM practices (Weitlaner, Kohlbacher, 2015, pp. 44-61). The managers declaring a high level of BPO maturity (Linked, Integrated) highlighted that the main sources of process inconsistency included process ownership, managerial authority, and excessively complicated processes. Besides, managers spotted problems related to organisational culture and employee attitudes (low quality of work, low job satisfaction, and empowerment problems). This kind of problems are rather typical of large Western organisations at lower levels of process maturity. Furthermore, large highly process-oriented companies tend to declare problems related to the relationships between cross-functional processes and with their suppliers or customers (Harmon, 2016, pp. 5-22; Kerremans, 2008, pp. 7-14). However, it is difficult to apply the results obtained in this study to the situation in Western countries because of the highly divergent approaches adopted by researchers who assess process maturity. Bearing this fact in mind, one can only highlight that there exist certain issues which cause differences in the process evolution in organizations from the West and those operating in transition economies.

The inconsistencies identified in the organizations representing the *Defined* level derive from an organisation's culture and attitudes. The sources of process inconsistencies are: inadequate levels of employees' competencies and their beliefs and attitudes. It was underlined that employees expressed negative attitudes towards changes in their organizations. Inconsistencies of this type generally belong to the dimension "Process Jobs". Problems with process monitoring, measuring systems and identification of customer or business partner needs have also been indicated. Moreover, respondents signalled problems with process ownership and responsibilities. This type of process inconsistencies indicate that a low level of BPO could be caused by insufficient BPM competencies, and concentration on technical aspects of process management (i.e. process documentation) instead of developing organisational culture concurrently. Regardless of the BPO level, Polish SMEs have problems with adapting to external social and policy-related circumstances. Moreover, the problems identified in highly process-oriented SMEs revealed significant inconsistencies. This could be caused by the fact that managers try to present their companies in the best possible light (Gabryelczyk, 2016, pp. 3-11), which indicates that subjectivity is a major limitation of self-assessment techniques.

## 6. CONCLUSION

Process orientation has become a well-established approach to organisational development. Due to certain constraints of process-oriented methodologies and frameworks, their implementation may be prone to process inconsistencies (Röglinger, Pöppelbuß, Becker, 2012, pp. 328-346). Moreover, organizations follow different approaches to BPM, adapting it differently and mostly striving to customize process-based methodologies (Roeser, Kern, 2015, pp. 692-718). My findings provide an initial insight into increasing BPO and rethinking the process-based evolution of Polish SMEs. The study shows that an organization's culture is a main source of inconsistencies and a critical success factor in the implementation and development of BPO. Moreover, the achieved results indicate that the process description is a well-known and obvious aspect of introducing the process-based approach to SMEs. This aspect is not perceived by managers as a barrier to BPO implementation on any maturity level. Process inconsistencies related to "Process management & measurement" determine a comprehensive and sustainable evolution of BPO. The main causes of processes inconsistencies are usually related to the organizational attitudes of employees and their approach to making or abandoning decisions (Hammer, 2015, pp. 3-16; Harmon, 2016, pp. 5-22).



Performance problems in enterprises can generally suggest mistakes in the process designing phase. A process inconsistency that arises accidentally is usually the result of difficulty in the implementation of a process (Hammer, 2015, pp. 3-16). This is most often related to a fundamental aspect of strategy alignment: the lack of consistency between organizational goals and processes. The inability of SMEs to link business processes to their strategic intentions has also been reported by de Sallas et al. (2017, pp. 425-447). Taking into account the context of this research, it is worth mentioning that a subjective approach to assessment can lead to an inconsistent perception of BPO maturity. Managers are willing to give too optimistic assessments of the situation in their companies. It is underlined that managers tend to regulate and control information in their interactions with the business environment so as to create the best impression of their company (Gabryelczyk, 2016, pp. 3-11). Therefore, any approach to assessing BPO maturity could be verified to include, among other things, an analysis of process inconsistencies.

The main contribution of this paper is the empirical identification and clustering of process inconsistencies depending on BPO maturity level in SMEs from transition economies. The results of this research could be useful for the adjustment of process approach frameworks and methodologies regarding the needs and process competencies of this group of companies. Furthermore, an alternative analysis of process inconsistencies may be useful in verifying the subjectivity of BPO maturity self-assessment. The main limitation of the research is the sample size. It is not possible to generalize research findings based on a sample of convenience to a larger population. Taking into account the complexity and multidimensionality of BPO maturity assessment, I am planning to extend my questionnaire form, as well as the sample size. This could allow for a wider and more comprehensive analysis of process inconsistencies determining the BPO level in future research.

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