

Heriot-Watt University, Varazdin Development and Entrepreneurship Agency and University North  
in cooperation with  
Faculty of Management University of Warsaw  
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat  
Polytechnic of Medimurje in Cakovec



# Economic and Social Development

69<sup>th</sup> International Scientific Conference on Economic and Social Development –  
"Sustainability and Post Covid World"

## Book of Proceedings

Editors:

Jelena Janjusevic, Babak Taheri, Melita Kozina



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## **Economic and Social Development**

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Due to the Covid-19 restrictions and epidemiological measures, the Program of the Conference has been scheduled online. All Sessions and Presentations have been presented via Discord platform.

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**Editors ■ Jelena Janjusevic, Babak Taheri, Melita Kozina**

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## HUMAN RESOURCES MANAGEMENT AND PANDEMIC CHALLENGES FOR EFFICIENT MANAGEMENT

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### ABSTRACT

*How (un)ready are managers for the new business reality created by the pandemic? Is working from home a necessity or a desirable way to organize in the digital future? What human resource management concept do we need for the future success? This paper deals with the above issues and is structured in three parts. The first focuses on studying and explaining the trends that shape the business environment and analyzing the pandemic challenges in it. The second deals with innovation management in the conditions of a pandemic, and the emphasis is placed on human resources, flexible forms of work engagement and work from home. The third focuses on building innovative corporate structures and management practices. The writing of the paper is motivated by the endeavor to provide useful advice and motivate our managers to use current pandemic challenges as a chance to innovate their approaches to human resource management.*

**Keywords:** *digitalization, human resources, pandemic, work from home*

### 1. INTRODUCTION

In modern business, the only constant are changes actually. No event since World War II to date has had such a significant planetary impact as the coronavirus pandemic, with its short-term and long-term implications for each company. For an increasing number of "virtual" employees, the social aspect of their work engagement no longer exists, it is increasingly being replaced by telephone and video calls. Therefore, it is important to establish new organizational norms and rules, which will meet the individual needs of each company, and to build new management practices of human resource management for the future, through the development of new ideas and their market implementation, which would positively affect productivity and market competitiveness. The completely changed context of education, work, movement, gatherings, behavior, spending free time, living with family, partners, etc. has certainly affected almost the entire population both in the world and in our region. By making business strategies, even the world's largest companies could not have imagined that at some point they would be faced with a pandemic, which, with such potential, would be able to jeopardize the survival of their business. The pandemic marked the previous year and completely changed the world, and many experts are already launching the predictions of the way in which the world will be irreversibly changed. On the other hand, the minority of abstentions calls for caution, pointing out that the causes of the crisis are not of a structural nature and that, as such, they cannot even

cause structural changes (Sekulović I, 2020). In addition to the uncertainty related to the ignorance of the future movement of the coronavirus pandemic, which makes it difficult to assess the future environment in which companies will perform their activities and economic trends, the uncertainty also refers to the ignorance of the impact that the exogenous shock factor will have on business activities. history (Praščević A, 2020). Globalization has influenced the level of threats from the spread of infectious diseases, whether new or already known, to gain a completely new quantitative determinant. Shaping human history for thousands of years, infectious diseases have previously spread with the movement of traders, travelers, invaders, population migration, and through natural carriers. The speed and scope of their potential expansion today, in the midst of the virtual erasure of state borders and unprecedented mobility in the history of mankind, is measured in thousands of kilometers per hour (Nikolić S, 2017).

## **2. PANDEMIC CHALLENGES AND A NEW BUSINESS ENVIRONMENT**

There are significant differences between business shocks caused by natural, technological, operational or man-made disasters and those caused by pandemic events. These differences exist due to the potentially increased scale, severity and duration of pandemic events, which requires companies to go beyond traditional agility planning and human resource management strategies (EY Global Multidisciplinary Professional Services Organization, 2020b). Economic theory indicates that management needs to have, above all, innovative, organizational, management and supervisory skills, and that its activities are aimed at investing and combining the necessary inputs, as well as expanding into new markets, creating new products, new customers. and new technologies, which is especially evident in times of uncertainty, crises and changes in the environment (Ristić et al., 2017). Due to the uncertainty in the conditions of the coronavirus pandemic and the degree of their own readiness to react, different companies and managers in them reacted in different ways (Tadić V, 2020). Like any crisis, a crisis caused by a pandemic cannot act indefinitely, but it can be managed to a limited extent inside or outside the organization (Vojnović B, 2014). Due to the above, the issue of resilience of companies to the crisis caused by the pandemic and the ability to manage change and human resources come to the fore. The coronavirus pandemic has implied new market positions, a new way of working, thinking, human resource management and a complete restructuring of companies. It has been shown that it represents not only a global health crisis, but also a far-reaching impact on social and economic flows, as well as on the business of companies, producing multiple consequences. That is why companies need to face this crisis in the right way. Perhaps the only acceptable answer is a "big reset" of management practices and ways of running human resources and business. Management decision-making process in a pandemic is based on intuition, rather than logic, and experience, rather than analytics, because in a situation of high uncertainty, the degree of data reliability is such that reliance on analytical tools is useless, often counterproductive (Keković Z, 2020). Today's managers face a world in which society and technology are changing faster than most of them are able to adapt to the new reality (Damnjanović et al., 2017). The current pandemic has accelerated the need for digital transformation, which is already considered the most important catalyst in the evolution of business. Peter Drucker, the greatest management thinker in history, said that the greatest danger in turbulent times is not turbulence itself, but acting according to yesterday's logic. Business is changing rapidly along with digital technologies the use of which has been further imposed by the coronavirus pandemic and which are transforming every aspect of life, society, the economy and business. The IT environment generates a new business model, which in Serbia creates links between large business, business processes and IT (Damnjanović et al., 2016). Digitization enables companies to remain relevant in the market and direct their strategies towards innovation, increasing their competitiveness. It enables the use of technology, people and processes for business (Ristić & Karo, 2019).



However, it also implies much more than the full integration of digital technologies - transforming the mentality, corporate culture and climate so that the use of digital tools and skills adds value and creates a competitive advantage for companies (Jashar E, 2020). The coronavirus pandemic has, among other things, changed the vision and orientation of management. Under normal circumstances, their focus has been on increasing revenue and market share, while in this unprecedented situation, most companies struggle to control costs, maintain their liquidity and survive. With or without the desire of management, digitalization has grown into a necessity to enable companies, depending on restrictive measures and circumstances, to adapt to change, such as: working from home, creating channels for online business, using technology in everyday work, adapting to consumer demand and expectations, finding appropriate channels for communication and distribution and other changes that have arisen from the need to adapt to the new situation (Jashar E, 2020). New business conditions require the establishment of interactions with a large number of stakeholders through network connectivity, which has become possible using modern digital technology. Such relations should be managed, i.e., the function of managing employees should be applied within such relations. This way of running Cf. Kinicki A. and Williams B. K. (2013) call e-leadership and it involves the simultaneous management of relationships with individuals and groups within and outside the organization (p.466). It implies the coordination of tasks, authority and responsibility in order to achieve certain goals, but also the development of strategic direction and the establishment of new relationships that can improve the value creation process. In this way, companies become networks of intertwined internal and external relations, developed in order to meet current needs and seek opportunities for future development. This type of leadership is therefore suitable for companies that are developing as "organizations without borders" (Rupčić N, 2018). It is accompanied by a global view of business and a high level of development of conceptual skills, systems and strategic thinking. Given that the effects of this type of leadership stem from the ability to find a quality basis for the development of companies as a system, it is important to work on developing cooperation with different entities, which involves constant communication and exchange of information. In this way, the community of individuals, the company itself and other organizations, develops as a kind of system aimed at managing the complexity of the environment by developing appropriate behaviors. At the same time, it strives to maintain a high energy level of the system based on the development of a stimulating vision, challenging goals and a creative way of working. It is important to keep in mind that in order to ensure effective human resource management, this leadership style should not be viewed independently, but in synergy with other leadership styles. Some authors have developed a model, with five key phases, which describes the undesirable behavior of management during the crisis, and which is noticeable in a significant number of managers during a pandemic, and called it a "process of decline" (Vojnović B, 2014):

- Stage of blindness (management does not notice signs that indicate a possible crisis caused by a pandemic and therefore cannot make any preventive decisions);
- Passivity phase (management becomes aware of the danger of a pandemic, but does not take any action because it believes that the problems will be solved on their own, underestimating the crisis and its effects);
- Phase of wrong decisions (management makes decisions and takes certain actions, but they are based on their own perception and one-sided information);
- Crisis phase (the crisis in the company is also noticed by the community, and the management usually still makes wrong decisions);
- The phase of decline (the position of the organization and its management can no longer be saved, because it is too late).

In the pandemic environment, transparency is a key. There is a vital need for reliable information, in order to regain trust at uncertain times. In such circumstances, several areas for discussion emerge, but five issues are raised as priorities (EY Global Multidisciplinary Professional Services Organization, 2020a):

- Business continuity and liquidity: The key factor is cash flow - whether the company has enough money to survive the next 6 to 12 months. Management should assess the company's ability to continue to operate continuously and whether the assumption of continuity is appropriate (it should consider the existing and expected effects of the pandemic on the activities in its assessment);
- Decrease in value assessment: Adverse effects caused by measures to stop the spread of the pandemic, such as temporary closures of production facilities and restrictions on travel and imports / exports, can be considered an indicator of decrease. When estimating decrease in value, companies determine the recoverable amounts of assets (requires an estimate of expected future cash flows and expectations of variations in cash flows);
- Amendments to the contract: There is a possibility that companies will need to obtain additional funding, change the terms of existing contracts, request additional funding or withdraw altogether in the event that they no longer meet the terms of the contract;
- Fair value measurement: When making estimates for fair value measurement, management should take into account the severity of the pandemic, the conditions and appropriate assumptions that are known, or have been known in the market;
- State aid and income tax: Part of the government's response to the pandemic was the introduction of support measures for certain industries, together with broader packages of economic incentives. These measures include direct subsidies, exemption from taxes and public levies or their reduction, extended loan repayment period or their reduction, reduction of lease, etc. The characteristics of any listed management benefits must be assessed.

### **3. HUMAN RESOURCE MANAGEMENT AND WORK FROM HOME IN A PANDEMIC**

People are one of the most important resources, and according to many authors, the most important resource of every company. As in many other areas, the pandemic has accelerated some of the trends and forced companies to adapt in human resource management as well. Virtual organizations represent a new form of organizational structure, in which modern digital technologies are mostly used to connect people, communicate, but also perform tasks (Damjanović et al., 2020). In the conditions of increased uncertainty caused by the coronavirus pandemic, chronic management problems multiply even more, such as misunderstanding of changes and adaptations in an uncertain and turbulent environment, decision-making competence, lack of communication, employee motivation issues and the like. Thus, it turned out that many managers are still focused on plans instead of information from the field; to rigid bureaucratic procedures and protocols, instead of to the people who need to implement them, to threats and resources they don't have, instead of to hidden opportunities and possibilities. All of them have forgotten that plans, procedures and decisions are implemented by people and that their support in high-risk situations, which the pandemic brings with it, plays a crucial role. The first step that management should take in order to ensure business continuity in a pandemic is to analyze the impact of the disturbance, which identifies critical processes within the company and their impact on business. The second step is to define critical resources (people, equipment, installation of information and communication technology, etc.) and alternative resources for each of them. Finally, in the next step, it is necessary to identify crisis scenarios and define responses to them. Thus e.g., a crisis scenario can mean a lack of key employees to perform critical functions, as a result of illness or isolation measures that included, among other things,

not coming to work and work from home, travel restrictions that could affect current jobs, etc. The second crisis scenario may mean the unavailability of the site and primary facilities for operation. The answer to such a scenario could be the planning of backup locations and the transfer of employees to that location. In the following scenario, there may be a lack of systems, installations and applications necessary to perform critical business processes. When it comes to information technology, it is necessary to plan a budget for alternative information resources. One of the common crisis scenarios is the lack of primary services, such as electricity supply, and the response to such a scenario would require the timely provision of uninterruptible power supplies, alternative connections to distributors, critical providers, etc. The recovery phase after the end of a pandemic should include dealing with the consequences of the crisis and returning to a "normal" state or adjusting to new post-crisis circumstances. This phase can generate new risks and even ignite a new crisis. Recovery can be an opportunity to rebuild, restructure, or reorganize an organization. In addition to physical renewal, infrastructure replacement, and investment in alternative resources based on estimated recovery scenarios, companies should strive to improve their performance to be more prepared to meet new or similar challenges. At the beginning of facing the pandemic, the responses of most companies were focused on the protection of human health, so making decisions on more flexible forms of work and work from home can be assessed as useful solutions. Many companies have applied and relied on work from home for the first time. Some succeed, while others find it difficult to adapt to. Some try working from home as a temporary, others as an alternative arrangement. Those whose nature of work allows them to work from home have been doing so for almost a year, fulfilling the desire of many companies to have their employees work from home rather than offices, which on the one hand reduces costs and often extends working hours because, as stated by Bjelajac Ž. and Filipović A. (2020) the widespread practice of having employees working from home available to their superiors for a significantly longer period of time than the usual 40 hours per week (paragraphs 15-16). According to the International Labor Organization, about 68% of the world's total workforce, including 81% of employers, lived in the early stages of a pandemic in countries with recommended or ordered job closures (International Labor Organization, 2020). Also, this organization estimates that close to 18% of workers have occupations that are suitable for working from home and that live in countries with infrastructure that enables work from home. In such a new environment, employers have found new opportunities to adapt and define contingency plans to respond to new measures when they arise. On the other hand, according to the 2020 Global Talent Trends Study, only 22% of organizations were ready for mass teleworking before the outbreak of the pandemic (Miaw Tiang Tang, 2020). It is important to emphasize that although the progress of information and communication technologies has enabled work from home, not all functions and tasks can be performed outside the company's premises, i.e., workplace. There are organizations, occupations and tasks in which working from home is not practical or feasible, or cannot be applied in a short time frame. Therefore, in a pandemic, it is necessary to research and implement an alternative plan for work functions and tasks that cannot be performed remotely, or for employees who have limitations at home or health problems and safety problems that prevent work from home. Management has to lead employees and find ways to motivate them to give their maximum. The success of any organization represents the first internal integration, and then comes the external integration with the environment. These external integrations do not exist if the interior is "rotten". (Ristić et al., 2018a). In the absence of face-to-face contact, the traditional management style of "command and control" becomes less relevant and managers may have difficulty finding other ways to ensure that employees do their jobs while working from home. If employees do not feel a sense of belonging while working from home, they may develop distrust of management. This can lead to a loss of control by the manager, and certain employees may also abuse the arrangement to work from home.

Therefore, self-discipline of employees and mutual trust between management and employees are essential in this work arrangement. Furthermore, effective work from home management requires a results-based management approach. This involves identifying goals, objectives and achievements, and then monitoring and discussing progress without overly complex reporting requirements. Employees who work from home should have the same rights and obligations as when they work in the company's premises, taking into account measures to maintain contacts and monitor well-being, safe working conditions from home and contracted working hours (Safety and Health at Work Administration, 2021). Companies that have applied the concept of working from home in response to pandemic challenges are generally expressing concerns about productivity from two angles. Some wonder "do such employees work at all?", While others are more concerned with "do they work efficiently?" However, measuring the productivity of those who work from home should not be any more difficult or different than measuring the physically present employees. Well-managed employees who work from home can be far more productive than employees who are present in the workplace, because management is required to measure productivity by objective measures, and not by physical presence through "time spent in the building". There are five elements to consider when measuring the productivity of employees working from home (Miaw Tiang Tang, 2020):

- Set and communicate clear goals and deadlines in the same way as with employees who are physically present at the workplace;
- Form plans to increase accountability;
- Analyze important tasks and monitor progress based on defined deadlines;
- Evaluate the quality and quantity, instead of the time spent at work, transfer the indicators to "completed tasks and their quality", and not to "hours spent";
- Track achievements.

The "glue" that holds arrangements for work from home together is trust. Managers, employees and their colleagues need to trust each other. Working from home cannot be effective without it. Managers should build mutual trust and establish shared responsibility with employees through open and transparent communication about expectations and results, including (Working from home during the coronavirus pandemic, 2020):

- When employees will be available and able to respond to management needs;
- How to maintain contacts, such as online and telephone contact;
- How will he manage the balance between business and private life, for example, through regular breaks and exclusion from work at the end of the day;
- How will performance measurement and reporting be managed, taking into account the circumstances of the employee himself, if necessary;
- Who should employees address to if they have any questions related to work or emergency.

Many authors point out that there are multiple benefits associated with working from home, including: reducing travel time to work; greater autonomy and flexibility in the organization of work; better work-life balance; increased motivation and reduced staff turnover (some leave the company and new ones come); increased productivity and efficiency. However, in the circumstances of the coronavirus pandemic, many managers and employees have shown a physical, mental or infrastructural unpreparedness to respond to all the challenges that work from home brings. According to a survey conducted by the Human Resources Management Society, 71% of employers have difficulty adjusting to teleworking; 65% of employers say maintaining employee morale was a challenge; and more than a third of employers face difficulties with organizational culture, employee productivity, and regulations regarding absence from work (Better workplaces better world, 2020).

The process of digitalization has enabled and facilitated arrangements for working from home, but technology cannot overcome every limitation due to rapid changes in the current situation. There are a number of software tools that facilitate communication, collaboration and transparency. Many are free of charge or involve a small cost. However, they also mean a higher risk of cyber-attacks and breaches of data privacy / confidentiality. Safe work processes from home are essential, especially if workers use their private devices to perform official duties and connect to the organization's network. Some companies are intensively developing data protection, confidentiality and security policies for this purpose. Furthermore, it should be emphasized that physical distancing in a pandemic does not require social isolation. While it is important for employees to find new ways to work and interact, managers must recognize the impact of isolation and loneliness and must be willing to provide support and be empathetic, and keep employees informed, connected, and mentally healthy. In this regard, many companies define guidelines on working from home, which also address the issue of physical and mental health and well-being of employees. Although home-based arrangements have great potential, the reality is often more complex, especially when they are introduced to stop a pandemic, and not necessarily because employees have chosen to do so voluntarily. Maintaining a work-life balance can be a particular challenge for those who have an obligation to care for the family, due to the closure of childcare facilities and schools, and the lack of alternative care systems. Working from home often leads to blurring the boundaries between business and private life, increasing working hours and intensifying work. Thus, research among teleworkers in Japan shows that the issue of the impossibility of clearly separating working time and leisure time is the highest ranked lack of teleworking. Because of the above, managers should:

- Set clear expectations from working hours and encourage and empower employees to set boundaries in their work schedule;
- Promote a healthy lifestyle and work-life balance, including regular breaks and rest, exercise and fresh air;
- Provide support for the mental well-being of employees facing a conflict between business and private life.

Although some jobs cannot be done from home, the coronavirus pandemic is accelerating the trend of introducing telework, possibly in the long run. Employers and employees are likely to adapt to work from home and get used to such an arrangement, learn to use information and communication technologies to work from home, and understand the benefits of working from home. Having in mind the acquired experience, the question arises whether it is really necessary to use business premises in certain areas of business when working from home has proven to be equally effective (Popović G, 2020).

#### **4. INNOVATIVE ORGANIZATIONAL STRUCTURES AND MANAGEMENT PRACTICES**

In the conditions of a pandemic, which abound in unknowns and declining trends of almost all economic indicators, managers have a significant and additional responsibility to consider all relevant aspects and act accordingly, creating opportunities to mitigate the consequences of the pandemic and overcome it (Stojadinović-Jovanović et al., 2020). As stated by Ristić (2018b), it should be borne in mind that human nature is rarely guided only by human motives (p. 513). Good management enables companies to effectively plan for a pandemic response, to assign clearly defined roles and responsibilities, and to establish an effective communication strategy. These actions help companies recover quickly and minimize damage to their business. Research by the consulting agency McKinsey & Company on the importance of new approaches to management in a pandemic era aimed to show in which areas of human resource improvement

companies plan to invest the most, and how to plan for it. This research included five basic human resource activities: recruiting new talent, employee learning and development, employee reward, client and user experience, and employee work planning and change (Stojkov, 2020). The research showed that in the following year, the recruitment of new talents will have the lowest priority, while the most will be invested in planning and changes in the work of employees. Given the challenges and limitations brought by the pandemic, companies are forced to find new ways to connect with talented people, and this trend could remain relevant even after the pandemic. It is to be expected that the trend of decreasing employment for an indefinite period of time will continue in the following period, and that employment with flexible contracts will be applied more and more often. Regarding employee learning and development, the above research showed that companies plan to invest in employee training, in order for them to better adapt to new working conditions. Some of the essential skills during, and after a pandemic, are crisis management and virtual teamwork, as well as the specific skills needed to do a particular job online. Praise and rewarding of employees are always important, but it is even more important in the situation as it is now, when they often work from home. Therefore, it is important that the feedback is constant and clear, so that employees know if they are on the right path to the goal, but also so that they are additionally motivated. One of the biggest changes that the pandemic has brought is the daily experience of employees working in the company. It is very important for companies to identify the most important positions and skills for success during and after a pandemic, and to plan on that basis how they can upgrade them. The following is an overview of specific thought topics that may be useful to managers in facing pandemic challenges (International Finance Corporation, 2020):

- Commitment to management, social and environmental issues: Demonstrate leadership through clear and timely communication with employees and key stakeholders. It is necessary to enable real-time communication about problems with the (highest) levels of management. The health and safety of employees is crucial, and a message of commitment to public health guidelines to prevent the spread of a pandemic needs to be clearly conveyed.
- Crisis management oversight: Hold ad hoc management team meetings. Use these meetings to define the “tone from the top” regarding the crisis and demonstrate strong leadership and oversight. Consider forming a crisis team that would have the task of monitoring the effects of the pandemic and include top management, human resources, operations, and the information technology department. Consider raising the professional capacity of this team, through the provision of external support.
- Ensuring the readiness of management to provide a comprehensive response to the crisis: Plan in reserve available people for key positions in the organization. Identify which key people are during a pandemic and what key skills may be needed in the event of a crisis, and possibly form teams working from different locations.
- Creating a control environment (internal control / audit, risk management and compliance control): It is necessary to update the business continuity plan, taking into account current pandemic challenges and engage the compliance function to monitor compliance with policies and procedures foreseen by the plan. Consider the functioning of key control functions (adequacy of policies and procedures, IT controls related to work from home, safety in the workplace, security of information technologies and availability of the Internet, etc.). Assess and monitor mitigation factors of immediate risks and long-term implications of a pandemic.
- Disclosure and transparency: Build trust through communication and maintain contacts in the absence of physical meetings. Publish information on pandemic measures and procedures on the company's web site in the event of a diversified stakeholder structure. Launch an internal communication campaign, which requires employees to stay at home if they are ill or do not come to work until a certain period has elapsed.

As important as individual skills and abilities of leaders, organizational culture has a great influence on the ability of companies and individuals to recognize a potential crisis caused by a pandemic, to respond adequately and timely, and to make the concept of organizational resilience an integral part of recovery after a pandemic (Kekovic Z, 2020). What could be a normal life cycle for one organization can become a trauma for another. It largely depends on how many layers of protection or shields the organization has. These shields or modes of protection are: organizational culture, well-established structure, and adequate management processes (Horvat Z, 2020).

## 5. CONCLUSION

During the coronavirus pandemic, numerous challenges of good human resource management and leadership at all levels of decision making, lack of patterns and culture of communication, non-involvement of all stakeholders important for recognizing problems and system efficiency since the beginning of the crisis, etc. have been obvious. Given the complexity of the modern business environment, it is necessary to constantly develop and integrate different dimensions of managerial activities according to a holistic understanding of management as a system of activities and processes that synergistically integrates different aspects of human activity that have economic, technical, sociological and psychological dimensions. Therefore, the task of theorists and practitioners is to individually, but also in interaction, constantly research and re-examine the validity and justification of certain managerial solutions in relation to the specific conditions of a certain space and time. It is important to constantly re-examine every modern managerial determinant and practice in the conditions of a pandemic and ask the question: Can it be otherwise? The coronavirus pandemic is both a challenge and a test for a new generation of managers in global society. Companies must incorporate pandemic planning options into existing management activities and agility maintenance to provide a comprehensive response and ensure continuity for their key activities. During this challenging time, it is crucial that managers play an active role in providing constructive input for the recommendations defined through program policies at all levels of management. The lack of real and too much false information, combined with the incompetence of managers in such circumstances, created a huge confusion that affects the business results, more than the pandemic itself. Despite the fact that everyday life has changed in a multifaceted sense, it is logical to assume that this is just the beginning, and that the changed everyday life grows into a changed reality. The fact that we are facing a challenge that is difficult to compare with any precedent from the past, can justify a certain degree of confusion in the pandemic, but it remains questionable why many of our managers, in the age of all kinds of information and other achievements, find it difficult to accept changed reality. If the new reality is not taken into account, it will bring new challenges, risks and threats, some of which probably cannot be predicted yet, especially because it's about the event (pandemic) that is not over yet.

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## **PAPER TITLE: MARKET SYNCHRONICITY, IMPACT OF OIL PRICE VOLATILITY ON STOCK MARKET INDEX**

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### **ABSTRACT**

*As one of the key energy sources, oil is considered as the backbone of many industries and plays a major role in the economic environment of a country. With Crude oil market and its dynamics having a global impact, literature widely analyzed and investigated the relation between equity markets and global oil markets in the context of volatility spillover, oil shocks impact, as well as level of synchronization. Existing literature mainly focused on particular regions or specific countries to investigate this relation, however limited number of research conducted comparative analysis, with particular focus on oil importing/exporting nature of the economy. This research thereby attempts to investigate the relation between the two markets and with focus on investigating whether this relation differs based on the oil importing/exporting nature of countries. United States of America market, as a major oil importer and Kingdom of Saudi Arab as a major oil exporter are additionally taken into consideration. The study is looking at the correlation between the two markets through an Ordinary Least Square Multiple Linear Regression Methodology. The study used secondary data, obtaining weekly prices of both the oil and stock markets through Thomson-one Reuters Database. Further, the paper considers Policy rate change of both countries as an independent variable. Moreover, the study provides an update to the existing literature in terms of time frame considered (last 10 years). The findings of the study find Brent Oil to have a significant impact on stock market indices, which is in-line and in support of already existing theory and evidence.*

**Keywords:** *Oil market, stock market, synchronization, sustainable development, regression*

### **1. INTRODUCTION**

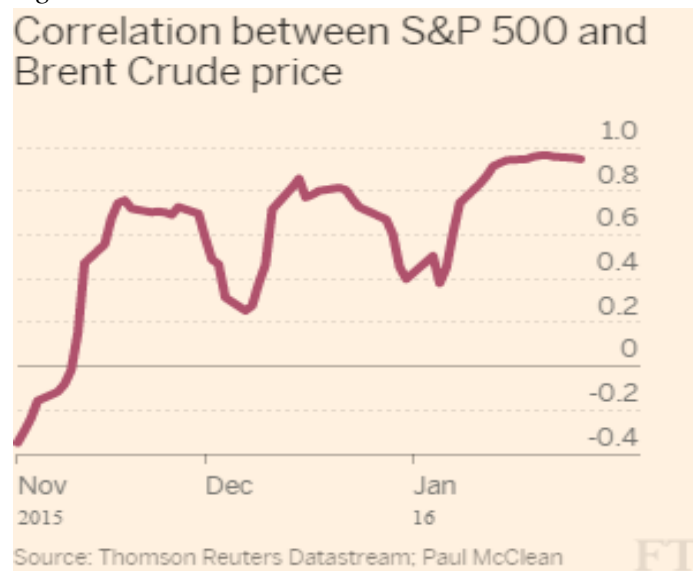
In the digital and globalized era of 21st century a move towards sustainability in all aspects is of key importance. As the world makes a collective effort to move towards sustainable green energy, Oil is still standing as the most significant energy resource of the world which drives almost all key industries and therefore directly or indirectly impacts the economic variables and development of financial and equity markets (Gil-Alana, et al, 2016). There are various macroeconomic variables impacting performance of stock markets. Energy resources have played a critical role in the advancement of economy and hence its financial markets. Number of countries are oil producers, net exporters, heavily dependent on oil production and prices. On other side, many countries are extreme net importers. However, both are interested and dependent on fluctuation in oil prices (Aloui, C., Nguyen, D.K. and Njeh, H., 2012). This heavy dependence on Oil as an energy resource put economy and financial markets exposed to external factors, such as fluctuating global production and demand of oil. Such price and production shocks may hinder economic and financial market returns of an economy, rendering the market inefficient and development unsustainable.

### **2. IMPACT OF OIL PRICE VOLATILITY ON STOCK MARKET**

Many emerging economies, oil net importers, use USD as there base Federal Reserve (Lizardo, R.A. and Mollick, A.V., 2010). Moreover, USD covers a major chunk of the currencies in which global trade is taking place. It is therefore imperative to analyze how the USD reacts to changes

in oil price fluctuation. Oil might have a different impact when it comes to currency appreciation or depreciation in comparison with USD, and impact may differ between net exporters and importers of Oil (Lizardo, R.A. and Mollick, A.V., 2010). Oil price volatility has been of a large concern in recent years with OPEC having control over the price volatility. It has been observed that shocks or excessive volatility in the price of oil has effect on the economy of countries at macro level, signaling an asymmetric relation between changes in oil price and output growth. (Ferderer, J.P., 1996). Historically, a fall in oil prices was viewed as positive signal for the world economy. As oil, being the dominant energy resource, had an impact on various industries and sectors of economy, a reduction in its price was generally assumed to have a positive effect on returns at a macro level. However, at the end of 2015 and early 2016, it was witnessed that investors started taking a negative view of lower oil prices, especially when there was drastic drop. In January 2016, crude oil prices were the major driver of equity market returns. It was also seen that rolling correlation of crude oil price and S&P 500 for 20 days had reached more than 95% according to most analyst as shown in Figure 1.

*Figure 1: Correlation between Brent crude and S&P 500*



*Why oil prices are influencing global equity markets*  
(Source: Financial Times, <https://www.ft.com/content/2f13ac52-c41d-11e5-808f-8231cd71622e>)

### 3. AIMS & OBJECTIVES

The aim of this study is to investigate the impact of oil prices on volatility and returns of stock market. Relaying on extensive literature review, this paper tries to investigate the relation between the two variables i.e. oil price and stock market return volatility. Furthermore, this relation is analyzed in context of net oil exporting country, KSA and a net oil importing country, USA. Through in-depth and comparative analysis authors tried to understand how the stock markets are impacted by fluctuations in price of oil and to what extent the stock markets of the particular countries are in SYNCH with such changes. The objective of this paper is to use the finding of the synchronization and correlation effect between the two variables, oil price fluctuation and stock market volatility, to help get better understanding of the subject area from a point of practical implication. Thus, aiming to advice a macro level policy decisions and formulation, that better tackles the macro level impact of such effects; as well as micro level decisions and actions on budgeting and hedging their resources accordingly. Furthermore, this will also help global investors to better understand how extent to what macroeconomic variables impact their global portfolio, hence helping them to optimize their risk return profile.

To achieve the aim of the paper, the study is broken down into multiple hypothesis, looking at:

- **HYPOTHESIS 1:** *There is high correlation and synchronization between oil prices and stock market index of USA.*
- **HYPOTHESIS 2:** *There is high correlation and synchronization between oil prices and stock market index of KSA.*
- **HYPOTHESIS 3:** *There is no difference in terms of correlation and synchronization in oil and stock market index between oil exporting and importing countries.*

## **4. LITERATURE REVIEW**

### **4.1. Drivers of Oil Price**

In order to get a deeper understanding on the forces that drive the oil prices and oil price volatility at a global scale, we reviewed the various factors and determinants of this particular energy resource. The changes in oil price could be sourced from a variety of dynamic factors: such as global demand and supply, speculation in markets specifically oil futures, strength of US dollar, and global political scenario and risk of war (Askari, H., & Krichene, N. (2008)). Recent studies identified OPEC as a main player that influences global oil prices in the short run, while general speculation in the oil markets is seen as the main mover in oil prices and overall oil price volatility in a long run (Chen, Y., Yu, J. and Kelly, P., 2016). Recent study by (Kaufmann and Ullman (2009)) finds that speculation in oil markets have major influence over global oil price being linked through actual inventory levels in the physical oil market. Further, they have found that the most of global oil trade takes place in the currency of the leading economy i.e. United States of America and hence a weakened US dollar usually drives the oil prices up. Further studies have also confirmed that US dollar depreciation is one of the most significant variables in driving up oil prices (Zhang, et al, 2008).

### **4.2. Impact on Macro economy**

Oil is one the key resource of the world. Being the main source of energy, it is one they key drivers of almost every industry. Therefore, volatility in price of oil inevitably is bound to have a macroeconomic impact. Oil price uncertainty may have an impact at all levels of economic activity through various different channels (Elder, J. and Serletis, A., 2010). As found in earlier studies by Rotemberg and Woodford (1996) and Kim and Loungani (1992), energy prices have a direct impact on real cycles of business in an economy, thereby effecting the productivity of capital and human resource i.e. labor. Furthermore, these studies found that is symmetric effect of oil price shock i.e. a positive oil price shock tends to reduce overall economic growth where as a negative shock tends to boost it. However, this linear relationship has been somewhat questioned and rejected by many authors who have found that the actual relation is nonlinear and varies in the sense whether there is a sustained increase or decrease in oil price or a rapid fluctuation (Elder, J. and Serletis, A., 2010). Moreover, more recent studies investigating the impact of uncertainty in oil markets on real global economy, found that uncertainty in oil prices and specifically a statistically significant jump in oil price volatility, has global macroeconomic repercussions with a 100% jump in volatility causing a decline of 0.4% point in industrial production of the world. The study captures a period of nearly 50 years to financial year 2008. (Jo, S., 2014)

## **5. SYNCHRONIZATION OF OIL PRICE VOLATILITY AND STOCK MARKETS RETURN**

With an increasing trend of financial globalization in the 21st century and global markets becoming more interlinked, the concern for volatility transmission from one market to the other has become a significant factor to consider for all stakeholders. This issue has been investigated at an extensive scale covering all major international asset markets (Forbes and Rigobon, 2002

as well as stock markets (Syriopoulos, 2007), and bond markets (Johansson, 2008). Forbes and Rigobon, investigated the link between returns and volatility transmission of global oil market and stock markets in the GCC area. The findings of the study suggest presence of significant volatility and shock spill overs from oil markets to the stock markets of the region in majority cases. Rise in volatility, either caused by policy changes regarding supply and demand or general oil shocks, have been observed to impact increase the volatility of stock markets in the region. The study found that during a period of normality there was a significant positive relation between changes in lagged prices of oil and returns of stock markets of Qatar. However, in period of crisis, it was observed that the volatility spill over from lagged shocks in oil markets was true for four countries in the region i.e. Bahrain, Oman, Qatar and UAE. This study is significant from an investor and policy maker aspect in order to construct an internationally diversified portfolio or take appropriate measures to respond to such oil shocks (Arouri, M.E.H., Lahiani, A. and Nguyen, D.K., 2011). A study conducted to analyze the impact of shock in oil price on real returns of the United States stock markets, investigated the impact on stock market returns from a point of varying oil price shocks i.e. oil price shocks due to demand and supply shocks. It was observed that the return on the stock market in aggregate may differ significantly depending on the nature of the oil price shock. The study further accounted for the limitations of previous literature of running simple regression between the two variables without analyzing the causation of the oil price shock as for example study conducted by (Sadorsky, 1999). The study under consideration addressed this limitation and found that in the period from 1975-2006 22% of volatility in stock market returns in aggregate could be attributed to shocks in the driving forces of the oil market hence making oil market volatility and fundamentals a very significant determinant in the returns of the US stock market. A significant proportion of this volatility has been linked to oil demand shocks, showing that nearly two-thirds of the contribution has been caused by demand for crude oil (Kilian, L. and Park, C., 2009). Another empirical investigation with a focus on impact of oil price volatility on equity markets of Europe conducted an analysis at both market and sectoral level. The study applies a VAR-GARCH approach which would allow for transmission of volatilities. The findings suggest that there are significant spillovers of volatility from the oil markets to the equity markets. This further raises a concern from an investor and portfolio diversification point of view. The study suggests that investors should account for such spillovers when managing their portfolios to assign optimal weightage to various sectors especially in the case where there is high oil price risk (Arouri, M.E.H., Jouini, J. and Nguyen, D.K., 2012). To conclude, there was strong evidence suggesting that there statistically significant relation between oil price risk and stock market returns in emerging economies. However, this relation was not found to be symmetrical. The findings showed that, in case of daily and monthly data, an increase in oil price would have a positive impact on stock market returns in emerging economies. However, in case of weekly and monthly data a decrease in oil price decreases results in having significant positive impact on emerging market returns (Basher, S.A. and Sadorsky, P., 2006).

## **6. RESEARCH METHODOLOGY**

The purpose of this study is to investigate the relationship between oil prices and stock market index, whether there is synchronization/ co-movement between the prices of the two. The paper builds on existing literature which captures volatility transmissions between the two markets through some sophisticated statistical models. However, this study is more focused to determine if there is a synchronization between the two markets, so the research attempts to investigate whether a linear relation exists between the two variables and hence uses a simple linear regression model. The study further attempts to investigate the difference between the 2 variables in an oil importing and an oil exporting country. The study accounts for latest 10 year period right before the recent supply cuts.

Weekly prices have been considered to properly capture volatility effects and account for anomalies such as Day of the week. The varying trading days of Tadawul index and Brent Oil have been accounted for by adjusting the series manually. The data for both the stock markets, the policy rates and the Brent Oil market has been collected using the data base Thomson Reuters.

*Table 1: The data for both the stock markets, the policy rates and the Brent Oil market collected using the data base Thomson Reuters*

Independent variables	Coefficients value	Standard Error	'T' Statistic	P' Value
<b>Rbrentclose</b>	0.23	0.02	11.379	0
<b>Policy Rate</b>	-0.03	0.11	-0.313	0.7542

## 7. RESULTS

### 7.1. Variables Analysis

The main variables used in the research are Brent Oil to proxy crude oil and Stock market index price of USA and KSA. Further, after getting an understanding from the literature, policy rate for both countries has also been selected as an independent variable. Policy rate changes directly and indirectly reflect changes in money supply and inflation levels and expectations.

### 7.2. Regression Model Analysis

This research uses multiple regression Ordinary Least Squares method to determine the relation between the two major variables i.e. Stock Market Index and Oil price. The paper runs two separate regressions, the first regression incorporates Oil price and US stock market index along with US policy rate. Whereas the second regression incorporates Oil and KSA stock market index along with KSA policy rate. The oil series and stock market index series were converted by taking Discrete Log to remove unit root. Therefore, the regression equations would be modified incorporating these new series to satisfy the conditions of the regression model. The two regression equation are as:

USA Regression equation:

$$RNYSECLOSE = \alpha + \beta_1 Rbrentclose + \beta_2 Policy\ rate + \epsilon$$

KSA Regression equation:

$$RKSACLOSE = \alpha + \beta_1 Rbrentclose + \beta_2 Policy\ rate + \epsilon$$

### 7.3. Regression Output

After running both regression equation using Eviews 9 software, regression output was obtained. The regression is run to test the hypothesis formulated in the research. The regression output provides model summary and isolated analysis of variables involved. The regression output can be interpreted for the two equations as below:

### 7.4. USA Regression Output

The regression output obtained from this equation addresses the first hypothesis of the research. The first Hypothesis of the research is as:

- **Hypothesis 1:** *There is high correlation and synchronization between oil prices and stock market index of USA.*

To analyze the hypothesis we first look at the coefficient value and overall statistical significance of the independent variables. The summary of these stats can be observed in the table below

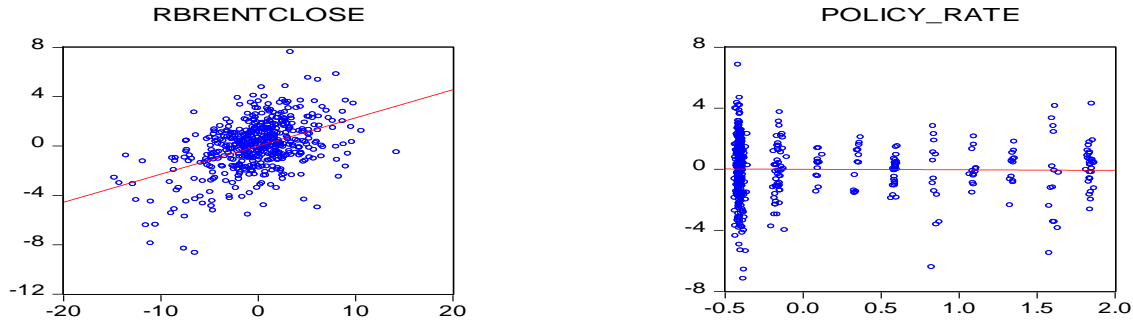
The regression results show that out of the two variables only one variable is statistically significant that is Rbrentclose. This is the key variable and the backbone of the research itself. The other variable policy rate is not found to be statistically significant. The statistical significance can be observed through analyzing the 'T' statistic and the 'P' value. Both the indicators show that the Brent Oil price is highly significant at all levels of significance be it 10%, 5% or 1%. The 'P' value is 0.000 which shows very high significance. The coefficient values of each independent variable show the relation of it with the dependent variable. The coefficient value of 0.23 for Rbrentclose can be interpreted as that a change of 23% in Brent oil variable would cause a similar change in the dependent variable Rnyseclose i.e. the stock market index. The coefficient value for policy rate shows that it has a negative relation with the dependent variable with small magnitude of negative 3%. However as this variable is not statistically significant it does not hold much effect on the overall model. The standard error shows the standard deviation for the coefficient obtained i.e. the level of error that occurs from predicting the slope. The values of standard error can be observed in the table above. The overall model summary can be presented as in the table below:

*Table 2: USA Regression Model Summary*

<b>USA Regression Model Summary</b>	
<b>R Square</b>	0.2
<b>Adjusted R Square</b>	0.19
<b>Durbin-Watson</b>	2.23
<b>Std. Error Estimate</b>	1.811
<b>F Statistic</b>	64.951
<b>P value (F-statistic)</b>	0

Interpreting from the table above, the R-Square Statistic is 0.2 (20%) which implies that Brent Oil and Policy rate explain 20% variability in the New York Stock Exchange index. As there are only two variables being considered the slightly low value of R-square can still be considered in line with statistically significant variable Brent Oil. Hence this implies that Brent oil has some predictability power over the dependent variable NYSE index. The F statistic along with the 'P' value of the F statistic show if both independent variables jointly hold some predictive power or are jointly able to explain changes in dependent variable or not. As it can be observed that the 'P' value of the F-statistic is highly significant being 0.00 it can be said that the both variables Brent oil and policy rate are able to jointly influence the dependent variable i.e. NYSE index. Further it can be observed through the scatter plots below that for the variable Rbrentclose the observed values are mostly close to the regression line, However there are some which are still at distance are disbursed. Whereas for the variable Policy rate they are disbursed at large distance. This overall shows the weakness in the regression model and goodness of fit.

Figure 2: Hypothesis Test



Interpreting the above results a conclusion can be made for the Hypothesis 1 stated above. As the results find Rbrentclose i.e. Brent oil to be highly statistically significant and explain about 20% variability in the dependent variable the Hypothesis 1 can't be rejected and therefore it is asserted that there is high correlation between change in oil price and stock market index of United States.

### 7.5. KSA Regression Output

The results from the regression output of the KSA regression equation can be observed and interpreted as below. The hypothesis for this equation is Hypothesis 2 as mentioned earlier in the previous chapter. The hypothesis can be restated as:

- **HYPOTHESIS 2:** *There is high correlation and synchronization between oil prices and stock market index of KSA.*

To analyze the hypothesis we follow the same procedure as previous regression equation by looking at the coefficient value and the statistical significance of each independent variable. These can be analyzed through the summary of these stats in the table below:

Table 3: Analyzing the hypothesis through the summary of the stats

Independent variables	Coefficient value	Standard Error	'T' Statistic	P' Value
Rbrentclose	0.14	0.027	5.083	0
Policy Rate	0.22	0.41	0.53	0.59

The table above shows that from running the regression equation using help of Eviews 9 software we find that out of the two independent variables one is highly statistically significant whereas the other is not significant at all. The significance level of the variables are tested at all level of significance i.e. 10%, 5% and 1%. The Rbrentclose variable is statically significant at all levels. As in the above equation for United States the statistical significance can be observed through analyzing the 'T' statistic and the 'P' value. Both the indicators show that the Brent Oil price is highly significant at all levels of significance be it 10%,5% or 1%. The 'P' value is 0.000 which show very high significance. The coefficient values of each independent variable show the relation of it with the dependent variable. The coefficient value of 0.14 for Rbrentclose can be interpreted as that a change of 14% in Brent oil variable would cause a similar change in the dependent variable Rnyseclose i.e. the stock market index. The coefficient value for policy rate is a high 0.22. However as this variable is not statistically significant and has somewhat a large standard error figure being 0.41 it is not prudent to draw conclusion regarding its effect on dependent variable as these stats indicates that the variable and the model might not be a good fit.



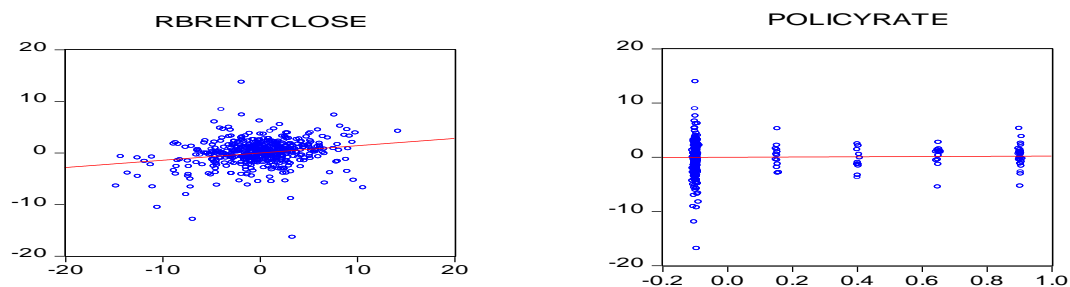
The overall model summary can be presented as in table below:

*Table 4: The overall model summary*

<b>KSA Regression Model Summary</b>	
<b>R Square</b>	0.049
<b>Adjusted R Square</b>	0.045
<b>Durbin-Watson</b>	2.1
<b>Std.Error Estimate</b>	2.48
<b>F Statistic</b>	13.03
<b>P value (F-statistic)</b>	0

The 'R' square in the above table is a low 0.049 which is interpreted as that the independent variables of the model are able to explain only 4.9% change in the dependent variable. The low R-square indicates that the regression line is not a good fit and the model use might not be suitable. However this could be due to other limitations as well such as short time period of study, only two independent variables etc. These limitations are discussed in the next chapter. Further, although the R-square for this equation does not provide much conclusive meaning to the research question and hypothesis, it still remains observable from the regression output that the variable of Brent Oil is highly significant. As it can be observed that the 'P' value of the F-statistic is highly significant being 0.00 it can be said that the both variables Brent oil and policy rate are able to jointly influence the dependent variable i.e. KSA(Tadawul) index.

*Figure 3: Visual representation of the results*



## 7.6. Hypothesis Test (2&3)

Hypothesis 2 formulated in the previous chapter relates to this regression equation. The results of the regression find Rbrentoil to be highly significant, however the R-square value is low and might indicate that model is not a good fit. However a low R-square does not necessarily mean a bad regression model. The R-square can be low for multiple other reasons such as number of independent variables considered and time period considered etc. Hence we for our conclusion regarding hypothesis 2 on the basis of statistical significance of Brent Oil and therefore do not reject Hypothesis 2. Hypothesis 3 on the other hand states that there is no difference in correlation between oil and stock market index of net oil importing and exporting countries. This can be analyzed through results of both the regressions above. It can be observed from the model output that the degree of difference is varying although both find oil to be significant. Further the model is unable to give the directional difference in terms of relation. Hence on the basis of these results we cannot form a conclusive result and argument for this hypothesis. Therefore we reject Hypothesis 3 as there is not sufficient evidence to support it. The main findings of this research was direct relation between the oil market and equity market movement, both for Oil exporting and Oil importing country.

The results suggest that economic variable, such as policy rate, may not have an impact on isolation over the 10 year period on the equity market. However, when observed in combination with oil market it does suggest to impact the stock market return. Overall Brent Oil is found to be highly statistically significant thereby suggesting there to be movement between the two markets.

## 8. DISCUSSION

The research paper builds on the research gap of previous studies thereby attempting to determine if there is a synchronization in the oil markets and stock market index through a linear regression model. The paper also provides an update to previous studies by taking latest 10 year period as sample into consideration. If we analyze the findings of regression equation 1, which looks at the impact of oil price on New York Stock exchange in United States, it is found that Brent oil is a highly significant variable at all levels of significance with a 'P' value of 0.000. Further, the findings suggested that it has about 20% explanatory power over the stock market index. These findings are found to be in line with existing literature such as (Arouri, M.E.H., Jouini, J. and Nguyen, D.K., 2011) which investigated volatility spill overs within the two markets. The study indicated that uncertainty in Oil prices leads to fluctuation in financial market depending on their overall correlation. Further other studies such as (Apergis and Miller, 2009) (Park, J., Ratti, R.A., 2008) can also be referred to as supporting the particular regression model and investigation. These studies observed that the two markets are linked via some macroeconomic variables and that changes in oil prices impact stock market through various channels such as fluctuation in interest rate and industrial production cost etc. The current study therefore incorporates the impact of changing policy rate over the sample period. On the contrary the current study found policy rate on a stand-alone basis was not statistically significant in impacting the US stock market index and had a 'P' value of only 0.7542. However, if both the variables i.e. Brent Oil and Policy rate were analyzed for joint influence on stock market index, it was found that both in combination do jointly influence the stock market index this was concluded by observing the 'P' value for the F-statistic which was highly significant. Therefore, these previous studies support the findings in this regard. Moreover, if we look at specific literature investigating the impact of Oil price on United States stock market it can be observed that our findings are in line with literature such as (Sadorsky, 1999), (Kilian, L. and Park, C., 2009), (O'Neill, et al 2008) and (Park, J. and Ratti, R.A., 2008) etc. These studies found there to be an inverse relation between US stock market and rise in Oil prices. Further, one study which incorporated period from 1975-2006 found that 22% of the variability in US stock market could be attributed to the changing oil prices and oil market volatility. Most of the changes in volatility and impact on stock market had been linked to demand shock rather than supply shocks. These studies somewhat directly support the current findings and further assert there to be a synchronization between the two variables. Although the current study fails to determine the directional impact between the two variables like the supporting literature, the study still finds there to be a significant impact and explanatory power of one over the other. Hence the Hypothesis 1 can be concluded to be true on the basis of current empirical findings and supporting existing theory. On the other hand, if we analyze regression equation 2, which investigates the impact of oil price changes on stock market of Kingdom Of Saudi Arabia, we will see that Brent Oil is highly significant for this equation with a 'P' value of 0.000. This indicates that changes in oil price have significant impact on movement in stock market index and that both markets appear to have synchronicity. Further the R-Square statistic for the model comes out to be a low 0.049 which is interpreted as that independent variables i.e. Brent oil and policy rate have only 4.9% explanatory power over variability in dependent variable the stock market index. The low R-square is on account of many factors such as data limitations, number of independent variables incorporated and overall data quality which discussed in research

limitations. The findings of the study are somewhat in line with the existing literature on the particular topic at global level and also in line with the studies conducted specifically on the GCC region. Studies such as (Arouri, M.E.H., Lahiani, A. and Nguyen, D.K., 2011) and (Mohanty, et al, 2011), investigating the synchronization between the Oil market and the stock market in the GCC region and found there to be low to mild degree of synchronization between the two markets varying on the individual country level. Further their findings along with (Mink et al. 2007) and (Louis, R.J. and Balli, F., 2014) suggest there to be a significant positive exposure of volatility and movement in oil prices in the whole region with exception of one country i.e. Kuwait. Other studies suggested there were significant volatility spillovers from oil markets to stock markets of the region more specifically in lagged prices of oils and return on stock market index. The findings of all these studies support the existing results and find oil to have significance in impacting stock market returns and price. Hence on the basis of our empirical findings and the existing supporting literature we cannot reject Hypothesis 2 of the research paper. However, we are also unable to conclude with certainty the exact magnitude and/or direction of the movement/relation. On the basis of the findings of the above 2 regressions we analyze and reject hypothesis 3, and it can be observed that although Oil is significant for both net oil importin and exporting economy, the degree of impact varies for both. The results are showing higher impact for importing economy, US, compared to KSA which is an exporting economy. Existing theory supports the rejection of the hypothesis and finds there to be a difference in impact between the two sets of economies. Literature such as (O'Neill, et al 2008) support this argument and find that oil price change has an inverse relation with stock markets of oil importing countries, whereas a direct relation with oil exporting.

## 9. RESEARCH IMPLICATIONS

The findings of the study have practical implications for various stake holders such as regulators, investors and portfolio managers. If we look at it from an investor perspective, synchronization of the variable should be accounted for while making investment decision and especially while analyzing investment opportunities in the energy sector to attain higher risk adjusted returns and better diversify their investments. As it has been suggested that increase in oil prices specifically oil supply shocks have had an impact on global economy for a very long time. Recent estimates by analysts at Oxford economics suggest that another major shock to the oil market would slow down global economic growth by approximately 0.6% by the end of 2020 thereby affecting the financial markets as well<sup>1</sup>. Further, if we observe from a portfolio managers aspect It can be observed that the findings of this research has some major implication for the portfolio managers from the aspect of diversifying their portfolio and not taking excessive position or being exposed to oil sector. As seen lately in US and other markets a jump in oil prices both Brent oil and WTI by approximately 4.5% caused the S&P 500 index to increase by approximately 0.4%, Europe Stoxx 600 by 0.2% and Germany's DAX 30 by 0.4%<sup>2</sup>. Moreover, it has been observed that unpredictable demand shocks such as that seen in pandemic era have the ability to significantly drive down oil prices thereby having an impact on not only practical supply chains but investment feasibilities of on-going and upcoming projects due to high uncertainty. The question of when the global industry as a whole would come back to normal post Covid-19 is crucial for there to be some stability in the oil market and production. High uncertainty in oil markets which is critical to energy sector hence not only drives down sustainable growth in overall financial markets but also appears to have a trickledown effect on various macroeconomic constituents, thereby causing low investor confidence and driving

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<sup>1</sup> Global economy shrugs off latest rise in oil prices , Source : Financial times , <https://www.ft.com/content/8a41c2ca-6844-11e9-a79d-04f350474d62>

<sup>2</sup> US stocks climb as oil price rally fuels energy stocks , Source : Financial times , <https://www.ft.com/content/ba4d2e4a-8d75-11e9-a24d-b42f641eca37>

down of total GDP growth and total production at a global level. Such impacts of one market on the other need to be accounted for by fund managers while making an investment strategy to appropriately account for their exposure and enhance their risk adjusted returns. Further speaking from a regulators aspect these findings are crucial for regulators. The findings along with previous literature show clear link and synchronization between the two markets. Excessive volatility spill overs might hinder the growth of economy and overall performance of financial markets. As pointed out by (Ftiti, Z., Guesmi, K. and Abid, I., 2016) the policy makers should account for such shocks and movements and make policy and decisive action to counter such shocks in the market particularly occurring from the demand side. All the above points regarding investors portfolio managers and regulators have also been discussed and pointed out by previous literature such as (Arouri, M.E.H. and Nguyen, D.K., 2010)

## **10. RESEARCH LIMITATION AND PROBLEMS**

There were various problems and limitations encountered during the research process. Initially as there was a difference in working days of week between the two regions and the KSA market is closed during some festivals and religious holidays. The data for regression equation 2 had to be adjusted accordingly to capture the volatility impacts properly as the Brent Oil market remains opened through and has different operating days in a week. Further, the study in initial phases considered various variables such as industrial output, oil supply and demand, inflation and exchange rates to incorporate into the regression model as per knowledge obtained from existing literature, However, as the study's main focus was to capture impact of Oil price volatility and movement on stock market, the investigation had to be conducted on a weekly price level. This created hindrance in incorporating variables such as inflation and economic growth etc. as data was not available at weekly breakdown. Moreover, with other variables such as industrial output and oil supply and demand, data were either not available at all or not available for the length and breakdown of time period being considered. Moreover, there were limitations to the methodological models that could be adopted as the software being used is unable to properly run complex models such as BEKK-GARCH and M-VAR-GARCH etc. These models are considered superior in capturing volatility and could have addressed the issue of directional impacts and better measured the magnitude of impact. Overall Data quality and availability was a concern for the research particularly in the case of KSA as there was limitation to available data bases from which high quality and relevant data could be obtained.

## **11. SUMMARY & CONCLUSION**

The Study was guided by three research questions investigating the impact of oil price volatility on stock market indices. The first two analyzing the relation of the variables on two different economies, USA and KSA , whereas the third making a comparison between the findings on the basis of net oil importing and exporting nature of the economies. The research holds significance for various stakeholders such as policy makers, investors and portfolio managers etc. Therefore, the impact of such a SYNCH if it exists needs to be analyzed and accounted for before investment decision can be made and policies are brought forward in order to reduce the negative impact on the general economy and enhance the risk adjusted returns for stakeholders. The research builds its foundation by analyzing existing theory on the subject area thereby referring to multiple empirical investigations and studies conducted throughout the world. All existing theory found there to be a connection in the two variables being investigated. And concluded there to be volatility spillovers, synchronization and positive and negative impacts of shocks in oil markets on various stock market indices in the world. The findings suggested Brent Oil to be a highly significant variable, whereas policy rate was only found to have influence over stock index when looked at jointly with Brent oil. Thereby the study concluded there to be a synchronization between oil prices and stock market.

However, the study indicated there was a difference of impact between the differing natures of economies but was not able to conclude with certainty the magnitude and direction of the difference.

## **12. RECOMMENDATIONS FOR FUTURE RESEARCH**

There were various aspects and problems encountered in the study. Further there are many aspects that can be added to the literature in the subject area. The paper provides a comparative analysis between oil exporting and importing countries. However the methodology and Statistical model used by the study was unable to conclude the directional impact i.e. positive or negative impact or the magnitude of the impact one market has over the other. Future researchers can use various other more sophisticated statistical models such as BEKK-GARCH and M-VAR-GARCH as seen by existing theory to conduct a comparative analysis between the impacts on oil exporting and oil importing countries thereby providing directional and magnitude difference of impact these models would further help accommodate for ARCH effects in the time series thereby effectively capturing volatility. Further future research can attempt to add to comparative analysis by incorporating the difference in impact based on developed and emerging economies thereby incorporating additional variables such as economic growth, political uncertainty and differing dynamics of economy.

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## MODELING TOURISM DEMAND IN CONTINENTAL CROATIA USING PIECEWISE REGRESSION MODELS

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### ABSTRACT

*Tourism has a significant impact on the Croatian economy, but tourists in most cases visit the coastal area near the Adriatic Sea, while the Continental region has only a small share of tourists. To study the dynamics of the tourism demand in the Continental region of Croatia is the objective of this research. The financial crisis that started in October 2008 lowered tourism demand. Since Croatian tourism is highly seasonal and the peak season is in the 3rd quarter, the crisis reflected a structural break in tourism demand in 2009. Because of the structural break, piecewise time series regression modeling is utilized. What this research has proved is that the dynamic of tourism arrivals and tourism nights in the Continental region of Croatia can be explained by piecewise log-linear/exponential models.*

**Keywords:** *Continental Croatia, exponential trend, piecewise log-linear regression, structural break, tourism demand*

### 1. INTRODUCTION

With 16.6 million international tourists in 2018 (World Bank, 2021) Croatia ranked the 24<sup>th</sup> most visited country worldwide. The importance of tourism in the Croatian economy is evident when looking at its share in GDP. In 2019, for the first time, the tourism satellite account, being calculated, showed that the share of tourism direct GDP in total Croatian GDP was 11.4% in 2016 (Croatian Bureau of Statistics, 2019). Furthermore, the Institute of Economics, Zagreb (2018) estimates the share of foreign exchange earnings from tourism in GDP in 2018 as 18.4%. Not equally regionally developed, Croatian tourism primarily occurs in the coastal area near the Adriatic Sea. Croatia is statistically divided into two NUTS 2 regions: Continental Croatia and Adriatic Croatia, but the Croatian Tourism Development Strategy Until 2020 (Government of the Republic of Croatia, 2013) determines tourism through three touristic macro-regions: North Adriatic, South Adriatic, and Continental region. The reason for not being further divided into more touristic macroregions is the Continental region's low share in total Croatian tourism (Institut za turizam, 2011). In 2019, there was only 13.5% of arrivals (calculated from data in Eurostat 2021a) and 5.4% of nights spent in Continental Croatia (calculated from data in Eurostat 2021b). This work contributes to research and the Croatian Continental Region's tourism development as the least touristically developed macroregion.

### 2. LITERATURE REVIEW

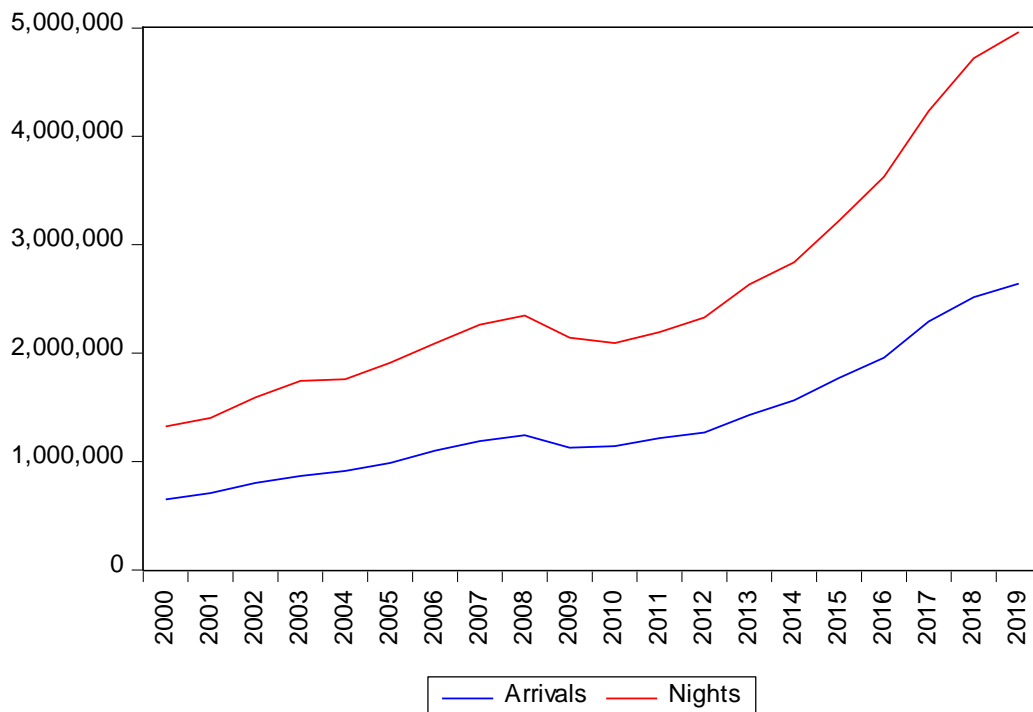
There are many articles on tourism in Croatia, most of them of a qualitative nature, but since this work is quantitative, we will focus on papers that use quantitative methods. Different methods are used in quantitative research of Croatian tourism. Some research use univariate time series models such as in works of Bahovec and Erjavec (1999), Baldigara et al. (2013), Baldigara and Koić (2015a, 2015b), Štambuk and Tibljaš (2016), Štambuk et al. (2016), Apergis et al. (2017). Some of the studies apply causal methods as in Currie et al. (2004), Šergo et al. (2005), Mervar and Payne (2007), Payne and Mervar (2010), Tica and Kožić (2015), Jelušić (2017). There are also studies that use intelligent methods such as in Štambuk (2002a, 2002b), Bach et al. (2013), Godnov and Redek (2016), Folgieri et al. (2017, 2018), Čuhadar (2020), Gregorić and Baldigara (2020). Tourism in the Continental region of Croatia represents a minor part of the research of Croatian tourism.



Most research is on some specific types of tourism that are a potential for tourism in the Continental region such as rural tourism, sports tourism, health tourism, or cultural and event tourism. Demonja (2014), Bartoluci et al. (2015, 2016a), Cerić (2016), Grgurić et al. (2017), are some of the authors that explore rural tourism. Sport tourism is in focus of Bartoluci et al. (2016b), Kesar and Hendija (2017), Bartoluci et al. (2019). Health tourism is analyzed in Cini et al. (2015), Mrčela et al. (2015), Lehman and Kurecic (2016), Gregorić et al. (2020). Cultural and event tourism is explored in Jelinčić (2001), Jelinčić and Žuvela (2012), Jaković et al. (2018).

### 3. ANALYSIS OF THE TOURISM DEMAND IN CONTINENTAL REGION

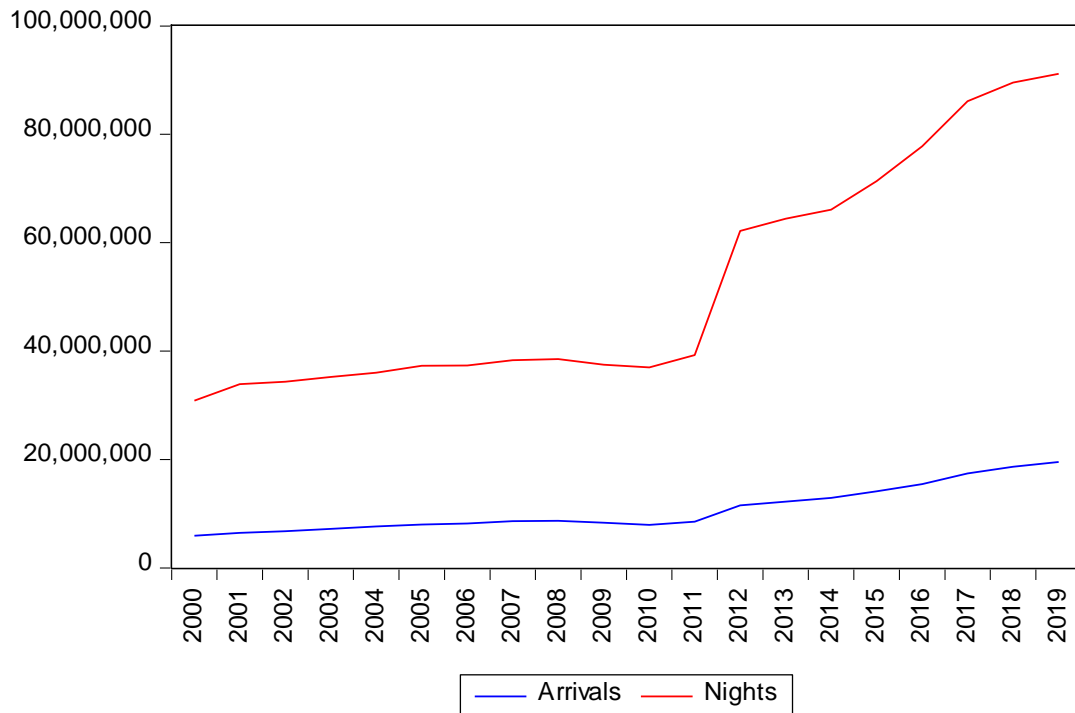
Tourism demand in the Continental region of Croatia is investigated by analyzing tourism arrivals and tourism nights. Data of tourism arrivals were obtained from Eurostat (2021a) and data of tourism nights from Eurostat (2021b) for the Continental region and for total Croatia. Data of tourism demand for the Continental region are available for the period 2000 - 2019 as presented in figure 1.



*Figure 1: Arrivals and nights in the Continental region of Croatia  
(Source: Eurostat 2021a, 2021b)*

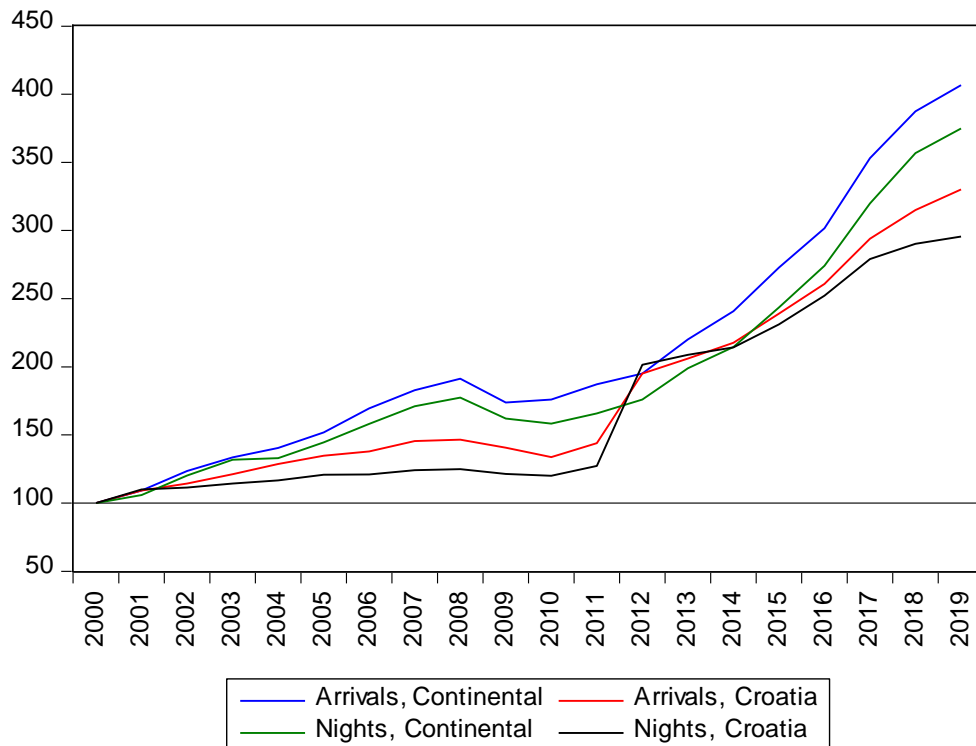
Data of tourism arrivals and nights in the whole Croatia in the same period are shown in figure 2.

*Figure following on the next page*



*Figure 2: Arrivals and nights in Croatia*  
 (Source: Eurostat 2021a, 2021b)

In figure 3 tourism demand in the Continental region and in total Croatia is compared using relative numbers i.e. indices with the base year 2000.



*Figure 3: Arrivals and nights in the Continental region and in total Croatia, 2000=100*  
 (Source: author's calculation)

In 2008, financial crisis started. However, since it broke out in October and Croatian tourism is highly seasonal with the peak season in the third quarter, the crisis did not reflect in tourism

demand in 2008 but in 2009 as a structural break. In 2012, there was a change in the recording of arrivals and nights in nautical ports. Although continental tourism represents only a small portion of Croatian tourism we can see that it grows at a larger rate than total tourism. Compound annual growth rate (CAGR) as a measure of average growth, in the Continental region, is 7.7% for arrivals and 7.2% for nights in the observed period, while in Croatia as a whole it is 6.5% for arrivals and 5.9% for nights. Separating the tourism demand according to a residence, into foreign and domestic demands, it becomes evident that foreign tourists have a significant impact on tourism demand growth. Moreover, both foreign and domestic demand in the Continental region grows faster in the Continental region than in total Croatia presented in table 1.

<b>Demand</b>	<b>Region</b>	<b>Foreign</b>	<b>Domestic</b>	<b>Total</b>
Arrivals	Continental	9.9%	4.1%	7.7%
Arrivals	Croatia	7.1%	3.4%	6.5%
Nights	Continental	9.9%	3.5%	7.2%
Nights	Croatia	6.2%	2.7%	5.9%

*Table 1: CAGR of the tourism demand in the Continental region and in total Croatia decomposed by residence for the period 2000-2019  
 (Source: author's calculation)*

Because of the Continental region's faster growth, its share of tourism has increased in arrivals from 11.0% in 2000 to 13.5% in 2019, and from 4.3% to 5.4% for nights in the same period. Change of share of tourism demand in Continental region decomposed by residence is presented in table 2.

<b>Year</b>	<b>Arrivals</b>	<b>Arrivals</b>	<b>Arrivals</b>	<b>Nights</b>	<b>Nights</b>	<b>Nights</b>
	<b>Foreign</b>	<b>Domestic</b>	<b>Total</b>	<b>Foreign</b>	<b>Domestic</b>	<b>Total</b>
<b>2000</b>	6.8%	27.7%	11.0%	2.2%	17.3%	4.3%
<b>2019</b>	11.2%	31.5%	13.5%	4.2%	20.0%	5.4%

*Table 2: Share of the tourism demand in the Continental region of Croatia decomposed by residence in 2000 and 2019  
 (Source: author's calculation)*

We can see that the share of continental tourism demand had increased from 2000 to 2019 for foreign as well for domestic tourists, both for arrivals and for nights. The average duration of stay per arrival in the Continental region is shorter than the Croatian average throughout the analyzed period, as given in figure 4 that shows the average length of stay in the Continental region and in total Croatia.

*Figure following on the next page*

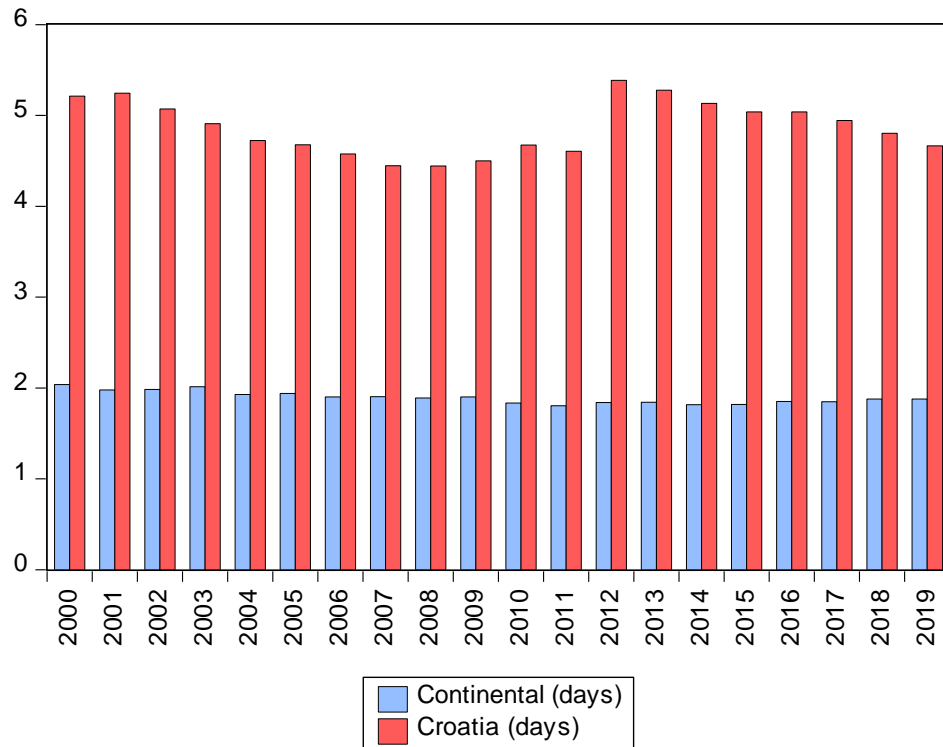


Figure 4: Average duration of stay in the Continental region and in total Croatia 2000 to 2019

(Source: author's calculation)

Mean staying from 2000 to 2019, calculated as an unweighted average of length of stay separated by residence is presented in table 3. In the Continental region, the average stay duration is 1.88 days that is 3.00 days less than in total Croatia with an average of 4.88 days.

Region	Foreign	Domestic	Total	Difference Foreign - Domestic
Continental	1.75	2.13	1.88	-0.38
Croatia	5.15	3.23	4.88	1.92
Difference Continental - Croatia	-3.40	-1.10	-3.00	-2.30

Table 3: Average length of stay from 2000 to 2019 in days in the Continental region and total Croatia decomposed by residence

(Source: author's calculation)

It is interesting to see a different relationship between foreign and domestic tourists in the Continental region and in total Croatia, i. e. while in the Continental region, domestic tourists tends to stay longer than foreign tourists, in Croatia as a whole, foreign tourists stay longer than domestic tourists.

#### 4. TIME SERIES MODELING

We have begun time series modeling with testing for unit roots. In order to avoid biased results toward false results of the unit root null hypothesis test that occur when not accounting for the structural breaks, the methodology of Perron (1989) followed and modified augmented Dickey-Fuller test with the exogenous break in 2009<sup>1</sup> is estimated.

<sup>1</sup> We define the break date as the first date for the new regime, contrary to as the last date of the previous regime.

At significance level  $\alpha$  of 0.05 null hypothesis of unit root with break is not reject for arrivals and nights in the Continental region for level and for 1<sup>st</sup> difference, while it is rejected for 2<sup>nd</sup> difference, indicating integration order of 2. While the same integration order, I(2), is for logged nights, logged arrivals belong to integration order 1 I(1). Arrivals and nights in the Continental region, as depicted in fig. 1 exhibit an exponential trend pattern (Bahovec et al., 2015):

$$Y_t = \beta_0 \beta_1^{x_t} e^{\varepsilon_t} \quad (1)$$

To use the ordinary least squares method, the exponential trend should be logarithmically transformed (Biljan-August et al., 2009) into log-linear form. Using natural logarithm base log-linear form is:

$$\log(Y_t) = \log(\beta_0) + \log(\beta_1)x_t + \varepsilon_t \quad (2)$$

To get a more reliable forecast performance out-of-sample model validation is used. Dataset is split into in-sample and out-of-sample data, with the period from 2000 to 2017 being in-sample data, while data from 2018 and 2019 are treated as out-of-sample data. Since the series experience an exogenous structural break in 2009, piecewise or break or segmented regression is used, where coefficients for the period before the break and period after the break are estimated separately, while the model is evaluated as a single model for the whole period, not as two separated models. Piecewise exponential trend of tourism demand, therefore, has the following form:

$$Y_t = \begin{cases} \beta_{10} \beta_{11}^{x_t} e^{\varepsilon_{1t}}, & \text{for } x_t < 9 \\ \beta_{20} \beta_{21}^{x_t} e^{\varepsilon_{2t}}, & \text{for } x_t \geq 9 \end{cases} \quad (3)$$

Where  $x_t = 0$  in 2000 and unit for  $x_t$  is 1 year.

Likewise, the piecewise log-linear form of tourism demand trend is:

$$\log(Y_t) = \begin{cases} \log(\beta_{10}) + \log(\beta_{11})x_t + \varepsilon_{1t}, & \text{for } x_t < 9 \\ \log(\beta_{20}) + \log(\beta_{21})x_t + \varepsilon_{2t}, & \text{for } x_t \geq 9 \end{cases} \quad (4)$$

#### 4.1. Modeling of the tourism arrivals

Piecewise log-linear model of arrivals in the Continental region of Croatia is estimated as:

$$\log(Y_t) = \begin{cases} 13.404 & +0.082x_t & +\varepsilon_{1t}, & \text{for } x_t < 9 \\ (0.026) & (0.005) & & \\ 13.037 & +0.090x_t & +\varepsilon_{2t}, & \text{for } x_t \geq 9 \\ (0.071) & (0.005) & & \end{cases} \quad (5)$$

Where:

$x_t = 0$  in 2000 and unit for  $x_t$  is 1 year.

$Y_t$  is the number of tourist arrivals

Standard errors are in parentheses

The model is further evaluated, and all testing is done at the level of significance  $\alpha = 0.05$ . Assessment starts with an estimation of the overall significance of the model. F-test implies that model is significant:  $F(3,14) = 373.020, p < 0.001$ . Coefficient of determination  $R^2 = 0.988$  and  $R^2_{adjusted} = 0.985$  show a high degree of determination. Coefficients of the time variable  $x_t$  are significant for both periods, before and after the structural break, as it can be seen from the results of the t-test:  $t(14) = 15.259, p < 0.001$  for  $x_t < 9$  i.e. for the period before 2009 and  $t(14) = 16.847, p < 0.001$  for  $x_t \geq 9$  that is for the period starting at 2009. Since the above-mentioned tests show that the model and time variable are significant at the chosen level of significance, the evaluation of the model continues with testing the assumptions of the model. The normality of errors is tested using the Jarque-Bera test. Results of the tests:  $\chi^2(2, N = 18) = 1.380, p = 0.502$  indicate normality of error distribution. The assumption of homoscedasticity is tested by White's heteroskedasticity test with the results  $\chi^2(5, N = 18) = 8.414, p = 0.135$  which shows equality of variances. For the assumption of the independence of errors, serial correlation is tested by the Breusch-Godfrey LM test. The test results for serial correlation up to 2<sup>nd</sup> order are  $\chi^2(2, N = 18) = 1.066, p = 0.587$  are consistent with the assumption of no serial correlation. Seeing that assumptions are met at the selected significance level, results of the models are shown in figure 5 that presents actual, fitted, and residual values of logged arrivals in the Continental region of Croatia.

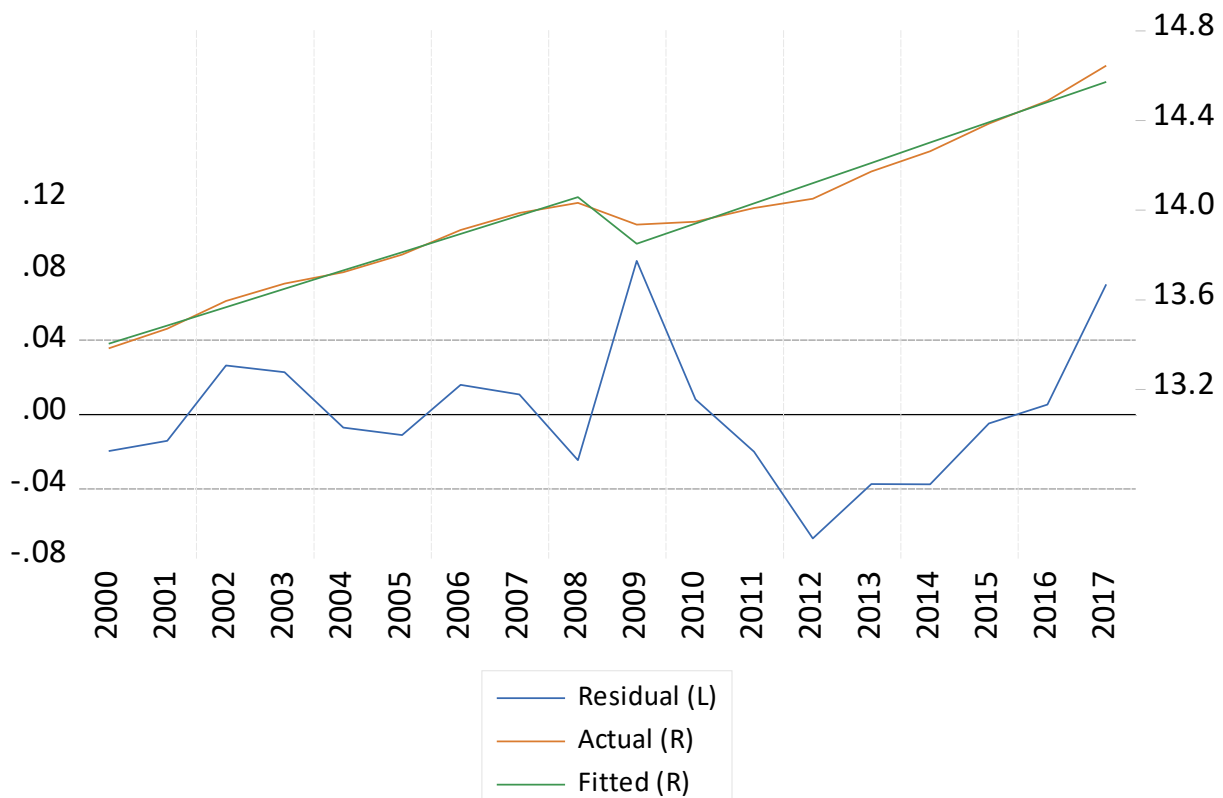


Figure 5: Tourist arrivals in the Continental region of Croatia 2000-2017 – logged values  
 (Source: author's calculation)

The log-linear model is estimated for the in-sample period 2000 – 2017. Evaluation of the forecast is done for the out-of-sample period 2018 - 2019. Different measures of the forecasting errors: root mean squared error – RMSE, mean absolute error – MAE, mean absolute percentage error – MAPE, and symmetric MAPE – SMAPE, are given in table 4.

Measure	RMSE	MAE	MAPE	SMAPE
Value	0.058	0.054	0.369%	0.370%

Table 4: Forecasting error of the model of the logged tourism arrivals in Continental region of Croatia for the out-of-sample period 2018-2019  
 (Source: author's calculation)

Observing relative forecasting errors, we can see that both relative measures MAPE and symmetric MAPE are less than 10% indicating highly accurate forecasting of the log-linear model of tourist arrivals. Since the log-linear model predicts values of the logged arrivals, in figure 6, the forecast for the number of tourism arrivals is shown. In order to find forecasted values of the number of arrivals, the log-linear model is anti-log transformed. The exponential model of the number of tourism arrivals in the Continental region of Croatia is:

$$Y_t = \begin{cases} 662470.5 \cdot 1.085^{x_t} \cdot e^{\varepsilon_{1t}}, & \text{for } x_t < 9 \\ 459275.4 \cdot 1.094^{x_t} \cdot e^{\varepsilon_{2t}}, & \text{for } x_t \geq 9 \end{cases} \quad (6)$$

Where:

$x_t = 0$  in 2000 and unit for  $x_t$  is 1 year.

$Y_t$  is the number of tourist arrivals

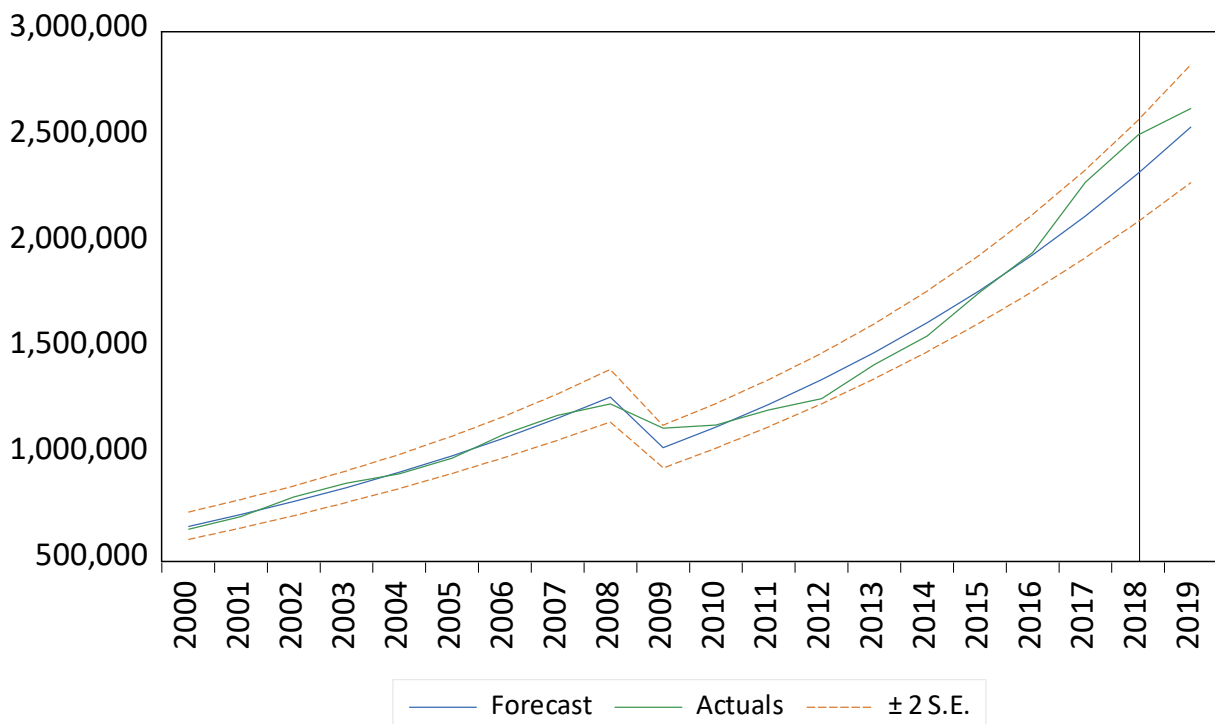


Figure 6: Forecasted and actual values of tourism arrivals in the Continental Croatia for out-of-sample and the in-sample period from 2000 to 2019  
 (Source: author's calculation)

Additionally, the forecasting error of the exponential model of the number of tourist arrivals using the same measures as for logged values of arrivals in the Continental region of Croatia for the out-of-sample period from 2018 to 2019 is presented in table 5.

Measure	RMSE	MAE	MAPE	SMAPE
Value	142991.5	134877.8	5.3%	5.4%

Table 5: Forecasting error of the exponential model of the number of tourism arrivals in the Continental region of Croatia for the out-of-sample period 2018-2019

(Source: author's calculation)

Although relative measures of forecasting accuracy are higher for the forecasting of the exponential model than for the log-linear model, values are still less than 10% showing highly accurate forecasting of the number of tourism arrivals.

#### 4.2. Modeling of the tourism nights

Segmented log-linear model of overnight stays in the Continental region of Croatia is estimated as follows:

$$\log(Y_t) = \begin{cases} 14.109 + 0.073x_t + \varepsilon_{1t}, & \text{for } x_t < 9 \\ (0.031) \quad (0.007) \\ 13.663 + 0.089x_t + \varepsilon_{2t}, & \text{for } x_t \geq 9 \\ (0.086) \quad (0.007) \end{cases} \quad (7)$$

Where:

$x_t = 0$  in 2000 and unit for  $x_t$  is 1 year.

$Y_t$  is the number of tourist nights

Standard errors are in parentheses

The same methods are used for the evaluation of the model of tourist nights as for the evaluation of the model of tourism arrivals. Likewise, the same significance level  $\alpha = 0.05$  is used. Diagnostic of the model starts with the evaluation of the significance of the model as a whole. Results of the F-test:  $F(3,14) = 208.250, p < 0.001$  imply that the regression is significant. Value of the coefficient of determination  $R^2 = 0.978$  and  $R^2_{adjusted} = 0.973$  also shows a high degree of determination. The t-test for the coefficients of the time variable  $x_t$  shows significance for the period before the structural break and for the period after the structural break. Results of the aforementioned t-test are  $t(14) = 11.179, p < 0.001$  for  $x_t < 9$  and  $t(14) = 13.670, p < 0.001$  for the  $x_t \geq 9$ . Assessment of the model of tourism nights follows with checking the assumptions of the model. Jarque-Bera test with results:  $\chi^2(2, N = 18) = 2.843, p = 0.241$  is used for testing the normality of error distribution. The results are consistent with assumptions of normally distributed errors. For testing of the assumption of homoscedasticity White's heteroskedasticity test is used. Results of the test:  $\chi^2(5, N = 18) = 10.213, p = 0.069$  indicate non-rejection of the null hypothesis of homoscedasticity. Breusch-Godfrey serial correlation LM test is used to test the assumption of the independence of errors. Results of the test:  $\chi^2(2, N = 18) = 1.036, p = 0.596$  indicate no serial correlation up to 2 lags. Applied tests indicate assumptions of the model are fulfilled at the chosen level of significance so results of the model are presented graphically. Figure 7 shows actual, fitted, and residual values of logged tourism nights in the Continental region of Croatia.

Figure following on the next page





Figure 7: Tourist nights in the Continental region of Croatia 2000-2017 – logged values  
 (Source: author's calculation)

The forecasting ability of the model is tested for the out-of-sample period from 2018 to 2019. The Forecasting errors of the log-linear model of tourism nights in the Continental region of Croatia are shown in table 6.

Measure	RMSE	MAE	MAPE	SMAPE
Value	0.085	0.082	0.536%	0.537%

Table 6: Forecasting error of the model of the logged tourism nights in Continental region of Croatia for the out-of-sample period 2018-2019  
 (Source: author's calculation)

Analysis of relative measures MAPE and symmetric MAPE of forecasting errors for the log-linear model of tourist nights in the Continental region of Croatia suggest high forecasting accuracy. Figure 7 and table 6 show forecast and/or forecasting error of logged tourist nights, but not of the number of tourist nights. To be able to forecast the number of tourist nights log-linear model is transformed into the exponential model using anti-log transformation. The exponential model of the number of tourist nights in the Continental region in Croatia is as follows:

$$Y_t = \begin{cases} 1340684.1 \cdot 1.076^{x_t} \cdot e^{\varepsilon_{1t}}, & \text{for } x_t < 9 \\ 858804.0 \cdot 1.093^{x_t} \cdot e^{\varepsilon_{2t}}, & \text{for } x_t \geq 9 \end{cases} \quad (8)$$

Where:

$x_t = 0$  in 2000 and unit for  $x_t$  is 1 year.

$Y_t$  is the number of tourist nights

The forecast of the number of tourism nights in the Continental region of Croatia is graphically presented in figure 8.

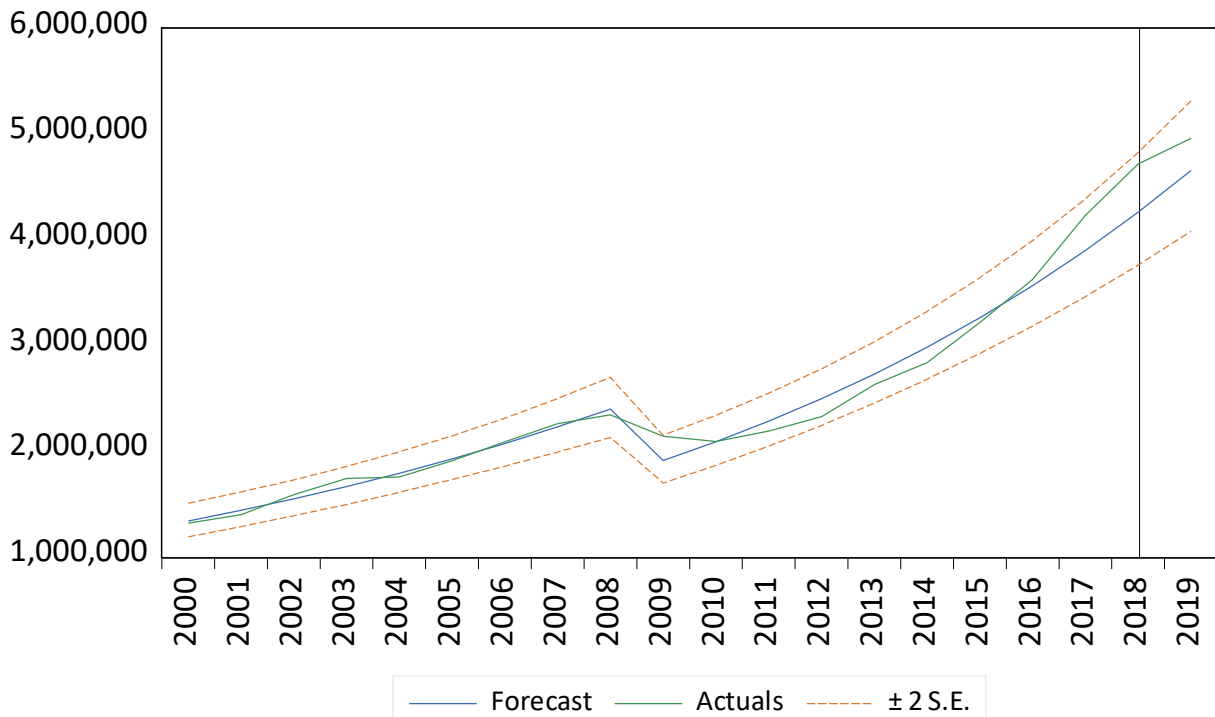


Figure 8: Forecasted and actual values of tourism nights in the Continental Croatia for out-of-sample and the in-sample period from 2000 to 2019  
 (Source: author's calculation)

The forecasting error of the exponential model of the number of tourist nights is also calculated for the out-of-sample period from 2018 to 2019. Results are shown in table 7.

Measure	RMSE	MAE	MAPE	SMAPE
Value	387966.7	379966.7	7.9%	8.2%

Table 7: Forecasting error of the exponential model of the number of tourist nights in the Continental region of Croatia for the out-of-sample period 2018-2019  
 (Source: author's calculation)

In line with other models in this research, the exponential model of the number of tourism nights gives highly accurate forecasting results with relative measures MAPE and symmetric MAPE being less than 10%.

## 5. CONCLUSION

Tourism is a significant contributor to the Croatian economy. Tourism in Croatia occurs mainly in the coastal area. As a contribution to the tourism development in a less touristically advanced part of Croatia, the paper investigates the tourism demand in the Continental region of Croatia. Tourism arrivals and overnight stay as measures of tourism demand in the Continental region of Croatia for the period of 2000 to 2019 are studied. Despite having a small share in total tourism demand in Croatia, continental tourism achieved faster growth measured by a compound annual growth rate. Decomposing tourism demand by residence it could be seen that both foreign and domestic tourism grows at a faster rate in Continental region than in total Croatia, with the principal cause of tourism growth being foreign tourism demand.

The average stay duration per arrival is shorter in the Continental region compared to Croatia as a whole. It is true both for foreign and domestic tourism. Time series modeling of the tourism arrivals and nights in the Continental region is done. In the October of 2008, the financial crisis that lowered tourism demand began. Since Croatian tourism has a strong seasonal character with the peak season in the third quarter, the consequences of the 2008-financial crisis reflected as a structural break in 2009. Tourist arrivals and nights in the Continental region of Croatia display exponential pattern. In the exponential regression, model parameters are not linear so the exponential model is logged-transformed into log-linear form in order to use ordinary least squares methods. Because of the structural break in 2009, piecewise log-linear modeling with break date in 2009 as the first date of the new period is performed. With the intention to get better forecast performance data for the last two of the analyzed years: 2018 and 2019 are held and used as the out-of-sample data used for testing of the models' performance. The rest of the data: from 2000 to 2017 are used as train data for building the models. Both piecewise log-linear models for the arrivals and the tourist nights are evaluated at the significance level  $\alpha = 0.05$ . Applied measures indicate the significance of the overall model, and the significance of the parameters individually. Assumptions of the model are also tested and passed evaluation checking. The forecasting performance of the model is evaluated for the out-of-sample period using several measures of forecasting errors. While absolute measures are not so interesting for the performance evaluation of the models, relative measures show high accuracy of the forecast. Since log-linear models forecast logged values of tourism arrivals and nights, models are anti-logged transformed into exponential regression models so tourism demand could be forecast in original measures, i.e. in a number of tourist arrivals and a number of tourist nights. Forecast of the piecewise exponential models of tourism arrivals and nights is likewise evaluated using the same forecasting error measures as for piecewise log-linear models. Although somewhat larger than the errors of the log-linear models, out-of-sample relative forecasting errors, still exhibit highly accurate forecasts. The research results lead to the conclusion that piecewise log-linear/exponential models can well explain the dynamics of tourism demand in the Continental region of Croatia. It also confirms that structural breaks should be taken into account when past tourism demand data are analyzed. The results of the research can help in the development of continental tourism in Croatia.

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## THEORETICAL EXAMINATION OF THE ROLE OF CORPORATE COMMUNICATION DURING PANDEMIC

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### ABSTRACT

*Communication is a key element of corporate collaboration. The efficient flow of organizational information contributes to the realization of the value creation process that led to the creation of the business. Organizational communication has a paramount importance, especially during today's pandemic. Proper corporate communication is central to making the current uncertain period a success for businesses. The aim of our research is to examine the organizational significance of internal and external communication and to examine how the current health crisis situation has changed organizational communication. In our study, we performed secondary data collection on the topic. Our study demonstrates that organizational communication is a key area in the life of business that need to be extremely emphasized and that the experience gained today needs to be incorporated into the organizational culture to increase the efficiency of future corporate information flow.*

**Keywords:** *information flow, theoretical background, internal communication, external communication, pandemic*

### 1. INTRODUCTION

The definition of corporate communication and the conceptual framework it covers emerged as a result of the integration of business school leaders. In 1993, Shelby defined corporate communication as "an umbrella for many forms and formats of communication," which includes public relations (speech writing, press / community relations), public affairs (including lobbying), and employee, consumer, and shareholder communication. According to Shelby, these forms of communication focus on communicating with stakeholders. Two years later, Van Riel further developed Shelby's vision with the concept that all these forms of communication should be actively managed and coordinated for stakeholders in order to form a unified picture of the organization. He defined corporate communication as a management tool that harmonizes all forms of consciously applied internal and external communication as effectively as possible, with the overall goal of creating a favorable foundation for the groups on which the company depends (Cornelissen, 2008). The basis of organizational operation is communication, the processes of which play an essential role in both the maintenance and development of organizations (Semeginé, 2012). Technological advances, global economic conditions, and strong market competition are factors in the lives of organizations that increasingly require companies to cope with organizational change. Communication plays a strategic role in bringing about the process of change and the survival of the organization. Management needs to recognize that communication is a key strategic issue in the life of a company that needs to be incorporated into overall corporate strategies (Saruhan, 2014). The study of corporate communication is becoming increasingly important as it is one of the most complex, diverse and comprehensive factors in organizations for effective and successful collaboration (Semeginé, 2015). The significance of our topic is primarily given by the fact that in today's knowledge-based society, corporate communication is an integral part of

successful business. The rapid development of information and communication technologies and the ongoing health crisis raise new questions about the effective functioning of organizational communication. Communication plays a strategic role in the life of businesses at all levels, be it external, internal, formal or informal. The COVID-19 epidemic has changed the lives of almost every business in terms of organizational communication. During the preparation of our study, we examined the role of corporate communication in the life of companies in the current difficult period. In addition to presenting the general role of communication, we sought to explore the effects of the epidemic on workers. The study is a theoretical review designed to provide insight into the appreciation of the role of organizational communication, taking into account the ongoing health crisis. The motivation for the preparation of our study was mainly due to the fact that during the current health crisis we experienced as our own experience what problems caused the home office and the changed circumstances. The novelty of our topic is that although society and businesses have faced a number of crises similar to the current situation in their lifetime, the current pandemic puts even greater challenges on organizations thanks to extremely fast-evolving information and communication technologies. It took place overnight without proper training. Based on this, our research question, which we aimed to answer: what communication problems did the current epidemic bring to the surface, what difficulties do businesses have to cope with? In order to answer our research question, it is necessary to review the general role of corporate communication, the effects of the coronavirus on employees, and corporate crisis communication, with the help of which we point out the most important solutions of organizational communication relevant to the current situation.

## **2. THE GENERAL ROLE OF CORPORATE COMMUNICATION**

The term corporate communication appeared in the academic world in the 1970s. Previously, the traditional concept of public relations was used to define the communication process of businesses. The emergence of a new, special concept of corporate communication can be linked to two factors. On the one hand, the growth of the role of the business organization, and on the other hand, the expansion and complexity of the communication needs of business, which required the establishment of a new professional level dialogue with both external and internal audiences. The new concept involves systemic interaction and a constant dialogue between interconnected communities that eliminates and reconciles conflicts between public and business interests. Corporate communication, like other areas of communication, deals with the flow of information. Corporate communication itself is the process of gathering information from a particular environment from which to develop a message and deliver it to the right place to achieve concrete economic results. In 1995, Van Riel defined corporate communication as a tool for management to harmonize all consciously used forms of internal and external communication as effectively as possible in order to create favorable relationships with the groups on which the company depends. Two years later, Oliver said communication could be one of the most important tools for corporate well-being. Consequently, corporate communication is an important management tool that helps align goals and develop internal and external communication. This process is key to establishing a positive relationship with the groups that influence the functioning of the organization. If an organization is able to provide effective communication, it has the opportunity to build relationships of trust with groups of strategic partners (Oltarzhevskiy, 2019). As early as the last quarter of the twentieth century, businesses began to recognize the importance of liaising with all stakeholders. Since then, a broader concept has been adopted that emphasizes the close interdependence between economic, social, and environmental goals (Salvioni-Bosetti, 2014). Corporate communication is used to describe the functions of strategic management. Unlike an organization, it includes public relations, crisis and emergency communications, reputation management, social



relations, media relations, investor relations, employee relations, government relations, marketing communications, managerial communications, corporate branding. and image building as well as advertisements. Understanding the importance of corporate communication explores the integration of corporate marketing communication and discusses the model of management's corporate communication system. It also identifies the need for a full stakeholder perspective and the integration of communication activities. Businesses have two primary communication systems that are interconnected. The internal system directs organizational activities to achieve goals based on the collection and interpretation of data on expectations, attitudes, and conditions from the relevant environment of the business through external communication channels. External communication systems are used to present relevant information about an organization's internal processes to the external environment in an attempt to influence audience behavior. Kreps stated in 1990 that internal communication processes are responsible for creating structure and organization, while external communication processes are responsible for innovation activities that contribute to identifying the direction of corporate development. An approach to corporate communication makes it possible to reconcile social and economic interests, because business is, in fact, a social and economic institution on which we all depend (Valackiene, 2010). Frandsen and Johannsen summarized the definition of corporate communication in 2014 in the following 4 points:

- 1) Corporate communication can be defined as a strategic management function that, in addition to applying a strategic approach to a company's communication activities, combines this approach with a comprehensive strategy of business tactics.
- 2) Corporate communication takes a holistic approach to managing communication, integrating external and internal communication activities, based on the idea that this leads to the most efficient and effective type of communication.
- 3) The goal of integrating external and internal communication activities is to build, maintain, change, and / or improve one or more positive corporate impressions / reputations. It is important to emphasize that corporate communication, which includes other types of communication disciplines, should not be limited to the brand name.
- 4) Creating, maintaining, changing and / or improving a positive impression / reputation takes place in the company's relationships with external and internal stakeholders.

In 2017, Joep Cornelissen identified three leadership categories that explain why corporate communication emerged in the 1990s. The first category includes market and environmental factors, which primarily include many new stakeholders with different expectations, needs, and increased opportunities who may play different stakeholder roles as individuals. For example, an employee can be not only an employee, but also an investor or even a customer for the business. A high degree of coordination is key when communicating with stakeholders with strong and conflicting interests. The second category includes communication-based drives and consists mainly of an ever-increasing number of messages and media to which members of society are voluntarily, unintentionally exposed, or which can be used for specific communication purposes. In 2017, Cornelissen is talking about a communication mess in this case, which other researchers call overcommunication or attention economy. If businesses want to convey their messages, which are expected to appear as clearly and consistently as possible in different types of media, a high degree of coordination is needed, similar to the first category. The third group includes organizational factors that show an increased demand for the company's efficiency and position from senior management or the communications department. To meet this need, the communications department needs to replace the traditional tactical approach with a strategic approach, where the communication strategy is in line with the overall corporate strategy (Frandsen-Johansen, 2018). In today's knowledge-based society, it is important to emphasize that corporate communication is the foundation of knowledge

sharing among employees within an organization. Knowledge sharing aims to use communication to connect the individual level, where knowledge is located, and the organizational level, where knowledge is applied, resulting in a value creation process for the business. Employees should be given time, space and opportunity to transfer knowledge. This process is underpinned by the company's culture, organizational structure, decision-making process, and organizational communication (Sánchez et al., 2013). The resource-based approach to strategic management focuses on unique, internal resources and competencies, of which it is important to incorporate knowledge resources into competencies and capabilities that enable sustainable, dynamic adaptation to the environment as well as competitive advantage. The competitive advantage of businesses increasingly depends on working with partners and the proper sharing of resources among employees, based on effective communication (Loebbecke et al., 2016). It is an accepted fact that communication has an impact on individuals' attitudes toward an organization, helping to create a common sense, organizational norms, values, and culture. In a culture where the value of knowledge is recognized, the information available, its sharing, information flow, IT structure, personal networking, systems thinking, leadership, communication, problem solving, training and many other factors can contribute to a business for its successful operation. An organizational culture that recognizes the value of knowledge allows for personal contact. Knowledge sharing is a key factor as its value and synergy increases through sharing with others, which in general promotes a common identity, mutual trust and organizational learning. Knowledge sharing always depends on the quality of the conversations, be it formal or informal communication. Innovative thinking, building trust, and facilitating the sharing of experiences require expressive communication, as opposed to the instrumental communication required to achieve immediate organizational goals related to workplace tasks. Knowledge sharing is a form of communication, as knowledge transfer between organizational members requires communication. The center of knowledge sharing is knowledge donation and knowledge gathering, which takes place in a supportive communication atmosphere that plays a role in creating, sharing, and continuously maintaining organizational knowledge (Gumus, 2007). In order to get an even more comprehensive picture of the general role of corporate communication, we examined the studies of the organizational communication literature, which are summarized in Table 1.

*Table 1: Results of studies published in connection with organizational communication*

Authors	Purpose of research	Research method and research subjects	Results of studies published in the field of corporate communication
Shelby – 1993	The aim of the study is to distinguish four key parts of communication taught in business schools, which are: organizational communication, business communication, corporate communication, and management communication.	Empirical research	<ul style="list-style-type: none"> <li>Corporate communication is a management tool that most effectively harmonizes all consciously used forms of internal and external communication with the goal of creating a positive relationship between the organization and the groups on which the company depends</li> <li>With regard to corporate communication, a distinction can be made between organizational communication, which deals primarily with communication systems and structures within the organization, and organizational communication, which includes other types of communication</li> <li>Management communication connects organizational communication with business communication and corporate communication</li> </ul>
van Riel - 1997	The aim of the study is to provide an overview of corporate communication research, focusing on achievements in the international literature in both the communication and business school disciplines.	Empirical research	<ul style="list-style-type: none"> <li>The function of the content of corporate communication is to convey the image of the company, the "identity" of the company and to achieve a consistent impression or reputation among the stakeholders</li> <li>Unified corporate communications policy uses a symbol, name, logo, or a basic message / content</li> <li>Communication policies are diverse, which is reflected in the fact that the company operates through a number of product brands, business unit brands and corporate brands</li> </ul>

Argenti & Forman - 2002	The aim of the book is to address the imbalance between the importance and relative neglect of corporate communication, to make the field of corporate communication visible and to present its influential role.	Empirical research	<ul style="list-style-type: none"> <li>The corporate communications function is responsible for communicating with internal and external stakeholders</li> <li>Corporate communication is the totality of the corporate voice and the images it projects.</li> <li>Identity is the main building block of corporate communication and the only part of reputation management that is fully controllable.</li> <li>Corporate communications managers need to be able to answer "what we represent and why we exist" questions</li> </ul>
Steyn – 2003	The purpose of the article is to stimulate debate on the meaning of the concept strategy in a corporate communication context.	Empirical research	<ul style="list-style-type: none"> <li>Corporate communication strategy helps the organization to adapt to its environment by striking a balance between commercial requirements and socially acceptable behavior</li> <li>Organizational communication is involved in identifying and building relationships with stakeholders, problems, and the audience around them.</li> <li>Corporate communication supports the implementation of corporate, business and other functional strategies</li> <li>Corporate communication aligns communication goals with the organizational mission</li> </ul>
Andersen & Rasmussen - 2004	The aim of this study is to discuss how firms manage relationships with foreign markets through subsidiaries in terms of communication.	Phone inquiry + questionnaire research 30 Danish companies with French subsidiaries - 15 evaluable answers	<ul style="list-style-type: none"> <li>The purpose of corporate communication is to preserve the design and maintenance of individual organizational solutions</li> <li>Organizational communication can be divided into 2 parts: core communication (which involves close cooperation between the customer and the employees at the company's headquarters) and functional communication (which involves the implementation of the agreement by the parties involved in the innovation process and a two-part relationship) creates a division of duties and responsibilities</li> </ul>
van Riel & Fombrun - 2007	The aim of the book is to help the reader understand and apply key theoretical concepts that illustrate the extent to which communication with a company's key audiences depends on the company's internal and external communications.	Empirical research	<ul style="list-style-type: none"> <li>In corporate communication, professionals disseminate information within an organization in order to increase the organization's ability to survive</li> </ul>
Zerfass - 2008	The main aim of the study is to outline an interdisciplinary theory of corporate communication.	Empirical research	<ul style="list-style-type: none"> <li>Corporate communication includes all communication processes that contribute to the definition of tasks and the implementation of those tasks within for-profit economic organizations</li> <li>Organizational communication contributes to the internal and external coordination of actions</li> </ul>
Cornelissen – 2008	The main goal of the study is to define corporate communication.	Empirical research	<ul style="list-style-type: none"> <li>Corporate communication maintains favorable organizational relationships with groups on which the business depends</li> </ul>
Kim – 2011	The aim of this study is to examine a synergistic model of corporate communication strategy.	Questionnaire research Consumers aged 25-65 – 301 responses	<p>There are 3 types of corporate communication strategy:</p> <ul style="list-style-type: none"> <li>A corporate capabilities strategy that focuses on communicating with the organization to provide quality products and services</li> <li>Corporate social responsibility - emphasizes the company's promise and fulfillment</li> <li>Hybrid strategy - includes both communication strategies</li> </ul>
van Riel - 2012	The aim of the book is to provide guidance for implementing stakeholder engagement strategies, highlighting organizations that employ communication professionals.	Empirical research	<ul style="list-style-type: none"> <li>Corporate communication is a relational function that supports the strategic coordination and positioning of companies</li> </ul>
Frandsen-Johansen – 2014	The aim of this study is to define corporate communication.	Theoretical overview	<ul style="list-style-type: none"> <li>Corporate communication is a strategy management function that is related to the overall strategy of business</li> <li>Aims to build, maintain, change and / or improve a positive image / reputation of the company</li> </ul>
Mihai - 2017	The aim of this study is to define corporate communication.	Empirical research	<ul style="list-style-type: none"> <li>Corporate communication features include public relations management, internal communication, shareholder interaction, and corporate advertising</li> <li>All these functions include communication with internal and external public, which can be directly managed and controlled</li> </ul>
Oltarzhevsky - 2019	The aim of the study is to differentiate corporate communication channels based on typology by indicating their application characteristics and to institutionalize the concept of corporate media.	Empirical research	<ul style="list-style-type: none"> <li>Corporate communication channels are constantly changing in line with the development of information and communication technologies and the changing communication behavior of the audience</li> <li>Businesses today still actively use corporate communication to interact effectively with society, implement marketing strategies, increase employee motivation, strengthen corporate culture, and promote consumer and customer loyalty</li> </ul>

### 3. EFFECTS OF COVID-19 ON EMPLOYEES

The ongoing COVID-19 epidemic poses both a global health crisis and a threat to the national economy. Business and industrial shutdowns aimed at curbing the spread of the virus have posed unique challenges for employers and employees. The workers affected by the redundancies almost overnight fell into one of three categories:

- Home workers (WFH)
- Essential/life support workers
- Additional or laid off employees

From an organizational point of view, economic downturns are likely to fundamentally change certain industries, accelerate trends, and offer an open opportunity for new industries to emerge. Given the shock and uncertainty caused by the epidemic, work and organizational psychologists urgently need to apply their current knowledge when developing new solutions in order to make sense of the importance of risk management. COVID-19, in addition to accelerating unconventional work routines, has also accelerated ongoing trends, resulting in a shift in focus to work online or in a virtual environment. Working from home has often responded to employment references in the past, but the epidemic situation has forced a huge number of workers to work from home. However, this type of work presents a number of challenges. Maintaining work-life boundaries is often seen by workers as a challenge, but it can easily become a burden, and effective communication and proper information flow, as well as monitoring, can run into problems that pose risks as they increase stress and intrude on privacy. Such remote and automated control can centralize decision-making and can contribute to the lower creativity of employees working at a lower organizational level. AsMak and Kozlowski (2019) observed before the pandemic that the number and importance of virtual teams show an increasing trend. Team virtuality is a multidimensional concept that includes, among other things, the geographical distribution of team members as well as the relative amount of synchronous e-communication. Increased team virtuality as a result of a crisis situation affects employee behavior. The rapid growth of virtual teams offers an opportunity to answer new questions and develop interventions that help improve teamwork in a virtual environment. The role of managers in identifying gaps that affect employees is particularly clear and key. Due to the crisis, millions of employees working from home are needed, which requires effective leadership. Key issues in the effectiveness of leaders will be how convincing, if

- clearly state their values that guide corporate actions
- understand and openly discuss their collectives
- clearly communicate their ambitious ideas
- demonstrate the achievement of strategic goals

In addition, the way in which the evaluation system will work must be taken into account. For a longer period of time, telecommuting can reduce the opportunity for employees to receive feedback from managers, and the lack of learning opportunities related to knowledge sharing also carries the risk of declining organizational commitment. In addition to the immediate effects of the epidemic, it is important to highlight the socio-psychological, health and economic problems that affect workers. The loss of social connections is likely to have a negative impact on most workers. To support physical distance, both the requirement to work from home and the elimination of job crowds are to some extent detrimental to people's mental and physical health. The negative risk of online relationships, misunderstandings from inadequate communication, increase staff concerns about interpersonal rejection, which contributes to loneliness. Due to the uncertainties caused by the pandemic, businesses need to support the health and well-being of workers. For tensions like this, the coronavirus has contributed to an increased risk of burnout in the workplace.

To address this, workers need new resources, which requires managers to implement top-down interventions in order to balance work needs and resources. Organizations should consider immediate resources (information), psychological resources (feedback, support), and review their compensation policies to ensure that they do not encourage employees to put pressure on each other (Kniffin et al., 2021). The long-term effects of the current health epidemic are difficult to estimate. The epidemic has forced many businesses to close, but they have "survived" and faced challenges such as health, safety, supply chain, labor, cash flow, consumer demand, sales and marketing (Donthu, 2020). In 2021, József Poór and his colleagues conducted a research on the challenges of the coronavirus crisis in Hungary and the related HR responses. They state that HR managers had to react quickly to an unfamiliar situation in order to help their employees adapt to radical changes at work and to support managers in creating and maintaining safe working conditions. Their study concluded that while in the first phase of the epidemic the biggest challenge involved internal communication, retaining the workforce, and providing telecommuting, in the second phase the focus was on maintaining the workforce, proper documentation, and motivation. Protecting mental health, especially minimizing employee fear, can now be defined as a kind of HR managerial task. Based on the responses, it was concluded that the digitization function will be the key to change, as technological development and the application of innovative solutions have been accelerated by the current period. Based on their results, the field of human resource management is facing a significant change that will be determined by flexibility and digitalization. The sudden change forced employees to do their work from home, which affected both employees and managers. In order to continue to achieve their best results, managers need to change their communication and management routines, which also means that the crisis is contributing to a change in management paradigms, as working from home presupposes a higher level of organizational trust in which both sides have a key responsibility. is important. Presumably, the role of the leader in this process of change will be re-evaluated and a completely new, different management culture will have to be developed (Poór et al, 2021).

### **3.1. Crisis, corporate communication and knowledge sharing**

In today's unstable environment, conditions are changing extremely fast and information is evolving at a rapid pace. In this situation, in addition to reliable and up-to-date information, businesses must also place great emphasis on the role of proper and effective crisis communication (Abrams-Greenhawt, 2020). The internal crisis communication perspective includes the need for information and communication between managers and employees about the acute phase of the crisis, and emphasizes the internal role of communication. Several researchers (Falkheimer & Heide, 2006; Reber & Berger, 2006; Bowen, 2009; Falkheimer & Heide, 2010) stressed that crisis management is an area where the communication profession can demonstrate its value as well as influence influential processes. Although communication professionals are indispensable resources for crisis management, they consider it an open question whether they can influence strategic issues and have legitimacy in internal crisis communication. Nowadays, the main question is not whether a crisis will develop, but rather when. The crisis situation is a process that develops in three stages, which includes the pre-crisis, the crisis and the post-crisis period. By a broader interpretation of the crisis situation, we mean that the order of the system is destabilized, which causes considerable uncertainty and requires rapid intervention (Heide & Simonsson, 2014). Every crisis situation is unique, managers and employees cannot rely on a pre-written plan, they must be able to improvise and make fixed decisions (Falkheimer & Heide, 2010). In 2009, Steyn concluded that educational roles play an extremely important role for communication professionals. In 2013, Zerfaß and Franke argued that the role of an internal advisor facilitating employee communication is one way to implement a communication organization that allows communication professionals to

expand their responsibilities and roles within the life of the organization. A distinction is made between the role of communication professionals in a narrower and broader interpretation of crisis management. In the narrow sense, emphasis is placed on operational and tactical communication aspects (writing press releases, disseminating rapid information), and in a broader perspective, these aspects need to be supplemented with leadership roles and strategic communication aspects. In their 2014 study, Heide and Simonsson state that the main focus in times of crisis is on informing employees quickly through multiple media. Furthermore, it is mentioned as a key factor that employees should be given the opportunity to discuss the current situation with their managers and co-workers. This factor is essential because employees are organizational ambassadors who also discuss the information they receive with other stakeholders. Communication professionals and company leaders need to provide fast, up-to-date and reliable information to their employees, and they need to ensure that internal communication is continuous. Communication professionals should therefore also be internal consultants who help to formulate messages and identify the actors with whom the business needs to communicate (Heide-Simonsson, 2014). Organizations need to be prepared to communicate with both external and internal stakeholders in times of crisis. As mentioned earlier, each crisis is a unique, difficult-to-follow plan, and it is an additional problem that different stakeholders have different interpretations of the crisis and the crisis communication itself, depending on their knowledge. Internal and external information is not enough for employees to meet their needs, for internal crisis communication to be successful, managers must be aware of the company culture, be able to improvise, and listen to their employees and their sensory needs. Strandberg and Vigsø achieved the following results in 2016:

- The differences between external and internal crisis communication need to be taken into account - they have come to the conclusion that when management does not provide complete information, employees create their own justice based on their own interpretation of the situation. Communication in all similar situations is key on the one hand to help employees understand, make sense and move on, and on the other hand to maintain trust.
- A crisis can reinforce existing patterns of dysfunctional culture - a lack of commitment and trust within a unit can allow for fraud within the organization and also reveal the potential for misconduct.
- Don't make employees scapegoats - if management takes responsibility, they can have more power to act, change routine and culture within the unit. Appointing a single person as a scapegoat may seem like an easy way out, but it does provoke internal opposition that prevents the organization from conducting an in-depth analysis that would contribute to organizational learning as a whole.
- Present the facts as a part that fits into existing narratives - the management narrative of employees that is limited to them by laws and regulations contradicts the narrative of employees in their own workplace. (Strandberg & Vigsø, 2016)

Nothing proves the importance of internal crisis communication better than the fact that Olsson stated in 2014 that customer-oriented communication, i.e. the provision of information to the internal public in times of crisis, is a key factor in maximizing survival and recovery. Two years later, Frandsen and Johansen argued that the interactions of organizational members through communication play a key role in the resilience of businesses (Kim, 2020). The role of employees in adapting successfully to a changing environment, as well as in fostering productivity, is as important as the company's efforts to overcome the crisis. In particular, the active knowledge-sharing activities of employees play a role in making quick and effective decisions, as this behavior involves the free flow of useful and novel information within the organization. This type of active information and knowledge sharing is even more important in a crisis situation as it helps to identify and resolve problems quickly and effectively.

Businesses need to develop a strategy that ensures knowledge sharing among employees even in times of crisis. Managerial behavior also plays a key role in effective crisis management, they should encourage employees to actively adopt knowledge behavior (Lee et al., 2020). As the organization communicates and supports employees about change, they will have a direct impact on their attitudes and strategies used to manage the process. In the event that employees recognize that a change can be positive for the organization, they are willing to support it with committed behavior and positive energy. In the current situation, it is key to consider the development of human resource practices to provide support, encouragement and job security to your employees. (Zito et al., 2021)

#### **4. CONCLUSION**

Although the importance of the role of corporate communication in the life of organizations is not new, the importance of its function in the current health crisis situation has been fully appreciated. Organizational communication is a key factor in the life of businesses, as today the success of a company is primarily determined by its own employees, who would not be able to transfer the right level of knowledge without effective corporate communication. In preparing our study, we found that the published publications (Shelby, 1993; van Riel, 1997; Argenti & Forman, 2002; Steyn, 2003; Andersen & Rasmussen, 2004; van Riel & Fombrun, 2007; Zerfass, 2008; Cornelissen, 2011 ; Kim, 2011; van Riel, 2012; Frandsen & Johansen, 2014; Argenti, 2016; Mihai, 2017; Oltarzhevsky, 2019) focus more on the general role of corporate communication. There are fewer studies on corporate communication about the current situation. Reddy and Gupta in 2020 put it that fear, mistrust, and resistance are common reactions during a pandemic, and reliable and credible sources of information are key factors in people's transition from awareness to action. (Reddy & Gupta, 2020) Adams and Walls last year examined how management can support the health workforce in such a difficult situation during a global epidemic. They concluded that transparent and thoughtful communication contributes to trust. Ensuring that employees feel that they are receiving support is extremely important in maintaining effective work performance in the long run. Frequent communication with managers, as well as feedback that complements clear, concise, and comprehensive communication, helps maintain a sense of security (Affiliations & Walls, 2020). Based on the results of previous and recent research (Gumus, 2007; Sánchez et al., 2013; Reddy & Gupta, 2020; Adams & Walls, 2020), it can be fully stated that the effectiveness of corporate communication is essential for successful operation, knowledge sharing between organizational individuals and influences individuals' attitudes toward the organization, helping to create a common sense, organizational norms, values, and culture. It can also be seen that the pandemic has completely changed the lives of the whole world, including businesses. A great many workers have been forced to work from home, in which the application of proper corporate communication to operate effectively has been a huge challenge. Proper information and knowledge sharing is even more important in times of crisis to identify problems quickly. There are many opportunities for businesses to communicate, but the goal remains to develop a strategy that ensures knowledge sharing among employees despite the current situation. In our research question, we were curious about what communication problems the current epidemic situation has brought to the surface, and what difficulties businesses have to deal with. The first problem worth mentioning is motivation and isolation. Employees may lack the security provided by their colleagues, their managers, they may feel ignored. Employees who joined an organization before a pandemic period have not yet developed a sense of belonging, which can lead to isolation. Lack of internal corporate communication can weaken events within the organization. In terms of motivation, it is extremely challenging to move motivational factors to virtual space in crisis situations. It is also difficult to pay attention to people's mental health, anxiety, and signs of harmful mental health problems, as the home office and communication

barriers make it difficult to recognize these factors in a timely manner. Many organizations face pressures that require public commitment and awareness. Care should be taken to share messages that have a direct impact on employees first. In addition, businesses need to consider the sources of internal communication functions. To ensure a motivated workforce, it is essential to involve employees in organizational tasks that require continuous internal communication messages, but the use of information and communication technologies also requires special skills that can cause problems for employees. For internal communication to work effectively, it is important to review messages regularly and make sure employees understand the most important messages. In 2020, McKinsey & Company produced a management guide that includes how to communicate with employees, stakeholders during the current epidemic. It has been stated that communication professionals need to provide employees with information that is designed to encourage peace of mind. As employees begin to follow safety instructions, the quantity and quality of inside information needs to be expanded. Managers must also pay attention when designing an internal communication strategy, that the more complex, abstract information they provide to employees, the more difficult it will be to process, i.e., messages should be simple, concise, and workable. Once safety requirements are defined, managers have an important role to play in helping their employees cope emotionally with the trauma of sudden change and crisis, and this requires trust. In order for trust to develop, they must always focus on the facts, make their decisions transparent, involve their employees in decision-making, and share their own feelings with employees. Once trust is built, it is important to build resilience, in which the transmission of positive emotions and the encouragement of employees play a key role. As employees begin to adapt, effective managers begin to focus more and more on helping their employees interpret events, aided by clear goals, continuous communication.

## **5. LIMITATIONS AND FUTURE DIRECTIONS OF THE RESEARCH**

When evaluating our results, it is important to consider the characteristics of the solutions used in our research, the most important of which is how much the given keywords and excerpts cover the actual content largely depends on our own, subjective judgment. Research constraints include the fact that the crisis situation persists to this day, and corporate communication is constantly changing due to adaptation to the environment, and the fact that the effective application of organizational communication varies from company to company. From the point of view of the study, it is expedient to carry out primary data collection in the future, within the framework of which it can be examined how the role and significance of corporate communication changed during the pandemic in terms of knowledge sharing. Another possible research direction is to examine the growing importance of the role of information and communication technologies, which also has an impact on the effectiveness of corporate knowledge sharing. As this is a current phenomenon, future studies may yield interesting results.

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## IMPACT OF SUSTAINABILITY CERTIFICATION ON THE FINANCIAL PERFORMANCE OF POCS IN MALAYSIA

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### **ABSTRACT**

*Upon the mandatory MSPO certification adoption passed by the Malaysian Government by 2019, a lot of Malaysian palm oil companies are reluctant to comply due to the high initial costs and the commitment to remain sustainable. Previous research has reported that the high cost to be certified could not be covered by the low sales for certified sustainable palm oil (CSPO). The goal of this research paper is to encourage Malaysian palm oil companies to be willing to commit to this sustainable scheme to not only mitigate the harm palm oil plantations have caused to the environment but also benefit their company's performance in the long run. Previous research has looked into the performance of certified and non-certified companies using a single performance measure, but this paper uses three performance measures: profitability, liquidity, and efficiency, to prove that being sustainable is profitable. 21 listed Malaysian palm oil companies are categorized into RSPO and non-RSPO certified between 2015 to 2019 to compare the difference in performance. Spearman correlation, GLS regression, and Mann-Whitney U tests are used to analyse the data. Our findings have shown that sustainability-certified companies perform better in terms of profitability and efficiency but not liquidity. Therefore, it can be concluded that sustainability certifications are worth the cost in the long run.*

**Keywords:** MSPO, Palm Oil, Financial Performance, RSPO, Sustainability Certification

### **1. INTRODUCTION**

Sustainable is defined as something that can be maintained and continue to be operated in the long run. In terms of production systems, it would mean to preserve yield in perpetuity at some stage (IUCN, 2018). However, it is not simple as it seems. Due to the social, economic and environmental impacts under the spotlight, consumers will never be satisfied at any current "sustainable" initiatives. Besides that, protesters against palm oil (PO) are still actively promoting the zero-palm oil movement. They are poorly educated and are not aware that other forms of vegetable oils would pose a much detrimental damage on the environment. PO plantations take only 6.6% land use while it accounts for 38.7% output of total oil production which is 5-8% more productive compared to other vegetable oils and use significantly less land for a high yield (European Palm Oil Alliance, 2016). Despite the demand of CSPO from Europe and Americas, the reality is that most of the sales only come from the two markets, being CSPO sold to them only account for 16% of global PO domestic supply in 2014 (Food and agriculture Organization [FAO], 2017). Therefore, making PO sustainable is however challenged by low demand from the two world's largest importers of PO according to Workman (2019) - India (21.9%) and China (16.7%). Ultimately, non-sustainability-certified (NSC) companies are reluctant to adopt sustainability certification (SC) because of the profitability factor. Those being certified are not doing far better financially than those that are not, in fact, more cost in terms of effort and financing has increased their burden. With the mandatory certification of the uptake of MSPO by 2020, this paper aims to prove that being sustainable gives POCs (POC) a competitive advantage by measuring company profitability, liquidity and efficiency against SCs. A total of 21 Malaysian POCs from upstream and/or downstream industries were chosen as part of this research.

The research hypothesis is: H1: Being sustainable improves the profitability of a firm; H2: Being sustainable reduces the liquidity of a firm; H3: Being sustainable improves the efficiency of a firm.

## **2. LITERATURE REVIEW**

This chapter explains what SCs are to understand why they are introduced. After that, the concerns and debate on the firm performance of RSPO-certified companies compared to NSC companies. This is to deduce whether it is worth the costs of adopting a SC by looking into how well a company has performed with and without the impact of the certifications. This section constitutes of five sections: (i) company profitability, (ii) CSPO demand, and (iii) firm valuation.

### **2.1. Sustainability Certification**

Two certifications have been introduced to promote sustainable PO practices in Malaysia. The Malaysian Sustainable Palm Oil (MSPO) standard is a national certification standard established by the government of Malaysia to support the sustainable operation of medium and small-scale growers who could not afford RSPO certification. It was originally introduced in November 2013, but it was only formally implemented in January 2015. The Malaysian government has announced that MSPO certification is to be mandatory from 2020 onwards, in February 2017. Therefore, as of 30 June 2020, around 96% of Malaysia's 4.06 million hectares (ha) of oil palm land has acquired the MSPO certification (Kaur, 2020). On the other hand, the Roundtable on Sustainable Palm Oil (RSPO), a non-profit organization founded in 2004, is the main certification standard for producers of PO. While it is voluntary, it allows companies to adhere to national laws and regulations.

### **2.2. Sustainability Certification and Firm Performance**

Firm performance can be explained by three categories: profitability, demand and value.

#### *2.2.1. Sustainability Certification and Firm Profitability*

Preusser (2015) has shown that higher the degree of certification, the higher the average CPO price. Given there are demands for CSPO, the results tell us that the more certified a company is, the higher the return they would gain. However, B.A.M. Shahida and Fuad (2018) found that the difference was only by 2%. Not only that demand for CSPO is low, the initial cost to become certified is very high (Basiron and Yew, 2016). Salman, Najib and Djohar (2017) added that due to the inability of the premium to cover the costs, the NPV of a non-RSPO certified company is of higher monetary value than a certified company. Preusser (2015) also conducted a survey enquiring about the low uptake of RSPO. It was clear that companies refuse to become certified due to the high costs required. Therefore, Basiron and Yew (2016) have concluded that there is zero economic benefit to adopting RSPO certification which even led to the suggestion that Malaysia is better off investing on other sectors such as healthcare rather than on the oil and gas industry. However, the decision for a company to go sustainable is normally not because of its monetary benefits, but for other reasons. Bansal and Roth (2000) identified three main reasons for sustainable practices: maintain competitive position, policies and regulations, environmental awareness. This means that being sustainable is necessary to survive in the long-run, whether the company is willing to invest capital in adopting SCs or not. Therefore, delaying the adoption would not make the company significantly financially better. This is proved by Yeong, Mark, Suryani, Shaufigue and Marcel (2019), where a research have been conducted to know whether early adopters of SCs attain a better financial performance compared to those that adopter at a later time.

### 2.2.2. Sustainability Certification and Demand

Surprisingly, even though end-consumers demand for CSPO and heavily protest against non-CSPO, research finding has proved otherwise. Basiron and Yew (2016) has shown that the demand for CSPO is low, sales being only 45% of its production. The contrasting consumer behaviour greatly goes against the stakeholder theory that should be an important driver of sustainability. Consumers have a mixed view on paying a premium amount for the sustainability benefits in a product despite saying they would, while react aggressively to negative business incidents (Auger and Devinney, 2007). Reardon, Padfield and Salim (2019) and Hinkes and Christoph-Schulz (2020) found out that consumers were reluctant to purchase CSPO due to the pricing factor.

### 2.2.3. Sustainability Certification and Firm Valuation

A lot of research is done on the link between SC and firm profitability but not much on firm valuation. Recently, firm value is important for investors due to the emerging trend and movement on sustainable investing. Joshua Levin (2012) reported that the economic benefits exceed the financial costs of adopting SCs. At first, firms decided to adopt RSPO for the price premium attached by CSPO. But after some time of adoption, firms began to experience higher overall performance not due to price premiums, but increased efficiency from the enhanced internal processes of the firm. Being certified has made firms significant return on their investments, supported by Yeong, Brindal, Dirham, Sidique and Djama (2019). SC companies performed better than NSC companies while also able to maintain the consistency of superior performance. In addition, certified companies are relatively more resilient and able to recover from downturns faster than NSC companies. Preusser (2015) examined the operational efficiency of POC and discovered that companies which possess a greater area of plantation being certified (>40%) has a higher FFB yield, oil extraction rate and net CPO yield than companies with smaller certified land (<20%).

## 3. METHODOLOGY

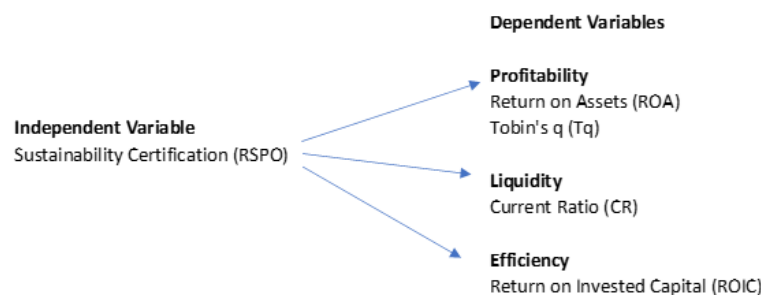


Figure 1: Relationship between the independent variable and dependent variable

This study uses Osiris Database to extract data from annual reports of the POCs selected that are publicly listed on Bursa Malaysia. 21 companies are categorized into RSPO and non-RSPO certified between 2015 to 2019 to compare the difference in performance. MSPO is not considered because it is relatively new and not widely adopted in the time frame analysed. The initial sample was 42 companies. However, due to missing data and change of year end, the companies have been filtered down to 21 companies, among them 6 are RSPO certified. Previous research has looked into the performance of certified and NSC companies using a single performance measure, but this paper uses three performance measures: profitability, liquidity, and efficiency, to prove that being sustainable is profitable. Under Profitability, ROA and Tq is used; liquidity is measured by current ration; and efficiency with ROIC.

Current ratio and ROA was directly given in the database but no ROIC and Tq. Therefore, figures for ROIC and Tq must be calculated manually using the data extracted from the database. ROIC is calculated using the formula  $\frac{\text{Net Profit}}{\text{Capital}} \times 100\%$  while Tq (Chung and Pruitt's, 1994) is calculated using the formula  $\frac{\text{MVE} + \text{PS} + \text{DEBT}}{\text{TA}}$ . Lastly, the control variable used in this research is the log of total assets. Spearman correlation, GLS regression, and Mann-Whitney U tests are used to analyse the data.

#### 4. RESULTS AND DISCUSSION

This chapter analyses the results to show if CS companies perform better than NCS companies.

##### 4.1. Spearman Correlations

Spearman Correlation is used because the distribution is not normal, to test the hypothesis for RSPO and profitability ( $H_1$ ), RSPO and liquidity ( $H_2$ ), RSPO and efficiency ( $H_3$ ). Correlation coefficients illustrate the strength and direction of a link between variables of nonnormally distributed continuous data (Schober, Boer and Schwarte, 2018; Obilor and Amadi, 2018).

			Correlations				
Control Variables			RSPO	ROIC	ROA	CR	TQ
Log	RSPO	Correlation	1.000	.204	.232	-.024	.550
		Significance (2-tailed)	.	.037	.018	.809	.000
		df	0	102	102	102	102
	ROIC	Correlation	.204	1.000	.834	.247	.257
		Significance (2-tailed)	.037	.	.000	.011	.009
		df	102	0	102	102	102
	ROA	Correlation	.232	.834	1.000	.227	.328
		Significance (2-tailed)	.018	.000	.	.021	.001
		df	102	102	0	102	102
	CR	Correlation	-.024	.247	.227	1.000	.073
		Significance (2-tailed)	.809	.011	.021	.	.464
		df	102	102	102	0	102
	TQ	Correlation	.550	.257	.328	.073	1.000
		Significance (2-tailed)	.000	.009	.001	.464	.
		df	102	102	102	102	0

Table 1: Results from Spearman Correlation with control variable

According to Table 1, there was a weak positive correlation between ROIC and RSPO  $r_s(103) = .20$ ,  $p = .037$ . There was also a weak positive correlation between ROA and RSPO  $r_s(103) = .23$ ,  $p = .018$ . However, there was a weak negative correlation between CR and RSPO  $r_s(101) = -.02$ ,  $p = .809$ . Lastly, there was a significantly positive correlation between TQ and RSPO  $r_s(103) = .55$ ,  $p < .001$ . The weak relationship between the variables is largely due to the size factor. Large companies have a higher potential and capacity to increase their profitability and efficiency, but also have a larger debt than smaller firms. The negative liquidity is caused by the initial costs a company must bear in the first few years of RSPO adoption. However, it does pay off in the improved efficiency for the production process. Overall, there is a positive relationship between sustainability certification and financial performance. The null hypothesis for all the variables: ROIC, ROA, CR, and TQ could not be rejected. This is consistent with Panjaitan, I (2017), Lo and Sheu (2007), Yeong, Mark, Suryani, Shaufique and Marcel (2019), and B.A.M, Shahida and Fuad (2018).

#### 4.2. Random Effect Regression

Random effect regression was chosen instead of a fixed effect regression is due to the collinearity issue present in the dataset. A panel data line graph was generated to show the trend of the variables from 2015 to 2019 with a comparison between RSPO and non-RSPO companies. The model can be written as:

$$Y_{it} = \alpha_i + \beta_n X_{it} + \beta C_i + \epsilon_{it}$$

Therefore, the models for all the variables will be written as:

$$ROIC_{it} = \alpha_i + \beta_1 R_{it} + \beta C_i + \epsilon_{it};$$

$$ROA_{it} = \alpha_i + \beta_1 R_{it} + \beta C_i + \epsilon_{it}$$

$$CR_{it} = \alpha_i + \beta_1 R_{it} + \beta C_i + \epsilon_{it};$$

$$Tq_{it} = \alpha_i + \beta_1 R_{it} + \beta C_i + \epsilon_{it}$$

Where  $\alpha_i$  is a scalar constant that represents the effects of omitted variables that are unique to the  $i$ th firm and that remain constant over time (Hsiao, 1986). In this model,  $I$  represent the cross section which is the 21 companies while  $t$ , the time series of year 2015 to 2019. The independent variable RSPO is given by  $R_{it}$ , that equals 1 if a firm is not a member of RSPO and 2 if a firm is a member of RSPO. ROIC, ROA, CR and Tq are represented by  $ROIC_{it}$ ,  $ROA_{it}$ ,  $CR_{it}$  and  $Tq_{it}$  respectively.  $C_i$  shows the control variable which is size that has the proxy of log of total assets.

*H1: Being sustainable improves the profitability of a firm*

```
. xtreg ROA RSPO Log, re
```

Random-effects GLS regression	Number of obs	=	105
Group variable: CompanyID	Number of groups	=	21
R-sq:	Obs per group:		
within = 0.0271	min =		5
between = 0.2180	avg =		5.0
overall = 0.1183	max =		5
corr(u_i, X) = 0 (assumed)	Wald chi2(2)	=	5.60
	Prob > chi2	=	0.0607

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
RSPO	3.324798	2.416458	1.38	0.169	-1.411373 8.06097
Log	1.730777	1.694287	1.02	0.307	-1.589965 5.05152
_cons	-11.93421	9.596883	-1.24	0.214	-30.74376 6.875334
sigma_u	3.7963938				
sigma_e	4.808648				
rho	.38397061	(fraction of variance due to u_i)			

Figure 2: Results of the GLS between ROA and RSPO

Figure following on the next page

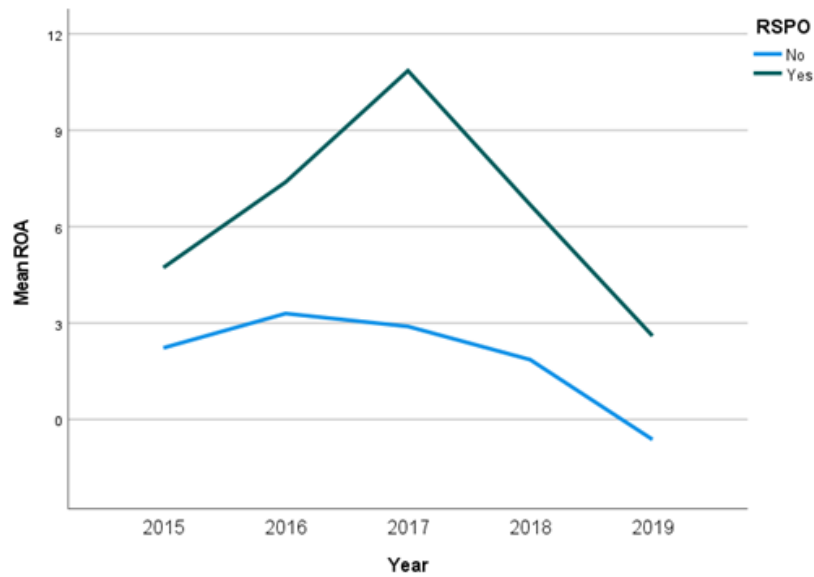


Figure 3: 5-year trend of mean ROA between RSPO and non-RSPO companies

According to the probability to chi square in Figure 2, the model is not statistically significant because the p-value ( $P = .0607$ ) is more than .000. Other than that, it is also expected to have a 3.324798 increase in the dependent variable ROA if a company adopts RSPO. The panel data graph on the right illustrates that ROA of RSPO certified firms have increased drastically from 2015 until 2017. The decline in ROA since 2018 might be due to the negative growth of the agriculture sector as a whole in Malaysia. The Department of Statistics Malaysia (2019) reported that there was an improvement in the palm oil sector but not for the rubber and Forestry and logging which have sought a decline in GDP. The trend of mean ROA for non-RSPO members is similar but the change is subtle. Their mean ROA is also lower than that of RSPO members.

```
. xtreg TQ RSPO Log, re
```

Random-effects GLS regression	Number of obs	=	105
Group variable: CompanyID	Number of groups	=	21

R-sq:	Obs per group:
within = 0.0943	min = 5
between = 0.4015	avg = 5.0
overall = 0.3839	max = 5

corr(u_i, X)	= 0 (assumed)	Wald chi2(2)	= 15.74
		Prob > chi2	= 0.0004

TQ	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
RSPO	.8311847	.2146872	3.87	0.000	.4104054 1.251964
Log	-.0993159	.1267301	-0.78	0.433	-.3477024 .1490705
_cons	.535197	.7349883	0.73	0.467	-.9053536 1.975748
sigma_u	.38615761				
sigma_e	.12134659				
rho	.91012724	(fraction of variance due to u_i)			

Figure 4: Results of the GLS between Tq and RSPO



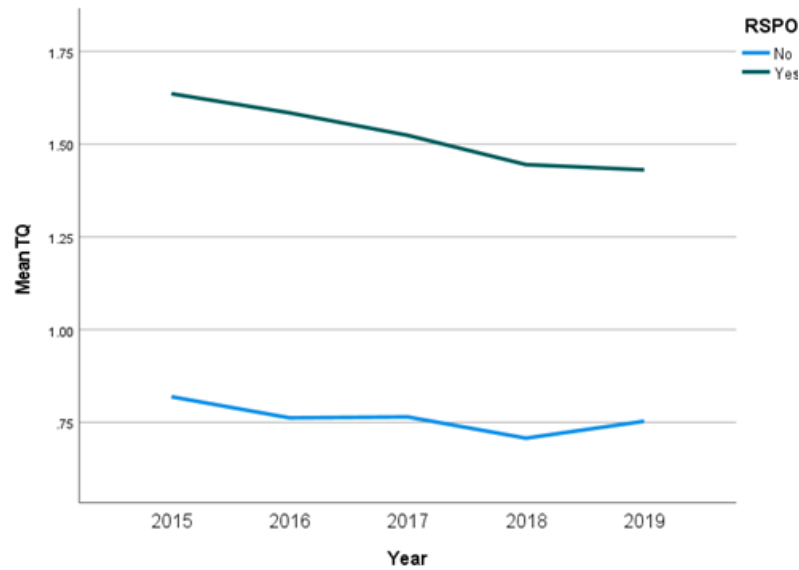


Figure 5: 5-year trend of mean Tq between RSPO and non-RSPO companies

The probability to chi square in Figure 4 shows the model is statistically significant because the p-value is less than .000. Therefore, there will be a .8311847 increase in the dependent variable Tq if a company is RSPO certified. The line graph shows the trend of mean Tq across the five-year period. This means RSPO members have a high mean Tq compared to non-RSPO members. Both groups have sought a gradual decline in market value but the line for RSPO members is steeper. The results are consistent with the hypothesis that a certified company will gain an increase in profitability (H1) in terms of both ROA and market performance. RSPO companies are able to generate more income efficiently from the capital they have invested. Being certified also increases a company's market value, especially when sustainable investing is an emerging practice. This is consistent with Panjaitan, I (2017), Lo and Sheu (2007), and B.A.M, Shahida and Fuad (2018).

## H2: Being sustainable reduces the liquidity of a firm

```
. xtreg CR RSPO Log, re
```

Random-effects GLS regression	Number of obs	=	105
Group variable: CompanyID	Number of groups	=	21

R-sq:	Obs per group:
within = 0.0003	min = 5
between = 0.1390	avg = 5.0
overall = 0.1309	max = 5

corr(u_i, X)	= 0 (assumed)	Wald chi2(2)	= 2.02
		Prob > chi2	= 0.3642

CR	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
RSPO	-3.131765	6.179379	-0.51	0.612	-15.24312 8.979595
Log	-3.561903	3.46048	-1.03	0.303	-10.34432 3.220512
_cons	33.3699	20.24544	1.65	0.099	-6.310437 73.05023

sigma_u	11.696388
sigma_e	3.1538489
rho	.93222071 (fraction of variance due to u_i)

Figure 6: Results of the GLS between CR and RSPO

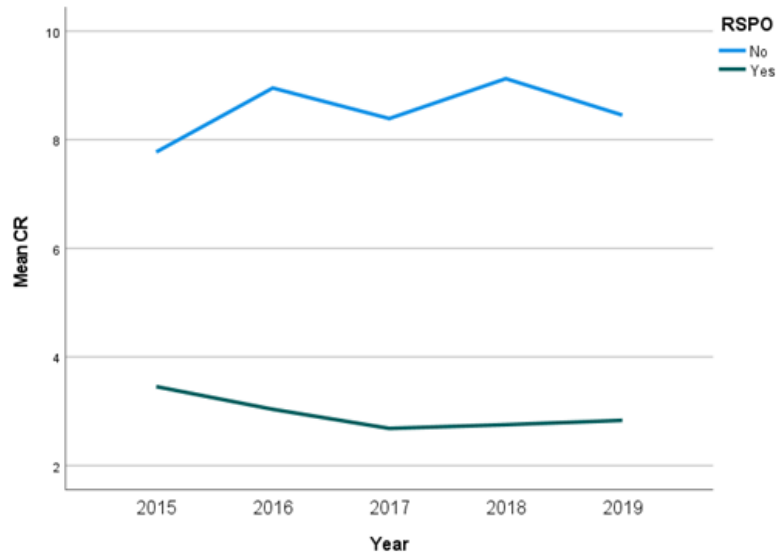


Figure 7: 5-year trend of mean CR between RSPO and non-RSPO companies

Figure 6 shows the probability to chi square shows that the data is not statistically significant because  $P > .000$ . Even so, there will be a 3.131765 decrease in current ratio if the company is an RSPO member. Similarly, the line graph illustrated that RSPO-certified companies will have a low current ratio. Their current ratio is also consistent, and does not fluctuate like those without the RSPO certification. Having a low current ratio is due to a high amounts of borrowings because POCs are capital intensive in nature. Having enough funds is also difficult for RSPO members due to the expensive membership and the large amount of costs required to maintain being sustainable as an RSPO member.

### H3: Being sustainable improves the efficiency of a firm

```
. xtreg ROIC RSPO Log, re
```

Random-effects GLS regression  
 Group variable: CompanyID

Number of obs = 105  
 Number of groups = 21

R-sq:

within = 0.0284  
 between = 0.2013  
 overall = 0.1210

Obs per group:

min = 5  
 avg = 5.0  
 max = 5

corr(u\_i, X) = 0 (assumed)

Wald chi2(2) = 5.34  
 Prob > chi2 = 0.0691

ROIC	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
RSPO	4.445626	4.039002	1.10	0.271	-3.470672	12.36192
Log	3.531277	2.818212	1.25	0.210	-1.992316	9.05487
_cons	-25.93876	15.97225	-1.62	0.104	-57.24379	5.366269
sigma_u	6.5738574					
sigma_e	7.1346062					
rho	.45916304	(fraction of variance due to u_i)				

Figure 8: Results of the GLS between ROIC and RSPO

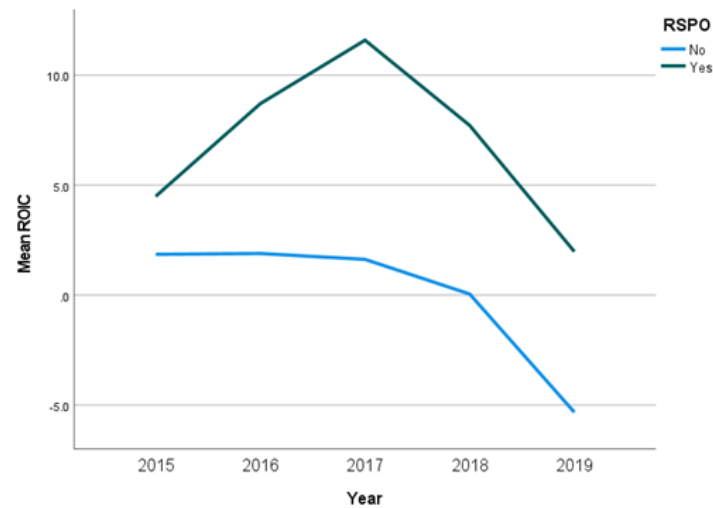


Figure 9: 5-year trend of mean ROIC between RSPO and non-RSPO companies

According to Figure 8, the probability to chi square revealed that the data is not statistically significant because  $P > .000$ . An RSPO member will see an increase in ROIC by 4.445626. This is as illustrated in the line graph that the ROIC of a certified sustainable company is higher than that of a non-RSPO certified company. Like ROA, the mean ROIC dipped drastically after 2017. This is consistent with Yeong, Mark, Suryani, Shaufique and Marcel (2019).

#### 4.3. Mann-Whitney U Test

Ranks				
	RSPO	N	Mean Rank	Sum of Ranks
ROIC	No	75	45.6	3420
	Yes	30	71.5	2145
	Total	105		
ROA	No	75	46.57	3493
	Yes	30	69.07	2072
	Total	105		
CR	No	75	53.99	4049.5
	Yes	30	50.52	1515.5
	Total	105		
TQ	No	75	42.79	3209
	Yes	30	78.53	2356
	Total	105		
log	No	75	43.84	3288
	Yes	30	75.9	2277
	Total	105		

Table 2: Mann-Whitney U Test Ranking for RSPO and Non-RSPO Companies

Test Statistics <sup>a</sup>					
	ROIC	ROA	CR	TQ	log
Mann-Whitney U	570	643	1050.5	359	438
Wilcoxon W	3420	3493	1515.5	3209	3288
Z	-3.937	-3.419	-0.528	-5.433	-4.873
Asymp. Sig. (2-tailed)	0	0.001	0.597	0	0

a. Grouping Variable: RSPO

Table 3: Mann-Whitney U Test Statistics

Due to the data being nonnormal, a nonparametric test known as Mann-Whitney Test is used to compare the outcomes of the two groups: Non-RSPO and RSPO. The results have shown that RSPO members have a higher mean rank than non-RSPO members in terms of ROIC, ROA and Tq. The CR for certified firms are however, lower than that of non-RSPO companies. Other than that, the test statistics show that  $P < .05$  so the null hypothesis could be rejected. Therefore, we can assert that the certified companies perform relatively better than NSC companies based on the sample. The largest difference in rank between the variables would be Tq of 42.79 for non-RSPO companies and 78.53 for RSPO companies. It is a total of 35.74 difference in rank. This means that market value is substantially improved with the adoption of SCs. The weakness of using this test to analyse the difference between the two groups is that Mann-Whitney test assumes that the distribution is not normal and of a similar nature. However, the standard deviation and skewness for the two groups (RSPO and non-RSPO) is not equal. A more accurate test for this would be the Levene's test. The P-value for ROA is less than .05, it implies that the null hypothesis for the nonparametric version of the homogeneity of variance test is rejected. Therefore, the assumption of equal distribution between the two groups has not been satisfied. Therefore, we are unable to interpret the p-value from a nonparametric Whitney statistic on the data. This applies to CR and TQ as well because their p-value is less than 0.05. On the other hand, only ROIC reported a p-value of 0.328 which satisfies the assumption of equal distribution.

## 5. CONCLUSION

This research aims to prove that sustainability certifications are worth pursuing for, not only because it will help mitigate the environment's battle with deforestation, but also because it will benefit the companies in terms of enhanced financial performance. The profitability, liquidity and efficiency of RSPO and non-RSPO firms were being compared in this research. The findings show that RSPO-certified firms perform better in terms of profitability, after considering the return on assets as well as market value of the firm. Besides hypothesis 1 being proved correct, the third hypothesis also proves that a firm's efficiency would increase after being certified. However, because increased efficiency requires intensive capital investment, the liquidity of the firm would reduce. Again, it answers the second hypothesis. Even though there may be a benefit of adopting sustainability certifications, there may be potential issues when it comes to the mandatory government implementation of MSPO. The rise of this concern is based on how the Indonesian government dealt with issues on the mandatory ISPO. A research done by Hidayat, Offermans and Glasbergen (2017) to analyse the effectiveness of ISPO to make a positive sustainable impact in palm oil production. Governance capacity is critically investigated and found that there was a misalignment of objectives between the government and ISPO. While the mandatory MSPO adoption in Malaysia has just started to be carried out in early 2020, the struggles of committing to sustainable certifications in the long run will be expected. What the government can do now is to improve the education of palm oil to the general public as well as stakeholders of the palm oil industries. Similar to the conclusions and findings of the studies by Levin (2012), Yeong, Brindal, Dirham, Sidique and Djama (2019), Preusser (2015), Lo and Sheu (2007) and Wagner (2010), education is the key to the acceptance of sustainability certifications as well as the increase of its adoption. Lastly, it would be helpful for researchers to research on the developments and adoption of MSPO after it has been taken up mandatorily. This is because the uptake of MSPO is currently too low to be able to research on this. Other than that, it would be interesting to see the difference in performance for firms adopting RSPO and/or MSPO.

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## COVID-19 AND VULNERABILITY IN THE MAGHREB: SUPPORT FOR THE EXPERIENCE OF MOROCCO AND ALGERIA

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### ABSTRACT

*Our paper has as title: "Covid-19 and vulnerability in the Maghreb: Support for the experience of Morocco and Algeria". The Maghreb is completely out of step in a multipolar world where regional communitarianism becomes the golden rule. A world where the health variable becomes a vector of power. There is no doubt that the coronavirus epidemic is globally contained in the Maghreb. The inequality of citizens in the face of the health crisis leaves an even more serious problem than that of the survival of the vulnerable classes. The informal sector considered the "lifeline" of the less fortunate has been put on hold for several months with all that this implies as a risk of disturbing public order. Despite officials talking about a downtrend, social tragedy seems inevitable. However, it is clear that the results are well below the levels reached in Europe. We intend to carry out an overview of the pandemic situation in the Maghreb countries while focusing our attention on the impact of Covid-19 on vulnerability in the two large countries of the region. Of course, efforts have been made and the worst has been narrowly avoided. However, it is clear that a climate of uncertainty portends an improbable future for the underprivileged classes.*

**Keywords:** *Poverty, vulnerability, coronavirus, Maghreb, inequality*

### 1. INTRODUCTION

The Maghreb's reaction to Covid-19 is completely heterogeneous. A term such as cohesion is completely absent from the intra-regional lexicon. Each country is immersed in its own concerns. Strikes and social tensions in Tunisia, failure of the Islamist government in Morocco, protest and renewal of Hirak in Algeria suggests a bleak future for joint management of the post-pandemic period. The Maghreb is completely out of step in a multipolar world where regional communitarianism becomes the golden rule. A world where the health variable becomes a vector of power. There is no doubt that the coronavirus epidemic is globally contained in the Maghreb. Despite officials talking about a downtrend, social tragedy seems inevitable. However, it is clear that the results are well below the levels reached in Europe. "As an opportunity effect, the containment measures recommended by the WHO are the only ones that the countries of the zone were in a position to actually apply. Their security forces were called upon as well as the Moqadem network to limit the mobility of citizens and reduce local economic activity at the risk of provoking social tensions. A difficult political choice, but the only one available"<sup>1</sup>. The lack of resuscitation beds, nursing staff and medical coverage and all kinds of medical infrastructure penalizes the countries of the region. The inequality of citizens in the face of the health crisis leaves an even more serious problem than that of the survival of the vulnerable classes. The informal sector considered the "lifeline" of the less fortunate has been put on hold for several months with all that this implies as a risk of disturbing public order.

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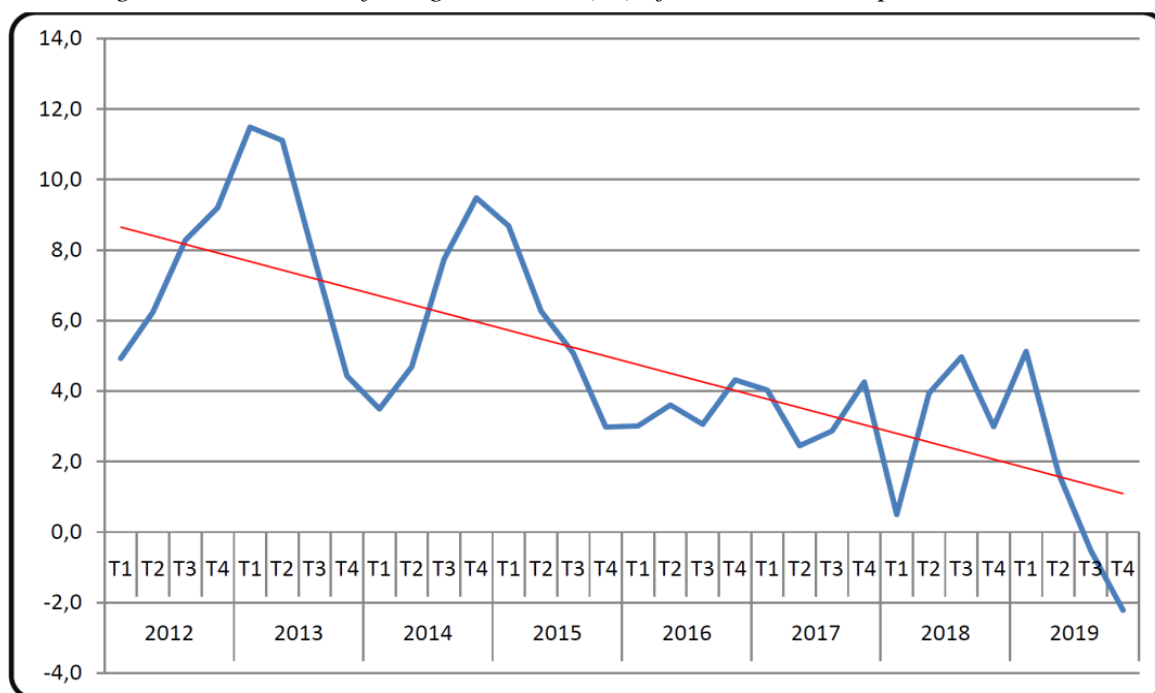
<sup>1</sup> Boussel P. ; The Maghreb facing Covid-19 , Foundation for Strategic Research, Note 26/20, April 22, 2020

As part of this analysis, we intend to carry out an overview of the pandemic situation in the Maghreb countries while focusing our attention on the impact of Covid-19 on vulnerability in the three large countries of the region. Of course, efforts have been made and the worst has been narrowly avoided. However, it is clear that a climate of uncertainty portends an improbable future for the underprivileged classes.

## 2. ALEGRIA

The Algerian economy has a growth mainly driven by hydrocarbons and public investment. The effects of the economic crisis caused by COVID-19 on oil prices make it possible to use this as an instrumental variable to understand the effect on the economy without the risk of being mistaken because of the share represented by hydrocarbons. In exports (98%), in tax revenues (60%) and in GDP (19%). Of all the commodities listed on the stock exchange, oil is the most affected by COVID-19. Even before the arrival of the virus in Algeria, the weakening growth of the GDP (1% in 2019 against 1.4% in 2018), was already explained by the negative evolution of the production and the prices of hydrocarbons, as well as by the weak diversification of the Algerian economy. A slowdown in growth was recorded even in non-hydrocarbon sectors since non-hydrocarbon growth fell from 3.3% in 2018 to 2.6% in 2019. A slowdown was recorded in the building, public works and housing sectors (BTPH), agriculture and commerce. This trend is structural for many variables such as, for example, the growth of public and private investment, the evolution of which described by the graph below (ONS) shows a net decline since 2012 and negative in 2019.

*Figure 1: Evolution of the growth rate (%) of Gross Fixed Capital Formation*



*Source: ONS National Accounts 2019*

Since the early 1980s, the debate around a rentier economy heavily dependent on hydrocarbons has animated discussions. For more than 40 years the viability of the Algerian development model has raised questions. The need for in-depth reform aimed at export diversification has been put on hold during periods of soaring oil prices, particularly in the first decade of the 21st century. The question of diversification of the Algerian economy has been brought up to date since 2014 without this having a real impact on the main orientations of Algerian officials.



In the face of the Hirak of 2019, timid measures have been taken to calm social discontent. This continued by making detainees among the demonstrators. The press was not spared. As of February 21, 2021, some 30 prisoners of conscience have been identified. Weakened, Abdelaziz Bouteflika was dismissed and replaced by Abdelmajid Tebboune on December 19, 2019. A very controversial election since one suspects the intervention of the Algerian army in the electoral process. The Covid-19 crisis has come to complicate the task of the newly "elected" president. With the appearance of the virus, the country was already on standby, the fall in hydrocarbon prices combined with a drying up of foreign exchange reserves and an effervescent Hirak, Algeria is experiencing one of the worst crises in its history. . The specter of a food crisis has been heightened by the pandemic. Milk, oil and flour are the subject of price speculation, putting pressure on vulnerable populations and thus accentuating the climate of anxiety from which many Algerians suffer. It will be difficult to assess the COVID-19 epidemic on the most vulnerable groups without neutral and serious studies. This being the case, it is certain that the consequences of the pandemic on poverty indicators will not only be monetary but rather multidimensional. Without social protection, daily workers and their families are at risk of significantly feeling the effects of COVID-19. In the MENA region, some 62% of working women work in the informal sector. Therefore, the effects of COVID-19 are likely to have a strong impact on women working in this sector. In Algeria, although the results of the ONS activity-employment-unemployment survey show a drop over the past ten years in the number of workers not affiliated with social security, this number remains high because it is estimated at 4.7 million workers (i.e. 41.8% of the working population in 2019). It should also be noted that the climate of censorship in Algeria makes it difficult to publish precise and transparent figures concerning the vulnerability of the population. These include in particular day laborers, servers, construction workers, transport workers, domestic workers, etc., who have been heavily impacted by the containment. The granting of a bonus of 10,000 DA (in two installments) for vulnerable households has not resulted in an improvement in the situation of the populations concerned. This bonus, usually scheduled for the month of Ramadhan, could not reach the number of people targeted, due to difficulties encountered during online registration. For the UNDP: "Among other things, low-income households will feel the interruption of six months of school meals, which benefits more than three million children, as they will have to serve an additional meal per day per child. The absence of school meals can thus further impoverish already vulnerable households, while exacerbating the risk of malnutrition of these children if no compensatory measures are taken. Low-income households also have to face the additional costs related in particular to the purchase of basic hygiene products to prevent themselves against COVID-19. Monetary pressure on households from COVID-19 can hinder access to healthy, varied and adequate nutrition, with consequences more strongly felt by children. It can also modify consumer behavior, for example pushing them to reduce the variety of foods to save money"<sup>2</sup>. The pandemic has also led to an unprecedented drop in transfers from the Algerian diaspora. World Bank statistics on remittances to their countries of origin was \$ 1.8 billion in 2019, more than \$ 300 million less compared to 2018 when remittances were estimated at more than \$ 2 billion. , \$ 15 billion. The economic downturn caused by COVID-19 is likely to make this situation worse with all the consequences it could have in terms of exacerbating deprivation. The study carried out, under the direction of El Mouhoud<sup>3</sup> (2008), attests to the existence of an impact of transfers on poverty reduction. *"Migration also makes it possible to reduce the poverty rate regardless of the scenario, although the impact is slightly less important in the "simple" estimate.*

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<sup>2</sup> UNDP, Rapid analysis of the socio-economic impact of Covid-19 on Algeria and proposals for a sustainable and resilient recovery, 2020

<sup>3</sup> Impact of remittances on poverty and inequalities: lessons from two new surveys conducted in Morocco and Algeria, FEMISE Study Report (2013), p. 61.

*The poverty rate reaches 8% for the observed situation (i.e. 584 households) and rises to 24.4% (i.e. 1,783 households) when transfers and migration are abolished. Thus, migration and remittances would have a positive influence on poverty in Algeria, dividing the number of needy households".* Another study, carried out by Abdoune Benallaoua (2009) provides empirical evidence showing a direct link between transfers and the level of well-being, at least at the level of the study region.<sup>4</sup> In Algeria, multidimensional poverty affects nearly 3 million people. Between 21% and 27% of children under 16 are affected by multidimensional poverty. However, these figures hide strong regional disparities; poverty being more concentrated in the regions of the Sahara and the steppe areas. The territories most affected by multidimensional poverty among those under 25 are in the South (27.6%), the Haut Plateaux-Center (22.5%) and the Haut Plateaux-Ouest (20%). By stratum of residence, deprivation is greater in rural areas (24.4%) than in urban areas (14.1%). Algeria could experience, following the COVID-19 crisis, an increase in poverty indices in a multidimensional sense. Anxiety is gaining ground in Algeria because of the excessive confinement and the stress generated by the loss of employment of a good part of the vulnerable Algerian population. This has resulted in increased levels of domestic and spousal violence. Faced with the changes engendered by Covid-19, the United Nations Population Fund estimates that in its latest report, the home is no longer really a safe place for women and girls. The closure of schools has, for its part, led to an exacerbation of child abuse, not to mention dropping out of school. Children with disabilities or living in remote areas are the first affected as well as children from poor families are the first affected by this scourge. Distance education has complicated matters for this segment of the population. Indeed, not having access to distance learning tools, adolescents leave school prematurely since Covid-19, according to them, has accentuated discrimination against vulnerable populations.

### 3. MOROCCO

The Moroccan economy, like those of the rest of the world, has been hit hard by the pandemic and its repercussions both because of the essential protection measures taken internally but also because of those of total restrictions taken by other countries. The sectors most affected by the coronavirus crisis are services 21.9%, commerce 20.6%, industry sectors 13.5%, construction 12.7%, events 10, 5%, agriculture 5.7%, tourism 5.2% and crafts 4.3%. At the same time, the strategic or essential structures that ended up in partial cessation of activity did not exceed 17% of losses<sup>5</sup>. The harmful repercussions of this health crisis will be felt on the pace of Morocco's fiscal consolidation, gross financing needs and debt, following the increase in socio-economic expenditure of 215.4 billion Dirhams, the shutdown of exports, transport, logistics and tourism revenues. 13.9 billion Dirhams and transfers linked to Moroccan nationals down establish direct investments abroad by 54.5 billion Dirhams. The financial markets have also been impacted by the collateral damage of the Covid-19 pandemic, in view of the drastic drop in all stock market values. In just two weeks, from April 27 to May 9, 2020, the values of companies listed on the Casablanca Stock Exchange fell to 498 billion dirhams while they were valued at 630 billion dirhams at the end of the month of February 2020. The banking sector is among those which are fully exposed to the Covid-19 crisis and its economic consequences, seriously affected by the fall in the prices of values Attijariwafa Bank has suffered a loss of 24 billion Dirhams, the BCP of 11 billion of Dirhams, the BMCE Bank of Africa of 9 billion Dirhams. The best-listed companies also suffered a drop in valuation for Maroc Telecom of 24 billion Dirhams, LafargeHolcim Maroc of 13 billion Dirhams, Taqa Morocco and Marsa Maroc saw their valuation drop by 5 billion Dirhams. Regarding the social component, over the past twenty years, Morocco has achieved a significant reduction in monetary poverty, from 15.3% in 2001 to 4.8% in 2014 according to the HCP.

<sup>4</sup> <https://regionetdeveloppement.univ-tln.fr/wp-content/uploads/14-BENALLAOUA.pdf>

<sup>5</sup> [Http://www.haut-commissariat-au-plan.gov.ma](http://www.haut-commissariat-au-plan.gov.ma)

However, new World Bank estimates, based on per capita income, indicate that the incidence of poverty could reach 6.6% in 2020. Moreover, due to the economic and social crisis triggered by COVID-19, the proportion of people "vulnerable to poverty" and / or "poor" could drop from 17.1% of the population in 2019 to around 19.87% in 2020, or 1.058 million additional people<sup>6</sup>. Moroccan society is made up of formal sector employees who are perfectly supervised in terms of statutes, but a significant part of the workforce is also made up of informal workers, which has obviously created, by nature, sometimes extreme situations. A huge part of this working population found itself both without resources due to the shutdown of companies and other structures, but also in a complex situation in terms of everyday life. The confinement has imposed the cessation of all social and societal habits, participation in weddings, funerals, and visits breaking a social chain that new technologies have not been able to sufficiently replace. The traditionally religious and family period of Ramadan was a unique experience because of the constraints imposed which modified the usual perimeter of this time and in particular because of the curfew at the time of the breaking of the fast.

*"The differences between social strata have made it more difficult to live together. An apartment of thirty square meters (30m<sup>2</sup>) where five to six people live was barely bearable, during a period of confinement it became incredibly difficult, because more possibility of access to the Moorish baths, to take the air in the public squares. So many possibilities of escapes that have disappeared overnight"*<sup>7</sup>

Finally, with the closure of places of worship, cafes and other meeting places, the population, especially the middle classes, has been strongly impacted. In the light of these few points proposed here, we understand that the impact has been strong on the most fragile layers and mainly because of the losses of wages or incomes, which sometimes made it possible to live tomorrow with the money earned today. Faced with the violence of the shock, it was not surprising to observe massive job losses and, consequently, a decline in the standard of living of a large segment of the Moroccan population. The abrupt shutdown of the economy has led to numerous job and income losses, especially in the particularly vulnerable informal sector. Affected workers are mainly found in the most affected sectors such as tourism, retail, textiles, clothing industries, transport and logistics in supply chains. Indeed, given the relatively low wages of many workers in this sector, a loss of employment and income can be extremely damaging and push them into poverty. More than a third of employees affiliated to the CNSS state that their employer has placed them on unpaid leave. In addition, the recent survey published by the HCP, examining the impact of COVID-19 on the economic, social and psychological situation of households, reveals that 34% of them have lost their source of income. The HCP report also indicates that 83% of households depend on social solidarity as a source of income while 22% use their savings to mitigate income losses. This situation is partially alleviated by government assistance to compensate for the loss of employment (19% of households) -. The services sector is the first affected, according to the results, with staff cuts of 245,000 people. The survey also shows that around 60% of households where a member has lost their job have difficulty accessing government assistance, with a rate of 54.5% in urban areas and 68% in rural areas. . Nationally, 21% of households are calling for an acceleration of government aid, including 19% in urban areas and 26% in rural areas. Moroccan women are likely to be disproportionately affected by the economic and health consequences of the epidemic. The share of women in the active population in Morocco is 21.3% and is concentrated in the agricultural and industrial sectors.

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<sup>6</sup> High Commission for Planning, United Nations System in Morocco and World Bank, Strategic Note : Social and economic impact of the Covid-19 crisis in Morocco, July 2020

<sup>7</sup> Club de Casablanca, Africa facing Covid, September 2020.

However, the crisis and the containment measures have particularly affected this sector. 38.5% of working women work in the service sector, one of the most affected. In addition, about 17% of women in non-agricultural employment work in the informal sector, which makes them more vulnerable. Since 52% of RAMED (Medical Assistance Scheme) beneficiaries are women, some have received income loss assistance as head of household (18.4% of Moroccan women are heads of household). The epidemic is increasing the tasks of girls and young women caring for elderly and sick family members<sup>8</sup>. In these conditions, social balances would be clearly weakened and the risk of seeing higher rates of vulnerability and poverty in perspective is considerable. The most exposed population is those operating in the informal sector, 80% of which do not have social coverage (El Aynaoui and Ibourk, 2018). This is mainly divided between textiles and clothing, transport, construction, trade and catering, sectors where declarations of cessation of activity have reached an average of 67% and which are struggling to regain their cruising speed. (HCP, 2020). Although the state compensated this population who declared themselves vulnerable, this did not prevent people who have totally lost their income and have no savings, from falling into the specter of poverty. This trend was amplified by an increase in food inflation reportedly attributable, in particular, to the 5.6% increase in the prices of fresh produce, in particular citrus, contributing +0.6 points. It would also have been due to the 1.4% increase in tobacco prices, which took place following the increase in their import duties in August 2020. Food inflation excluding fresh products, would have, at the Conversely, continued to decline, at a rate slightly higher than that recorded a quarter earlier, i.e. -1.1%, year-on-year. This deceleration would have been favored, on the one hand, by the continued decrease in meat prices and, on the other hand, by the fall in the prices of non-alcoholic drinks, in addition to the attenuation of the rise in the prices of meat products, eggs and oils and fats. For its part, the rise in the prices of non-food products would have resulted in particular from the increase of 1.9% in the prices of services, after + 1.6% a quarter earlier, in connection with the increase in the prices of transport and dental services, in the wake of the additional costs associated with health measures. However, these developments would have been slightly offset by the fall in the prices of manufactured products, in particular those of clothing. On the other hand, core inflation, which excludes public tariffs, fresh products and energy, would have decelerated to + 0.6% in the third quarter of 2020, after + 0.8% in the second quarter, in the wake of the slowdown in the prices of its food and manufacturing components. Over the whole of 2020, inflation should stand at + 0.8%, after + 0.2% in 2019, while its underlying component will remain at + 0.6%<sup>9</sup>. In addition to strict public health measures that have enabled the country to react quickly against the evolution of the pandemic, Morocco has also set up the National COVID-19 Fund (amounting to nearly USD 3.3 billion to end of May) in order to mitigate the impacts of the pandemic on vulnerable businesses and households while allowing higher health allowances. In addition to monetary measures, it could help prevent the bankruptcy of a large number of companies, especially SMEs, and save jobs. An economic watch committee (CVE) has been set up at the level of the Ministry of the Economy, Finance and Administrative Reform, in charge, on the one hand, of monitoring the evolution of the economic situation through mechanisms rigorous monitoring and evaluation and, on the other hand, to identify the appropriate measures in terms of support to the affected sectors. The CVE has thus decided on an action plan to be carried out until the end of June with a first series of measures and is preparing a national recovery plan. The country has also prepared an amending finance bill, in order to rebalance public accounts and support the sectors and categories strongly affected by the crisis. Why is it important to target vulnerable populations?

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<sup>8</sup> World Bank, Morocco Economic Situation Monitoring Report, July 2020.

<sup>9</sup> Haut-Commissariat au Plan, Conjoncture in France, n° 37- October 2020.

Morocco, like many other countries in the world, can learn lessons from the establishment in 1983-84 of structural adjustment programs (SAP), the negative impact of which on the social sectors required an effort of more than 30 years to try to reduce the inequalities generated. However, the current crisis has a unique character, which also calls into question the viability and the priority of the positive reforms undertaken by the country on the social level in the face of an economic crisis, which will probably require a reallocation of financial resources. Strengthening social protection therefore seems to be an appropriate and viable response to the negative impacts of COVID-19 on vulnerable populations operating in the different segments of the Moroccan economy. Furthermore, the vulnerability of populations to the crisis also concerns access to basic services, in particular health and education. In this regard, UNICEF emphasizes that the priority given to COVID-19 in the health response can negatively affect access to regular and primary health care (vaccination, pregnancy monitoring, etc.) or even the continuity of education, already uneven between the private and public sectors and between rural and urban areas. Identifying people in multidimensional vulnerability is a key element in the response to the crisis. Morocco already has, through the RAMED system, a first important database for identifying the people most vulnerable to the effects of the crisis. This made it possible to identify 15.1 million people (i.e. people with a RAMED card, valid or not) at risk of increased vulnerability. Measures are already in place to target this population. The COVID-19 crisis caused a health shock directly impacting the labor market. As explained above, informal workers are more vulnerable to impoverishment and disease, lacking the necessary social safety nets and support systems if they lose their livelihoods. It is therefore necessary to examine the impacts of the crisis on unemployment, underemployment, in-work poverty, but also the differentiated impact on vulnerable groups such as the self-employed, unprotected workers and people in employment, atypical forms of employment, urban and rural, especially young people and women.

#### **4. WHAT TO DO? SOME AVENUES FOR REFLECTION**

Covid-19 has enabled states including the Maghreb countries to realize the extent of the limits of their socio-economic systems. The first challenge that these states will face is that of adopting a policy of changing priorities while first putting people at the heart of development strategies, then it remains to develop post-crisis scenarios adjusted to revive economic activity for the sectors most affected by the current health crisis. In the era of digitization, E - government, E - learning, E - Commerce, teleworking, States must think about modernizing themselves and chasing out the archaic inherited habits in order to meet the needs of the population, to produce public policies that will elbow technological progress and protect the national economy. Indeed, in order to control the fallout from the social tragedy caused by this pandemic, the first project launched by Moroccan officials is to strengthen the social security system. The initial idea is to generalize the social security system in favor of 22 million people without health insurance, namely farmers, artisans, independent professionals. It is clear that this project represents a lever for integration into the national economic fabric, to guarantee the protection of the working class and its rights, as well as a decisive turning point on the path to achieving balanced development and social justice. The HCP underlines in its report "Repercussions of the Covid-19 pandemic on the economic situation of households" resulting from a survey carried out from June 15 to 24 among a sample of 2,169 households, that two-thirds of the employed have temporarily stopped working, ie 66.2%, including 88% among craftsmen and skilled workers and 79% agricultural laborers. (HCP 2020 - 2nd Covid-19 panel). This crisis also affected the self-employed, with a rate of 74%. The majority of these workers carry out their activities in the construction sector and in industry with rates of 84% and 75% respectively (HCP 2020 - 2nd Covid-19 panel).

The generalization of medical coverage has been put in place in favor of this population to provide them with protection against the risk of illness and to improve financial accessibility to care by participating in the financing of the health system. Like Morocco, Algeria has also been affected by the negative effects of the COVID-19 pandemic, which occurred at the wrong time, in addition to political uncertainty and the fall in oil prices. Knowing that Algeria has a highly developed social protection system, no post-COVID action has been taken to revive the socio-economic component. Note that the informal economy is present in the Moroccan economy to the tune of more than 20% of the GDP and is present in several sectors; in particular in textiles and clothing with 54%, 31% in the building sector, 32 % in road freight transport and 26% in the agrifood sector (CGEM, 2018). According to the Ministry of Economy and Finance, the informal economy is home to nearly 4.3 million households. The negative effects of this pandemic have hit this population hard, which is why it would be necessary to encourage them to turn to the formal sector by reducing transition costs and by offering more flexible financing conditions such as "INTELAKA" credits offered at reduced rates (i.e. 2%). These credits, intended for startups, have not received the expected success due to the missed processing and execution deadlines of the projects. According to the HCP briefing note on the labor market situation in the third quarter of 2020, the unemployment rate rose from 9.4% to 12.7% nationally. It is strongly recommended to encourage entrepreneurship and the creation of projects with a view to combating unemployment or at least reducing its level and contributing to the economic development of the country. According to the African Development Bank, Algeria, for its part, benefited for the year 2021 from several grants as part of the strengthening of investments in order to contribute to the financing of the renewable energy program, the strengthening of the governance of public enterprises and development support for small and medium-sized enterprises. This funding will ultimately make it possible to reduce the widespread unemployment rate among vulnerable populations affected by the negative effects of COVID-19.

- Conscious of their African identities, the Maghreb countries should bet on economic diplomacy for a better territorial attractiveness. Africa remains a great inspiration for Morocco, its efforts in terms of African integration sound the death knell that must be supported by certain actions, in particular:
- The Moroccan supply must be adapted to the African demand; in this sense, the Moroccan products bearing the label "Made in Morocco" must meet the needs of the African population with competitive prices compared to the Chinese, Turkish or Russian competition present on the Dark Continent.
- Although the French-speaking region of the continent is sought after by Moroccan investors, we can notice that the other zones (English-speaking and Portuguese-speaking Africa) are not yet exploited. Hence, the need for the establishment of a roadmap comprising a mapping and strategic areas of activity on which investors should rely for a better distribution in the continent in question.
- It is also a question of setting up a committee whose main mission is to monitor the establishment of any partnership or agreement between the various partners in order to avoid any overlaps noted and to ensure the smooth running of the project and the promotion or investment actions.
- Synergy between the public and private sectors is strongly requested in order to position Moroccan products and Moroccan expertise in this region and defend the economic interests of Moroccan industries. For this, the various stakeholders must develop action plans based on economic objectives, on risk management, on the managerial aspect, the promotional aspect, etc.

- Lastly, Morocco can play a leading role in terms of technical, scientific, cultural assistance and the exchange of expertise and experiences in several fields combined<sup>10</sup>. Take, for example, the social coverage project launched, this project is accompanied by the opening up of the health sector to foreign skills. This is therefore an opportunity to promote African skills knowing that Senegal is home to one of the largest faculties of medicine and pharmacies.

## 5. CONCLUSION

In the context of the current health crisis, states around the world have taken drastic measures to try to contain the spread of the virus. Except that the war against COVID-19 is far from over with the appearance of the variant of the new corona virus detected for the first time in India, the variant named B.1.1617 has been reported in 18 countries around the world including Morocco and Algeria. After seeing a glimmer of hope that of the vaccine in Morocco (the vaccination rate is 15%) as in Algeria (the vaccination rate is 0.1%), the concern is heightened compared to the new variant qualified by WHO as a variant of interest, which can easily escape vaccine immunity. States are therefore faced with several challenges, in particular the management of this new variant while ensuring the protection of the population in a precarious situation by offering them specialized programs to fight poverty. Despite the political conflicts between certain Maghreb countries, it would be preferable to show goodwill in order to succeed in the challenge of regional integration in North Africa, which appears to be a response to the difficulties encountered by the region in the shadow of the Covid-19, namely unemployment, poverty and others. Morocco, for its part, began during this year the construction of the port of Dakhla in the Sahara region considered Morocco's door to Africa, the goal of the actors is to put the necessary investment in terms of infrastructure to make it a major "hub" with continental and international influence. It will also be a huge "job provider" since by 2030, the new dynamic instilled by the future port is expected to generate 183,000 additional jobs. As we move forward in an uncertain future, we will have to learn from the past for better management of the negative effects of the health crisis on the most vulnerable populations. The objective is not only to defeat the pandemic but also to fight poverty which is likely to affect no less than 71 million people (who could fall into extreme poverty in 2020) due to the loss of income, the limits of protection social security and rising prices, even those who were previously secure could find themselves at risk of poverty and hunger. Hence the need for global solidarity and cooperation to create a more viable world.

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## **PROSECUTOR'S OFFICE OF THE REPUBLIC OF BULGARIA: INVESTIGATED CORRUPTION CRIMES AND COUNTERACTING CORRUPTION**

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### **ABSTRACT**

*The Bulgarian Prosecutor's Office shall ensure that legality is observed by bringing charges against criminal suspects and supporting the charges in indictable cases; overseeing the enforcement of penalties and other measures of compulsion; taking action for the rescission of all unlawful acts and for restoration in urgent cases of unwarrantedly exercised right, contested also by another; taking part in civil and administrative suits whenever required to do so by law. The main activity of the Bulgarian Prosecutor's Office, prosecuting and bringing charges against specific individuals, is unthinkable without the operational capacity of the executive bodies. In exercising its powers of detecting a specific criminal activity, it is necessary to establish a number of data, which will then be collected as evidence and verified in the course of criminal proceedings. This activity is worth much by detecting crimes of corruption.*

**Keywords:** *Prosecutor's Office of the Republic of Bulgaria, Law, Corruption*

### **1. INTRODUCTION**

One of the most significant results of the reforms carried out in recent years in the field of anti-corruption is the transfer of corruption cases under the so-called "high level corruption" by the territorial district courts and prosecutor's offices, respectively the Sofia City Court and the Sofia City Prosecutor's Office / having in mind their special competence according to Art.35, para 3 of the PPC /, in the Specialized Criminal Court and the Specialized Prosecutor's Office. The creation of specialized jurisdictions is a good, working European practice, which gives its positive results, including in our country. In this way, the dependencies that existed at the local level were overcome in the first place, within which quite often most cases of corruption crimes against mayors of municipalities and districts were finally resolved, as well as the corruption risk among magistrates was significantly reduced.

### **2. COUNTERACTING CORRUPTION**

A legal framework has been created in which bodies specializing in resolving the most serious cases in the country - for organized crime and terrorism, to consider corruption cases, which are of no less public importance. This facilitates the possibility of forming a permanent practice, which in turn would speed up the criminal process. This implements the recommendation made in the Independent Analysis of the Structural and Functional Model of the Prosecutor's Office and its Independence, carried out by the EU Technical Support Office in 2016, namely: to transfer corruption cases to the Specialized Criminal Court, "where there is a more constructive

interaction between prosecutors and judges and less formalism” (2016). It is generally accepted in the legal community in our country that the very formalistic Criminal Procedure Code needs to be amended / and even revised /, while the Criminal Code of 1968 needs a comprehensive review in order to be able to fully reflect current phenomena and trends in criminal activity. This opinion is shared as a finding in the report on the Independent Analysis of the Prosecution Model in 2016, highlighting a number of other shortcomings of the current substantive and procedural criminal law, which hinder not only the detection of corruption crimes, but also conventional crime in general. For example, the results of "preliminary checks", in cases where the signal submitted by a particular citizen or organization does not contain sufficient evidence of a crime, have no procedural value in the course of criminal proceedings. Therefore, it is necessary to repeat all these preliminary actions in the course of the criminal proceedings, but performed through the means of proof provided for in the Criminal Procedure Code and in compliance with the procedural guarantees provided in it, which in many cases are unnecessarily formalistic. This greatly complicates the procedural activity in terms of the amount of evidence gathered in the course of the investigation, due to which the two-month period for investigation provided by law (although with the option to be extended many times), seems unrealistic. Another example of increased formalism in terms of procedural rules is the lack of possibility for public statements of guilt expressed by a particular person to have probative value in court. There is also an opinion and recommendation, again by the experts who carried out the independent analysis of the structural and functional model of the Prosecution, for a comprehensive review of the principle of decision-making by prosecutors in their inner conviction, which they believe should be amended, especially in the part for the Prosecution. Another extremely serious problem for the law enforcement, related to formalism of Bulgarian criminal process, is the content of the indictment, which is the final prosecutorial act by which the case is submitted for consideration in the court phase of the criminal process. In this regard, some measures have been taken at the legislative level to simplify it, but the long-standing practice continues with the purpose for its content to be so detailed in fact as if the prosecutor who prepared it has been a witness - an eyewitness to the crime. This situation is a function of the excessive guarantees that the Criminal Procedure Code imposes on the right to defense of the accused. The recommendation set out in the Independent Analysis of the Structural and Functional Model of the Prosecutor's Office that the content of the indictment should contain in the possible shortest and most concise form the circumstances related to the crime, as well as a serious review of the so-called substantial procedural violations. The current provisions of the Criminal Procedure Code, regarding the indictments, not only create problems for the effectiveness of prosecutors but also create problems for the efficiency of the whole system of criminal justice. Compared to other EU member states, the indictments in our country require unnecessary level of detail. For the sake of precision in this regard, it should be noted that even in cases of high public interest (which should not be subject to unnecessary delays) it is common practice for judges to return cases to prosecutors due to minor omissions in the preparation of the indictment (2016), which is quite possible to be removed in the trial phase of the process. There are some positive legislative changes that have facilitated the trial phase of the process. For example, it is no longer necessary to read the indictment unnecessarily before the court, a copy of which the accused has available before the trial and the content of which he was obliged to acquaint himself with. Instead, an obligation has been introduced for the prosecutor to present to the court a summary of the facts of the indictment, which determine the criminal liability of the particular defendant. This is how another of the recommendations of the experts from the Independent Analysis was implemented. A number of issues can be defined with regard to the Criminal Code, especially in connection with the fight against corruption. And currently in our criminal law the provocation to bribe continues to be criminalized.

Taking into account the specific objectives that the "parties" pursue in granting and accepting the relevant benefit, this text of the Penal Code completely "undermines" the course of almost any criminal proceedings with such an object of investigation. The provision itself was adopted in 2000, in a historical period accompanied by numerous corrupt practices, mostly related to the processes of privatization of state property, and high levels of corruption risk. The state should implement a complex and differentiated approach in the individualization of the punishment of persons who have committed corruption offences. In this regard, legislative changes are needed to ensure the wider use of accomplices and other participating defendants (through agreements, if necessary) against the person committed the corruption offense (giving them the opportunity to be prosecuted first or granted immunity). The need to fully guarantee the protection of their physical integrity, given the risks that arise as a result of their assistance to law enforcement authorities is also taken into consideration. In this sense is one of the recommendations of the Independent Analysis (2016). It is necessary to redefine the meaning of Art. 282 of the Penal Code / the main composition of the official crime /, as the violation or abuse of official position does not apply to officials in companies, and the corruption crimes should refer to the private sector as well. There is some point in adopting provisions that criminalize the commission of the criminal offence itself, without the need to prove any harm caused by the breach of the public procurement rules (2016). It is necessary to introduce a legislative mechanism according to which confiscated property acquired in a criminal way should be "reinvested" for the purposes of criminal proceedings or to compensate the victims (2016). of the crime. Such a mechanism is partially available, with regard to citizens and legal entities, through the figure of the "civil plaintiff", but in cases of corruption offenses, for example, there is no mechanism by which the subject of the crime - the confiscated benefit of material nature in favor of the state, to be used for the purposes of forthcoming criminal proceedings. The improvement of the legal framework in the field of securing and confiscation of property acquired from criminal activity can be pointed out as contribution to the reforms for counteracting corruption. In accordance with the requirements of Directive 2014/42 / EU of the European Parliament and of the Council of 3 April 2014 (2021), definitions of "direct and indirect benefit" were introduced, fully covering the definition of "benefit" under Art. 2, item 1 of the Directive (Art. 53, para. 3, item 1 and item 2 of the Penal Code), the possibilities for confiscation of property have been expanded (Art. 53, para. 1, item "a" of the Penal Code) and an adequate mechanism for management of secured property until its subsequent confiscation (withdrawal) with an effective judicial decision has been established. The use of procedural methods for application of the precautionary measures under Art. 72 and Art. 72a of the Criminal Procedure Code (freezing of property) guarantee the actual execution of the property sanctions (fine, confiscation, confiscation in favor of the state). The occurred normative and structural changes make it possible the effectively implementation of interaction with the Commission for Anti-Corruption and Confiscation of Illegally Acquired Property in the implementation of the activities under Chapter Nine by the bodies under Art. 16, para. 2 of ACCIAPA and the management of the property in respect of which the measures have been applied (2018). The improved legal framework in the Law on Administrative Violations and Penalties (Articles 83a - 83g, in accordance with the recommendations of the Organization for Economic Cooperation and Development (OECD), introduced the standards of corporate responsibility for crimes under Article 3 of the Second Protocol to the EU Convention for the Protection of the Financial Interests of the European Communities (1997), Articles 2 and 3 of the OECD Convention on Combating Bribery of Foreign Public Officials in International Trade Transactions (1997) and Article 26 of the UN Convention against corruption, ensuring the application of administrative (non-punitive) sanctions against legal entities simultaneously and independently of criminal proceedings against natural persons, perpetrators of the criminal offence.

## **2.1. Heavily affected sectors of corruption**

- Political corruption;
- Misuse of public funds;
- Provision of administrative services;
- Inefficient work of control bodies.

The sectors most affected by corruption are related to the management of public funds (public procurement in the central and local government, licensing regimes), corruption in the system of control bodies and the provision of administrative services (Ministry of Interior, National Revenue Agency, Customs Agency, Executive Agency "Automotive Administration"). The identification of these sectors as affected by corruption has necessitated a number of measures and actions to effectively combat corruption in them. The results of the measures taken are available, evident from the numerous criminal proceedings initiated with such a subject, some of which are already in the court phase or with an effective conviction. By decision of the National Assembly of the Republic of Bulgaria of 13.03.2020, a state of emergency was imposed on the territory of the whole country due to the danger of the spread of Covid-19. The Bulgarian Prosecutor's Office was one of the first advocates of the thesis of prevention and emergency action. In order to prevent the spread, anti-epidemic measures were introduced against the population. As a result, our country registers one of the lowest morbidity and mortality rates in Europe. The Prosecutor General established an organization for counteracting crimes in the declared state of emergency in the country, forming a National Headquarters in the Prosecutor's Office to interact with the National Operational Headquarters for Combating Coronavirus in the Republic of Bulgaria (Order № RD-09-22 of 13.03.2020) of the Prosecutor General). The Prosecutor's Office of the Republic of Bulgaria has taken a number of measures to protect the public interest and health, related to the prosecution of violators of anti-epidemic measures, compliance with quarantine conditions and stopping the spread of false news. The fact that the COVID-19 pandemic increases corruption risks in the healthcare sector was taken into account. In a state of emergency and concentration of power, directing a lot of money to the economy to alleviate the crisis, corruption risks should not be underestimated. Transparency in the public sector is one of the most important means of preventing corruption. The need for regular and reliable information from public institutions is crucial in emergencies. The healthcare sector is particularly at risk due to the immediate need for medical supplies and protective equipment, which leads to simplification of public procurement rules. In this regard, the established National Headquarters in the Prosecutor's Office undertakes a number of inspections on signals from citizens, media and non-governmental organizations for possible illegal spending of public resources to combat the pandemic of COVID-19. Numerous investigations have been launched to curb speculation on food prices, medical supplies, safeguards, and fuel prices. A well-known Bulgarian politician has been charged with inciting the public to violate the anti-epidemic measures established in the country in the conditions of emergency. The Supreme Administrative Prosecutor's Office requested information from the Council of Ministers on the actions taken by the competent executive bodies related to the transformation of European Structural and Investment Funds (ESIF) and their transfer to other operational programs to support the fight against COVID-19. The investigation was initiated after a self-referral by the Deputy Prosecutor General at the Supreme Administrative Prosecutor's Office based on a publication in the media related to a decision of the Council of Ministers of May 7, 2020 to transfer European and national funds in the amount of 30,964,149 BGN (about 15 million EUR) from the Operational Program "Science and Education for Smart Growth" 2014-2020, for socio-economic measures to deal with the epidemic situation, vulnerable groups and affected economic sectors of the Bulgarian economy.

These should be transformed into the Operational Program "Human Resources Development" - in the amount of BGN 28,790,507 (approximately EUR 14.7 million) and in the Operational Program "Innovation and Competitiveness" - in the amount of BGN 2,155,642 (approximately EUR 1.1 million). With another decision to the Operational Program for Innovation and Competitiveness, the Council of Ministers redirected a resource from the transport and environment programs in the amount of BGN 134 million (about 68 million EUR). The Supreme Administrative Prosecutor's Office requested information on the actions taken so far by the competent executive authorities, which should contain data on the projects on which such funds have been spent so far to support the fight against COVID-19 - what they have been specifically spent for, as well as the amount. Given the measures taken by the Bulgarian Government to limit the negative economic consequences of the COVID-19 pandemic, large cash flows are distributed in the form of aid and support schemes to the private sector. There is a need for serious monitoring of the procedures for absorption of these funds, as there are prerequisites for the development of a corrupt environment. It is also possible for the beneficiaries of this aid to take corrupt actions, as well as forge documents in order to meet the necessary requirements for receiving state aid. In this regard, alerts alleging such wrongdoing are being considered with caution and speed, in order to prevent the waste of public resources that must be used as intended to control the negative economic consequences of the pandemic (Terziev, et al. 2021a; 2021b).

### **3. FUNCTIONS OF THE EXPERT COUNCIL ESTABLISHED BY THE PROSECUTOR GENERAL**

The Expert Council to the Prosecutor General of the Republic of Bulgaria was established in order to exercise the constitutional powers of the Prosecutor General of the Republic of Bulgaria under Article 126, paragraph 2 of the Constitution of the Republic of Bulgaria for methodological guidance on the activities of all prosecutors. It consists of representatives of the scientific community with high-level expertise in the field of law and prominent law enforcement specialists with proven professional experience and authority. The Council is not a collegial body and the tasks of its members are assigned individually, depending on the specific profile of the respective expert. The experts included in the composition of the Council shall provide opinions, consult or participate in the preparation of:

- draft requests of the Prosecutor General to the Constitutional Court;
- draft opinions on constitutional cases to which the Prosecutor General is a party;
- draft requests of the Prosecutor General for adoption of interpretative decisions to the Supreme Court of Cassation and the Supreme Administrative Court and of opinions of the Prosecutor General to the Supreme Court of Cassation and the Supreme Administrative Court on interpretative cases;
- drafts of normative acts sent to the Prosecutor General for approval or opinion;
- drafts of methodical instructions, instructions, rules and other internal acts;
- drafts of interdepartmental instructions and agreements for interaction in exercising the powers of the Prosecutor's Office of the Republic of Bulgaria;
- analyzes of the important for the administration of justice practice of the courts and prosecutor's offices on the application of the law;
- analyzes of the case law on general or specific issues related to the application of the law;
- analyzes of the case law of the European Court of Human Rights and the Court of Justice of the European Union on matters of principle or specific; scientific analyzes related to the activity of the Prosecutor's Office, as well as drafts of methodologies for the practical application of the achieved scientific results;
- lecture materials, manuals, collections and information publications for raising the qualification of prosecutors, investigators and court employees;

- other issues that require expert opinions or consultations in view of their significance for the work of the Prosecutor's Office and for the proper application of the law / outside the management and supervision of specific files and pre-trial proceedings /.

The Council plays a central role in preparing expert proposals for legislative changes. They are based on the prosecutor's office's endeavour to ensure better efficiency and speed of investigation. This is one of the recommendations in the Independent Analysis of the Structural and Functional Model of the Prosecutor's Office, in which the inspection team urges the Bulgarian authorities to consider the advice constructively and creatively in order to seek solutions to improve the system.

#### 4. CONCLUSION

Corruption has been one of the main priorities of the Prosecution in recent years. However, this activity is a small segment of the overall process of counteracting this type of activity - it is limited to criminal prosecution under current law of persons who have committed corruption offenses, as well as within a minimum degree of prevention, expressed in the supervision for legality (Terziev, Georgiev, Bankov, 2020a; 2020b). Reducing the levels of corruption, not only in our country, but also in Europe and worldwide, is a task and a challenge for every country. Criminal proceedings are not in themselves inherent in preventing this phenomenon, as the latter is inconceivable without the presence of political will to tackle corruption, effective interaction between the judiciary and the executive and the existence of adequate legislation.

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## THE ROLE OF CROATIAN ECONOMIC DIPLOMACY IN PROMOTING THE CROATIAN TOURISM DURING THE COVID-19 PANDEMIC

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### ABSTRACT

*This paper, in its main part, aims to conduct empirical research of the Croatian economic diplomacy's activities and the extent to which those activities have caused positive effects on Croatian tourism. The aim of this paper shall be achieved by determining the links and interdependence of institutional and informal economic diplomacy in periods of crisis that are crucial for the tourism of the Republic of Croatia. The hypothesis of this paper is the starting point of the research, which reads: "Croatian economic diplomacy fulfils its purpose if it systematically conducts activities to promote the tourism of the Republic of Croatia." The research in the paper will prove the assumption of the interdependence of economic diplomacy activities and economic results achieved during the COVID-19 pandemic. In this sense, the conducted empirical research explores the business entities' expectations from the economic diplomacy's activities and their effects. During September and October 2020, when there were indications of a possible "second wave" of the pandemic and restrictions that could further affect the economy, a survey was conducted among Croatian businessmen, which should provide more information about the effects of the Croatian economic diplomacy in the crisis period. The obtained answers can be used for analysis, discussion and drawing of conclusions. Standard statistical methods were also used to analyse and process the collected data by using adequate computer programs.*

**Keywords:** *economic diplomacy, COVID-19, pandemic, Croatian tourism, the crisis period*

### 1. INTRODUCTION

Viewed solely from an economic point of view, the pandemic caused by the COVID 19 virus has started the COVID economic crisis. The crisis caused by the coronavirus that halted the entire world economy for three months, in addition to the internet connection of economic systems across the planet, has exerted a negative impact equally on the largest economies as well as on the weakest ones. The closure of state borders, regions and cities, disruptions in food supply chains have placed economic activities on the back burner. International trade was halted, and bilateral and multilateral business agreements were put on hold. Nation-states have activated their reserves, launched subsidy systems, and launched all diplomatic activities to provide themselves with the necessary medical and ambulance equipment, as well as the supply of food and energy. In addition to the official communication channels used by the Ministry of Foreign and European Affairs - MVEP, many other channels of various agencies, chambers and unions were used, and numerous scientists, businessmen, athletes, prominent emigrants and even "ordinary" citizens working abroad have expressed their willingness to provide aid. In a

nutshell, informal economic diplomacy was activated, which is a situation akin to the one at the times of the Croatian state formation. Informal economic diplomacy has at its disposal modern communication channels, opportunities to connect with interest groups, opportunities for covert lobbying and promotion of private companies of interest to the Republic of Croatia, which is not possible through official channels.

## **2. THEORETICAL BACKGROUND AND THE CONCEPT OF ECONOMIC DIPLOMACY**

Economic diplomacy can be defined by the decision-making process and negotiations in international economic relations (Okano-Heijmans, 2011, p. 11) "in key issues such as trade, investment and finance, but also topics such as the environment and sustainable development, which have significant economic implications for policies in these areas." Economic diplomacy combines trade, commercial, financial, investment and environmental diplomacy as specific forms of economic diplomacy. Historically, the first in existence was trade diplomacy aimed at promoting the development of bilateral trade relations and protecting commercial interests abroad. According to Csabay (Management of information in economic diplomacy, 2019, p. 136), economic diplomacy is defined as "specific type of civil service, activities of governmental bodies responsible for international economic relations and their representatives in representing the nation-state in relation to other states by focusing on achieving foreign economic policy goals and objectives through negotiations and other legitimate means." The onset of the global economic and financial crisis in 2008 has, according to Hocking et al. (Futures for Diplomacy: Integrative Diplomacy in the 21st Century; Report No. 1, 2012, p. 11), only further stimulated and expanded interest in economic diplomacy and raised awareness of the need to prioritize foreign policy goals. Therefore, in the context of the corona crisis, governments are expected to place a strong emphasis on economic diplomacy in the coming years. One of the main reasons why economic diplomacy has become so popular is because governments are looking for instruments and solutions that will allow them to increase the competitiveness of their economies in international markets and cope effectively with existing challenges and threats, thus encouraging their internationalization. The main direct beneficiaries of economic diplomacy are private business companies. Since the entry of a company into one market can encourage companies to enter other markets too, governments can play a positive role in encouraging domestic companies to explore export potentials in new markets, especially if they have access to better instruments for collecting and disseminating information than the private sector. However, governments also indirectly benefit from economic diplomacy in a way that helps and facilitates businesses, in other words, making companies successful can improve the image of the state and government, and vice versa – an economically successful government and the state can positively affect the image of companies abroad. In this regard, the Ministries of Foreign Affairs should redirect the consular work of diplomatic missions to provide economic diplomacy service. (Hocking, Melissen, Riordan, & Sharp, 2012, p. 7).

## **3. TOURISM AS PART OF THE ECONOMIC SYSTEM IN THE REPUBLIC OF CROATIA**

The rapid development of global tourism and the advent of the mass tourism era not only show that tourism has become a new incentive to global economic development, but also show that travel is an important part of people's lives and lifestyles. As part of the economic system in the Republic of Croatia, tourism is a component of many factors ranging from the organisation of travel, destination transport, organisation of accommodation, food and drink, entertainment, culture, natural and historical sights, recreation, sports, health resorts, adventure. They all make up the tourism supply of a certain destination.



The real economic impact of tourism can be most fully expressed by the tourism satellite account, although it cannot cover everything that is related to or contributes to tourism. Official statistics, however, follow the arrivals of foreign and domestic guests, overnight stays, accommodation capacities (numbers of rooms and beds) and foreign exchange earnings. The tourism sector directly affects 54 and indirectly 185 activities. The pandemic has made it clear that there is a sharp drop in tourism-related spending (Bahar & Celik Ilal, 2020). The business of companies operating in this area has been severely affected. However, the COVID-19 pandemic has deeply affected not only a certain number of countries but almost all countries worldwide. This has negatively affected all areas of tourism, especially the tourism of the Republic of Croatia, which contributes to approximately 20% of the total GDP of the Republic of Croatia. The following table shows the overnight stays and arrivals of tourists in the Republic of Croatia in the first nine months of 2020, showing down trading caused by the pandemic crisis.

	2019	2020
Number of arrivals	19.6 million	7 million
Number of overnight stays	91.2 million	40.7 million
Number of rooms / apartments / campsites	440,575 thousand	440,575 thousand
Number of beds	1.18 million	1.18 million
Revenues from tourism (in billions of HRK)	78.75	≈ 40
Share in GDP	11.4% (2016 tourism satellite account)	≈
Number of employees (average of the year)	117,046	

*Table 1: Croatian tourism in 2019 and expected results in 2020  
 (Source: according to Rašić, I.: Sector analyses, 2020)*

The average number of overnight stays per tourist arrival in 2019 was 4.7 days; at the same time, foreign tourists spend on average 4.8 nights per arrival, and domestic 3.2 nights. Observed by emitting markets, most arrivals and overnight stays in 2019 were created by tourists from Germany, namely 2.9 million arrivals (16.6 per cent of total foreign arrivals) and 19.9 million overnight stays (23.7% of total foreign overnight stays), followed by tourists from Slovenia (8.9%), Austria (8.4%), Poland (7%), Italy (6.1%), the Czech Republic (5.9%) and the United Kingdom (5.1%). The share of tourism activity in the GDP of the Republic of Croatia was last calculated by the Tourism Satellite Accounts (TSA) method in 2018 for 2016. (Rudančić, 2020). The tourism satellite account is a detailed statistical overview of the tourism sector's economic contribution, prepared within the framework of the National Accounts System, following the definitions in Regulation (EU) no. 549/2013 on the European System of National and Regional Accounts. However, tourism as an activity is not defined as a special category within the National Classification of Economic Activities - NCEA but covers various activities, which makes it difficult to monitor statistics and thus assess the effects of the tourism sector on the country's total GDP. Tourist consumption in the Republic of Croatia, directly and indirectly, accounts for about 20% of gross domestic product, which makes the Croatian economy "dependent" on tourism trends, and since tourism in 2020 was strongly influenced by the COVID-19 pandemic, this was reflected in the total economy. According to the Sectoral Analysis of Tourism (Rašić, 2020) for the first nine months of 2020, the number of tourist arrivals on an annual basis decreased by 62.4%, and the number of overnight stays by 54.1%. But what is more important are the CNB's estimates that the level of total revenues from international tourism in 2020 will be below 38% of revenues generated in 2019.

#### **4. ECONOMIC DIPLOMACY IN THE FUNCTION OF THE PROMOTION OF CROATIAN TOURISM ON THE INTERNATIONAL MARKET**

Economic diplomacy is a means by which developing countries can achieve their development goals. There are generally two types of developing countries. The first consists of countries that have mastered the interaction with the outside world to the extent that they actively implement international economic policies, ranging from trade, investments, business partnerships based on technology, tourism, foreign banking and numerous services. These countries have a positive view of globalization and are active participants in an interdependent world, either in the framework of the World Trade Organization (WTO) or the World Economic Forum. The second group consists of developing countries that have inadequate resources or are torn apart by internal conflicts and poor governance, making them dependent on foreign aid. Most countries belonging to that group strive to achieve the right combination of structure, policy, and method to proactively exploit the external environment. Economic diplomacy is the process by which states grapple with the outside world to maximize their national income in all fields of activity, including trade, investment, and other forms of economically useful exchanges, where they enjoy a comparative advantage; which has a bilateral, regional and multilateral dimension, each of which is equally important. State entities do not have a monopoly anymore. Official agents – ministries of foreign and economic affairs, diplomatic and commercial services, as well as their promotional agencies, – are now engaging in dynamic partnerships with a range of non-state players. Such national cooperation is a necessary condition for an effective outreach abroad. The government's goals in promoting the economy (including trade, investment, and tourism) - although varying from state to state - are ultimately job creation, increased tax revenues, and economic growth. The government ultimately seeks state competitiveness by participating in various business promotion programs, including economic diplomacy. On the other hand, companies (clients) ultimately seek profitability; for them, participation in international operations poses a risk. Companies are generally satisfied with the service of economic diplomacy if it helps them reduce the risk of entering a foreign market and provides the service at a competitive price or free of charge (financed by tax money). Economic diplomacy benefits various stakeholders. The main direct beneficiaries of economic diplomacy are private business firms that turn to economic diplomacy, either from their home country or the host country. Governments benefit from economic diplomacy services because the impact goes in both directions: successful companies can improve the image of the state and government, and "successful" government and the state positively affect the image of business firms. It is likely that in the long run, if the international business develops successfully through economic diplomacy, the economy of the home country and very likely the host country will also benefit from the enhanced economic exchange and integration.

#### **5. EMPIRICAL RESEARCH OF THE PERCEPTION OF THE CROATIAN ECONOMIC DIPLOMACY'S EFFICIENCY IN PROMOTING CROATIAN TOURISM DURING THE COVID 19-PANDEMIC**

During September and October 2020, when there were indications of a possible "second wave" of the pandemic and restrictions that could further affect Croatian tourism, a survey was conducted among Croatian companies operating in the tourism sector, the aim of which was to supplement the information about the effects Croatian economic diplomacy in the crisis period. In order to confirm or refute the hypothesis, which correlates economic diplomacy activities with macroeconomic indicators of economic trends in the tourism sector, it was necessary to test the attitudes and opinions of businessmen regarding the effectiveness of Croatian economic diplomacy. In that sense, a simple questionnaire was created in which respondents were asked to evaluate the statements made and express their opinions. Evaluation of the stated statements about the Croatian economic diplomacy by grading them from 1 (I do not agree - it is incorrect)

to 5 (I absolutely agree - it is completely true). The sample consisted of business entities that are directly or indirectly present in the international market and have an interest in a stable emitting tourism market both with the neighbouring countries and globally. The research was conducted by e-survey method and personal interview during September and October 2020. The response to e-surveys was 30%, which is within expectations. A total of 29 correctly completed questionnaires were collected, which makes an acceptable sample since the respondents are well acquainted with the research topic.

The first proposition: **Croatian economic diplomacy has played a significant role in promoting Croatian tourism on the international market during the COVID-19 pandemic.**

The respondents' reactions are systematized in the following table.

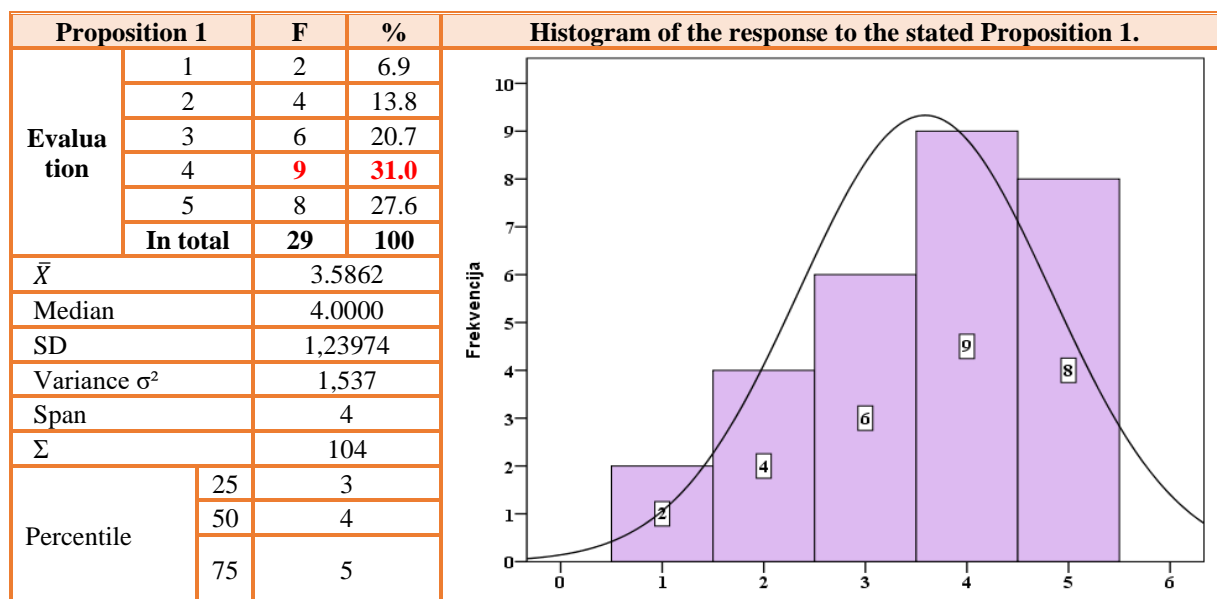


Table 2: Frequency and distribution of responses to Proposition 1.  
(Source: Author's processing in IBM SPSS Statistics 24 according to the survey questionnaire)

From the complex table 2, it can be seen how the respondents reacted to Proposition 1 by grades ranging from 1 to 5. Two respondents (6.9%) do not agree with the statement and four of them or (13.8%) generally disagree with Proposition 1. Six respondents or 20.7% were neutral, i.e. they neither agreed nor disagreed. Most respondents generally agreed with the statement (31%), while 8 or 27.6% fully agreed. The enclosed histogram clearly shows how the scores follow the Gaussian distribution. The curve is asymmetric and has a moderate shift toward higher scores. Respondents have rated the observed statement with an average score of 3.5892 with a standard deviation of 1.23974 and a variance of 1.0537. Since  $\chi^2$  is calculated for  $df = 4$ ; equals 5,655, and the tabular  $\chi^2$  for 5% significance is 9,488 that is  $\chi^2 < \chi^2_{\text{tabular}}$  which means that a hypothesis that indicates the uniformity of the expressed answers is accepted.

Table following on the next page

The second proposition: **Lobbying of the Croatian economic diplomacy at the European Parliament is of immediate importance for Croatian tourism.**

The respondents' reactions are systematized in the following table.

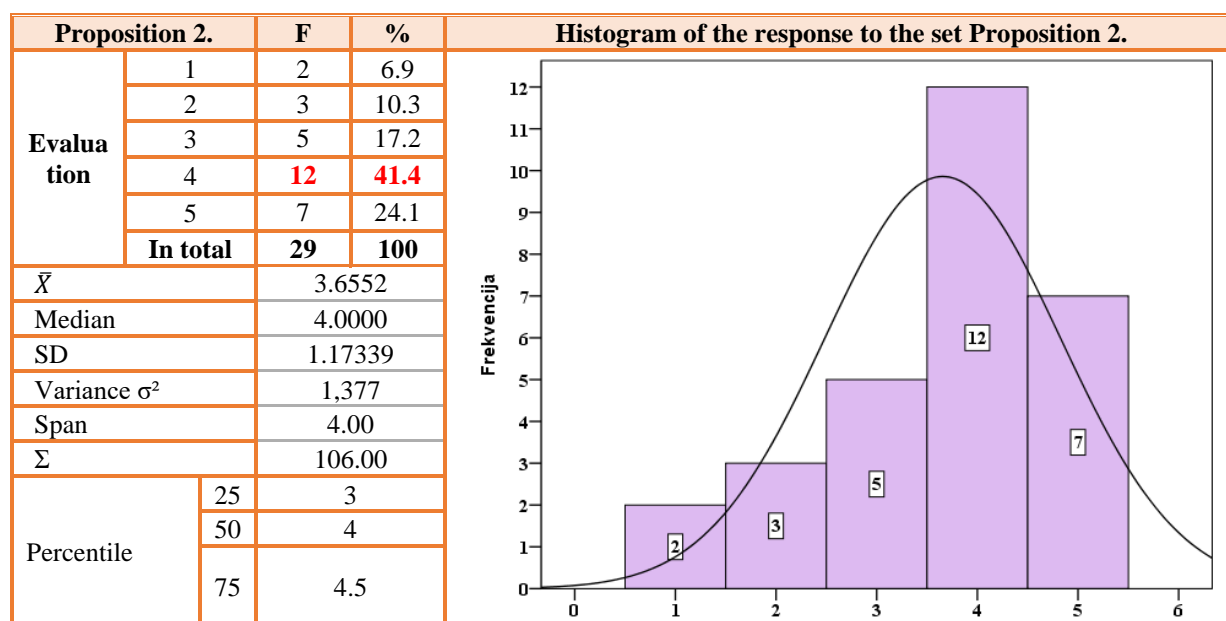


Table 3: Frequency and distribution of responses to Proposition 2.  
(Source: Author's processing in IBM SPSS Statistics 24 according to the survey questionnaire)

From the complex table 3, it can be seen how the respondents reacted to Proposition 2 by grades ranging from 1 to 5. Two respondents (6.9%) do not agree with the statement and three or (10.3%) generally disagree with Proposition 2. There are five or 17.2% of neutrals, i.e. those who neither agree nor disagree. Most respondents generally agree with the statement (41.4%), while 7 of them or 24.1% fully agree. The attached histogram clearly shows how the scores follow the Gaussian distribution. The curve is asymmetric and has a moderate shift toward higher scores. Respondents rated the observed statement with an average score of 3.655 with a standard deviation of 1.17339 and a variance of 1.377. Since  $\chi^2$  is calculated for  $df = 4$ ; is 10,828, and the tabular  $\chi^2$  for 5% significance is 9,488 that is  $\chi^2 > \chi^2_{\text{tabular}}$  which means that the hypothesis that indicates the uniformity of the expressed answers is accepted.

The third proposition: **Do you think that it would be easier for your company to overcome the corona crisis if influential citizens, as members of the informal economic diplomacy, promoted Croatian tourism on the international market?**

The respondents' reactions are systematized in the following table.

Table following on the next page

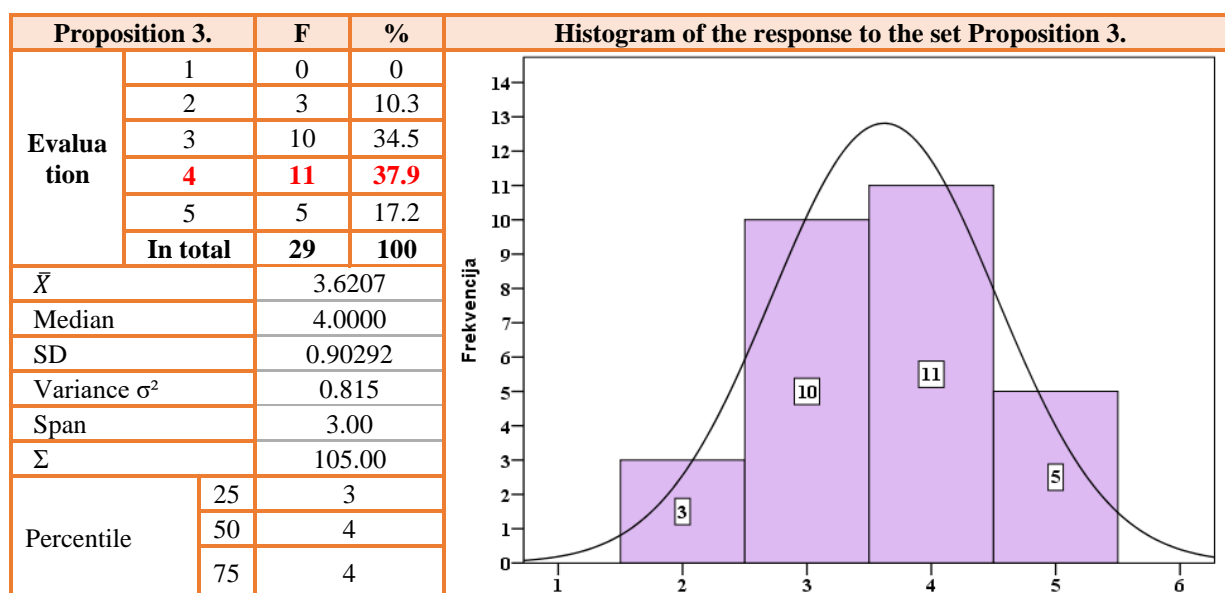


Table 4: Frequency and distribution of responses to Proposition 3.

(Source: Author's processing in IBM SPSS Statistics 24 according to the survey questionnaire)

From the complex table 4, it can be seen how the respondents reacted to Proposition 3 by grades ranging from 2 to 5. Three respondents (10.3%) stated that they generally do not agree with the expressed statement. There are ten or 34.5% of neutrals, i.e. those who neither agree nor disagree. Most respondents (11) generally agree with the statement, which makes up 37.9% of all respondents, while five respondents or 17.2% fully agree. The attached histogram clearly shows how the scores follow the Gaussian distribution. The curve is asymmetric and has a moderate shift toward higher scores. Respondents rated the observed statement with an average score of 3.6207 with a standard deviation of 0.90292 and a variance of 0.815. Since  $\chi^2$  is calculated for  $df = 4$ ; is 15.655, and the tabular  $\chi^2$  for 5% significance is 6.172 that is  $\chi^2 < \chi^2_{\text{tabular}}$ , meaning that a hypothesis is accepted, indicating the uniformity of the expressed answers.

## 6. CONCLUSION

Governments use economic diplomacy to promote overall economic prosperity and political stability. The coronavirus pandemic is a test that should show the importance of economic diplomacy for overcoming the crisis as quickly as possible and with less severe economic consequences. In times of crisis, more influential and effective diplomacy with all its segments is needed. Moreover, as part of international society, we should use diplomacy as a communication method based on the values of goodwill, solidarity and humanity, especially to find mutual understanding in a multilateral context. Diplomacy should also be used for communication facilitating the exchange of goods, people, information, services and best practices to combat global problems. The corona crisis has produced turbulent developments in the global economy, from a complete lockdown during the first wave of the pandemic (spring 2020) to the controversial opening-up during the summer of 2020 and until the second wave in the fall of 2020 with an uncertain forecast of the final outcome. Since economic crises are a cyclical phenomenon, the overcoming of the crisis accompanies its occurrence. Even though the corona crisis was caused by a non-financial and non-economic cause, overcoming it requires both financial and economic solutions. The positive outcome is the experience gained from previous crises, which, if the procedures of past recoveries are successfully filtered, can significantly speed up the time of revitalization.

Crisis and opportunity always coexist, and crisis always brings a turning point. On the one hand, the epidemic brought a great shock to the tourism industry. On the other hand, it will accelerate industrial upgrading and transformation. As for the tourism supply, the epidemic has abruptly paused the tourism industry, providing an opportunity for upgrading. Croatian businesses should make more use of economic diplomacy for Croatian tourism to achieve stronger promotion on the international market. Theoretical and empirical research can only partially confirm the hypothesis since during the completion of this paper the coronavirus pandemic has not been eradicated yet and its consequences on the tourism of the Republic of Croatia cannot be predicted. However, by studying the previous global financial and economic crisis and the measures taken by the governments in the area of economic diplomacy and overcoming the crisis, it can be concluded that there is a strong correlation. Therefore, the hypothesis can only be accepted conditionally.

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## SHIFTS IN INTERNATIONALIZATION OF MULTINATIONAL CORPORATIONS

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### **ABSTRACT**

*Today corporations begin the process of internationalization much earlier, it is a much more flexible and faster response compared to the traditional approach to internationalization. Contemporary changes of internationalization are described in the paper which has resulted in heterogeneity among multinational corporations. Multinational corporations in the service sector have equivalent importance as traditional manufacturing corporations. The fast entry among the 100 largest UNCTAD multinational corporations is recorded by digital economy corporations. The growing number and importance of small and medium-sized corporations sometimes referred to as "micro-multinational corporations" as well as social multinational corporations and highly competitive multinational corporations from emerging economies. The paper indicates the potential of a large market which is defined as "the bottom of the economic pyramid" which affects the internationalization. Additionally, the paper also contains potential influences of COVID-19 pandemics on multinational corporations.*

**Keywords:** *multinational corporations, shifts in internationalization, internationalization statistics, wealth at the bottom of the economic pyramid, COVID-19 pandemic*

### **1. INTRODUCTION**

Internationalization means the process of external growth and development of a corporation through international business activities (Rahimić and Podrug, 2013). In the past, increasing sales was most often cited as a strategic goal of internationalization. However, the strategic goals and motives for internationalization are much more complex and heterogeneous than previously thought. There are obviously a number of motives for internationalization, but they rarely seem isolated. Corporations usually strive to achieve a number of goals at the same time, such as access to resources, reducing dependence on one market, monitoring customers, etc. Entering a foreign market is not only motivated by business expansion, but is part of a comprehensive corporate strategy. Most multinational corporations gradually gained their experience in foreign markets, so internationalization has long been seen as an evolutionary process through which corporation activities expand and increase in the international market simultaneously with the growth of international market engagement. In the beginning, the corporation very carefully directs its activities to foreign markets, and greater engagement in foreign markets leads to greater investment, taking on more complex business and more active and independent action. According to the evolutionary approach, business internationalization is a learning process based on the gradual accumulation of knowledge acquired in foreign markets. Therefore, the evolutionary approach is often called the incremental approach to internationalization. The evolutionary or incremental approach to internationalization is widespread due to the lack of experiential knowledge of markets as well as due to the great uncertainty that accompanies the decision to internationalize. But the basic assumption of the evolutionary approach of gradual internationalization forward is not always true (Rakita, 2013). Many corporations may choose to intensify international business activities or to temporarily give up, if this is considered optimal at a given time.

Modern trends in the process of internationalization imply more immediate and faster strategies for entering foreign markets. Contemporary changes and challenges of internationalization will be described in the following sections.

## **2. CURRENT CHANGES IN INTERNATIONALIZATION PROCESS**

One of the newer approaches to studying the phenomenon of internationalization is the network approach according to which corporations can use business networks and relationships as a platform to internationalize their own business. The number of corporations networking is increasing thanks to the establishment of interaction with numerous partners such as suppliers, customers, consumers, competitors, distributors, agents and a number of other organizations. When such relationships exist internationally, they will serve as a mechanism to help the corporation enter a foreign market. In the last twenty years, the phenomenon of "born global corporations" operating in global industries, which are not related to the traditional evolutionary process of internationalization, has played an increasing role. Compared to the traditional approach, where after creating a business base in the country of origin, corporations begin export activities and then become more actively engaged internationally, today corporations begin the process of internationalization much earlier. It is a much more flexible and faster response compared to the traditional approach to internationalization (Wright, Westhead, & Ucbasaran, 2007). Zahra and George (2002) identified three key elements (intensity, scope, and speed of internationalization) that define born global corporations. Tanev (2012) highlights several key distinctive features of these corporations: 1) strong activity in the international market from the very beginning of their business (ie in the early stages of business), 2) limited financial and tangible resources, 3) presence in many industries, not only in high-tech industries, 4) managers with a strong international perspective and orientation towards international entrepreneurship, 5) emphasis on differentiation strategies, 6) emphasis on superior product quality, 7) exploitation of advanced information and communication technology and 8) use of external, independent distribution intermediaries in foreign markets. However, it is interesting to point out that age or number of years is not taken as a criterion for their definition (Cesinger, Danko and Bounchen, 2012). Furthermore, numerous studies have indicated very different definitions of born global corporations and that there is no consistency in their conceptualization (Coviello and Jones, 2004; Presutti, Boaria, & Fracocchi, 2007; Keupp, & Gassmann, 2009). Cesinger, Danko, and Bounchen (2012) argue that born global corporations will remain a pseudo-anecdotal phenomenon rather than as a proven and unique reality without the use of composite indicators of internationalization. Furthermore, it is important to highlight a number of recent changes that have resulted in heterogeneity among multinational corporations. Nowadays, multinational corporations in the service sector have equivalent importance as traditional manufacturing corporations (Dörrenbächer and Geppert, 2017). The fast entry among the 100 largest UNCTAD multinational corporations is recorded by digital economy corporations. Vanninen and Kuivalainen (2015) point to the growing number and importance of small and medium-sized corporations sometimes referred to as "micro-multinational corporations". Thanks to new technology, micro-multinational corporations are entering foreign markets at earlier stages of the company's life cycle. A number of studies have also identified that riskier strategies of entering foreign markets are beginning to be used to a greater extent (Lappe and Dörrenbächer, 2016). As a recent trend that is attracting the attention of scientists are social multinational corporations. Zanfei (2012) defines social multinational corporations as "self-sustaining / self-sustaining businesses / businesses with explicit social roles" such as the Grameen Bank of Bangladesh. Also, an extremely important new grouping of multinational corporations belongs to the sharing economy.



The growth of the sharing economy platform is linked to technological advances, and it is interesting how, almost without concrete assets, corporations generate extremely high revenues in foreign markets (Dörrenbächer and Geppert, 2017). In addition to new groups of multinational corporations, numerous changes have taken place in the organizational activities of multinational corporations. Dörrenbächer, Geppert, Pastuh, and Tomenendal (2016) point out that multinational corporations are permanently oriented towards cross-border standardization and organizational optimization processes driven by demand homogenization, horizontal mergers and acquisitions, new technologies, and social compliance requirements. These processes are most often initiated by the parent corporation which can cause cross-border conflicts within multinational corporations which takes a lot of attention and time from managers in the parent corporation as well as in international subsidiaries (Schotter and Beamish, 2011). All the highlighted changes as well as many others require responses from established multinational corporations, especially with regard to the entry of highly competitive multinational corporations from emerging economies. According to Zander (2014), established multinational corporations need to complement their proven corporate strategies with strategies that result in "economical, good enough products and services" (p. 79) for developing countries and transition countries. But an even greater challenge for multinational corporations from developed countries is to "overcome traditional managerial thinking, organizational inertia, and overcome risk that limits institutional expectations" (p. 81).

### **3. WEALTH AT THE BOTTOM OF THE ECONOMIC PYRAMID**

While the developed world is saturated with products and strong competition (Prahalad and Lieberthal, 1998) where the total sum of utility is zero, this part of the world opens up a range of opportunities for both local corporations and multinational corporations of growing and developed economies. It is comforting to note that globally, the number of extremely poor people is declining, but the idea of how the income pyramid will transform into a diamond with a concentration of wealth among the middle class has not yet become a reality (Prahalad, 2019). Overcoming traditional thinking is necessary if multinational corporations are to reach the bottom of the economic pyramid. It is a concept introduced to draw attention to 4-5 billion members of the poor who are insufficiently or not at all served by a large organized private sector including multinational corporations. Prahalad (2006, p. 2) points out: "Four billion poor people could be the drivers of the next round of world trade and prosperity. Serving consumers from the bottom of the economic pyramid will require innovation in technology, products and services, and business models. More importantly, it will require large corporations to work together with civil society organizations and local authorities. The development of the market at the bottom of the economic pyramid will also create millions of new entrepreneurs among ordinary people and in rural areas, from women working as distributors and entrepreneurs to rural micro-enterprises." Needless to say, four or five billion people cannot be seen as a homogeneous group, diversity to extremes, from their literacy, mixed urban-rural origins, various geographical areas where they come from, income to cultural, religious and other bases for segmentation (Prahalad, 2009). According to Prahalad (2006, p. 3), the people at the bottom of the economic pyramid are those who live on less than \$ 2 a day. The emerging consumer concept allows corporations to independently decide which segment of the bottom of the economic pyramid they want to serve. However, there are also multinational corporations, such as Unilever, which already have many years of experience in developing markets and which today focus on "riding the pyramid" or participating in a wide range of opportunities often with the same product category (Prahalad, 2009). Data from 2017 indicate a declining trend in the number of the poorest (3.5 billion compared to 4 billion in 2002). The large private sector is increasingly realizing that a significantly large market is at the bottom of the economic pyramid. In some industries, the size and attractiveness of these markets has already been determined.

This category includes retail, consumer goods, microfinance, telecommunications, agribusiness, etc. However, for successful business it is necessary to selectively "forget" the business approach that has been proven in traditional developed markets (London and Hart, 2004). Awareness, access, affordability, availability are key elements for market development at the bottom of the economic pyramid (Prahalad, 2012). This is not about decontextualizing the business model, but about managerial innovation and market development. Mobile phones and microcredit are a good example of market development. Bharti Airtel, better known as Airtel is an example of the successful development of the telecommunications market. According to 2020 data, Airtel has more than 423.8 million customers in 18 countries, of which 320.6 million customers in India, 2.8 million customers in South Asia and 116.4 million customers in African countries. For comparison, the number of users is higher than the total population of Russia, Great Britain, Germany, France and Spain.

#### **4. INTERNATIONALIZATION STATISTICS AND TRENDS**

The internationalization trends according to the World Investment Report 2020 will be described below. The internationalization rate of the top 100 nonfinancial multinational corporations in 2019 was relatively stable because the internationalization of industrial multinational corporations was counterbalanced by the increased internationalization of technology and telecommunications multinational corporations. Pharmaceutical corporations have also continued to further internationalize. GlaxoSmithKline moved up 27 places on the list thanks to two 2018 transactions (they took full ownership of the joint venture from Swiss Novartis for \$ 13 billion, ie they bought a 36.5% stake in Novartis and took over American Tesaro for \$ 4.3 billion). Other corporations with a significant increase in overseas activity are Amazon.com which has continued further internationalization, Coca-Cola which has expanded its production network in Africa and entered the European coffee market, the French pharmaceutical corporation Sanofi which has taken over biopharma corporations from the US, Chinese Huawei, which has continued to expand its global operations, albeit at a slightly lower rate than in 2018, and so on. The average value of the transnationality index for the 100 largest multinational corporations has been stagnant for the last ten years at the level of 65%. The stagnation can be partly explained by the change in the structure of the list of the largest 100 multinational corporations, because now, according to the value of foreign assets, the list also includes corporations from emerging economies whose initial internationalization rates are much lower. The number of technology and digital corporations among the 100 largest multinational corporations reached its maximum with 15 corporations in 2017. In 2018, this number was reduced to 14 corporations, and in 2019 the further decline continued, so that with the exit of Oracle from the list, the total number of technology and digital corporations was 13. However, the share of technology and digital corporations in total foreign sales (18% in 2019) as well as in total foreign assets (11% in 2019) continues to grow which indicates the strengthening of the role of technology and digital corporations among the top 100 non-financial multinational corporations. The stagnation of the number of technology multinational corporations can be partly explained by two strategies pursued by industry leaders. The first relates to the strategy of consolidating their position in new technologies, and they implement it by purchasing successful start-ups. The second relates to a vertical integration strategy where technology multinationals are involved in creating content for their platforms (vertical backward integration) or expanding into retail and other services (vertical forward integration). Additionally, it is to be expected that the COVID-19 pandemic will strengthen the dominant position of technology and digital corporations as consumers increasingly turn to e-commerce. Table 1 shows summary internationalization statistics for the 100 largest non-financial multinational corporations globally and the 100 largest non-financial multinational corporations from developing and transition countries.

According to the latest available data for 2018, the rate of internationalization of multinational corporations from developing and transition countries has increased by almost 2%, where foreign assets are growing the strongest. The growth of foreign assets is primarily related to Chinese and Korean technology corporations. Huawei tripled its foreign assets during 2017 and 2018, while Chinese technology groups Tencent and Legent increased their foreign assets by 50% over the same period. Korean LG Electronics has tripled its assets in North America and Europe through various projects including the takeover of the Austrian ZKW for \$ 2.1 billion, securing its return to the UNCTAD list of the 100 largest non-financial multinational corporations from developing and transition countries. It is also important to point out the fact that 44 Chinese corporations are on the list of the 100 largest non-financial multinational corporations from developing countries and transition countries, of which 20 are state-owned.

*Table 1: Internationalization statistics for the 100 largest non-financial multinational corporations globally and the 100 largest non-financial multinational corporations from developing and transition countries*

	<b>100 largest non-financial multinational corporations globally</b>					<b>100 largest non-financial multinational corporations from developing and transition countries</b>		
<b>Variables</b>	2017 <sup>a</sup>	2018 <sup>a</sup>	Change 2018-2017, %	2019 <sup>b</sup>	Change 2019-2018, %	2017 <sup>a</sup>	2018	Change 2018-2017, %
<b>Assets (billions USD)</b>								
<b>Foreign</b>	9 139	9 335	2,1	9 535	2,1	2 434	2 581	6,1
<b>Domestic</b>	6 625	6 710	1,3	6 819	1,6	5 726	5 430	-5,2
<b>Total</b>	15 763	16 045	1,8	16 354	1,9	8 160	8 011	-1,8
<b>Foreign as share of total (%)</b>	58	58	0,2	58	0,2	30	32	2,4
<b>Sales (billions USD)</b>								
<b>Foreign</b>	5 366	5 916	10,3	5 796	-2,0	2 224	2 559	15,1
<b>Domestic</b>	3 539	3 919	10,8	3 870	-1,3	2 576	2 751	6,8
<b>Total</b>	8 904	9 836	10,5	9 666	-1,7	4 800	5 311	10,6
<b>Foreign as share of total (%)</b>	60	60	-0,1	60	-0,3	46	48	1,9
<b>Employees (000)</b>								
<b>Foreign</b>	9 750	9 604	-1,5	9 466	-1,4	4 691	4 693	5,8
<b>Domestic</b>	9 536	8 548	-10,4	9 049	5,9	9 118	9 248	1,4
<b>Total</b>	19 286	18 152	-5,9	18 515	2,0	13 808	14 211	2,9
<b>Foreign as share of total (%)</b>	51	53	2,4	51	-3,4	34	35	1

*Note: Data refer to fiscal year results reported between 1 April of the base year and 31 March of the following year. Complete 2019 data for the 100 largest MNEs from developing and transition economies are not yet available. a Revised data. b Preliminary data.*  
 (Source: UNCTAD (2020) World Investment Report 2020: International Production Beyond The Pandemic. New York: UN. Available at: [https://unctad.org/system/files/official-document/wir2020\\_en.pdf](https://unctad.org/system/files/official-document/wir2020_en.pdf), str. 25.)

In conclusion, the trends of internationalization of state-owned multinational corporations will be analyzed. According to the Global Investment Report 2019, among the 100 largest non-financial multinational corporations, 16 are state-owned, of which five are Chinese corporations, and the rest are from developed countries. Many "small" (total assets of less than \$ 5 billion) multinational state-owned corporations are most often internationalized in neighboring countries, while "large" (total assets of more than \$ 5 billion) have been much more active in investment and international expansion in recent years.

## 5. CONCLUSION

In conclusion, the latest impacts on multinational corporations will be highlighted, and it is about dealing with a new structure of risk factors (such as the COVID-19 pandemic) that affect the activities of multinational corporations in the context of globalization. The COVID-19 pandemic has already affected the geographical orientations and strategies of multinational corporations. Rosa, Gugler, and Verbeke (2020) predict three potential impacts of the pandemic on the operations of multinational corporations. The pandemic has revealed many weaknesses in supply chains that could potentially affect the relocation of economic activities of Western multinational corporations from China and other locations from foreign or host regions. It is to be expected that in the future the number of "regional factories" oriented to the region of origin will increase, and that the number of so-called Buckley's "global factories" (Buckley, 2009). Rosa, Gugler, and Verbeke (2020) predict that regional supply chains will become much more important than global supply chains. Multinational corporations are expected to reduce the number and strength of inter-regional links and to establish more intra-regional coordination and control mechanisms and ensure greater autonomy for host regions. The need for a regional organization will be a strong counterbalance to global organizational configurations. The third impact of the pandemic on the operations of multinational corporations is related to situations when corporations operate in quasi-hostile regions and in the so-called "Sensitive industries". Sensitive industries are different from strategically important industries. Discrimination against multinational corporations in sensitive industries is not based on economic reasons, but in industries such as public health, security, etc., where corporations originating from the region in which they operate are preferred. Multinational corporations can respond to the described challenge by choosing reliable partners from a quasi-hostile region and thus avoid the exogenous macro risks they face by conducting internalization (Rosa, Gugler, & Verbeke, 2020). According to the World Investment Report 2020, the COVID-19 pandemic is already affecting the 100 largest non-financial multinational corporations, both globally and from developing and transition countries. Corporations with an intensive global supply chain were the first to feel the consequences in the form of disruptions and disruptions in the supply chain, but all other corporations are also facing a decline in global demand. Pharmaceutical and technology multinational corporations are the least affected by the pandemic, or even record better business results, while the large negative effects of the pandemic are already visible in the automotive industry as well as extractives.

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## MEASUREMENT OF SERVICE QUALITY IN HOSPITALITY IN TIMES OF COVID-19 PANDEMIC – CASE: STARBUCKS UAE

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### **ABSTRACT**

*The tourism and hospitality sector has been affected the most by the spread of the COVID-19 pandemic. Many companies have been shut down. Only these companies which have adapted quickly to the new circumstances have managed to survive. Besides the negative impacts of the COVID-19 pandemic, it is evident that service quality has been drastically improved, especially in the restaurant industry. However, measuring service quality in the restaurant industry has become more challenging since existing frameworks like DINESERV cannot meet 'new normal' requirements. The aim of this paper is to measure the service quality of Starbucks restaurants in times of pandemic with emphasis on hygiene and safety. For the purposes of this research, the survey is used. The survey questionnaire is developed based on the SERVQUAL and DINESERV framework with a new set of questions related to hygiene and safety. The questionnaire is distributed online to 243 people, and the completion rate was 62.9%. Collected data is analysed by statistical methods. Results showed that Starbucks guests are happy (average rate 4,1 out of 5) how Starbucks adapted its business model during the COVID-19 pandemic. Starbucks can serve as a model for other restaurants on how to exceed guests' expectations in times of crisis when their trust and confidence are shaken. The authors identified few steps that are highly recommended, such as developing or updating safety and hygiene protocols, staff training, updating or creating a set of quality standards, and frequent measurement and application of corrective actions. The research could be expanded to get a more precise analysis. The research did not include experts' opinions or interviews with Starbucks outlets' managers, which are considered the main limitations.*

**Keywords:** COVID-19, Hospitality, Service Quality, Starbucks

### **1. INTRODUCTION**

Service quality plays an important role in the hospitality industry and customers' satisfaction (Mensah, Mensah, 2017). After the spread of the COVID-19 pandemic in the year 2020, the hospitality industry has to face significant challenges with respect to maintaining standard

operating procedures (SOPs). The industry was also subjected to close down during the lockdown period, causing significant revenues declines. COVID-19 pandemic also presents some major short term challenges for the coffeehouse industry where owners need to remain positive and resilient based on the customer's demand for quality and café' experience, which is showing signs of disappearing in the recent years. According to (Choi, 2019), Restaurants, including fast-food chains from across the world, are being significantly affected by the current pandemic, but certain limits have also been relaxed throughout the United Arab Emirates (UAE). Inside an effort to kick-start economic development, many restaurant owners are trying their better to finish normal business. However, this will not come even without difficulties, as advice on social distance and sanitation recommended practice tends to evolve on a regular basis. However, the aim of this paper would be to provide restaurant owners with a range of simple steps that can be placed in a position to assist their marketing strategy to adjust to the existing "new reality" and anything else that happens ahead. The main area of research would focus on the impact of the COVID-19 pandemic on customers' perception of service quality provided by Starbucks and on customers' satisfaction. The research will highlight the important factors such as hygiene and safety that have impacted the service quality and level of customer satisfaction in the case of Starbucks (UAE) during the COVID-19 pandemic. We have to emphasize the importance of the coffeehouse industry in the UAE region, which is rapidly increasing and transforming in recent years. More emphasis is being given to customer needs, ambiances and service offerings. Many survey analysts in the industry have projected the coffeehouse industry to have potential growth potential in the UAE region. In 2019, coffee in the UAE reached a sell-in value of about 200 million dollars and represented about 10% of all coffee consumed in the Middle East region. (Mohamad, et.al., 2020). The top ten coffee chains in the UAE region include "Starbucks, Costa Coffee, McDonald, Dunkin' Donuts, Cafe Coffee Day, Tim Hortons, Pet's, Caribou Coffee, Barista Coffee, Tully's and Lavazza." (Arun, 2020). Starbucks is an American coffee brand that was founded in the region of Seattle, Washington, in the year 1971. Starbucks is a well-known name for the production and delivery of coffee. It is not only famous for its various coffee tastes, but it also delivers a variety of different types of customers and, as we stated above, the leading coffeehouse in the UAE. Firstly, we are going to give a short overview of service quality measurement and the adequate models that are used for it. Then, we will present our research program, results, our key conclusions, limitations and a list of references.

## **2. LITERATURE REVIEW**

Service quality is described as a contrast between customer needs and service efficiency. Excellent service efficiency refers to customer satisfaction and thus makes businesses more efficient, mostly in the sector. Strong customer experience could be accomplished by recognizing service issues and describing service delivery and industry standards as well as the level of service quality. Furthermore, the consistency of the service can be described by analyzing the variations between the planned expectations and perceived services. Literature indicates that SERVQUAL is by far the most popular tool used to assess the level of service quality. However, when it comes to the hospitality industry, a more appropriate model for measuring service quality is the DINESERV framework which is created by Stevens et al. (1995). Initially, the model has been created for assessing quality in fast-food restaurants as well as in casual and fine dining restaurants (Knutson, et.al.,1996). DINESERV framework represents an adapted version of the SEQUAL framework that is composed of five categories Assurance, Empathy, Reliability, Responsiveness and Tangibles (Parasuraman, et.al., 1988). The DINESERV questionnaire is composed of 29 items (Hansen, 2014). It is scientifically proven that DINESERV model components make an impact on customer satisfaction and loyalty (Kim, et.al., 2009).



There is plenty of research that have explored service quality in hospitality worldwide. For example, the application of the DINESERV model in the context of UK's quick-service restaurants showed that tangibles, responsiveness and assurance play the most important role in customers' satisfaction (Nguyen, et.al. 2018). On the other side, Kim et.al. (2003) stated that responsiveness, assurance, and empathy are key factors of high quality in chain restaurants. Bougoure and Neu (2010) also applied the DINESERV model in order to assess the quality of fast-food restaurants in Malaysia. They found out that all five categories are equally important in creating customer satisfaction. According to the available authors' resources, there are no relevant papers about the DINESERV model application in the case of Starbucks.

### **3. METHODOLOGY AND SAMPLE**

The researchers looked upon the primary data collection process together with information about the impact of hygiene and safety practices in enhancing the service delivery program of Starbucks. For the purposes of this research, an online survey is prepared. The special questionnaire is developed that is consisted of 50 questions divided into four sections: demographics, service quality factors, hygiene and safety factors, and overall satisfaction. The questionnaire is formulated in line with SERVQUAL and DINESERV framework. This is an effective method that is highly looked upon for designing survey questions for restaurants (Rahi, 2017). To be more precise we adapted and expanded questionnaire designed by Nguyen et.al. (2018). Furthermore, a Likert scale from 1 to 5 is used where 1 stands for "Dissatisfied" while 5 stands for "Very Satisfied". Scale reliability is tested, as well. Cronbach's alpha measures the degree of consistency that is present between the variables or set of items that are forming a group. A value of Cronbach's Alpha  $> 0.70$  is assumed to be acceptable, and therefore, the 46 items of the group consistency are quite strong. In our case, Cronbach's Alpha is 0.938, which means that internal reliability is excellent (Tavakol & Dennick, 2011). Primary quantitative data has been extracted with the help of an online survey program, TypeForm, from which accumulation of opinions of the customers who have been availing the service facilities of Starbucks for a long period of time is done. The simple random sampling technique has been made to determine the survey population (Schoonenboom & Johnson, 2017). The questionnaire is distributed to 243 people from 1st of February 2021 to 30th of March 2021, and the response rate was 62.9%. For the questionnaire, respondents needed an average 4.04 minutes. The questionnaire is completed by 58 women, 32 men. The sample characteristics are given in the following table.

*Table following on the next page*

<b>Gender</b>		
	Frequency	Percent
Female	58	64.4
Male	32	35.6
Total	90	100
<b>Age</b>		
Class Interval	Frequency	Percent
14-19	25	28%
20-25	55	61%
26-31	6	7%
33-38	3	3%
41	1	1%
Total	90	100%
<b>Education</b>		
	Frequency	Percent
Bachelor degree	51	56.7
Student	22	24.4
High School Completed	11	12.2
Master degree	4	4.4
PHD	2	2.2
Total	90	100

*Table 1: Sample Characteristics  
 (Source: SPSS output)*

Refining of the survey findings has been carried out proficiently with the use of different statistical analysis tools such as descriptive statistics, means analysis, factor analysis and correlation. First of all, service quality in the case of Starbucks UAE during the COVID -19 pandemic is measured by means calculation and means standard error. Service quality factors related to hygiene and safety were developed by authors and also measured by means calculation. The relationship between overall customer's satisfaction and hygiene and the safety factor is tested by correlation analysis. Since authors had eight different factors for measuring hygiene and safety, to reduce data and create only one variable, authors used Factor Analysis (Extraction Method: Principal Component Analysis). Data were suitable for factor analysis. Kaiser-Meyer-Olkin Measure of Sampling Adequacy is  $0.868 > 0.06$ , which is a high value close to "1" (1 the best adequacy), and Bartlett's Test of Sphericity is significant ( $p < 0.05$ ). See Table 2.

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.868
Bartlett's Test of Sphericity	Approx. Chi-Square	306.391
	df	28
	Sig.	0.000

*Table 2: KMO and Bartlett's Test  
 (Source: SPSS output)*

In the following chapter we are going to present the key findings of our research.

#### 4. RESULTS AND DISCUSSION

As we have already explained before, we divided our questionnaire into several sections. Here, we are going to present the most important results we got. Firstly, we will be focused on general service quality factors in the case of Starbucks (Table 3.).

Service Quality of Starbucks during Covid-19 pandemic - customers perspective Survey results							
Means and Descriptive Statistics							
Factors	N	Mean	Median	Mode	Std. Deviation	Variance	Std. Error Mean
	Valid						
Parking availability (if applicable)	90	3.567	4.000	4.000	1.112	1.237	0.117
Seating availability (before Covid-19 pandemic)	90	3.533	4.000	3.000	1.220	1.488	0.129
Clean and comfortable dining areas	90	3.722	4.000	4.000	1.122	1.259	0.118
Well-dressed staff members	90	4.178	5.000	5.000	1.023	1.047	0.108
Easily readable menu	90	4.122	4.500	5.000	1.069	1.142	0.113
Clean restrooms (if applicable)	90	3.500	3.000	3.000	1.134	1.287	0.120
Adequate availability of sauces, salt, napkins, wet-naps and cutlery	90	3.878	4.000	5.000	1.130	1.277	0.119
The speed of service is as fast as promised	90	4.144	4.000	5.000	1.023	1.046	0.108
Dependability and consistency	90	3.944	4.000	5.000	1.021	1.042	0.108
Quick corrections to anything that is wrong	90	4.133	4.500	5.000	1.041	1.083	0.110
Accurate billing	90	4.033	4.000	5.000	1.075	1.156	0.113
Accuracy of customer's order	90	4.133	4.000	5.000	1.019	1.038	0.107
During the rush hours, extra employees are provided to help maintain speed and quality of service	90	3.689	4.000	4.000	1.098	1.205	0.116
Prompt and quick service	90	3.978	4.000	4.000	1.005	1.011	0.106

Employees willing to help and handle customers' special requests	90	4.122	4.000	5.000	0.922	0.850	0.097
Customers feel comfortable and confident in Starbucks restaurants ( before Covid-19 pandemic)	90	4.044	4.000	5.000	1.059	1.122	0.112
Customers feel comfortable and confident in Starbucks restaurants (during Covid-19 pandemic)	90	3.856	4.000	5.000	1.107	1.226	0.117
Feel safe for financial transactions	90	4.011	4.000	5.000	0.989	0.977	0.104
Employees are consistently courteous	90	3.911	4.000	4.000	0.956	0.913	0.101
Employees have knowledge to answer customer questions	90	4.067	4.000	5.000	0.922	0.849	0.097
Employees are sensitive and anticipate individual customer needs and wants rather than always relying on policies and procedures	90	3.689	4.000	3.000	1.024	1.048	0.108
Ability to make customers feel special	90	4.033	4.000	5.000	0.930	0.864	0.098
Employees are sympathetic and reassuring if something is wrong	90	3.922	4.000	4.000	0.986	0.971	0.104
Customers' best interests are at heart	90	3.889	4.000	4.00 <sup>a</sup>	0.977	0.954	0.103
Average		3.921					

*Table 3: Genaral Service Quality Factors – Research Results  
 (Source: SPSS output)*

These are some positive attributes that are responsible for the delivery of high-quality customer service by Starbucks; these are the highest means: The speed of service is as fast as promised (Mean = 4.14); Quick corrections to anything that is wrong (Mean = 4.13); Accuracy of

customer's order (Mean = 4.13); Easily readable menu (Mean = 4.13). From the data we got, the lowest means values are Seating availability (before Covid-19 pandemic): 3.53; Service availability has got lowest average rating which means that among the different services, Starbucks offer the poorest service with respect to "Seating availability"; Parking availability (3.57); Parking availability has got 2nd lowest average rating which means that among the different services Starbucks offer the poorest service after "Seating availability"; Clean and comfortable dining areas: 3.72 -"Clean and comfortable dining areas" has got 3rd lowest average rating which means that among the different services Starbucks offer the poorest service with respect to "Clean and comfortable dining areas" after "Seating availability" & "Parking availability". As it can be seen that the respondents' - customers were not at all happy with the above three attributes. However, the average rate is almost 4 which very high score especially when we consider the current crisis caused by COVID-19 pandemic. Last, but not least, It was expected that customers will be less confident and comfortable in Starbucks restaurants during the pandemic. As we stated before, for measuring the role of hygiene and safety in service quality during the COVID-19 pandemic, we defined and tested eight statements (factors) as per following:

Service Quality of Starbucks - Hygiene and Safety Factors							
Factors	N	Mean	Median	Mode	Std. Deviation	Variance	Std. Error Mean
	Valid						
Employees wear masks properly ( nose is covered)	90	3.978	4.000	5.000	1.190	1.415	0.125
Employees wear gloves always, all of them.	90	3.867	4.000	5.000	1.201	1.443	0.127
I have noticed that employees wash their hands ( even if they wear gloves) after each transaction/ served customer.	90	3.511	4.000	4.000	1.265	1.601	0.133
I have noticed that employees clean every desk after each customer.	90	3.656	4.000	5.000	1.219	1.487	0.129
I have noticed that employees clean surfaces frequently.	90	3.822	4.000	5.000	1.077	1.159	0.113
I have noticed that employees are more careful with food and beverages they serve. For example, they never touch cover of my cup with fingers (even if they wear gloves).	90	3.822	4.000	5.000	1.167	1.361	0.123
Sanitizers and tissues are available.	90	4.122	4.000	5.000	0.872	0.760	0.092
Employees care about social distance in the restaurant.	90	3.689	4.000	4.000	1.148	1.318	0.121
Average		3.808					

*Table 4: Hygiene and Safety Factors– Research Results  
 (Source: SPSS output)*

We see from table 4, with a special focus on total average that respondents are less satisfied with hygiene and safety factors (Mean= 3.8) compared to general service quality factors

presented in Table 3 (Mean=3.9). respondents are not very happy with employees caring about respecting social distance, washing hands habits, and general cleaning routine. On the other side, respondents are the happiest with tissue and sanitisers availability. In order to explore the role of hygiene and safety factor in the service quality of Starbucks, we used Pearson Correlation (r). There is a relation between Hygiene and Safety factors and customer's confidence to visit Starbucks outlets during the COVID-19 pandemic and between Hygiene and Safety factor and customers' satisfaction. As it is noticeable from the following table, correlation is significant ( $p < 0.05$ ), positive and big ( $r = 0.50 - 1$ ) in all examined cases.

		Hygiene \ Safety	During Covid-19 pandemic, I feel safer in Starbucks restaurants than in other restaurants.	Overall I am very happy with Starbucks service quality DURING Covid-19 pandemic
Hygiene & Safety	Pearson Correlation	1	0.605**	0.687**
	Sig. (2-tailed)		0.0000	0.0000
	N	90	90	90

*Table 5: Relation between Hygiene and Safety factors and customer's confidence to visit Starbucks outlets during the COVID-19 pandemic and between Hygiene and Safety factor and customers' satisfaction*

To conclude, "Hygiene and Safety" is the maximum influencing factor in ensuring happiness among the customers of Starbucks during the COVID-19 pandemic and the main trigger of customers' feeling of safety or customers' confidence to visit Starbucks outlets in the UAE during the COVID-19 pandemic.

## 5. CONCLUSION

In order to identify the impact of maintaining hygiene and safety in service delivery standards for increase satisfaction of customers for Starbucks in UAE, effective interpretation of the survey responses has been carried out through statistical analysis. With the execution of quantitative analysis, the lowest mean ratings, which are affecting the customer satisfaction level for Starbucks, has been identified in accordance. The analysis reflects upon parking availability is in the rating of 3.57, comfortable dining areas with cleanness is another lowest mean score having a rating of 3.72. Another factor which is resulting in low satisfaction level of customers is the improper arrangement of parking availability. The parking availability rating has been given in the score of 3.57, which is the second-lowest factor understood with the calculation of the mean value of service delivery for Starbucks. The speed of service has been the most satisfying and promising area for Starbucks as calculation reveals the mean value of 4.14. The accuracy of the orders for customers has been another significant area of strength for Starbucks, which has received a mean score of 4.13. Furthermore, the element of easily Readable menu cards has achieved the score of 4.13 mean value, which underlines its prominence to be one of the most satisfying factors for all the customers availing the service of Starbucks. Moreover, with the execution of the co-relation analysis, it is noticed that the implications of hygiene safety are one of the most influential factors which promotes ultimate satisfaction to the customers while availing the services of Starbucks as it has been understood from the analysis that the element of clean and comfortable dining areas is the most problematic area for Starbucks and it has received the 3rd lowest average rating. This area needs to be improved by the management of Starbucks to deliver Satisfaction of the highest order to the customers. The survey results were refined expertly using various statistical, computational methods such as descriptive statistics, means analysis, factor analysis, and correlation.

Effective evaluation of the statistical data highlights that regular improvement of the customer service and improving the service timing is recommended for the organization of Starbucks to maximize customer satisfaction level in the period of pandemic situation. It is also recommended for Starbucks to maintain the safety and hygiene practices within the restaurants to deliver high quality of service for their loyal customer base. The quality audit should be executed for making a proper obligation to the quality control guidelines presented by the government. Furthermore, there is a considerable need for impeccable HR from the authorities of Starbucks for effective delivery of services. In order to align the staff delivery with the quality benchmarks required during the COVID- 19. The human resource manager must provide the highest quality of training associated with safety practices within the restaurants. A greater amount of emphasis must be given to the mitigation of poor performance area by regular monitoring. On the basis of training, optimization of the seating and cleanliness will be designed, and staff will be instructed to provide prompt and responsive service for their customers. The limited number of research participants is one of the primary limitations which have been understood by the execution of this research project. In the course of the accumulation of primary evidence, only 90 responses have been accumulated, which is regarded to be low to identify customer satisfaction level. As an organization of Starbucks is a huge company, it is required to obtain data from a vast pool of customers to get a diverse amount of viewpoints on their preference about hygiene and safety maintenance in service delivery during the pandemic situation in the context of the UAE. For example, to introduce new-age groups into research since in our research only younger people were included, then to analyze few more demographic characteristics such as nationality, incomes, location. Another limitation that has been noticed is the lack of qualitative data. In other words, our research was mainly quantitative, so for better analysis and more significant results, developing qualitative research is highly recommended, for example, driving an interview program. An interview program would have presented the researcher with in-depth information about the methods, protocols and strategies used by Starbucks to deliver a safe and hygienic environment to their customers in this crisis. The managers of Starbucks would have been interviewed in the process, which would have significantly outlined the impact of COVID-19 on delivering a high satisfaction level for Starbucks through their hygienic service delivery. In order to gain the managers' viewpoints, the aid of telephonic interview or videoconferencing method would have been looked upon. On the other side, our research program can be applied in the case of any other restaurant. What we designed is an expanded version of the DINESERV framework with a special focus on hygiene and safety factors, and that is the key contribution of our research to the scientific and professional society.

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## MEDIA INDUSTRY TRANSFORMATION: COMPARISON MANAGEMENT IN COMCAST AND NETFLIX

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### **ABSTRACT**

*The aim of this paper is to compare the business performance of corporations from the "old" and "new" media industry during the Covid 19 pandemic. The model of the "old" or "new" media industry is defined according to the design and business model of the organization. Comcast Corporation is a vertically integrated corporation whose revenue base is cable television subscriptions. According to these characteristics, it belongs to the old media industries. Netflix is a streaming platform, and it generates basic revenue from subscribing to streaming video content. The streaming platform is part of the platform economy model and belongs to the new media industry. The analysis of the financial results of corporate operations and the analysis of subscribers' trends will compare the business performance of corporations during the Covid 19 pandemic. Postmodern and post-industrial society requires a significant change in managerial practices in the media industry.*

**Keywords:** *Comcast, media industry, Netflix, platform economy, vertical integration*

### **1. INTRODUCTION**

Comcast is the world's largest media corporation in terms of revenue. It is organized as a vertically integrated corporation, which determines it as part of the "old" media industry. It was founded in 1963, but first appeared under the name Comcast in 1972 (Johnstone 2020). The old media industry has entered a mature phase and the management strategies of competitors are the same as those of other industries that have entered the process of market saturation. Comcast uses merger and acquisition model, but at the same time transforms itself into new forms of media industry. The corporation was formed at the time of the production and distribution of physical media, and as a basic model of advertising and distribution of media content, it used the mass media. It generates the largest revenues from the cable industry (broadcasting), which reached its peak at the end of the last century. With the development of digital technology, the way of monetizing the service has changed, and in addition to subscribing to broadcasting and other forms of "old" media industry, the corporation through acquisitions began to generate very significant revenues from "new" media industries. In addition to distribution in the cable and mass media model, revenues began to flow from subscriptions, streaming, etc. Therefore, we are talking about the transformation of the form of the media industry as well as a hybrid model of service monetization. Netflix began operations in 2006, as a company that used to rent video tapes that it mailed to an address (Tryon 2006). In the context of the division into "old" and "new" media organizations, it belonged to the "old" media form just like Comcast in that period. Netflix is one of the "new" media industries evolving in the platform economy model (Moazed, Johnson 2016; Parker et al. 2016). The basic form of financing is a subscription to user content that is distributed on a streaming platform. Unlike Comcast, which produces much of its own program and has maintenance and production costs, Netflix distributes content from the platform and uses zero marginal cost effects (Rifkin 2015; Lozić 2019). The distribution of content takes place in a platform model thus completely avoiding the mass media model. Comcast is part of the old media industry that developed on broadcasting or cable operator. Netflix is part of a new media industry, created with Internet and streaming distribution. A comparison of corporations or two rival models is shown in Table 1.

*Table 1: Differences between old and new media industry*

	<b>Comcast Corp.</b>	<b>Netflix</b>
Organizational design	Vertical integration	Platform economy
Monetization	Hybrid model	Subscribe
Distribution	Hybrid model	Streaming
Media industry	Transformation	New media industry
Cost model	Economies of scale	Zero marginal cost
Media model	Mass media	Platform media
Technology model	Broadcasting	Internet

*Source: Own illustration*

## 2. LITERATURE REVIEW

In terms of revenue generated in 2019, Comcast was the largest media corporation in the industry ahead of the Walt Disney Corporation. Total revenue in 2019 was more than \$ 108 billion, which is almost 66% higher revenue than Walt Disney Corp. in second place with revenue of \$ 65.39 billion. The first five places, according to the realized revenues, are occupied by corporations from the segment of the "old" media industry, ahead of Netflix in the sixth place (Reiff 2020). According to market capitalization in the media, entertainment and film industries, Comcast ranks third behind Netflix in first and Walt Disney in second (Seth 2020). In addition, Walt Disney has seen a recent increase in profit margin greater than the increase at Comcast (Forbes 2020). Comcast is a global vertically integrated media corporation, and has positioned itself in the media industry through acquisitions within various industry segments. Today, Comcast is a cable operator that owns stakes in a number of other corporations, the most notable of which are: AT&T Broadband, NBC Universal, Sky, DreamWorks Animation, and XUMO (Johnstone 2020). Comcast generates more than half of its revenue from cable distribution services, about 53%, while NBC Universal generates 30% and Sky 17%, respectively (Forbes 2019). Despite being owned by NBC and Sky, most of the revenue is generated from the cable business that has felt the effects of the crisis. NBC and Sky recorded a significant drop in advertising revenue as a direct result of the Corona crisis (Shapiro 2020). The decline in cable television revenue and ratings has forced Comcast to change its strategy and adapt to new circumstances. In February 2020, Comcast took over the Xumo streaming platform, which broadcasts more than 190 different types of programs (Ha 2020). Xumo provides a subscription to a streaming platform, which also has advertising revenue, and is technologically structured to provide access to cable programs as well as streaming platforms (Statt 2020). By taking on more technologically advanced media entities, Comcast is transforming its business and generating revenue from old and new media industries. Compared to Comcast Corp., Netflix generates five times less revenue than Comcast Corp., or \$ 20.16 billion. Interestingly, Comcast's market capitalization, as of February 2, 2021, is \$ 234.67 billion, which is less than Walt Disney Corp. with \$ 325.80 billion and Netflix with \$ 245 billion (YahooFinance.com). Netflix has five times less revenue than Comcast and a larger market capitalization. The very comparison of data on total revenues and market capitalization indicates the changes that have affected the media industry. The digitalization of production processes and the convergence of the distribution and consumption of media content has directly affected changes within the global media industry. The year 2007, and the advent of the smartphone, marked a turning point for high-tech industries, especially the media industry. Low (2013) will point out for this change that we have all become "screenagers" or happy addicts in an international screen-based pursuit. Curtin (2009) will call this event a tipping point. Netflix already had a collection of 100,000 videos, and will launch a streaming platform by the end of 2007. In the context of postmodern management practices, Netflix marked a turning point from the dominance of old cable management-based media management

practices, towards postmodern management practices based on streaming platforms. Lotz (2007) called this period the "post-network era", while Curtin described it as the "matrix era". Organizations that will base business processes on modern technological solutions will adopt the platform economy model and streaming distribution. They will develop their own systems for the "big-data" algorithm that will analyse the tastes of the audience and be the basis of business decision-making of postmodern management (Lozić 2020). The impact of viewers and their expectations of the program offer is called the "Netflix effect" (Matrix 2014). The comparison of the "old" and the "new" media industry relies directly on "cable" or broadcasting. Comcast still generates most of its cable revenue today, while Netflix has never operated in the cable model. The cable that enables the distribution of media content, i.e. coaxial cable, had an outlet in the central part of the living room and strongly determined the presence of technology in the living space (Burroughs 2019). Jankins warns of the ubiquitous "cable" and its excessive impact on the lives of the population in the late modern period in his 2006 work "Convergence Culture." The emergence and development of Netflix marked the beginning of the end of the dominance of "cable" culture in the living room. On the one hand, technology has evolved in the direction of internet and wireless connectivity, and on the other hand, Generation Y no longer browses content sitting in the living room (Seemiller, Grace 2019). According to a Sept. 2020 survey by market research firm eMarketer, traditional cable TV will lose over 6 million U.S. subscriber households in 2020 who make the switch to a streaming video platform (Holzhauer 2020). There could be less than 70 million cable homes by 2023, far fewer than households with a streaming service (Del Vecchio 2020). The generation that first "failed" the cable was called "cord-cutters", which in free translation would be "cable cutters". However, what followed was a "nightmare" for classic ("old") media corporations. "Cord-nevers" or service users who will never agree to the consumption model in the "living room cable" model (Lotz 2007). Coronavirus shutdowns and stay-at-home orders have sparked a new boom in the streaming world as established companies rev up content and new players, like HBO Max and Quibi, look to make a splash (Klebnikov 2020). The development of streaming platforms attracted more and more audiences, and the use of the benefits of modern algorithms and audience interaction on the platform further enhanced the "Netflix effect". The old media corporations no longer had anything to wait for and set out on takeovers to keep their place in the market. Through acquisitions, Comcast has become the largest multimedia corporation in the world (Burroughs 2019). The old media industry has gone the same way as all other industries in which excessive competition directly affects the decline in profitability and takeover processes (Lozić 2015). Janner (2014) was the first to warn of a complete change in the model of distribution and consumption of media content. Not only has the form of distribution changed but the managerial management model has completely changed (Janner 2014). She came to her conclusions based on a study of the business management model at Netflix, which designs a program based on the data it collects in a "big-data" algorithm. Generation Y grew up with the Internet and inherited access habits, unlike their parents who lived with the habit of owning. "Digital born" or those who grew up with the Internet are accustomed to freemium access models, and then only decide whether to pay for the extended model (Palfrey, Gasser 2008). Waldfogel (2018) calls them an "all-you-can-eat generation" because they will pay for access only where necessary and to the least extent possible. Cable distributors sold "bundling" or a large number of "wrapped" television channels (Lozić 2020). Streaming platforms allow access in the subscription model, and users choose only what interests them. The vertically integrated model, and the monolithic approach of the modernist type, has been replaced by a fluid, peer-to-peer postmodern model.

### 3. METHODOLOGY AND RESEARCH QUESTIONS

The research will use data from the audit reports of Comcast and Netflix corporations, the document "Form 10-K". The report will use data from the profit and loss account as well as the movement of the number of users by given analysis periods. The survey will include a financial analysis of corporate operations, and regression analysis will be used to analyse selected items from the profit and loss account as well as the movement of the number of users. Research and analysis is focused on answering the following questions:

- Q1 - "Old" media industries have lower cost of revenue than "new" media industries.
- Q2 - The global media industry is resilient to the Covid 19 pandemic.

The results of the analysis of the given research questions will be discussed in the section entitled Discussion and Conclusion. The research and analysis consists of two basic parts according to the selected corporations. For comparability of results, the same data with the same methodological approach will be analysed.

### 4. DATA ANALYSIS

The research is divided into an analysis of the business results of each individual corporation. The analysis includes selected financial items as well as the trend of users in the analysed period.

#### 4.1. Comcast Corporation

The analysis of Comcast Corporation's financial items covers a period of six years, from 2015 to 2020. In the analysed period, Comcast's revenue increased from \$ 74.51 billion to \$ 103.56 billion, an increase of 39%. In the same period, the cost of revenue rose from \$ 22.55 billion to \$ 33.12 billion, an increase of 46.9%. This difference alone indicates a change in Comcast's business environment in the last 6 years. An increase in the cost of revenue above the amount of the revenue increase directly affected the share of gross profit in total revenue. In the analysed period, the share of gross profit increases until 2017, after which the share of gross profit decreases. The average share of gross profit in revenue is 69%. In the last three analysed periods, gross profit is below average and continuously declining. In the analysed period, operating income increased from \$ 16 billion to \$ 17.49 billion, an increase of 9.3%, while net income increased by 27.2%. The results of the analysis are shown in Table 2. All financial items analysed in Table 2 had a continuous increase until the last analysed period. In the last analysed period, there was a decline in revenue, which was most felt in the decline in net profit. The index method was used to analyse changes on an annual basis for selected financial items. In the last analysed period, revenue decreased by 4.9% compared to the previous year, gross profit was lower by 5.4%, operating income fell by 17.2%, and net income was lower by 19.7% %. The results of the research indicate a very strong impact of the global pandemic on the financial results of the corporation. The results of the research are shown in Table 3.

*Table 2: Selected financial items - Comcast (\$; millions)*

	2015	2016	2017	2018	2019	2020
Revenue	74.510	80.403	85.029	94.507	108.942	103.564
Cost of revenue	22.550	24.463	25.355	29.692	34.440	33.121
Gross profit	51.960	55.940	59.674	64.815	74.502	70.443
%	69,7%	69,6%	70,2%	68,6%	68,4%	68,0%
Operating income	15.998	16.859	18.018	19.009	21.125	17.493
Net income	8.413	9.045	22.922	11.862	13.323	10.701

*Source: Own illustration (Comcast Corporation Annual Report)*

*Table 3: Percentage changes of items*

% (n+1/n)	2015	2016	2017	2018	2019	2020
Revenue	-	7,9%	5,8%	11,1%	15,3%	<b>-4,9%</b>
Cost of revenue	-	8,5%	3,6%	17,1%	16,0%	<b>-3,8%</b>
Gross profit	-	7,7%	6,7%	8,6%	14,9%	<b>-5,4%</b>
Operating income	-	5,4%	6,9%	5,5%	11,1%	<b>-17,2%</b>
Net income	-	7,5%	153,4%	-48,3%	12,3%	<b>-19,7%</b>

*Source: Own illustration*

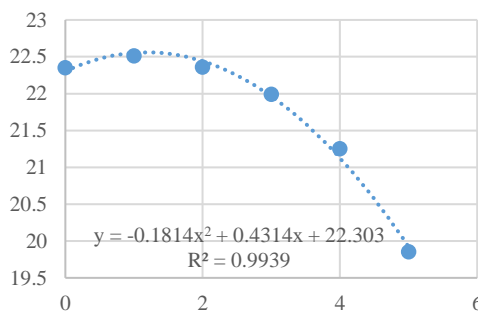
*Table 4: Regression analysis of financial items – Comcast*

	Regression equation	R <sup>2</sup>	s
Revenue	$y = 74680e0,0761x$	0,9202	7,9
Cost of revenue	$y = 2489,2x + 22047$	0,9087	8,8
Operating income	$y = 16559e0,0336x$	0,4157	-
Net income	$y = -1177,4x^2 + 6264,5x + 7842,5$	0,3839	-

*Source: Own illustration*

Selected financial items were analysed using the regression trend method. Revenue grew on average 7.9% per year with a coefficient of determination of 0.9202. Cost of revenue grew on average more than revenue, i.e. 8.8%, with a coefficient of determination of 0.9087. The sharp decline in operating income in the last analysed period significantly affected the analysis of the regression trend. The average annual growth would be 3.36% ( $s = 3.36$ ), but the coefficient of determination is 0.4157, i.e. insufficient for an accurate estimate of growth ( $R^2 < 0.8$ ). Growth in the five-year period, without results for 2020, would amount to 6.81% with a coefficient of determination of 0.9683. Net income has an even lower coefficient of determination than operating income, which indicates a large oscillation of the profit trend. In addition, the direction coefficient is negative indicating a continuous decline in net profit. The results of the research are shown in Table 4.

*Table 5: Comcast subscribers trend*

Comcast subscribers (millions)			
2015	22,35	%	
2016	22,51	0,7%	
2017	22,36	-0,7%	
2018	21,99	-1,7%	
2019	21,25	-3,4%	
2020	19,85	-6,6%	

*Source: Own illustration*

The trend in the number of Comcast subscribers was exactly the opposite of the revenue trend. The number of subscribers decreased from year to year. In the analysed period, the number of subscribers fell from 22.35 million in 2015, to 19.86 million in 2020. This is a decrease of 11.2%. Comcast is trying to compensate for the drop in the number of subscribers, ie the drop in revenue, by increasing the price of the subscription (Pegoraro 2020). The results of the index method research indicate a continuous growth of Comcast subscription cancellations. The largest number of subscription cancellations was in 2019 and 2020.

On the one hand, the cancellation of subscriptions was continuous, and on the other hand, revenues grew until the last analysed period. This is an indication that the corporation has entered a phase of transformation towards "new" media industries and that revenues from new sales models are growing. The drop in subscriptions is the largest in the last analysed period and amounts to 6.6%. The trend in the number of subscribers is explained by the regression direction ( $y = -0.1814x^2 + 0.4314x + 22.303$ ), which has a negative direction due to the continuous decline in the number of subscribers. Comcast is a vertically integrated corporation and a member of the old media industry. The cancellation of the cable television subscription began even before the crisis caused by the Covid 19 pandemic, and the pandemic intensified that trend.

#### 4.2. Netflix

The analysis of selected Netflix financial items covers the same period as with Comcast. In the analysed period of six years, from 2015 to 2020, revenue increased by 268.7%. Cost of revenue increased by 232.7%. While the cost of revenue Comcast increased at a higher rate than revenue, with Netflix revenue grew faster than the cost of revenue. This is the most significant difference between the financial operations of the two corporations. The growth of revenue over the growth of cost of revenue resulted in a growth of gross profit of 344.2%. In addition, gross profit grows continuously from period to period. The average share of gross profit in revenues was 34.9%, and the share of gross profit in the last three analysed periods was higher than the average. Operating revenue increased by 1399.3% and net income increased by 2151.6%. The results of the research are shown in Table 6. All selected and analysed items are continuously growing from year to year. We used the index method to investigate the annual changes in selected items. Revenue growth is digressive which means that total revenue is approaching the saturation point for the existing management model. In the last analysed period, revenues grew by 24%, compared to the previous period, which means that there is still a lot of room for revenue growth. Cost of revenue increased by two percentage points less than in the previous analysed period, which affected the growth of gross profit above the increase in the previous period. Net income follows the revenue trend and grows digressively. In the last analysed period, net income growth was 47.9%. The results of the research are shown in Table 7.

*Table 6: Selected financial items – Netflix (\$; 000)*

	2015	2016	2017	2018	2019	2020
Revenues	6.779.511	8.830.669	11.692.713	15.794.341	20.156.447	24.996.056
Cost of revenues	4.591.476	6.029.901	8.033.000	9.967.538	12.440.213	15.276.319
Gross profit	2.188.035	2.800.768	3.659.713	5.826.803	7.716.234	9.719.737
%	32,3%	31,7%	31,3%	36,9%	38,3%	38,9%
Operating income	305.826	379.793	838.679	1.605.226	2.604.254	4.585.289
Net income	122.641	186.679	558.929	1.211.242	1.866.916	2.761.395

*Source: Own illustration (Netflix Annual Report)*

*Table 7: Percentage changes of items*

% (n+1/n)	2015	2016	2017	2018	2019	2020
Revenues	-	30,3%	32,4%	35,1%	27,6%	<b>24,0%</b>
Cost of revenues	-	31,3%	33,2%	24,1%	24,8%	<b>22,8%</b>
Operating income	-	24,2%	120,8%	91,4%	62,2%	<b>76,1%</b>
Net income	-	52,2%	199,4%	116,7%	54,1%	<b>47,9%</b>

*Source: Own illustration*

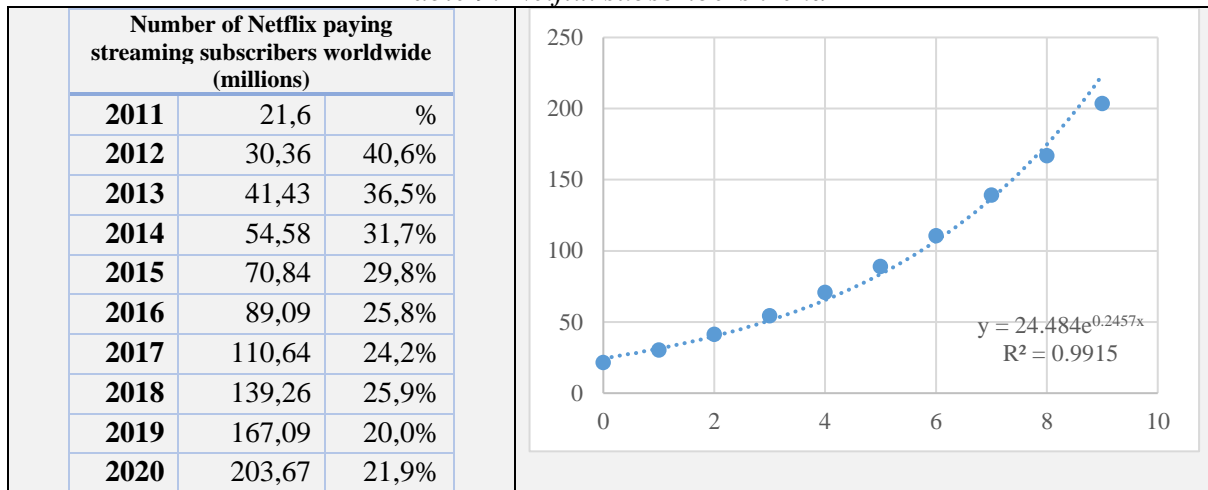


Table 8: Regression analysis of financial items – Netflix

	Regression equation	R <sup>2</sup>	s
Revenue	$y = 5E+06e^{0,2607x}$	0,9977	29,84
Cost of revenue	$y = 4E+06e^{0,2396x}$	0,9971	27,07
Operating income	$y = 237866e^{0,4651x}$	0,9112	59,22
Net income	$y = 124341e^{0,5117x}$	0,8477	66,81

Source: Own illustration

Table 9: Netflix subscribers trend



Source: Own illustration

Selected financial items were analysed using the regression trend method. In the analysed period, Netflix's revenues grew on average annually at a rate of 29.84% ( $s = 29.84$ ) to a coefficient of determination of 0.9977. Cost of revenue grew on average annually at a cost of 27.07% ( $s = 27.07$ ) with a coefficient of determination of 0.9971. Operating income grew on average annually at a rate of 59.22% ( $s = 59.22$ ) with a coefficient of determination of 0.9112. The highest average annual growth was in net income, amounting to 66.81% ( $s = 66.81$ ) with a coefficient of determination of 0.8477. In the analysed period, the average increase in the cost of revenue is smaller than the average increase in revenue, operating income and net profit. The trend of selected financial items is continuous and the pandemic did not affect the financial results of operations. The results of the research are shown in Table 8. The trend in the number of Netflix users indicates fundamental differences between the old and new media industries. Comcast, as a vertically integrated corporation from the old media industry, has a steady decline in subscribers. The decline in the number of subscribers is related to the decline in the number of cable television subscribers in postmodern society. The trend in the number of Netflix subscribers is the opposite of Comcast, and the number of subscribers is constantly growing. In response to the increase in Comcast cable subscription prices, Netflix has increased the price of the streaming service subscription (Flint 2020). In the analysed period from 2011 to 2020, the number of subscribers increased from 21.6 million to 203.67 million, an increase of 842.9%. Regression analysis of the trend is explained by the equation  $y = 24,484e^{0,2457x}$ . The average annual growth in the number of users was 27.85% ( $s = 27.85$ ) with a coefficient of determination of 0.9912. The analysis of annual changes by the index method shows a slowdown in the growth of the number of users, ie the growth is digressive. Netflix's core revenue is related to subscription, and user digressive growth is directly related to revenue digressive growth. In the last analysed period, the number of users increased by 2% compared to the previous period, which means that the pandemic had a slight impact on the change in the

trend in the number of users. The number of users is starting to fluctuate which means that the platform is approaching a mature stage with the existing management model.

## 5. DISCUSSION AND CONCLUSION

The results of the business research of the analysed corporations at the time of the Covid 19 pandemic, we will analyse a few key points:

- In the analysed period, the cost of revenue Comcast grew faster than revenue growth.
- Comcast's gross profit has been steadily declining and below average in the last three analysed periods
- The survey results showed a very strong impact of the Covid 19 pandemic on Comcast's financial results.
- Revenue Netflix grew much faster than the cost of revenue.
- The share of gross profit grows from year to year and is the largest in the last analysed period.
- The number of subscribers is growing at an average rate of 27.85% per year.
- Netflix did not feel the impact of the pandemic on overall business.

In the context of research questions, we can conclude that Comcast, as part of the old media industry, has higher gross profits than Netflix. The question is posed in the context of producing its own content, i.e. the assumption that Comcast will have a higher cost of revenue due to the production of its own content that it broadcasts in the model of a vertically integrated corporation. The lower cost of revenue at Comcast compared to Netflix indicates the transformation of Comcast's business and the generation of revenue from various sources. The answer to another research question cannot be precisely defined. Comcast felt the effects of the pandemic significantly, while Netflix did not. Analysing Comcast's business processes, the fundamental change is the continuous decline in the number of cable television subscribers which was the fundamental income of vertically integrated media corporations. At the same time, total revenues are growing indicating the transformation of the corporation from an old vertically integrated corporation to a new form of media corporation that generates revenues from a number of different forms of content monetization. Netflix revenue grew faster than the cost of revenue, which is the exact opposite of Comcast. Gross profit has been growing continuously and is the largest in the last analysed period. The trend of gross profit best indicates the differences between a vertically integrated media corporation and a streaming platform. Netflix's revenue grew an average of five times faster than Comcast's average revenue growth, but Comcast has four times that revenue. Netflix's net profit is growing at an average rate of 47%, while Comcast's net profit is steadily declining. The revenue growth rate, as well as the subscriber growth rate, directly affects the value of Netflix to investors. The fundamental difference between Comcast and Netflix, corporations from the old and new media industries, is precisely in the impact of the pandemic on overall business. Comcast has seen a drop in revenue, and has already seen a drop in subscribers. Netflix did not feel the impact of the pandemic because all financial items analysed kept the trends as before the pandemic. Future research should focus on transforming Comcast's business relative to Netflix's revenue saturation.

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## THE ROLE OF GLOBALIZATION AND INDUSTRY 4.0 DURING COVID-19 PANDEMIC: "WINNERS AND LOSERS"

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### ABSTRACT

*The pandemic caused by the COVID-19 virus that appeared in China (in the paper refers to the People's Republic of China) in early 2020 has left negative consequences on globalization, the world economy and all of humanity. The COVID-19 pandemic has caused the world's most serious crisis since the Second World War and shown the negative consequences of globalization and the supply of strategic products. The future of the international economy is threatened because the pandemic has caused the closure of borders, the free flow of people, goods, services and capital. The world economic powers, The United States, the European Union and China are amongst most affected in the pandemic. The development of industry according to the concept of Industry 4.0 has contributed to the world functioning even in times of crisis and to continuing business, education and finding a cure for the COVID-19. With the development of information and communication technology, the world has already become a world-system. The COVID-19 pandemic has accelerated digitization and modernized business. The paper is a product of a professor/mentor-graduate student cooperation.*

**Keywords:** *COVID-19 pandemic, globalization, Industry 4.0, China, the United States of America, the European Union*

### 1. INTRODUCTION

The COVID-19 pandemic, which turned 2020 into a year to remember in a negative sense, will have long-term consequences for all of humanity and the global economy. In just a month since the outbreak of the infection in China, the speed with which the infection has spread to all continents has turned into a pandemic that has threatened the entire world. The COVID-19 pandemic has become a major topic of much scientific research, due to the uncertainty it carries, and how it will affect the entire world economy. In the year since the pandemic, we have seen the decline of health systems around the world. The number of infected and the number of deaths from the consequences of the COVID-19 virus is growing every day. The pandemic has particularly hit highly developed countries, international trade and global trends the hardest. In the short term, to protect their population and economy, states have closed their borders, there has been a downturn in the global economy. The pandemic pointed out that globalization as a process has failed because global supply chains have been disrupted, and the free flow of people, goods, services and capital has been disrupted. Industry 4.0, which generates modern technological, information, telecommunication and transport processes, has proven to be a great help in business, but also in the everyday life of every individual at a time of limitations brought by the corona crisis. The present crisis has accelerated digitalization and modernized business. From classic overnight business, we have moved into the virtual world, which will surely become a practice even after a pandemic due to the simplicity and speed with which everyday processes in business, education and everyday life are performed.

Once the pandemic is over, a lot of effort, financial injections and strategies will be needed to recover the economy and the shock suffered by the global economy. Changes are likely to occur in the world economic order because many supply problems have arisen, mostly strategic products. Globalization could turn into glocalization, regionalization and localization.

## **2. INDUSTRY 4.0: DEFINITIONS AND EXPLANATIONS**

Industry 4.0 is based on the digital transformation of processes. Digital transformation is based on intelligent networking of machines using advanced information and communication technologies. The goal of digital transformation is to enable autonomous communication between devices, analysing and collecting large amounts of data, autonomous decision making, real-time monitoring of assets and processes, creation of additional values, vertical and horizontal process integration. Industry 4.0 leads to the integration of technologies with operational activities. The result of the transformation of business models is the improvement of business in the company, which results in increased profits, reduced business costs, innovations are created. It also leads to increased productivity because automation reduces production time, increases flexibility using machines and robots due to speed of adjustment, increases product quality because errors are corrected with quick response, and increases product development speed, from initial idea to final product is short time thanks simulation capabilities (HAPPTORY, 2020). The beginning of Industry 4.0 is linked to the 2011 Fair in Hannover, Germany. The fair promoted a new industry development strategy based on changing technology, processes and ways of working. The development of a new revolution is not tied to some significant revolutionary product or invention, but is a process of complete automation in which modern means of production are used. There is an integration of computer technology, data transmission and processing with modern mechanical systems. These processes are called cybernetic-physical systems (Nikolic, 2017). The term Industry 4.0 comes from Europe, from a strategy that originated in Germany. The goal of the German strategy was to offer a strong adjustment associated with mass production. Today, Industry 4.0 refers to new ways in which technology communicates with society and the human body. It differs significantly from the previous three revolutions. The first three revolutions relate to advances in technology, and the fourth industrial revolution relies on advances in the sharing and use of information. Industry Trend 4.0 means that we can connect to almost anything and everything on the web, there has been a drastic improvement in business efficiency, and better asset management techniques (DUPLICICO, 2020). Industry 4.0 as the main feature for the development of modern industry is the "smart factory", which uses communication technology that manages production and business processes. The goal of the smart factory is market dominance with lower production costs and improved production quality (Lider media, 2015). For a smart factory, there should be preconditions such as developed equipment in all areas, integration with information systems, the possibility of networking and adaptation to the required requirements. According to the author, such a factory can also be called a "learning factory" because it needs to act quickly to changes in the market, technology, science, the resources needed in production, and rapid adaptation to the new (Nikolic, 2017). Intelligent technology uses databases, sensors and wireless access. End users are provided with optimal solutions because smart factories adapt to their needs. Intelligent technology has physical and logical applications. Complete adaptation to the environment is achieved through sensors that collect data, this data is analysed and used to produce better products. Through the ability to learn, intelligent technology enables pattern recognition and performance improvement. Creating smart grids creates a value chain that brings people, data, and processes together (DUPLICICO, 2020).

A smart factory is an important factor between relationships in society. It influences education policy by expressing the need for education of professionals of the appropriate profile with the necessary knowledge and skills. The concept of Industry 4.0 aims to encourage educational institutions to direct education in the direction of the concept of STEM field (Nikolic, 2017).

### **3. INDUSTRY 4.0 DURING THE COVID-19 PANDEMIC**

During the pandemic, customer preferences have changed. Due to the closure and travel ban, consumer habits are changing. Customers have turned to online shopping. According to the Central Bureau of Statistics in Croatia, online shopping grew by 13.9 percent in the first half of the year. Due to changing consumer habits, retailers had to adjust their sales channels to online shopping. Global trends in online commerce have been accelerated by the corona crisis. Some global companies have already moved their business to online shopping, and some have announced they will close physical stores in the next 10 years (HINA, 2020). The corona crisis has accelerated digitalization, everything that was announced to be implemented by 2030 or 2050, will now come to fruition faster. In a situation where the whole world finds itself, digitalization has made everyday life easier. It turned out that there would be a need for new jobs such as programmers, electricians, mechatronics and similar occupations that would have the necessary knowledge and skills. In the future, many jobs will be replaced by automated robots. Digital money will increasingly be used as a means of payment, as banknotes can transmit viruses and bacteria. Autonomous vehicles will be used to transport people, because during the corona crisis, carriers are potential carriers of the infection. This will particularly affect large and mega cities. There will also be a change in the delivery of the ordered goods to the destination. Until now, the delivery took place with the help of people, and in the future, the delivery robots will do it. The biggest turning point that happened in the corona crisis was distance education and work from home. All this will have negative consequences for man and the environment. People will have to acquire new knowledge and skills, change life habits, which ultimately causes stress, reduced physical activity and an unhealthy lifestyle (Husanović, 2020). Industry 4.0 made its contribution during the pandemic by using new materials such as graphene oxide and reduced graphene oxide. 3D printing from different types of polymers and composites creates much-needed medical parts, face masks, shields, parts for respirators (Al-Maadeed, 2020). Recovery measures after the corona crisis are reflected in policies that would promote sustainable productivity growth. Productivity growth or output per worker is the source of per capita income growth. A slowdown in productivity was noted even before the pandemic. The reason for this is reduced yields from technological advances, the delay between the development of new digital technologies and their inclusion in production processes. The pandemic has exacerbated the slowdown in productivity through persistent unemployment, weaker investment and trade. In a pandemic, however, there could be an increase in productivity due to technological changes, shifts in teleworking, the inclusion of digital technologies in manufacturing, education, smart manufacturing. Investing in digital technologies would reduce the negative effects of school closures. Digital technology could enhance and promote trade, foreign direct investment and knowledge transfer. Productivity growth would also reduce the poverty rate. A pandemic could affect the accelerated pace of acceptance of technological advances and automation that would lead to increased productivity. To be able to grow and to strengthen the economy after a pandemic, policies will need to be implemented that will promote sustainable productivity growth through facilitated investment in physical and human capital. Funds will need to be channelled into more productive businesses. Businesses should focus on the adoption of new technologies and innovations. In order to achieve productivity, employees need to have special knowledge and skills achieved through education and training for individual jobs. In order to achieve a high level of digitization and application of technology, Governments need to ensure widespread access to the Internet and provide education for all

people. In order for the workforce to preserve its jobs, it must be prepared for the challenges posed by digitalization and automation (Dieppe and Kose, 2020).

#### **4. THE MOST IMPORTANT EFFECTS OF THE COVID-19 PANDEMIC ON GLOBAL VALUE CHAINS AND INDUSTRY 4.0**

After the Second World War, significant industrial production has gradually moved to Japan, South Korea, Taiwan, and later to China. Coronavirus announces a major turnaround in the industry in the west-east relationship. It will accelerate deglobalization as some global companies plan to relocate their production to other parts of the world. For some time now, some industries have been abandoning production in China due to rising labour costs and environmental pollution. The coronavirus has shown that globalization has one weak point, and that is China. At the beginning of the epidemic, which took place in the Chinese city of Wuhan, it turned out to be very important where production takes place for individual companies, for entire industries and ultimately for the global economy. The epidemic that started in China has blocked the global economy. U.S. and European officials are concerned about China's dominance in the pharmaceutical field. This was also expressed by the President of the European Union Chamber of Commerce, Jörg Wuttke, who said that production was over where it was most efficient, ie globalization. Bloomberg Opinion columnist Tyler Cowen warns that China has made global supply chains fragile. For the first time since the Second World War, the global economy is facing the separation of many trade ties (Brown, 2020). In the *Journal of Industry and Business Economics* (Strange, 2020) he talks about global value chains at the time of the pandemic. Countries around the world reacted differently to the onset of a pandemic through quarantines, closures, self-isolation, social distancing, closures of all currently endangered activities, mass testing, seeking contacts, restricting travel outside and inside the country. All these measures lead to changes in consumer behaviour. Distribution networks need to adapt to new consumer requirements. Unfortunately, many companies will not be able to survive the pandemic, due to the challenges imposed by the current crisis. Many governments will incur significant debts, the financing of these debts will need to be offset by long-term borrowing, increased taxation or a reduction in public spending. The modern global economy is connected by a global supply chain. The interconnectedness is reflected in foreign direct investment (FDI) and the share of global trade that accounts for cross-border trade in repro-materials and services. Global value chains are characterized by a number of small companies engaged in various business activities, as well as multinational companies. There are many reasons why companies participate in global supply chains. Very often this is due to cheaper semi-finished products and services from abroad, lower labour costs, different climatic conditions in foreign countries in food production, the wealth of natural resources in foreign countries. The reason may be insufficient production capacity in the domestic economy, various local disturbances such as hurricanes, local epidemics, strikes, terrorist threats and the like. Global supply chains are based on the values of the free flow of people, capital, products and services. The epidemic has led to a global stalemate. The pandemic has exposed the weaknesses of this business model. Many people working on the physical distribution of goods such as seafarers, truck drivers, pilots or seasonal workers in agriculture or tourism are directly affected by a pandemic because they are not allowed to cross state borders. All of these measures are slowing global supply chains even though most seaports and airports are open. The problem is that there are delays at the state borders, due to strict controls, and there are delays in deliveries. There have been supply disruptions resulting in additional transaction costs and transportation costs to the final destination. There was a disruption in the supply of some key raw materials in the business, such as the supply of medicines and medical supplies. The pandemic led to a disruption of free trade. It is just one of the reasons why the separation of the American and Chinese economies is being seriously considered at the global level, according to the former

US President Trump's comments to return production activities to the United States. Australia and Japan are also advocating the idea of building an economy that is less dependent on China to avoid disruptions in supply chains. The COVID-19 pandemic is a global phenomenon that has affected both health and economic effects in the world. The author (Strange, 2020) states that the pandemic and future pandemics should be responded to by greater international diversification, a greater number of suppliers from different countries of the world and greater externalization. Countries reacted differently to the pandemic, some responding faster and more readily, such as South Korea.

## **5. "WINNERS AND LOSERS" OF THE COVID-19 PANDEMIC**

Among the most vulnerable countries are the world's largest industrial economies, the United States, Spain, Italy, Germany, the United Kingdom, France, China and Japan, which generate about 60% of the global GDP (Baldwin and Tomiura, 2020). By July 2020, the COVID-19 virus had generated losses of US\$ 3.8 trillion and left more than 147 million unemployed. And that was just the beginning, as we can see now. The Australian Research Council ARC has conducted an international study on the impact of the pandemic on the global economy. The study involved a number of scientists from around the world led by the University of Sydney (Strange, 2020). At the international level, entry bans and flight bans have been introduced. This has led to major slowdowns in global production and trade, to supply chain disruptions affecting trade-dependent enterprises such as specialized manufacturing and healthcare supply. Stocks of enterprise supplies will disappear within two to five weeks, and when stocks are depleted the decline in production will reduce international supply chain networks (Lenzen et al., 2020). At a time of pandemic, it is crucial to introduce preparedness measures that will minimize disruption to the population and economic losses of businesses. The beneficial effect of the pandemic was only reflected in reduced air pollution. The pandemic affected grounded planes, factories closed, travel banned. This decrease was due to reduced coal use in power plants, oil refining, steel production and air transport. The effect study was conducted in a global MRIO laboratory. All the data collected from the international collaboration was converted by a computer method into figures that scientists claim is very accurate (Strange, 2020). The assessment of the overall effects caused by the COVID-19 pandemic shows that transport and tourism are the economically hardest hit sectors. The airlines went bankrupt because the plane trip was cancelled. The cancellations occurred because Governments had enacted travel restriction measures to slow the spread of the virus. The International Air Transport Association (IATA) has estimated that global revenues could fall by more than 44% compared to 2019. The blockades affect both retail and wholesale, the service sector including business services in the supply chains of tourism, transport, entertainment and personal services. Production operations have been on the decline in China, Europe and across OPEC, mining in Australia and oil (OPEC) due to the effect on the supply chain. Reducing activities in production, tourism and transport also reduces greenhouse gas emissions. Of the total revenue losses of US\$ 2.1 billion, it is lost due to declining international trade, indicating the consequences of a pandemic in all countries around the world. The sector most affected by the pandemic is transport, as well as trade, tourism, energy and finance. Asia, Europe and the United States are most affected. The global crisis caused by the pandemic will affect the quality and quantity of jobs, the most affected will be unskilled labour and migrants, due to more difficult adaptation to work in a virtual environment. The pandemic will also widen the gap between rich and poor, and will collapse health care systems in low-income countries (Strange, 2020). As many national economies rely on China, significant losses in supply chains originating from mainland China have been observed. The pandemic has exposed vulnerable businesses that are dependent on the countries most directly affected by the crisis caused by the pandemic (Tomas, 2020). Also, countries that have trade relations with countries affected by the crisis have a reduction in

emissions of harmful substances into the air. Data from 38 regions of the world and 26 industrial sectors were used in this study. For the accuracy of the results of this study, we used the “foot print” platform, which was founded 10 years ago, and today has enabled a fast and reliable simulation of the world economy, to get a result of how society and the environment affect our consumption (Strange, 2020). Losses will increase and extend to the global economy as locking measures continue. Premature lifting of restrictions could result in more severe and long-lasting economic effects (WHO, 2020). The economic and environmental effects of a pandemic are reduced spending that translates into reduced employment and reduced family incomes. But there is also a reduction in air pollution. The current crisis is likely to cause socio-economic vulnerabilities, increase disparities in income and the economy, and burden the health care system. From a societal point of view, the pandemic has resulted in labour market shocks. The pandemic will affect the quantity and quality of jobs, as well as the most vulnerable groups of people such as migrants and unskilled labour, who will not be able to adapt to labour in the “virtual world”. The short-term effects of a pandemic on economic, social and environmental impact are profound and present several challenges. The current crisis caused by the COVID-19 virus will deepen socio-economic vulnerabilities, increase disparities in income and wealth, overload health systems. The combination of systemic vulnerabilities and climate change could lead to a turnaround in socioeconomic systems due to food system failures and large urban abandonments (Lenzen et al., 2020). The Institute for Policy Studies in Washington has published a report that in times of corona crisis, the rich get richer and the poor get poorer. As examples, the author mentions Amazon boss Jeff Bezos, billionaire and Tesla founder Elon Musk, Microsoft CEO Steve Ballmer, Zoom founder Eric Yuan, and tycoon John Albert Sobrat as the biggest profiteers of the crisis. Among the winners is Singapore’s richest man Li Xiting co-founder of Mindray. It manufactures medical equipment and respirators, so in one month it has become richer by a billion dollars, due to the high demand for medical equipment from all over the world. The consequence of the enrichment of individuals or individual companies is because, due to globalization, production has moved to the Far East (Kaufmann, 2020). China is the biggest winner of present-day globalization, which at the same time means that it will be the biggest loser from deglobalization. According to a survey conducted by the American Chamber of Commerce in Singapore, 28% of respondents said they establish or use alternative supply chains to reduce dependence on China. This threatens tens of millions of jobs in China, and this will surely lead to social and political instability (Brown, 2020). The pandemic first affected the global supply economy channel in East Asia and China. Since the start of the pandemic, Chinese industrial production has fallen by 13.5% year-on-year between January and February 2020. This is the biggest drop in the history of China (Baldwin and Tomiura, 2020). During the epidemic, there was a strengthening of Europe and the US, but as the pandemic hit the whole world, China is recovering faster than the rest of the world. The global spread of the pandemic is also affecting the Chinese economy due to large imports of raw materials for production from the rest of the world (Coveri et al., 2020). In recent decades, China has been promoting new values through diversification and building supply chains within Southeast Asia’s borders because of the U.S. trade war and protectionist measures. This allowed China to partially shorten its supply chains and its dependence on imported imports that were necessary in times of China’s industrialization. In this way, China is building completely new production capacities with the aim of expanding and diversifying, and entering global markets from which China was absent until a few decades ago (Coveri et al., 2020). At the beginning of the epidemic, the European Union had problems coordinating measures to fight coronavirus. European members of the World Health Organization (WHO) held a consultation in virtual form. At the time of the meeting, according to the European Center for Disease Prevention and Control (ECDC) in the European Economic Area and Iceland, Norway, Liechtenstein and the United Kingdom, about two and a half million positive tests for coronavirus were recorded.



The WHO speaks of enormous solidarity between the countries of Europe and some Central Asian countries. At the beginning of the epidemic, however, there could be no talk of European solidarity. Countries closed borders and banned the export of medical equipment. Peter Liese, a spokesman for the European people in the European Parliament, says the reason is the member states themselves, which have blocked a joint initiative launched by the European Parliament or the European Commission. The problem is that public health belongs to the competences of individual member states. The EU can only provide support if someone asks for it. For these reasons, the European institutions need to be strengthened. Some laws have been amended to allow for more intensive medical cooperation and the search for a vaccine. The deal is to help member states with a package of economic aid, worth about 750 billion euros. The European Parliament should debate a law on disaster prevention. The aim is to create conditions for the production of medical supplies and medicines in the European Union. Europe is now dependent on the supply of medicines and raw materials coming from China and the Far East. The fight against coronavirus is not over yet. The WHO predicts that in the autumn and winter, the countries of the European Union will again be affected by a wave of pandemics. It draws attention to the unequal treatment of member states in the implementation of citizens' protection measures. There are also concerns that citizens are increasingly protesting against pandemic protection measures (Steinwehr, 2020). On July 21<sup>st</sup>, 2020, the leaders of the European Union announced a revolutionary plan "Next Generation" worth 750 billion euros to combat the COVID-19 pandemic (The European Council, 2020). The EU's new recovery plan consists of grants and loans to recover the European economy worth 672.5 billion euros, and the rest will be cohesion support to support a climate-neutral economy and the coronavirus crisis. Negotiations within the Council have been long and difficult because on the one hand there are austerity countries (Austria, Denmark, the Netherlands and Sweden) while on the other hand there are the countries most affected by the corona crisis (Italy, France and Spain). Although the crisis could only jeopardize the existence of the European Union, it is also an opportunity to address some of the fundamental shortcomings of the existence of the European Union. The corona crisis can reunite the European Union through the many mechanisms at its disposal, state aid, taxation, climate neutrality and digitalization (Alcidi and Gros, 2020). On the example of China and its diversification, the authors of the article (Coveri et al., 2020) state that the European economy should also combine the production system, while strengthening international competitiveness in global markets. A good focus of European industrial policy on supply chains would solve more problems. One of them is filling the gap in supply chains through more efficient division of labour. With regard to strategic production, Europe should act through cooperation by sharing resources and knowledge, and managing capabilities in industries such as health, food, infrastructure, environment and renewable energy, and social security (Pianta et al., 2020). The epidemic brought an opportunity that through the reorganization of the global industrial structure, an opportunity could be given for the selection and development of small and medium-sized enterprises, by moving them to shorter supply chains (Jurgensen et al., 2020). At the beginning of the 21<sup>st</sup> century with China's entry into the global capitalist market, the European economy stagnated in investing in tangible and intangible assets. Hyper specialization has created outsourcing and geographical dispersion. Which causes a decrease in the productivity of the capacity and knowledge base on which the ability to compete is built. The pandemic has pointed to a structural shortcoming involving strategic industries and the entire technological development of Europe. Policies need to focus on the recovery and expansion of technological knowledge and on supply chains (Coveri et al., 2020). At the time of the pandemic, a high rate of household savings was recorded in Europe, which could affect Europe's economic recovery. Savings affect the vital dose of stimulus needed to recover from a crisis. The population is prone to austerity because they fear for jobs, the uncertainty of further spread of the virus, and because of the closure and reduction of purchases.

In an interview with Deutsche Welle, the chief European economist at Capital Economics said that if household consumption decreases and savings increase, it will greatly affect the number of jobs and the amount of production in the economy. Household savings will have a major impact on the recovery despite efforts by central banks and governments to boost the economy. According to research by the European Commission, lower population consumption is expected than before the coronary crisis. European Union governments are trying in various ways to reduce household savings and encourage consumption. They do this through various subsidies and by reducing value added taxes. France and Spain, which are the most affected countries with a high number of infected, implement incentives to stay and outdoor activities, such as travel, theatres, restaurants. A new wave of coronavirus in the fall brings uncertainty and fear of job losses, which will result in further household savings (Pandey, 2020). Due to the disruption caused by the pandemic, 64% of companies from the manufacturing and industrial sectors plan to return their production and procurement to North America, in order to avoid business difficulties in the future. This is due to supply chain disruptions that have caused production downtime due to key parts being produced in China (Leonard, 2020). In an interview with the chief advisor with Sungard Availability Services, he said: "If you are selling in a particular geographical area, then you should look for suppliers in that geographical area, whether it is North America, the US or if you are limited to a local, smaller area ". Moving production from Asian countries to Mexico will reduce the need for maritime and air transport. Ever since the trade war, the United States has been reviewing its procurement strategies and reshoring (Moser, 2020) as a practice of returning production from overseas to the United States. It is a quick and effective way to strengthen the U.S. economy, accelerate the balancing of trade and budget deficits, contribute to reducing unemployment, and creating a skilled workforce. Reshoring should shorten supply chains. But disturbances can still occur because countries are dependent on raw materials and inputs that can only be procured abroad and are dependent on imports. Former U.S. President Donald Trump has promised since the beginning of his term in 2016 that he will terminate trade agreements and restore jobs in the United States, which were lost due to globalization. He pursued an aggressive protectionist policy that included the termination of trade agreements, the imposition of tariffs on aluminium and steel coming from abroad, he conducted the US-China trade war. Trump has been pressuring multinational companies to restore production and create jobs in the United States. Despite all the procedures he has carried out, he has not achieved any measurable data in U.S. economic growth. Despite the growth of the economy in the summer of 2020, autumn again brought high numbers of newly infected with the coronavirus, and the loss of Trump's presidential election (Martin, 2020). The pandemic in the United States caused a shock of demand, a shock in supply, and a financial shock at the same time. It has led to a global economic slowdown, endangered the hospital and healthcare systems, and caused high mortality. The spread of the virus started from densely populated urban centres. According to research by the Center for Disease Control and Prevention, there has been inequality in society which has manifested itself in income and wealth, access to and use of health care, education, racial and ethical discrimination. Due to quarantine, social distancing and closure, there was unemployment, production capacities were reduced, which shows a drop in GDP. The corona crisis has also harmed industrial production, mining and the utilities sector, which employs 13 million workers, with jobs that cannot be done online or from home. After six months of coronation, the consequences for companies, the labour market, households and public health left consequences that are reflected in falling corporate incomes, bankruptcies, rising unemployment, rising personal savings rates and food insecurity (Bauer et al., 2020). According to Reuters (Mutikani, 2020), in order to boost consumer spending, the U.S. government injected more than US\$ 3 trillion in aid during the pandemic. This resulted in economic growth in the third quarter of 2020. Despite these funds, tens of millions of Americans are unemployed.

There was an increase in the purchase of motor vehicles, clothing and footwear, spending on recreation, health care and nutrition. Consumption was also boosted by weekly subsidies to the unemployed in the amount of US\$ 600, and to households in the amount of US\$ 1 200. The pandemic caused a drop in oil prices and government spending. The United States is leading in the digital economy. The digital economy is manifested through the value of many digital applications, e-commerce and mobile banking. Behind the United States is China. China's dominance in 5G infrastructure will strengthen China's digital economy. China's digital economy has gained in importance due to its involvement in global value chains. China is focused on foreign countries and is shaping the international environment and developing norms and rules that affect data management. It sets standards in broadband and smart cities as part of the Digital Silk Road (DSR) and the Belt and Road Initiative (BRI). The Chinese initiative is detrimental to American interests. The United States has focused its efforts on the open Internet, the development of digital commerce, and cooperation with G20 members and the Organization for Economic Co-operation and Development (OECD). China's digital economy is constantly growing. It also has special digital advantages over the United States. Compared to the US, China has a face recognition app and huge amounts of data that can be used to train artificial intelligence algorithms.

## **6. CONCLUSION**

The COVID-19 pandemic has caused a global catastrophe. Countries around the world have reacted in different ways to protect their populations and economies. Some reacted more quickly and some did not take the situation posed by the pandemic seriously. The pandemic soon became a global problem. Measures of self-isolation, quarantine, imprisonment, social distancing, travel restrictions and crossing state borders are being introduced. People's reactions are twofold, with some fearing and respecting measures, while others protesting restrictions on freedom of movement. The pandemic has caused a general collapse of the health systems of all countries of the world, even the most developed ones. Globalization as we have known it so far has been based on erasing borders and freedom of movement, while the pandemic is writing those borders again. A pandemic threatens the global economy by slowing it down, disrupting the international movement of people, goods, capital and services. States seek through various measures to reduce the spread of the virus, reduce mortality, balance people's daily lives, provide livelihoods and businesses, and preserve the health care system. The pandemic has led to a sharp decline in household consumption, increased household savings due to fear and uncertainty, reduced economic production, rising unemployment, reduced investment and a decline in international trade. Practically the only positive effect brought by the pandemic is the reduction of environmental pollution and the reduction of emissions of harmful substances into the air, which were caused by industrial production and mostly by air transport. The research problem in the paper is what is the role of globalization and Industry 4.0 at the time of the pandemic. The pandemic has affected globalization by slowing it down. Due to the closure of borders, there was a supply problem in the economy, and the first and biggest problem was the supply of basic medical supplies needed for treatment around the world. The world's leading powers, which are best affected by the pandemic, are forming into regional blocs. The largest regional blocs are: North America with the Agreement between the United States, Mexico and Canada (USMCA), in Europe it is the European Union EU-27, and the Eastern bloc in Asia RCEP between the Association of Southeast Asian Nations (ASEAN) and China, Japan, South Korea, Australia and New Zealand. The pandemic will cause a new division of the world that will turn globalization into regionalization. The world's economic powers are trying to stop the virus, are looking for vaccines to prevent further spread of the virus, and are trying to help the economy in ways to invest huge sums of money to boost economic activity and reduce the fall in GDP.

In the Industry 4.0 pandemic, it played an important role and helped to ensure that some economic activities were carried out without disruption, or at least that the disruption was mitigated. Due to the nature of the business, work from home has been introduced in activities that allow it. Due to social distancing and self-isolation, working from home was a salvation for many. For medical purposes, 3D printers that created masks, visors, respirator parts and other medical supplies were of great help. Digitization has also enabled online teaching in schools and colleges, holding various business meetings, and even international political conferences. Technologies have led to the facilitation of life and business during the pandemic, the greatest credit went to e-commerce due to the ease of buying and paying. Due to the corona crisis, digitalization has penetrated into all spheres of life. Everything that was announced to be realized in the future is being applied. Industry 4.0 has allowed some companies to stay productive even during this crisis.

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## **ECONOMIC STATUS OF YOUNG PEOPLE AND THE TRUST IN INSTITUTIONS DURING THE COVID-19 PANDEMIC IN THREE COUNTRIES OF SOUTHEAST EUROPE**

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### **ABSTRACT**

*Trust in institutions is an important indicator of successful governance and effective administration, especially in emergency situations such as COVID-19 pandemic. The aim of this paper is to investigate trust of young people in institutions during the COVID-19 pandemic in Bosnia and Herzegovina, Croatia and Serbia considering the economic status. The research was conducted on 1024 students from Bosnia and Herzegovina, Croatia and Serbia using an online survey. The results indicate that there are statistically significant differences in level of trust in institutions between bad and good economic status in Bosnia and Herzegovina and Croatia, while there are no differences in Serbia. Participants with better economic status in Croatia have higher trust in army, government, school system, courts, parliament, police, political parties, universities and president, while in Bosnia and Herzegovina have higher trust in school system, courts and political parties. The differences are very likely related to restrictive measures in fighting COVID-19 pandemic, but also addition of devastating earthquake that hit its capital, Zagreb in the middle of the pandemic. Given results indicate that institutions should put more effort implementing policies and measures regarding people with low economic status.*

**Keywords:** *Bosnia and Herzegovina, COVID-19, Croatia, economic status, Serbia, trust in institutions*

### **1. INTRODUCTON**

March 11, 2020 will be remembered in human history as the day when the World Health Organization (WHO, 2020) declared a global pandemic of the COVID-19 virus. Countries started to enforce restrictive measures in order to prevent the spread of the coronavirus in places where physical distance couldn't be controlled and uncontrolled transmission of virus could occur despite strict rules of hygiene (Motiejūnaitė-Schulmeister, Crosier, 2020). Restrictive measures were strict and have been necessary to slow down the spread of the virus. Educational facilities were one of the first places that were closed according to UNESCO (UNESCO, 2020). All Member States of EU have prohibited public gatherings, closed schools and restricted traveling and more than half of Member States of EU have proclaimed a state of emergency (European Commission, 2020). Croatia has, for example enforced the temporary ban and restrictions on crossing the state border and compulsory 14-day quarantine or self-imposed isolation, classes were suspended in schools and universities and transferred to on-line and television broadcasting, kindergartens were closed, it was forbidden to leave a place of residence without proper cause, national events and events with more people were stopped

including the Masses and sports events, non-essential shops and facilities were closed, public transportation was put on hold, social distancing was introduced (Civil Protection Directorate of Republic of Croatia, 2020; European Commission, 2020). Similar restrictions were enforced through all neighboring countries, with Serbia even enforcing curfew (Južne vesti, 2020). At that time, on March 22, 2020, capital of Croatia, Zagreb and its surrounding area were hit by devastating earthquake (5.5 according to the Richter scale), which presented additional stress on country and citizens. In the countries that were in the focus of our research, pandemic didn't have drastic effects as some other countries. As the official statistics state, until May 30, 2020 there was total of 2494 cases of infection and 153 people died in Bosnia and Herzegovina (Ministry of Civil Affairs of Bosnia and Herzegovina, 2020), 2246 cases of infection and 103 people died in Croatia (Civil Protection Directorate of Republic of Croatia, 2020) and 11381 cases of infection and 242 people died in Serbia (Government of the Republic of Serbia, 2020). Governments of these countries have come up with some economic measures to help preserve liquidity and jobs, for example in Croatia businesses that were hit by COVID-19 situation received monthly payment help (Government of the Republic of Croatia, 2020). Despite the help people receive from the Government and other institutions they rely on, many people and businesses will have hard time coping and recovering during the COVID-19 pandemic and once it ceases. Pandemic has influenced whole population, rich and poor. Because of that it is important to find out how do individuals who are on the doorstep of entering the world of work, young people who have recently left the school system, but are still in the education system, only at the higher or university level, trust in institutions during COVID-19 pandemic based on their economic status.

### **1.1. The institutions**

Institutions according to the *Dictionary of Sociology* denote social practices that are regularly repeated, confirmed and maintained with the help of social norms, they contain a multitude of roles and relate to established patterns of behavior. We can consider institutions as those social practices that become sufficiently regulated and continuous through the process of *institutionalization*. Institutions are not immutable but depend on different social practices on the basis of which they change their patterns as needed (Abercrombie, Hill, Turner, 2008: 139). Emile Durkheim (2014: 52-53) defines institutions as "all the beliefs and behaviors established by the community", so according to him, sociology is "the science of institutions". For the structural functionalist Talcott Parsons, the basis of sociology lies in the values and norms that have their foundation in institutions (Kuvačić, 1990: 20). Parsons (1949) states in his theory that institutions as systems form "a factor of control in the action of human beings in society", therefore "they must be harmonized with the needs of their actors as individuals and with the social systems they create". Shils (1961) talks about institutions in the context of the relationship between the center and the periphery. According to him, the central institutional system is a set of institutions that are legitimized by the value system. According to Shils (1961) "economic, political, ecclesiastical and cultural institutions influence the behavior of the population in many respects, both through the actual exercise of power and the possible use of violence, and by suggesting models for action and control of the distribution of rewards" (according to Kuvačić, 1990: 371). Unlike functionalists who believe that institutions "meet the needs of individuals or societies" (Abercrombie, Hill, Turner, 2008: 140), phenomenologists Berger and Luckmann (1967: 55) believe that society accepts institutions as such, ie institutions, according to them, "control human behavior by prescribing predefined patterns of behavior" (according to Ritzer, 1997: 241).

## **1.2. The trust and trust in institutions**

Giddens (2007: 679) talks about trust in the context of contemporary risks. According to him, trust means "the security we have in other individuals or institutions." Giddens (2007: 680) argues that in the modern world marked by various risks, traditional forms of trust are disappearing, that is, trust today is security in "abstract systems" since our lives are no longer created by those we see, but by those we will probably never encounter. For example, "we must trust agencies that check food quality, water purity, or the efficiency of the banking system" (Giddens, 2007: 680). According to Giddens (2007: 680), trust and risk in modern society are closely linked and "if we want to face the risks we are surrounded by, we must have confidence in government and respond effectively". This is confirmed by Balog-Way and McComas (2020) according to which trust along with tradeoffs and preparedness is a key factor in crisis communication during a pandemic, and transparency of communication is key in building trust in institutions. Young people are important pillars of future systems. Hooghe, Dassonneville and Marien (2015) have found that students anticipate and acquire a value pattern during secondary education. According to Kaliterna Lipovčan and Brajša-Žganec (2017) level of trust is very important parameter of social capital that can have notable effects on the well-being of citizens. The lack of citizen participation in public activities, for example, can be the result of low levels of trust (Kaliterna Lipovčan, Brajša-Žganec, 2017). Trust in institutions is an indicator of successful governance and effective administration (Ariely, 2013). Politicization of public sector, service delivery, political and bureaucratic corruption, lack of transparency, accountability, ethnic prejudice and partiality in the working of the public institutions can negatively influence the trust in institutions (Ramesh, 2017). Foster and Frieden (2017) found that trust in political institutions in Europe has dropped since the Euro-crisis in 2009. They also found that citizens with more educated and higher level of skills trust government more, while countries with high unemployment rates are less likely to trust government (Foster, Frieden, 2017). Owens and Cook (2013) in their research found that trust in institutions has decreased in countries that were affected by Great Recession of 2008. Trust in institutions was surveyed on the national level and representative sample in Croatia in 2016 (Pillar's Barometer of Croatian Society, 2016). In that survey, highest level of trust, on scale of 0 to 10, was in Croatian Army (5.67), followed by education (5.59), health (5.21), Church (4.94), president (4.67), police (4.42), European Parliament (3.82), judiciary (3.14), government (3.12), Croatian Parliament (2.86) and political parties (2.49).

## **1.3. Economic status**

Economic status is an important factor in society. Although there are doubts about how poverty is measured, what is certain is that poverty or material deprivation affects a person's position in society, which is often unfavorable compared to those of better material status and often results in social exclusion (Haralambos, Holborn, 2002: 291). Sumner, Hoy and Ortiz-Juarez (2020) estimate that additional 8% of the world's population will fall into poverty as a result of economic impact of COVID-19. Estimates of GDP losses due to COVID-19 pandemic are not yet fully known (Kanupriya, 2020). During the COVID-19 pandemic many people will become unemployed and cast into the world of uncertainty and precariousness (Blustein, Guarino, 2020). Rollston and Galea (2020) state that economic status can be key factor in shaping someone's health through influencing the neighborhood people live in, housing conditions, physical activities, access to healthy food and nutrition, access to education and type of jobs people work, access to transportation and health care. According to International Monetary Fund (IMF, 2020) in year 2019 GDP of Bosnia and Herzegovina was \$5741, Croatia \$14949 and Serbia \$7397. Unemployment rates in year 2019 of Bosnia and Herzegovina was 18.4%, Croatia 6.9% and Serbia 12.7% (World Bank, 2020).



## 2. THE AIM AND HYPOTHESES

The aim of this paper is to investigate the existing differences in trust in different institutions (army, government, school system, courts, parliament, police, political parties, universities, president and health institutions) of young people in Bosnia and Herzegovina, Croatia and Serbia, during the COVID-19 pandemic considering their economic status. Given the aim of the paper, the following hypotheses are set:

- **H1:** Trust in institutions in Bosnia and Herzegovina during the COVID-19 pandemic differs according to the economic status of the young people.
- **H2:** Trust in institutions in Croatia during the COVID-19 pandemic differs according to the economic status of the young people.
- **H3:** Trust in institutions in Serbia during the COVID-19 pandemic differs according to the economic status of the young people.

## 3. METHODOLOGY

The research was conducted from March 29 to April 12, 2020 using the survey method. The data were collected through an online questionnaire distributed through social networks among student Facebook groups, since the targeted population of the research were young people from Bosnia and Herzegovina, Croatia and Serbia. The students conveniently accessed the questionnaire on the link and filled it out. The survey was voluntary and anonymous, and by completing the questionnaire participants have agreed to informed consent. The research was conducted on a convenient sample of students.

### 3.1. Research instrument

The data collection instrument was an online questionnaire. The questionnaire contained questions on trust in institutions (army, government, school system, courts, parliament, police, political parties, universities, president, health institutions) in general and trust in institutions during the COVID-19 pandemic (Likert scale 1 to 5: 1 - I do not trust at all, 2 - I do not trust, 3 - I neither do nor do not trust, 4 - I have trust, 5 - I trust completely). The instrument also contained questions regarding socio-demographic characteristics (age, gender, field of study, financial status, place of birth).

### 3.2. Research participants

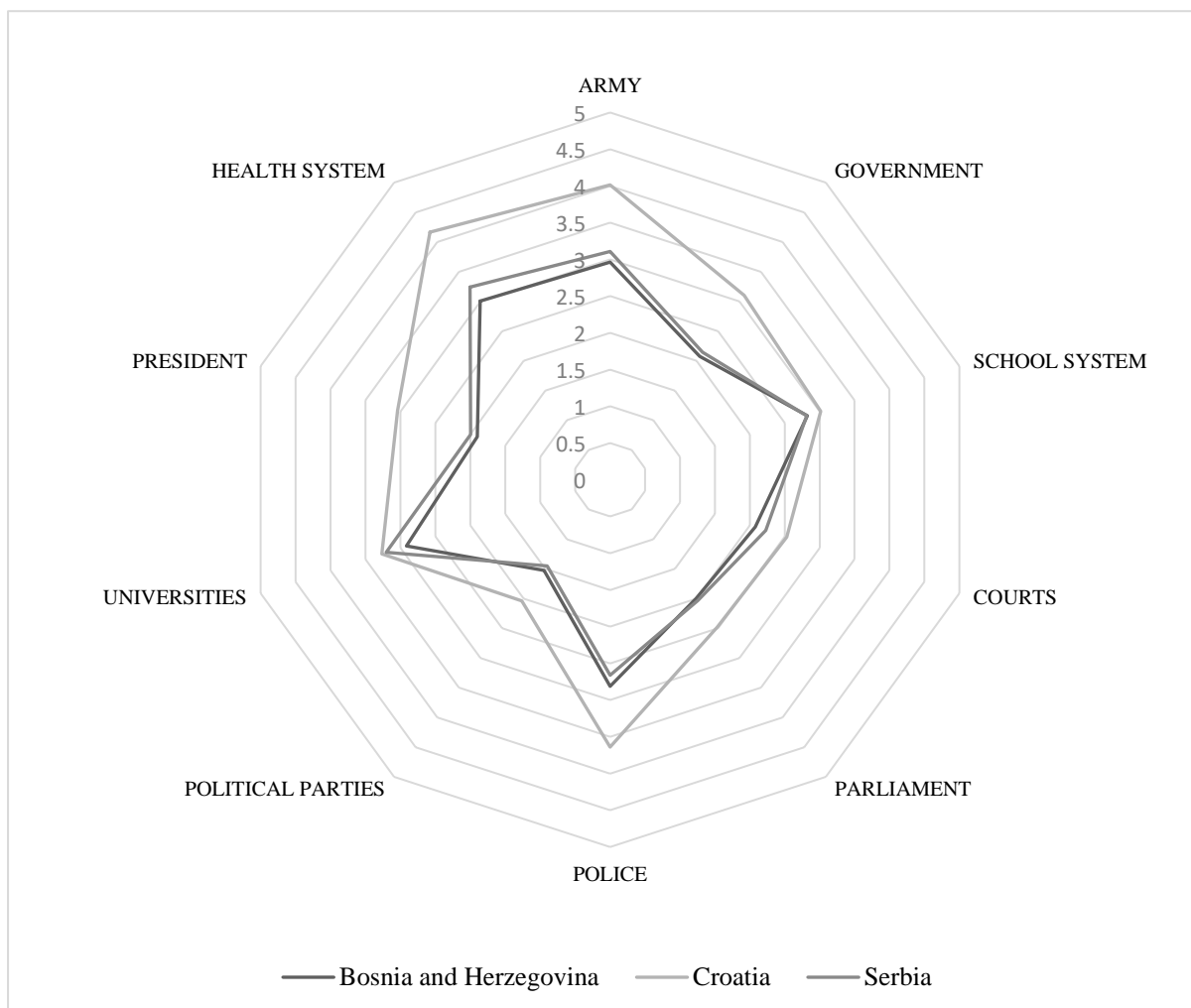
The research was conducted on a convenient sample of 1024 students from Croatia (n=513), Serbia (n=295) and Bosnia and Herzegovina (n=216). The sample consists of mostly female students (82.9%) than male (17.1%). Gender distribution is similar per countries as well, so that in the sample of respondents from Bosnia and Herzegovina 85.3% of respondents are female, in the sample from Croatia there are 82.4% of female respondents, while in the sample from Serbia there are 82.3% female respondents. The age of participants ranged from 18 to 30, while the average age was 22.124 (SD = 2.819). Most participants come from medium-sized city (24.2%), followed by smaller city (24%), larger city (21.6%), rural (16%) and capital city (14.2%). According to the field of Study, participants study biomedicine and healthcare (10.7%), biotechnical sciences (3.1%), social sciences (38.7%), humanities (12.4%), interdisciplinary field (3.2%), natural sciences (7.9%), technical sciences (18.7%) and art (5.4%). Regarding financial status, participants were asked to assess their perceived financial status as being bad or good. 21.1% of participants declared as having bad financial status and 78.9% as good.

## 4. RESULTS

Descriptive and multivariate statistical data analysis were used for data analysis in this paper.

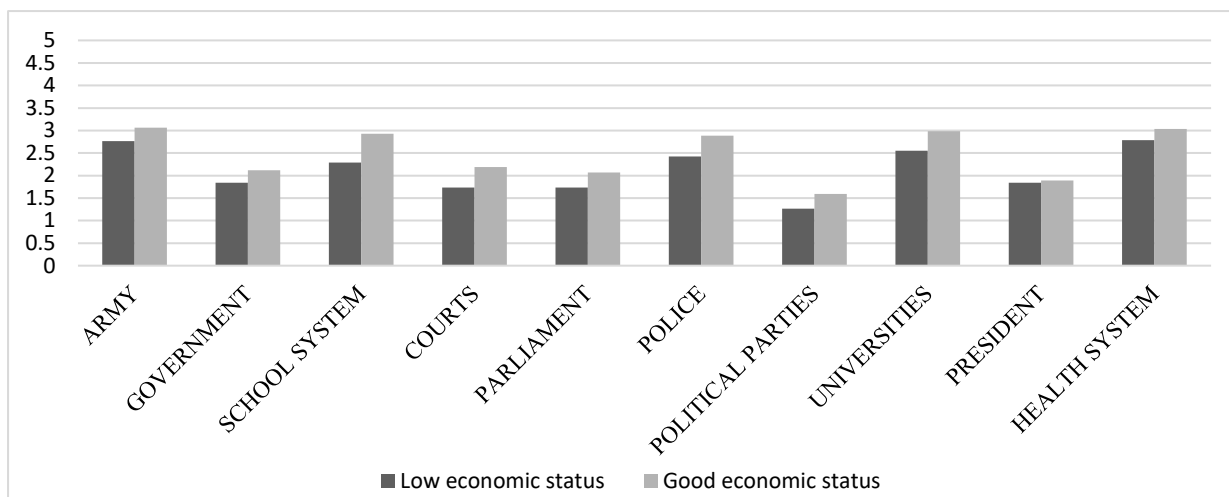
### 4.1. Descriptive analysis

Graph 1 shows the levels of trust in institutions during the COVID-19 pandemic in surveyed countries. It is evident that, in general, participants from Croatia have somewhat more trust in institutions than participants in Bosnia and Herzegovina and Serbia. The smallest difference can be seen in trust in universities (B&H=2.91; CRO=3.27; SRB=3.20) and the school system (B&H=2.82; CRO=3.02; SRB=2.82), while the largest differences are trust in health institutions (B&H=3.00; CRO=4.17; SRB=3.24), the President (B&H=1.90; CRO=3.04; SRB=1.99), the army (B&H=2.96; CRO=4.01; SRB=3.11) and the government (B&H=2.08; CRO=3.10; SRB=2.15). In general, the lowest trust in all three countries is in political parties (B&H=1.53; CRO=2.04; SRB=1.45) and parliament (B&H=2.00; CRO=2.48; SRB=2.03).

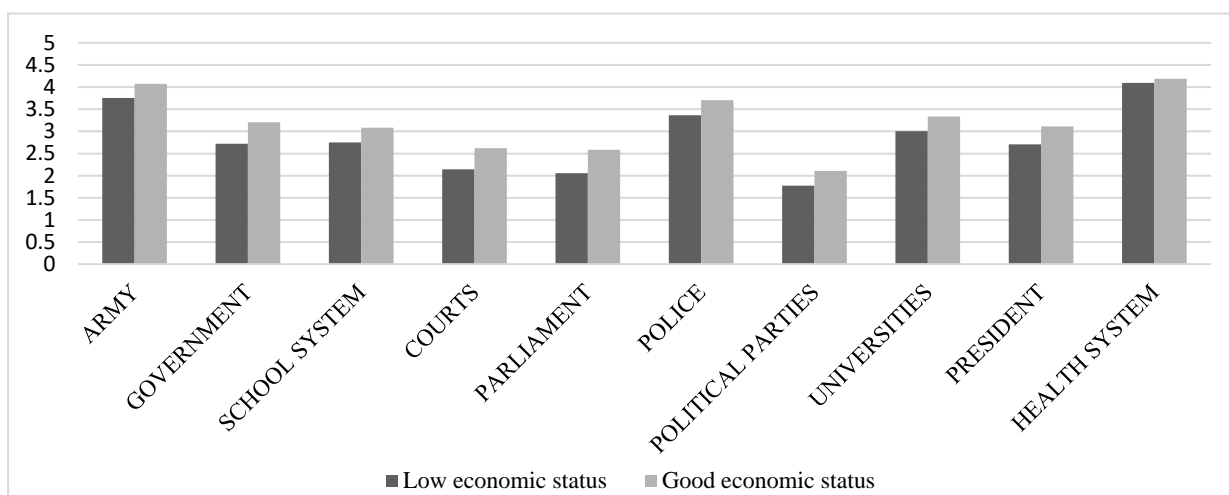


*Graph 1: Trust in institutions during the COVID-19 pandemic*

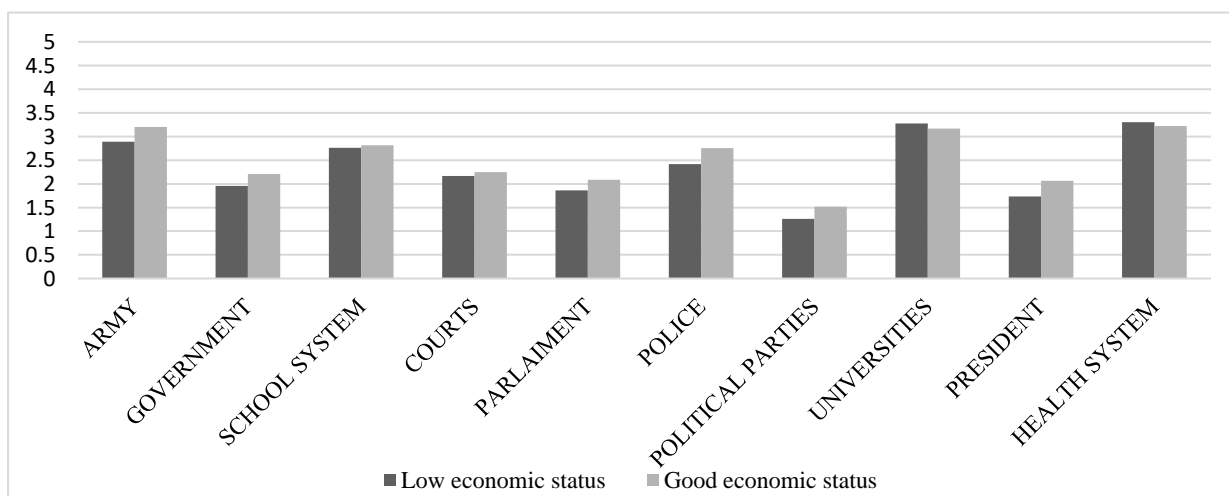
Descriptive indicators of trust in institutions during the COVID-19 pandemic considering economic status indicate that trust in institutions of participants with good economic status is generally slightly higher than that of participants with bad economic status in all observed countries (Graphs 2-4). A slight deviation can be seen in Serbia (Graph 4) where participants of bad economic status show slightly higher trust in universities ( $M=3.28 > M=3.17$ ) and health institutions ( $M=3.31 > M=3.22$ ).



*Graph 2: Trust in institutions in Bosnia and Herzegovina during the COVID-19 pandemic considering the economic status*



*Graph 3: Trust in institutions in Croatia during the COVID-19 pandemic considering the economic status*



*Graph 4: Trust in institutions in Serbia during the COVID-19 pandemic considering the economic status*

## 4.2. Manova

### 4.2.1. Bosnia and Herzegovina

In order to check whether trust in institutions during the COVID-19 pandemic differs considering the economic status, MANOVA was conducted. Based on Pillai's Trace multivariate test a statistically significant difference (*Pillai's Trace*=.104,  $F=2.102$ ,  $df1=10$ ,  $df2=182$ ,  $p=.026$ ) in trust in institutions during the COVID-19 pandemic can be seen in Bosnia and Herzegovina considering the economic status. Leven's test of homogeneity of variance in trust in institutions during the COVID-19 pandemic considering the economic status in Bosnia and Herzegovina confirms that all observed variables are homogeneous ( $p>.05$ ). Summaries of ANOVA's indicate that there are statistically significant differences in trust in institutions during the COVID-19 pandemic in Bosnia and Herzegovina considering the economic status in trust in the school system ( $M=2.29 < M=2.93$ ;  $F=7.641$ ,  $df1=1$ ,  $df2=191$ ,  $p=.006$ ), courts ( $M=1.74 < M=2.19$ ;  $F=5.253$ ,  $df1=1$ ,  $df2=191$ ,  $p=.023$ ) and political parties ( $M=1.26 < M=1.59$ ;  $F=4.721$ ,  $df1=1$ ,  $df2=191$ ,  $p=.031$ ) in a way that participants of better economic status have higher trust in each of these institutions.

### 4.2.2. Croatia

Regarding Croatia, Pillai's Trace multivariate test indicates that there is a statistically significant difference (*Pillai's Trace*=.042,  $F=2.139$ ,  $df1=10$ ,  $df2=487$ ,  $p=.020$ ) in trust in institutions during the COVID-19 pandemic in Croatia considering the economic status. All observed variables of trust in institutions during the COVID-19 pandemic considering the economic status in Croatia are homogeneous, as tested by Leven's variance homogeneity test. The ANOVA test indicators shows that there are statistically significant differences in trust in institutions during the COVID-19 pandemic in Croatia considering the economic status in the army ( $M=3.75 < M=4.08$ ;  $F=5.998$ ,  $df1=1$ ,  $df2=496$ ,  $p=.015$ ), government ( $M=2.72 < M=3.20$ ;  $F=12.45$ ,  $df1=1$ ,  $df2=496$ ,  $p<.001$ ), school system ( $M=2.75 < M=3.09$ ;  $F=6.224$ ,  $df1=1$ ,  $df2=496$ ,  $p=.013$ ), courts ( $M=2.14 < M=2.62$ ;  $F=17.245$ ,  $df1=1$ ,  $df2=496$ ,  $p<.001$ ), parliament ( $M=2.05 < M=2.58$ ;  $F=20.964$ ,  $df1=1$ ,  $df2=496$ ,  $p<.001$ ), police ( $M=3.37 < M=3.71$ ;  $F=5.980$ ,  $df1=1$ ,  $df2=496$ ,  $p=.015$ ), political parties ( $M=1.77 < M=2.11$ ;  $F=7.761$ ,  $df1=1$ ,  $df2=496$ ,  $p=.006$ ), universities ( $M=3.00 < M=3.33$ ;  $F=6.221$ ,  $df1=1$ ,  $df2=496$ ,  $p=.013$ ) and the president ( $M=2.71 < M=3.11$ ;  $F=7.471$ ,  $df1=1$ ,  $df2=496$ ,  $p=.006$ ) in a way that participants of better economic status show higher levels of trust in these institutions. Only in trust in health institutions there are no statistically significant differences.

### 4.2.3. Serbia

Based on data from Serbia, Pillai's Trace multivariate test shows that there is no statistically significant difference (*Pillai's Trace*=.057,  $F=1.628$ ,  $df1=10$ ,  $df2=471$ ,  $p=.098$ ) in trust in institutions during the COVID-19 pandemic in Serbia considering the economic status.

## 5. DISCUSSION AND CONCLUSION

Results confirm the first hypothesis that the trust in institutions in Bosnia and Herzegovina during the COVID-19 pandemic differs according to the economic status of the respondents. The results indicate that the differences are in trust in the school system, courts and political parties in a way that participants of good economic status have higher trust in each of these institutions. Results also confirm the second hypothesis that the trust in institutions in Croatia during the COVID-19 pandemic differs according to the economic status of the respondents. The results indicate that the differences are in trust in army, government, school system, courts, parliament, police, political parties, universities and president, in a way that participants of good economic status show higher levels of trust in these institutions. Only in trust in health institutions there are no statistically significant differences.

The third hypothesis that trust in institutions in Serbia during the COVID-19 pandemic differs according to the economic status of the respondents was not confirmed. Why do young people of good economic status have higher trust in institutions during COVID-19 pandemic? One of the possible reasons for lower trust in school system of those who have bad economic status could be in fact that schools and universities were closed and teaching was transferred to television and internet. Since such teaching requires necessary equipment and stable internet connection and TV signal, it could be that some students didn't have or couldn't afford these requirements. As far as trust in courts go, it is possible that those who have bad economic status, in case of a need, wouldn't be able to pay the necessary cost of court. Also, if required to visit court, since there was no public transportation, they would have to find other means of transport. Lower trust in political parties of those who have bad economic status could be in their disappointment with them and their programs for people with bad economic status. In Croatia we can see that there are differences in trust in all institutions except health system. Possible reason for differences could be affected by devastating earthquake that hit capital of Croatia, Zagreb on March 22, 2020, in the middle of COVID-19 pandemic, leaving many people without their homes and huge damages to the city. Many of those who had their homes damaged didn't have funds for repairs and rely on institutions, process that takes time. These people experienced high levels of stress so their level of trust in institutions could be biased. Highest trust was in army, health system and police, all of whom were at the first line fighting COVID-19 pandemic and dealing with aftermath of earthquake. Trust in health system was not statistically different based on economic status in any of the countries. Possible explanation could be that health system was not selective considering the economic status and every person, that got sick or infected was properly taken care of. Reasons for not finding differences in trust in institutions during COVID-19 pandemic in Serbia could be in fairly high number of people who got infected and died compared to Croatia and Bosnia and Herzegovina (11381 cases of infection and 242 people died in Serbia (Government of the Republic of Serbia, 2020)) and very strict measures like enforcing curfew (Južne vesti, 2020). It is also possible that trust in institutions is generally low, as shown by research by Foster and Frieden (2017) in countries with high unemployment rates, so pandemic couldn't affect it significantly. Another reason could be that differences between bad and good economic status aren't large enough, despite having higher GDP and lower unemployment rate than Bosnia and Herzegovina. The estimates suggest that in worst case scenario of COVID-19 economic impact, number of people living in poverty could increase by 420-580 million (Sumner, Hoy, Ortiz-Juarez, 2020). It is therefore inevitable that those on the verge of poverty will very likely fall into it. As Alon, Doepke, Olmstead-Rumsey and Tertilt (2020) state, women are more affected by employment drop related to social distancing measures, but also with closure of schools and daycare centers have massively increased children care needs. Based on the estimates of UNESCO (2020), during the COVID-19 pandemic more than 90% or more than 1.5 billion children were out of schools. That puts high stress on school system, children and parents. Therefore it is very important to put an effort into increasing trust in schools because as Becker (1994) states, education has one of the greatest contributions in human capital. By investing into the human capital people can increase their income and consequently promote economic growth of the country, as shown in Bassanini and Scarpetta (2001) research with significant correlation between level of education and economic growth. Hanushek and Kimko (2000) emphasise that quality of education is more important than quantity for economic growth. Basing on these facts as well as on the results of this research, it is indicative that institutions should put more effort implementing policies and measures regarding people with low economic status.

### 5.1. Limitations

Despite the efforts to conduct it methodologically right, conducted research has several limitations. First, since this is a convenient sample, possibility to draw conclusions to general population are limited. This can be mostly contributed to the fact that sample consisted of 82.9% of females. Furthermore, since participants voluntarily accessed the questionnaire that was published on social networks, there is a possibility that the questionnaire was completed by people who prefer to participate in research more than others and therefore have different views on topic. To overcome this limitation a population of students who are young and use social networks more often were chosen, and which, according to research, has proven to be good for online research (Vehovar, Lozar Mafreda, Callegaro 2015: 25-26). What is also important to note is that this research was conducted in time frame from March 29 to April 12, 2020, in time of very strict measures. It is highly likely that results will be different in time after measures have eased. It would be useful for future researchers to compare trust in institutions before, during and after the COVID-19 pandemic.

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## IMPACT OF COVID-19 PANDEMIC ON THE LOANS QUALITY, PROVISIONS AND PROFITABILITY OF THE BANKING SECTOR

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### ABSTRACT

*The Covid-19 pandemic has caused a global economic shock and disruptions in economic and social activities. The economic climate in the world has deteriorated, and further uncertainty about the development and duration of the pandemic has caused a systemic risk to the stability of the global financial system. The sharp decline in economic activity affected the decline in the volume of business of companies in non-financial sector, and the effects spilled over into the labour market and economic expectations of households. The liquidity of companies from non-financial sector and the liquidity of citizens has significantly deteriorated, which has led to irregularities in the settlement of loan obligations to banks. Furthermore, demand for banking products and services was significantly reduced during the Covid-19 pandemic. In accordance with the requirements of IFRS 9 Financial instruments, banks are required to timely estimate and recognize expected credit losses and provisions for debt financial instruments. This paper aims to investigate and analyse the impact of Covid-19 pandemic on the quality of loans, on the calculation of expected credit losses and provisions, and profitability of banking sector in Croatia. The data needed to conduct this research are collected from publicly available bulletins, annual reports and other documents issued by Croatian National Bank, as well as from publicly available annual financial statements of banks. In order to achieve the goal of this paper, collected data are processed and analysed by using the methods of descriptive statistic. Research results showed that the pandemic Covid-19 has caused an increase of expected credit losses in certain banks, and that the profitability of banking sector in Croatia has been significantly decreased due to lower level of revenues and higher level of provisions for non-performing loans.*

**Keywords:** Profitability, Quality of loans, Provisions, IFRS 9, Banking sector, Covid-19

### 1. INTRODUCTION

The economic growth of every country is determined and it is influenced greatly by the activities of banks. The effective corporate governance practice is of utmost for any banking sector and its stability and profitability. In order to ensure going concern and stability of the banking system, it is required the prudent management of bank's assets and liabilities. The contraction of the global economy that followed in 2020 due to the Covid-19 pandemic and the introduction of containment measures led to a significant drop in gross domestic product in many countries. Disturbances were visible in the operations of all business entities, but also in individuals. The unemployment rate has increased; personal consumption, investments and total export significantly declined during, and especially in the first half of 2020, while government consumption grew moderately (Croatian National Bank, 2021c). Consequently, the decline in economic activities of business entities and individuals affected the activities of the banking sector. Operations of banks has significantly disrupted during 2020, since the demand for banking products and services has remarkably decreased, and the operating revenues decreased due to the same reason. Decline in the economic activities of business entities caused a significant decrease in their profit, turnover and the volume of sales, which accordingly lead to delays in payment the liabilities to their creditors (including banks). Reducing the ability of borrowers (individuals or legal entities) to repay loans leads to increased credit risk and deterioration in the quality of the loan portfolio, higher expected credit losses and provisions



and reduced profitability of a certain bank and of the whole banking sector. Due to the great importance of the banking sector on the national and global economy, the Covid-19 pandemic has lead to new challenges for governments, regulators, and management of all business entities from all sectors (financial and non-financial). To that end, this paper seeks to investigate the impact of the Covid-19 pandemic on the business of the banking sector. In terms of structure, the paper starts with a brief introduction, followed by a theoretical framework and literature overview. The third section covers research methodology, whilst research results and discussion are laid down in the fourth section. The paper ends with concluding remarks, limitations of the study, and the possible direction of future research.

## **2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW**

### **2.1. Profitability of the banking industry**

The core function of the bank is to receive deposits (bank's liability) and to make loans (bank's assets) (Fama, 1980). Bank generates costs on their liabilities and earns income on their assets. In order to generate profit in doing business, it is required an efficient asset and liability management. When managing a bank, the management faces various internal and external challenges that affect the efficiency and effectiveness of management, and consequently affects on the bank's profitability. Accordingly, the key determinates of bank's profitability can be expressed as internal and external. These determinates include bank-specific determinants that resulting from management decisions (e.g. bank's size, bank's capitalization and capital strength, credit risk, liquidity, cost management, bank's market power), industry-specific determinants (ownership, concentration) and macroeconomic determinants (inflation, growth in productivity, public debt) (Albertazzi, Gambacorta, 2009; Athanasoglou, Brissimis, Delis, 2008; Ding, Fung, Jia, 2017; Rumler, Waschiczek, 2010; Trujillo-Ponce, 2013). The key profitability indicators of banking sector are return on average assets (ROAA), return on average equity (ROAE) and cost-to-income ratio (CIR) (e.g. Bikker, Vervliet, 2018; Chiorazzo, Milani, 2011; Garcia, Guerreiro, 2016; Neves, Proença, Dias, 2020; Owusu, Alhassan, 2021). The return on average assets is an indicator used to assess the profitability of bank, and it is calculated as a ratio between net income and average total assets, and it is expressed as a percentage. Dietrich and Wanzenried (2011) pointed out that the return on average assets has become the most common measure of bank's profitability in the literature. Garcia and Guerreiro (2016) accent that the return on average assets reflects the efficiency of management because they generate profit through the using an asset that bank hold. The return on average equity is another measure of bank's profitability, and it is calculated as a ratio between net income and average shareholders' equity, and it is expressed as a percentage. This indicator shows the efficiency in using the shareholders' equity. Garcia and Guerreiro (2016) emphasize that the owners of the bank care more about what are the earnings on their equity investments, and this information is provided by the return on average equity. The profitability of bank is better when the return on average assets and the return on average equity are higher. The cost-to-income ratio is a measure of bank's profitability, and it is calculated as a ratio between operating costs and operating income, and it is expressed as a percentage. This indicator shows the efficiency at which the bank is governing its business. Lower cost-to-income ratio means that a bank is running it business more profitable, whereas a higher cost-to-income ratio indicates that the operating expenses of the bank are too high.

*Table following on the next page*

Profitability indicator	December 2017	December 2018	December 2019	December 2020
ROAA	0.77%	0.76%	0.72%	0.42%
ROAE	8.98%	8.71%	8.01%	5.91%
CIR	65.51%	64.09%	61.52%	64.66%

*Table 1: Profitability indicators of the banking sector in the European Union*

*(Source: Author according to European Central Bank (2021a, 2021b))*

Trends in developments of profitability indicators of the banking sector in the European Union are presented in Table 1. Data show that all profitability indicators indicated improvements during the period from 2017 to the end of 2019 (period before the Covid-19 pandemic). ROAE and ROAA had a meaningful decline during the first year of Covid-19 pandemic, while the value of CIR indicates an increase during the first year of Covid-19.

## 2.2. Loan quality of banks

The quality of bank's loans usually is measured by the share of non-performing loans in total loans. The deterioration of bank's loans quality by increasing the volume of non-performing loans hampers the ability of the banking sector to supply credit. Accordingly, lower level of bank's loans quality reduces economic activity and creates issues with financial stability. In their research based on the literature review, Cerulli, D'Apice, Fiordelisi and Masala (2020) systematize two different categories of determinates that affect on the volume of non-performing loans; country-specific factors (e.g. unemployment, inflation rate, GDP) and bank-specific factors (e.g. loan growth, profitability, capitalization). Moreover, Nikolopoulos and Tsalas (2017) found multitude factors such as governance, regulatory and legal environment, bank-specific and macroeconomic factors, that have a significant impact on the volume of non-performing loans. Non-performing loans are generally defined as bank loans for which more than 90 days after maturity pass without the borrower paying the agreed instalments or interests (European Central Bank, 2016). Non-performing loans usually are called as "bad loans". Tarchouna, Jarraya and Bouri (2017) argue that efficient corporate governance has a positive impact on the quality of bank's loans. The volume (and level) of non-performing loans is very important for every bank and for the whole banking sector, because if the bank aim to generate profit in long turn, the non-performing loans should keep at the lowest level. Weighted average ratio of non-performing loans and advances (NPL) of the banking sector in the European Union is shown in Table 2.

Quality indicator	December 2017	December 2018	December 2019	September 2020
Share of non-performing loans in total loans	3.6%	2.8%	2.4%	2.4%

*Table 2: Non-performing loans and advances of the banking sector in the European Union*

*(Source: Author according to Norrestad (2021))*

The share of non-performing loans in total loans at the end of September 2020 remained at the last year's level of 2.4%. In previous years it was evident continuous decrease of the share of non-performing loans in total loans. The Covid-19 pandemic in 2020 stopped that trend, but still it is not evident the deterioration of this indicator in the banking sector in the European Union. Reinhart and Rogoff (2011) point out that the high volumes on non-performing loans mainly are related to the bank failures and the growing of share of non-performing loans in total loans is the early warning indicator for consequent banking crisis. González-Hermosillo (1999) points to the negative effects of the non-performing loans on the bank's liquidity and profitability. Ghosh (2015) accents that the reducing the volume and share of non-performing loans contributes to the stability and strengthening of the banking system.

### 2.3. Provisions for credit losses

In order to provide the fair and objective presentation of financial position and financial performance to all users of financial statements, banks (and other business entities) are assessing and recognizing credit losses in their financial statements. The incurrence of credit losses is a consequence of the deterioration of debtor's credit quality and accordingly the increasing of creditor's credit risk. Credit risk is usually defined as the risk that one party to a financial contract will fail to perform a liability in part or in full, which will cause the investor to suffer a financial loss. Credit risk is also called "a default risk" because it signifies the probability of default. Credit loss is defined as "the difference between all contractual cash flows that are due to an entity in accordance with the contract and all the cash flows that the entity expects to receive (i.e. all cash short-falls), discounted at the original effective interest rate (or credit-adjusted effective interest rate for purchased or originated credit-impaired financial assets) (IFRS 9, Appendix A). The International Financial Reporting Standard 9 (IFRS 9) "*Financial Instruments*" is in use from 1 January 2018 and it has implemented the new impairment model for financial instruments which is measureable through expected credit losses. Expected credit losses model is an impairment model that is forward looking and it is a big change in comparison with the old incurred losses model (under the International Accounting Standard 39 "*Financial Instruments: Recognition and Measurement*") "that recognized only losses that had arisen from past events, and was criticized for resulting in too little and too late loss provisions" (Volarević, Varović, 2018, 273). Expected credit losses model is oriented on the future events and on the potential future credit losses of the business entity. Accordingly, the expected credit losses model anticipates the future credit losses and its implementation leads to the creation of much bigger provisions. Expected credit losses model comprises of the three stages for impairment (Stage 1, Stage 2 and Stage 3) that are based on the level of credit quality of a financial instrument (Table 3).

Stage	Credit risk, interest revenue and calculation of expected credit losses
Stage 1 "Performing"	No deterioration of credit risk of financial instrument after initial recognition. Interest revenue is calculated on the gross carrying amount. 12-month expected credit losses are calculated.
Stage 2 "Underperforming"	Significant increase in credit risk of financial instrument after initial recognition. Interest revenue is calculated on the gross carrying amount. Lifetime expected credit losses are calculated.
Stage 3 "Non-performing"	Objective evidence on impairment of financial instrument (high probability of default of counterparty). Interest revenue is calculated on the net carrying amount. Lifetime expected credit losses are calculated.

Table 3: Stages for impairment according to expected credit losses model  
 (Source: Author according to Hladika, Matovina, Perčević (2017), Volarević, Varović (2018) and Gross, Laliotis, Leika, Lukyantsau (2020))

Recognition of expected credit losses and provisions for credit losses affect on the financial position and financial performance of the bank. That is, the recognition of expected credit losses is recorded as the impairment or provisions (depending on the type of financial assets and its classification) in the statement of financial position and as the expense in the income statement. Furthermore, depending on the impairment stage the assets fall in, there is calculated and recorded 12-month or lifetime expected credit losses.

Finally, the higher the credit risk is, the higher the impairments and provisions are. Financial assets (including loans in banks) is going to be reallocating from Stage 1 to Stage 2, or from Stage 2 to Stage 3 when there are significant changes in credit risk of borrower or considerably deterioration of its results (decrease in profit, revenues, sales, etc.).

Stage	June 2019	September 2019	December 2019	March 2020	June 2020
Stage 1	89.2%	89.4%	90.0%	89.6%	88.4%
Stage 2	6.9%	6.8%	6.5%	7.0%	8.2%
Stage 3	3.9%	3.8%	3.5%	3.4%	3.4%

*Table 4: Evolution in stage allocation of the loans and advances of the European Union banks*

*(Source: Author according to European Banking Authority (2020))*

The evolution in stage allocation of the loans and advances of the banks in the European Union is shown in Table 4. Presented data indicates that Covid-19 pandemic effects on the quality of the loan portfolio of the European Union banks, because the share of loans classified in Stage 2 has increased during the first half of the 2020.

### 3. RESEARCH METHODOLOGY

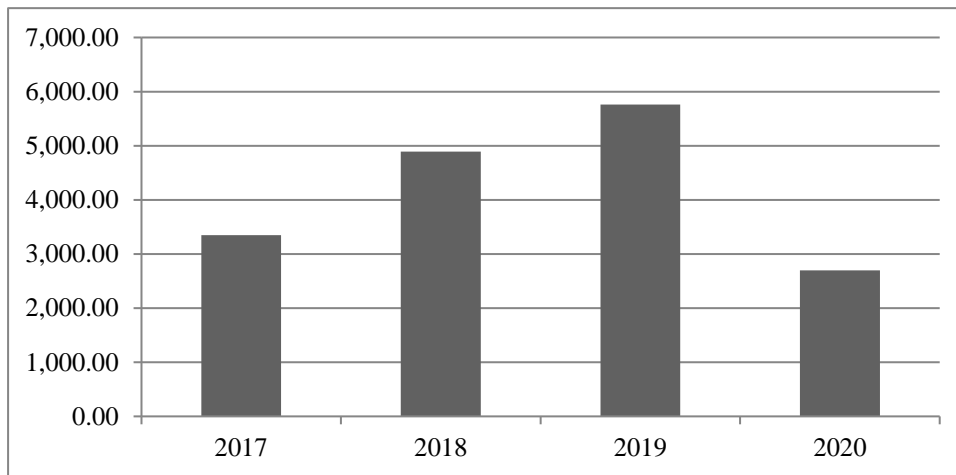
The goal of this paper is to investigate and analyse the impact of Covid-19 pandemic on the quality of loans, calculation of expected credit losses and provisions, and profitability of the banking sector in Croatia. Accordingly, in this paper are addressed the following research questions:

- *RQ1: Has the Covid-19 pandemic affected the profitability of banking sector in Croatia?*
- *RQ2: Which are the impacts of Covid-19 pandemic on the quality of loans in banking sector in Croatia?*
- *RQ3: Has the Covid-19 pandemic influence on the expected credit losses, impairments and provisions in banking sector in Croatia?*

In order to achieve the objectives of this paper, the data about loans structure, impairment and provisions, profit, and profitability indicators of the banking sector in Croatia are gathered from publicly available bulletins, annual reports, and other documents issued by Croatian National Bank, as well as from publicly available annual financial statements and annual reports of banks. In order to identify a trend in moving of selected items and indicators, the research covers the period of four years, from 2017 to 2020. Collected data are processed and analysed by using a methods of descriptive statistics. Research was conducted on the population which consists of all banks that operates in Croatian market.

### 4. RESEARCH RESULTS AND DISCUSSION

The Croatian National Bank has published unaudited preliminary data as at the end of 2020. Data shows that total assets of banks at the end of 2020 reached 462.5 billion HRK and it has increased for 31.4 billion HRK (7.3%) by comparison with 2019. Total assets have increased in many banks, and the highest growth relates to liquid assets and loans granted. Furthermore, the operation of banks in 2020 has generated the total profit in the amount of 2.7 billion HRK; that is 53.1% less than the total profit generated in 2019 (Croatian National Bank, 2021a). Trends in developments of total profit of the banking sector in Croatia during the research period (2017-2020) are shown in Figure 1. Based on the presented data, it can be concluded that the Covid-19 pandemic has a significant impact on the bank profitability that is evident in a significant decrease of profit during the period of duration of Covid-19 pandemic.



*Figure 1: Profit of the banking sector in Croatia (in 000 000 HRK)  
 (Source: Author according to Croatian National Bank (2019, 2021a))*

The decrease in profit of banking sector mainly is the result of decrease in revenues, and the increase of the expected credit losses for non-performing loans and for performing loans with a significant credit risk, that influenced on the significant growth of the amount of impairments and provisions. Almost all components of total net income decreased in 2020. There is an evident significant fall in income from dividend, interest income, and income from fees and commissions. The more detailed analysis of profit trends in the banking sector in Croatia from 2017 to 2020 is provided by using the methods of descriptive statistics that is presented in Table 5. The analysis for 2017, 2018 and 2019 includes the banks that operates in Croatia during the whole research period (N=20), while the analysis for 2020 includes five banks that published their annual reports for 2020 (N=5). Banks included in the research sample for 2020 are holding more than 80% of total assets of the banking sector and more than 80% of profit of the banking sector, and the research sample is considered representative.

Descriptive statistics	2017	2018	2019	2020
N	20	20	20	5
Range	1.833.005.749	2.133.173.909	2.170.517.761	852.031.298
Minimum	-158.529.146	-22.086.015	-25.012.013	182.000.000
Maximum	1.674.476.603	2.111.087.894	2.145.505.748	1.034.031.298
Sum	3.260.936.317	4.891.275.257	5.769.298.596	2.051.031.298
Mean	203.046.816	280.998.763	330.464.930	550.206.260
Standard Deviation	443.477	560.693	606.811	347.289
Skewness	2,3542	2,4539	2,2302	0,52201
Kurtosis	5,3703	5,4491	4,2329	-2,7303

*Table 5: Descriptive statistical analysis of profit of the banking sector in Croatia  
 (Source: Author's calculation according to annual financial statements and annual reports of banks)*

Analysis shows a large range of data and normal distribution cannot be assumed. The results on the descriptive statistical analysis of profit of the banking sector are considered as preliminary and they represent an initial indication of the effect of Covid-19 pandemic on the profitability of banking sector in Croatia. It is important to highlight that the Covid-19 pandemic is still ongoing, significant impact on many business entities and their operations is evident, and the final influence on the banking sector in Croatia still cannot be determined.

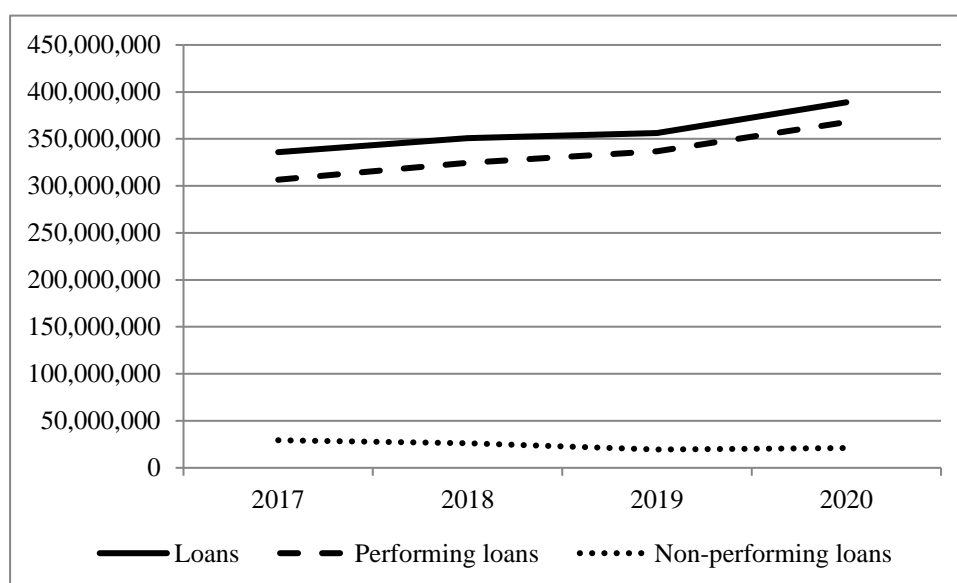
Also, many banks have not published their annual financial statements for 2020 yet that represents the main limitation for conducting a panel data analysis at this time. The decrease in profit of banking sector affected on the decrease in indicators of bank's profitability; ROAA (Return on average assets), ROAE (Return on average equity) and CIR (Cost-to-income ratio). Trends in developments of profitability indicators of banking sector in Croatia during the research period (2017-2020) are shown in Table 6. After three consecutive years of growth in profitability indicators of banking sector (ROAA and ROAE), presented data show that the Covid-19 pandemic has a significant impact on the decrease of profitability indicators of banking sector in Croatia. Furthermore, a negative impact of the Covid-19 pandemic is also visible in the growing values of the cost-to-income ratio.

Profitability indicator	2017	2018	2019	2020
ROAA	1.0%	1.4%	1.6%	0.6%
ROAE	5.9%	8.5%	9.9%	4.4%
CIR	48.98%	48.05%	46.32%	54.97%

*Table 6: Profitability indicators of the banking sector in Croatia*

*(Source: Author's calculation according to Croatian National Bank (2019, 2021a, 2021c))*

By comparing the percentages of ROAA in 2019 and 2020, it is evident the decline from 1.6% in 2019 to 0.6% in 2020. That indicates the fall of ROAA in 2020 for 62.5% in comparison with 2019, and that is statistically significant. Furthermore, by comparing the percentages of ROAE in 2019 and 2020, it is evident the decline from 9.9% in 2019 to 4.4% in 2020. That indicates the fall of ROAE in 2020 for 55.56% in comparison with 2019, and that is statistically significant also. The cost-to-income ratio grew from 46.32% in 2019 to 54.97% in 2020 and it represents deterioration of profitability of banking sector. The analysis of structure of banking loans during the research period (2017-2020) indicates the quality of credit risk exposure. Research results showed that the volume of loans has increased during the research period. Furthermore, the structure of banking loans indicates the quality of exposure to credit risk. The quality of exposure to credit risk is measured in terms of the share of non-performing loans (NPL) in total loans (Croatian National Bank, 2021c). The quality of loans in the banking sector in Croatia during the research period (2017-2020) is shown in Figure 2.



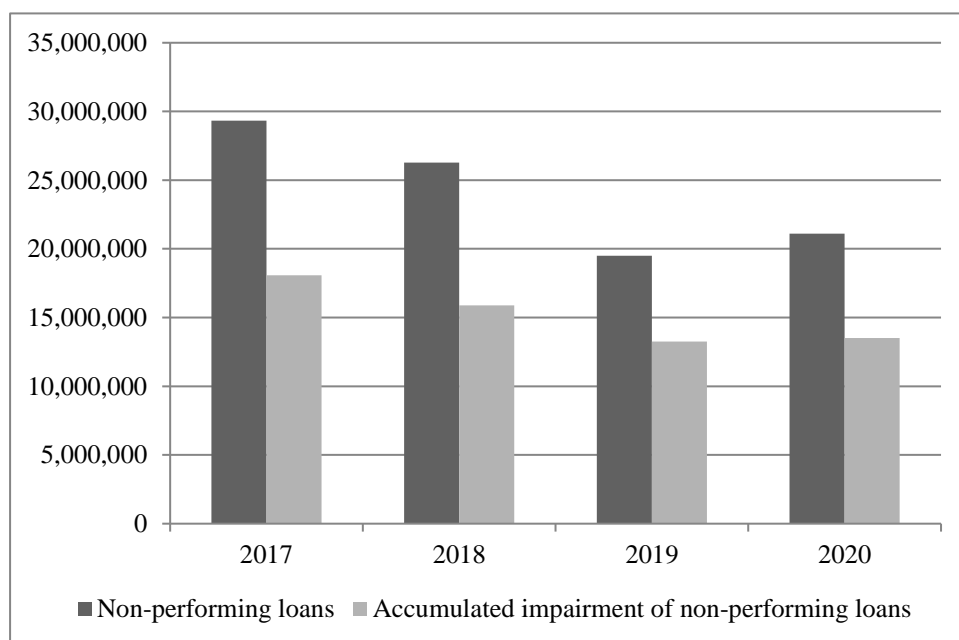
*Figure 2: Quality of loans in the banking sector in Croatia (in 000 HRK)*  
*(Source: Author's calculation according to Croatian National Bank (2021b))*

The increase of total loans in 2020 was 9.1%, and it was higher than the growth of non-performing loans which increased by 8.2%. The result of this increase is seen in a negligible decrease in the value of the relative loan quality indicator, i.e. the share of non-performing loans in total loans (Croatian National Bank, 2021a). The share of non-performing loans in total loans in banking sector in Croatia during the research period (2017-2020) is shown in Table 7.

Quality indicator	2017	2018	2019	2020
Share of non-performing loans in total loans	8.73%	7.49%	5.47%	5.43%

*Table 7: Share of non-performing loans in total loans in the banking sector in Croatia  
 (Source: Author's calculation according to Croatian National Bank (2019, 2021a))*

Research results showed that the quality of exposure to credit risk, measured in terms of the share of non-performing loans in total loans, remained at the last year's level. So, after three consecutive years of decline in the share of non-performing loans in total loans in the banking sector in Croatia, in 2020 that trend has stopped. Based on the value of the quality of loans' indicator, it can be concluded that the contraction of economic activities in 2020 has not (yet) caused a significant increase of the share of non-performing loans in total loans in the banking sector in Croatia. This can be associated with the implementation of the new rules on the classification of receivables and moratoriums granted to debtors. As it is explained in the theoretical part of the paper, the IFRS 9 requires the calculation of expected credit losses for debt financial instruments. The presentation of expected credit losses in financial statements has an influence on the financial position and financial performance of the banking sector. The coverage of non-performing loans by impairments as of the end of 2020 amounts 64.05% and represents a high level of coverage. The coverage of non-performing loans by impairments (calculated expected credit losses) in the banking sector in Croatia during the research period (2017-2020) is shown in Figure 3.



*Figure 3: Accumulated impairment of non-performing loans in the banking sector in Croatia  
 (in 000 HRK)*

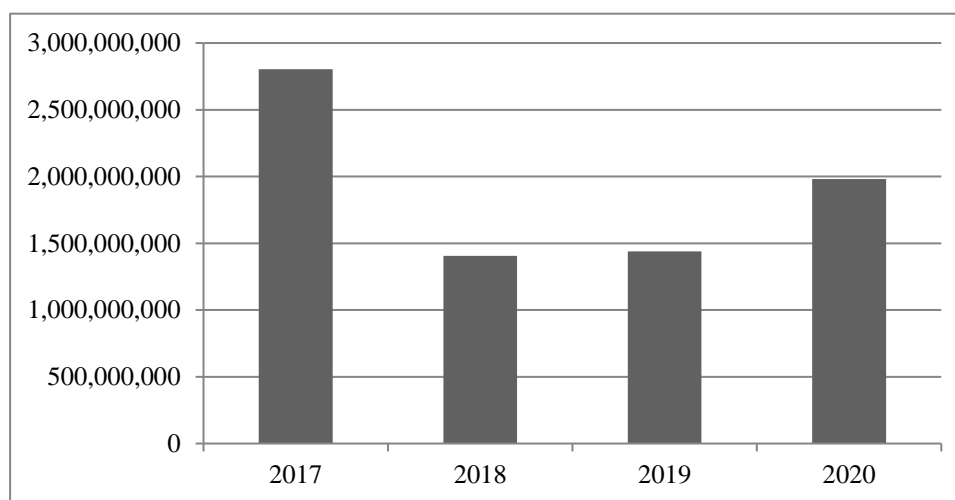
*(Source: Author's calculation according to Croatian National Bank (2021b))*

The coverage of non-performing loans by impairments during the research period (2017-2020) is high and it is at satisfactory level according to the regulatory requirements. The percentage of coverage of non-performing loans by impairments is presented in Table 8.

Indicator	2017	2018	2019	2020
Coverage of non-performing loans by impairments	61.64%	60.41%	68.01%	64.05%

*Table 8: Coverage of non-performing loans by impairments in the banking sector in Croatia (Source: Author's calculation according to Croatian National Bank (2021b))*

Research results showed that the impact of Covid-19 pandemic is not observable in calculation of the percentage of coverage of non-performing loans by impairments; the coverage in 2020 is lower than it was in 2019. The reason for this may be associated with the implementation of the new rules on the classification of receivables and moratoriums granted to debtors. In order to investigate the impact of Covid-19 pandemic on the calculated impairments and provisions in the banking sector during the 2020, the publicly available annual financial statements of certain banks was analyzed. The research sample, in this part of the research, consists of five banks which have published their annual financial statements for 2020 on the date of writing of this paper. Banks included in the research sample are holding more than 80% of total assets of the banking sector and more than 80% of profit of the banking sector, and the research sample is considered representative. Calculated impairments and provisions in the banking sector in Croatia in 2020 are shown in Figure 4.



*Figure 4: Impairment and provisions in the banking sector in Croatia (Source: Authors' calculation according to publicly available financial statements of banks included in the research sample)*

By analyzing the calculated impairments and provisions in selected banks, it can be concluded that the increase of calculated impairments and provisions in 2020 is significant. By comparing the amount of calculated impairment and provisions in 2019 and 2020, it is evident the increase for 37.66%.

## 5. CONCLUSION

The Covid-19 pandemic had and still has a considerable influence on the business activities of business entities in almost all economic activities on the global level. In this paper the focus is on the investigation and analysis of impacts of Covid-19 pandemic on the quality of loans, on



the calculation of expected credit losses and provisions, and on the profitability of the banking sector in Croatia in 2020. The impact of Covid-19 pandemic on the profitability of the banking sector in Croatia was significant in 2020. Research results showed a significant decrease of total profit of the banking sector in Croatia; total profit generated in the banking sector in Croatia in 2020 is 53.1% less than total profit generated in 2019. Similar results are generated in the banking sector of the European Union. Furthermore, indicators of the profitability of the banking sector recorded a significant decline; ROAA declined from 1.6% to 0.6%, and ROAE declined from 9.9% to 4.4% in 2020. Both profitability indicators evidenced a decrease for more than 55% and that is statistically significant. Furthermore, the cost-to-income ratio increased from 46.32% to 54.97%. Overall, it can be concluded that all analyzed profitability indicators of the banking sector are deteriorated. Based on the analysis of published data for 2020, no significant deterioration in loan quality was found as the share of non-performing loans in total loans (5.43%) remained at the level of 2019. Such results have certainly been contributed by the economic aid measures granted to business entities, but also by the moratorium on loan repayments. Despite of uncertainty caused by Covid-19 pandemic, the coverage of non-performing loans by impairments is lower than it was in 2020, but still it is on the satisfactory level (64.05%). As the crucial factors that influenced the stability of quality of loans structure and the satisfactory coverage of non-performing loans by impairments primarily are the payment deferral programmes, guaranteed loans and other forms of customer support, and accordingly certain changes in accounting policies and accounting estimates that as a consequence have an impact on the financial statements of banks and aggregate data for whole banking sector. On the other hand, research results showed a considerable increase of impairments and provisions in selected banks; impairments and provisions increased for 37.66% in 2020 by comparison with 2019. The main limitation of this research is the small data set and the fact that Covid-19 pandemic is still going on and its effects will be seen in the coming periods as well. Therefore, the results of this research can be considered as preliminary since the assessment and conclusions about the significance of the impact of Covid-19 pandemic on the expected credit losses, provisions and profitability of banking sector in Croatia is not possible to make. In future researches, it would be necessary to cover a longer period of research (period before Covid-19 pandemic, period of duration of Covid-19 pandemic and the period after the Covid-19 pandemic) in order to investigate more detailed impact of the Covid-19 pandemic on the profitability of the banking sector, expected credit losses and provisions, and share of non-performing loans in total loans in the banking sector in Croatia, given the significant decline in GDP, reduced economic activity of a significant number of businesses, and rising unemployment.

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# LEGAL FRAMEWORKS FOR THE PREVENTION OF MONEY LAUNDERING AND THE ROLE OF THE OFFICE FOR MONEY LAUNDERING PREVENTION IN THE REPUBLIC OF CROATIA

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## ABSTRACT

*The paper presents the systems of prevention of money laundering in Croatia through a repressive and preventive mechanism. Basic concepts are defined, international and national regulatory frameworks are analyzed, and in particular, the role of the Office for Money Laundering Prevention in the prevention process as a special financial intelligence unit responsible for receiving and analyzing notifications of suspicious transactions related to money laundering and related predicate offenses. As money laundering methods become more sophisticated, it is necessary, through the monitoring of European solutions and recommendations, to constantly strive to modernize the system and harmonize regulations with international standards. The Republic of Croatia has accepted legal solutions aimed at the effective detection and prevention of money laundering. The system of money laundering prevention in the Republic of Croatia is not within only one institution's competence, but it is dispersed to the mutual interaction and cooperation of legally defined participants in this process.*

**Keywords:** money laundering, repressive approach, preventive approach, Office for the Prevention of Money Laundering

## 1. INTRODUCTION

The "money laundering" concept roots from the 1970s.<sup>1</sup> The literature mentioned that the "laundering" term was promoted by London's "The Guardian" concerning Nixon's famous Watergate affair in the US in 1973.<sup>2</sup> In the early 1980s, the term was also found in Council of Europe documents.<sup>3</sup> Terminologically, the "money laundering" concept has come to life not only in America but beyond, especially among academics.<sup>4</sup> Money laundering is most commonly linked to drug trafficking, stolen cars, human trafficking, prostitution, and other organized crime forms.<sup>5</sup> In court practice, the money laundering concept was first used in the United States in 1982, in a court decision to confiscate "laundered" money that was found to originate from drug trafficking.<sup>6</sup> In 1991, Crime, Law, and Social Change published their most extended article ever, with a detailed review of the Anti-Money Laundering (AML) movement's shaping.<sup>7</sup>

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<sup>1</sup> See Katušić-Jergović, S. (2007). *Pranje novca (Pojam, karakteristike, pravna regulativa i praktični problemi)*. Hrvatski ljetopis za kazneno pravo i praksu. Zagreb, Vol. 14., No. 2, p. 620.

<sup>2</sup> Cindori, S. (2007). *Sustav sprječavanja pranja novca*. Financijska teorija i praksa, Vol. 31, No. 1, p. 58.

<sup>3</sup> Giunio, M. (1998). *Mjere za sprječavanje pranja novca*. Slobodno poduzetništvo, Vol. 8, 1998., p. 40.

<sup>4</sup> Usp. Katušić-Jergović, S., op. cit. (note 1), p. 620.

<sup>5</sup> Iljkić, D. (2015). *Pranje novca u domaćem i stranom zakonodavstvu*. Financiranje i pravo, Vol. 3, No. 1, p. 37-38.

<sup>6</sup> Stessens, G. (2003). *Money Laundering: A New International Law Enforcement Model*. Cambridge University Press. United Kingdom, p. 83.

<sup>7</sup> Levi, M. (2020). *Evaluating the Control of Money Laundering and Its Underlying Offences: the Search for Meaningful Data*. Asian Journal of Criminology, Vol. 15, No. 2, p. 302.

## 2. THE CONCEPT AND CHARACTERISTICS OF MONEY LAUNDERING

There is no generally accepted definition of money laundering in state legislation or science. The reason for this lies in the various starting points in defining the concept of money laundering, which can be legal, economic, or sociological.<sup>8</sup> Given that the money laundering process often has an international character preceded by various crimes, several definitions of money laundering appear in the literature. According to *Heršak*, money laundering is any technique to convert unfairly and illegally earned income to seem like fair and legal earnings.<sup>9</sup> *Claessens* states that the term money laundering refers to changing the form of illegally acquired money so that it appears legal; that is, it is the concealment of an illegal source of income or its use.<sup>10</sup> *Palijaš* understands money laundering as converting "dirty" money or other property proceeds from criminal or other illegal activities into "pure" money, which can then be used as legal in banking, trade, purchase, investment, and other economic activities.<sup>11</sup> *Novoselec* believes that money laundering can be briefly defined as the conversion of illegally earned profits into seemingly legal ones.<sup>12</sup> According to *Giuni*, money laundering includes activities aimed at concealing the proceeds of crime, including depositing and otherwise activities to create the illusion of its legal origin.<sup>13</sup> Similarly, *DeGabrielle* states that more broadly defined, money laundering is a financial transaction created to promote certain illegal activities or conceal profits from illegal activities.<sup>14</sup> According to *Lilley*, money laundering is traditionally considered to be the cleansing of dirty money resulting from illegal activities that, in the collective consciousness, are probably related to drug sales.<sup>15</sup> Despite numerous definitions of money laundering, all they have in common that money laundering is considered a multi-layered process, composed of one or more criminal activities, to conceal or obscure traces of the origin of illegally acquired money or profits. In doing so, the financial sector is being exploited, but increasingly also the non-financial sector and professions. Money laundering covers not only the actual nature of the money or its origin, but it hides the predicate crime committed from which it originated. This means that money laundering does not exist without previous criminal activity, which indicates an unbreakable link between organized crime and money laundering. In other words, the crime of money laundering is a secondary criminal activity that occurs only after the predicate (primary) crime has been committed by which particular proceeds have been acquired. Consequently, the conclusion is that the money laundering process itself necessarily involves several interrelated elements. The first element refers to the commission of a particular predicate criminal activity, which precedes the act of money laundering. Another necessary element is the material gain derived from the commission of a predicate offense. Finally, the third element is various activities (through the stages of placement, layering, and integration) seeking to conceal the real (illegal) source of proceeds and seemingly present as legal, to avoid criminal liability and/or confiscation of illegal proceeds gain.<sup>16</sup> It follows from the above that the money laundering crime is not primarily aimed at obtaining a material benefit but at inserting illegally obtained money into legal and legal flows.

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<sup>8</sup> Irwin, A.S.M., Choo, K.K.R., Liu, L. (2011). *An analysis of money laundering and terrorism financing typologies*. Journal of Money Laundering Control, Vol. 15, No. 1, p. 87.

<sup>9</sup> Heršak, G. B. (1993). *Pranje novca i policija*. Policija i sigurnost, vol. 2, No. 3-4, p. 221.

<sup>10</sup> Claessens R. (2000). *Money Laundering*. Belgium, p. 22.

<sup>11</sup> Palijaš, D. (2007). *Međunarodna suradnja i pravna pomoć u predmetima pranja novca, uloga i zadaci državnog odvjetnika*. Hrvatski ljetopis za kazneno pravo i praksu. Zagreb, Vol. 14, No. 2, p. 808.

<sup>12</sup> Novoselec, P. (2009). *Uvod u gospodarsko kazneno pravo*. Zagreb. Pravni fakultet u Zagrebu, p. 186.

<sup>13</sup> Giunio, M., *Prevenција i sankcija pranja novca*, Pravo u gospodarstvu, Vol. 37, No. 3, 1998., p. 368.

<sup>14</sup> DeGabrielle, C. (2001). *Međunarodni naponi Sjedinjenih Američkih Država u borbi protiv pranja novca*. Hrvatski ljetopis za kazneno pravo i praksu. Vol. 8, No. 2, p. 192.

<sup>15</sup> Lilley, P. (2000). *Dirty Dealing: The Untold Truth About Global Money Laundering*. London: Kogan Page, p. 1.

<sup>16</sup> Đokić, S. (2017). *Kriminalističko istraživanje kaznenog djela pranja novca*. Rijeka, Master's thesis. p. 4.

In other words, to achieve the highest possible usability of "dirty" money.<sup>17</sup> Money that fails to be "laundered" and put into legal cash flows is worth much less.<sup>18</sup>

### 2.1. Criminalization of money laundering

While for the mere occurrence of money laundering, it is impossible to determine with certainty when it first appeared historically, the criminalization of money laundering is a recent term. Initially, attention was focused on the predicate criminal activity by which the proceeds were obtained, with confiscation of the proceeds being considered sufficient punishment for the perpetrator of the predicate crime. The criminalization of money laundering followed (only) after states became aware of the harmfulness of the phenomenon of money laundering and its prevalence.<sup>19</sup> The United States was the first country to make money laundering a federal crime under the 1986 Money Laundering Control Act.<sup>20</sup> The 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (the so-called Vienna Convention) also prescribed the criminalization of money laundering crime, albeit only in the context of predicate offenses related to drug abuse. The aim of criminalizing money laundering was to use the flow of illegal, "dirty" money to identify a predicate crime<sup>21</sup> since it provides illegal material gain, and money laundering is (only) a method of transferring it to legal flows of financial capital.<sup>22</sup> As a form of criminal activity of more recent date, money laundering was initially linked to the illicit drug trade on an international platform, only to become a broader transnational phenomenon shortly after that. Therefore, in the context of combating money laundering, international cooperation occupies a prominent place. Money is usually laundered through the banking sector due to its convenience for various forms of money laundering abuse. In particular, banking includes a wide range of activities such as deposit, credit, foreign exchange transactions, issuance, storage, purchase and sale of securities, domestic payment transactions, foreign payment transactions, and many others. Given the wide range of banking activities, the perception that the first defensive step of the financial system against money laundering is a well-developed and regulated area of banking is wholly justified.<sup>23</sup> Given its frequency, money laundering has been described as a crime of the 90s and even as a crime of the 21st century.<sup>24</sup>

## 3. INTERNATIONAL LEGAL FRAMEWORK FOR THE PREVENTION OF MONEY LAUNDERING

### 3.1. Organizations at the international level

As a reaction to the international problem of money laundering in 1989, the Financial Action Task Force (FATF) was established. The FATF is an international body that aims to set standards and promote effective implementation of legal, regulatory, and operational measures to combat money laundering, terrorist financing, and other related threats to the international financial system's integrity. The group has issued forty recommendations regarding money laundering and nine specific recommendations regarding terrorist financing. In order to harmonize standards and achieve its goals, the FATF has developed a methodology for the

<sup>17</sup> Pedić, T. (2010). *Nefinancijski sektor i samostalne profesije u kontekstu sprječavanja pranja novca*. Zbornik Pravnog fakulteta Rijeka, Vol. 31, No. 1, p. 619.

<sup>18</sup> Gilmore W. (2004). *Dirty Money, The Evolution of International Measures to Counter Money Laundering and the Financing of Terrorism*. Council of Europe Publishing, Strasbourg, France, p. 20-4

<sup>19</sup> Đokić, S., op. cit. (note 16), p. 1.

<sup>20</sup> Money Laundering Control Act, Public Law 99-570, Oct. 27. 1986. United States of America, Retrieved 8.3.2021. from <https://www.gpo.gov/fdsys/pkg/STATUTE-100/pdf/STATUTE-100-Pg3207.pdf>

<sup>21</sup> Cox, D. (2014). *Handbook of Anti Money Laundering*, Wiley. Ujnitied Kingdom, p. 5.

<sup>22</sup> Bošković, M. (2007). *Pranje novca kao kriminološki i krivično pravni problem*. Zbornik radova Pravnog fakulteta u Novom Sadu, Vol. 41, No. 3, p. 179-180.

<sup>23</sup> Bjelajac, Ž. (2011). *Contemporary Tendencies in Money Laundering Methods: Review of the Methods and Measures for its Suppression*, Research Institute for European and American Studies. RIEAS, p. 9.

<sup>24</sup> Ibidem.

mutual evaluation process. The Committee of Experts on the Evaluation of Anti-Money Laundering Measures (MONEYVAL) was established in 1997. It represents the Committee of Experts on the Evaluation of Anti-Money laundering measures, which assess whether its members comply with the standards contained in the FATF recommendations and other specific recommendations from the conventions. MONEYVAL's main task is to encourage countries to establish an effective system for combating money laundering and terrorist financing in line with relevant international standards and assess their implementation effectiveness and make recommendations to national authorities on necessary improvements to their systems.<sup>25</sup>

GRECO is a Council of Europe commission focused on monitoring compliance with convention commitments made by member states.

### **3.2. International standards and their implementation**

#### *3.2.1. International Conventions*

The global nature of the money laundering phenomenon makes the geographical boundaries irrelevant, with a tendency to direct its activities to jurisdictions with weak or ineffective anti-money laundering measures. The international community has recognized the danger of this type of crime and has enacted many conventions and acts to create an effective climate in the fight against organized crime and money laundering as a necessary by-product. The Republic of Croatia is a signatory to numerous international acts, the content of which it has implemented through legal provisions:

- 1) The UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (the so-called Vienna Convention on Drugs, 1988) is the first document to penalize money laundering, although the penalty applies only to a limited number of offenses as the Convention applies only to drug trafficking.<sup>26</sup>
- 2) Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime (the so-called Strasbourg Convention, ETS - No. 141) prescribes the obligation to confiscate profits from all illegal activities and international cooperation in the seizure and distribution of confiscated funds.
- 3) Council of Europe Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime and on the Financing of Terrorism (the so-called Warsaw ConventionTS, ETS - No. 198)
- 4) 40 + 9 Financial Action Group (FATF) Recommendation - G7 most Developed Countries (1990) as bodies to promote measures against money laundering of developed countries of the world.
- 5) Criminal Law Convention on Corruption of 1999 (ETS - No. 173)

#### *3.2.2. Directive*

The essential Directive adopted by the European Union regarding the prevention of money laundering and terrorist financing are:

- 1) Council Directive 91/308 / EEC (the so-called First Directive) of 10 June 1991 defined money laundering in the context of drug-related offenses and imposed obligations only on the financial sector.
- 2) Directive 2001/97 / EC of the European Parliament and of the Council (the so-called Second Directive) extended the scope of Directive 91/308 / EEC to the range of criminal offenses and the range of activities to which it relates.

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<sup>25</sup> Retrieved 8.3.2021. from <https://www.fatf-gafi.org/pages/moneyval.html>

<sup>26</sup> Condemi, M., De Pasquale, F. (2005). *International profiles of the activity to prevent and combat money laundering*. Italy, p. 42.

- 3) Directive 2005/60 / EC of the European Parliament and of the Council (the so-called Third Directive) and Commission Directive 2006/70 / EC laying down implementing measures for Directive 2005/60 / EC,
- 4) Directive (EU) 2015/849 of the European Parliament and of the Council on the prevention of the use of the financial system for the purpose of money laundering or terrorist financing (the so-called Fourth Directive).

### 3.2.3. Regulations

The essential regulations regarding the prevention of money laundering and terrorist financing are:

- 1) Regulation no. Regulation (EC) No 1889/2005 of the European Parliament and of the Council on controls cash entering or leaving the Community<sup>27</sup> supplements the First Directive.
- 2) Regulation 1781/2006 of the European Parliament and of the Council on information on the payer accompanying transfers of funds<sup>28</sup> was adopted to apply VII. FATF Special Recommendations. It stipulates the obligation that each electronic money transfer contains information about the principal to prevent, investigate and detect money laundering and terrorist financing.

International regulations governing the prevention of money laundering and terrorist financing include legal, financial, and supervisory aspects. International conventions, directives, and recommendations prescribe the confiscation of profits from all illegal activities, implement measures and actions for quality identification and information of the financial intelligence unit, exchange information with other countries, and international legal assistance.<sup>29</sup> According to estimates by the international community (Europol), the value of money laundered annually reaches between 715 billion and 1.87 trillion euros each year, accounting for 2 to 5% of global domestic product growth.<sup>30</sup>

## 4. NATIONAL LEGAL FRAMEWORK FOR THE PREVENTION OF MONEY LAUNDERING

One of the essential features of implementing anti-money laundering measures is the establishment and upgrade of the control system to determine whether financial and other institutions carry out supervision and internal control in anti-money laundering.<sup>31</sup> Methods and measures to prevent money laundering include several activities in the field of prevention carried out by the competent authorities to combat money laundering. Regulatory frameworks for combating money laundering incorporate reports of suspicious or unusual transactions that form the basis for identifying money laundering activities in different economic areas. The measure in question is crucial as the failure to report suspicious or unusual transactions by statutory authorities results in the inability or significant difficulty of identifying money laundering cases. Therefore, the above reports of suspicious or unusual transactions are the primary mechanism in cases where there is a suspicion of money laundering because it allows the temporary suspension of transactions. As a preventive measure in the fight against money laundering, states regulate the duty to identify final accounts users and owners, considering it a vital element of the anti-money laundering system. Control over the money entry or exit from

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<sup>27</sup> EUR-Lex, available at

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:309:0009:0012:EN:PDF>

<sup>28</sup> EUR-Lex, available at <http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:32006R1781&from=HR>

<sup>29</sup> Cindori, S., op. cit. (note 2), p. 60-61.

<sup>30</sup> Retrieved 9.3.2021 from <https://www.europol.europa.eu/crime-areas-and-trends/crime-areas/economic-crime/money-laundering>

<sup>31</sup> Bjelajac, Ž., op. cit (note 23), p. 17.



the country or use of other financial instruments is also an effective anti-money laundering mechanism. A practical and continuous control system is ensured by monitoring cash flow, analyzing the direction and trends of such flow and its illegal nature, and developing specific measures and actions to detect and shed light on certain criminal acts.<sup>32</sup> For the effective implementation and upgrading of measures and methods against money laundering, a key aspect is an education of staff and the specialization of legislation in the field of money laundering. Educational programs include training of police officers and other competent institutions dealing with these issues. Šikman and Jovanović noted that education is necessary for all social stakeholders to be involved in combating money laundering, starting from bank employees, representatives of legal entities to taxpayers, i.e., citizens.<sup>33</sup> The prevention and combating of money laundering can be observed from two aspects: a repressive and preventive approach. The repressive approach implies the incrimination of money laundering, while the preventive one is reflected through the normative framework for action, i.e., national legislation.

#### **4.1. Repressive approach to money laundering prevention- money laundering incrimination**

The crime of money laundering was first introduced into Croatian legislation by the Act on Amendments to the Basic Criminal Code of the Republic of Croatia,<sup>34</sup> in Art. 151.a., entitled "Concealment of Illegally Obtained Money," as a consequence of the obligations under international agreements to which the Republic of Croatia is a signatory (Vienna and Strasbourg Conventions). With the entry into force of the Criminal Code on 1 January 1998 (from now on: CC/97)<sup>35</sup> through the provision of Art. 279. a new legal description of the crime under the same name was prescribe. The legislator placed the crime of concealment of illegally obtained money in Chapter XXI, among crimes against the security of payment transactions and business, together with the crimes of Counterfeiting Money (Art. 274), Counterfeiting Securities (Art. 275), Counterfeiting Value Signs (Art. 276), Manufacture, Acquisition, Possession, Sale or Giving for the use of Counterfeiting Means (Art. 277) and Counterfeiting Signs for the Marking of Goods and Falsifying Measures and Weights (Art. 278). At first glance, it is clear that the protective object of the crime of concealing illegally obtained money is not the security of payment transactions but the security of a business. However, the act of committing the crime is incorporated in the payment transactions segment.<sup>36</sup> The 2008 Law on Amendments to the Criminal Code<sup>37</sup> changed the crime name into Money Laundering. The new Criminal Code of 2011 (from now on: CC/11),<sup>38</sup> which entered into force on 1. January in 2013, has incorporated the crime of money laundering in Art. 265 CC/11, within the provisions of Chapter XXIV, Crimes against the economy.

##### *4.1.1. The object of the criminal offense of money laundering*

The old CC/97 in its provision of Art. 279. prescribed "money, objects, rights or property gain" as an object of the criminal offense of money laundering, i.e., property that was directly acquired by the criminal offense. The legislator has set the perpetrator's responsibility wider in CC/11 since now the subject of the criminal offense of money laundering is all property that directly or indirectly originated from the criminal offense.

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<sup>32</sup> Ibidem, p. 16.

<sup>33</sup> Šikman, M., Jovanović, V. (2010). The concept of money laundering as a manifested function of organized crime. Security. Police, Citizens. MIA Republic Srpska – Department of police education. Banja Luka, No. 1-2/10, p. 81-100.

<sup>34</sup> Law on Amendments to the Basic Criminal Code of the Republic of Croatia, OG 28/96.

<sup>35</sup> Criminal Code, OG 110/97.

<sup>36</sup> See. Katušić-Jergović, S., op. cit. (note 1), p. 629.

<sup>37</sup> Art. 19 of the Act on Amendments to the Criminal Code, Official Gazette, no. 152/2008

<sup>38</sup> OG 125/11, 144/12, 56/15, 61/15, 101/17, 118/18, 126/19 entered into force on 1 January 2013

#### *4.1.2. The perpetrator of the crime of money laundering*

The perpetrator can be anyone, even the perpetrator of a predicate crime.<sup>39</sup> This is important because the predicate crime and the crime of money laundering protect different protective facilities. E.g., the protective object of the predicate crime of drug trafficking is human health (because it falls under the head of crimes against human health), while the protective object of the money laundering crime is proceeds (because it falls under the head of crimes against the economy). Concerning the above, the case law raised the question of whether the perpetrator of the predicate crime realizes the essential features of the criminal activity of money laundering at the time of withdrawing money at an ATM which, as a benefit of the predicate crime, was paid into a bank account. In several verdicts, the Supreme Court of the Republic of Croatia stated that such actions of the perpetrator of the predicate crime do not achieve the essential characteristics of money laundering because depositing money in a bank is only the first of three phases of the money laundering process (the bank is used as a convenient place to store money before its further use).<sup>40</sup> The remaining two phases of the money laundering process (deposit phase and refining phase) are (still) missing.

#### **4.2. Preventive approach to the prevention of money laundering through the normative framework for action - national legislation**

The foundations of the Republic of Croatia's preventive system were initially prescribed by the Anti-Money Laundering Act<sup>41</sup> and the Ordinance on the manner and deadlines for notifying the Office for the Prevention of Money Laundering and the manner of keeping a list of collected data.<sup>42</sup> They included measures and actions that certain institutions of the financial and non-financial sector in the Republic of Croatia were obliged to implement to prevent money laundering. By adopting the above regulations, the Republic of Croatia harmonized the domestic legislative framework with all international standards in force at the time (Vienna Convention, Strasbourg Convention, First Directive, and 40 FATF Recommendations). The amendments to international legislation were accompanied in the Republic of Croatia by the amendments and harmonization of the domestic legislative framework with the new international standards. Those mentioned above resulted in adopting a new Anti-Money Laundering and Counter-Terrorism Financing Act (from now on: AML/CTF/17).<sup>43</sup> The adoption of AML/CTF/17 aimed to harmonize the current legislation with the European Union's legal regulations, specifically with the European Union's fourth directive. AML/CTF/17, following international standards, builds the anti-money laundering system as a coordination system of different stakeholders, each of which has a separate role, where the effectiveness of the system depends on their cooperation. AML/CTF/17 has a preventive character as it prescribes measures and actions in banking, monetary and other operations that are taken to detect and prevent money laundering (and terrorist financing). Participants in the Republic of Croatia's anti-money laundering system are obligors, supervisory bodies, law enforcement agencies, courts, and the Office for the Prevention of Money Laundering. The law prescribes those obliged to implement measures and their duty to act following the law. The main task of the supervisory body, as its name suggests, is to supervise the work of obligors related to the application of measures to prevent money laundering within their competence. In the Republic of Croatia, several supervisory bodies are responsible for conducting supervision in areas within their scopes, such as the Tax Administration, the Croatian National Bank, the Financial

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<sup>39</sup> Decision of the Supreme Court of the Republic of Croatia, I Kž-137/01 of 20 March 2001.

<sup>40</sup> Decisions of the Supreme Court of the Republic of Croatia, I Kž 751 / 07-6 of 19 February 2009, I-Kž-U 19 / 10-6 of 17 March 2010, I Kž 625 / 13-6 of 28 May 2015

<sup>41</sup> Anti-Money Laundering Act, OG, no. 69/1997, 106/1997, 67/2001, 117/2003, 142/2003.

<sup>42</sup> Ordinance on the manner and deadlines for notifying the Office for the Prevention of Money Laundering and the manner of keeping the list of collected data, OG, no. 114/97.

<sup>43</sup> Anti-Money Laundering and Counter-Terrorism Financing Act, OG 108/17, 39/19.

Inspectorate, the Croatian Financial Services Supervisory Agency, and the Customs Administration. In addition to the obligation to conduct supervision, all these supervisory authorities must also inform the Office for the Prevention of Money Laundering about the measures taken, which refer to money laundering.

#### *4.2.1. Office of Prevention of Money Laundering*

The starting point and basis of international documents that determine the position and role for the Office for the Prevention of Money Laundering (from now on: Office) is the 26th recommendation of the FATF. According to the above recommendation, the Office is an autonomous and operationally independent central body for receiving, analyzing, and forwarding notifications of suspicious transactions. The Office is part of the prevention system, i.e., a prevention body that acts as an intermediary between the financial and non-financial sectors, subject to the law, on the one hand, and law enforcement, police, and the State Attorney's Office, on the other.<sup>44</sup> The Office itself does not have the authority to prosecute perpetrators of money laundering, but it provides all the necessary support to state bodies responsible for criminal prosecution (DORH, police).<sup>45</sup> The Office receives notifications from obligors, whose obligation to submit derives from the law (AML/CTF/17), and from the competent state bodies, who obtained the data during their work, resulting from inter-institutional cooperation. Therefore, it is clear that obligors in the anti-money laundering system have a preventive role in protecting the country's financial and economic system as a whole. Suspicious transactions, *per se*, are not (necessarily) illegal behavior but indicate unusual financial activities. If, after analytical processing of received transactions, the Office determines that there is a suspicion of money laundering, it will submit a notification of suspicious transactions to the competent state bodies, especially the State Attorney's Office, the Ministry of the Interior, inspection bodies and foreign money laundering offices. Thus, the initial information on suspicion of money laundering usually comes from the Office and police officers' operational work.<sup>46</sup> The Office's work results should then be compared with the results of the work of other bodies in the system, primarily the police and the State Attorney's Office. Police data are crucial for directing the Office's work, while on the other hand, the Office's analytical work supports police investigations into money laundering. Only a commitment to this interactive and Law-based cooperation can result in valuable indicators. Therefore, the Office is only one link in the anti-money laundering chain as a financial intelligence unit. The Office can make a total contribution to preventing the use of the Croatian financial system for money laundering only in interactive cooperation with other national competent authorities and foreign financial intelligence units.

##### *4.2.1.1. Key performance indicators of the Office*

The tables below show the activities of the Office over the nine years from 2011 to 2019. During this period, the number of total open cases with suspicion of money laundering and terrorist financing was observed. Also, observation encompasses the number of total cases forwarded to the competent authorities and foreign Offices for further processing. Finally, observation includes the number of analyzed and analytically processed transactions as well.

*Table following on the next page*

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<sup>44</sup> Bolta, D. (2007). *Uloga Ureda za sprječavanje pranja novca u sustavu sprječavanja pranja novca*. Hrvatski ljetopis za kazneno pravo i praksu. Zagreb, Vol. 14, No.2, p. 802.

<sup>45</sup> Piplica, D. (2020). *Krivudavi gospodarski tijekovi (gospodarski kriminalitet)*. „Redak“ doo Split, p. 238.

<sup>46</sup> Đokić, S., op. cit. (note 16), str. 58.

	Key performance indicators of the Office						
Year	Number of open cases suspected of money laundering and terrorist financing	Number of cases forwarded to competent authorities and foreign Offices for further processing and processing	Type of information in forwarded cases				Number of analyzed and analytically processed transactions
			Number of cases under suspicion of money laundering	Number of cases suspected of terrorist financing	Number of additions in cases of money laundering and terrorist financing	Total number of reports in analytical processing	
2011.	342	121	117	4	70	191	4513
2012.	340	132	131	1	78	210	3172
2013.	411	159	156	3	85	244	3125
2014.	444	233	227	6	120	353	5832
2015.	464	283	273	10	106	389	8139
2016.	472	329	317	12	75	404	9082
2017.	479	241	230	11	87	328	5203
2018.	486	281	275	6	50	331	5559
2019.	479	250	243	7	53	303	3078

*Table 1: Key performance indicators of the Office for the period 2011-2020  
 (Source: Office for the Prevention of Money Laundering, Financial Intelligence Unit,  
 Summary of the annual report on the work of the Office for 2011, 2012, 2013, 2014, 2015,  
 2016, 2017, 2018 and 2019)*

In the observed period, there was an upward trend in the number of open cases with suspicion of money laundering and terrorist financing and a relatively steady upward trend in the number of cases forwarded to the competent authorities for further action and processing. The number of analyzed and analytically processed transactions is a variable component that shows a tendency of downward and upward paths at irregular intervals. The most significant number of analyzed and analytically processed transactions was recorded in 2016, which is causally related to the fact that in 2016. was received the largest number of notifications of suspicious transactions in the observed period. Attention is drawn to the fact that in the last observed period, 2019, the number of analyzed and analytically processed transactions was recorded almost three times less than in 2016. That is, the year 2019 records the lowest number of all analyzed and analytically processed transactions in the observed period. This is noteworthy because, in 2019, the most significant number of notifications of suspicious transactions was recorded concerning all observed periods (Table 2).

*Table following on the netx page*

Year	Data on the source of the initial objects				Office Statistics		Judicial statistics		
	Notification of suspicious transactions				Analytical processing	Forwarded cases	Investigations	Indictments	Judgments
	Obligors	State bodies, etc.	Foreign offices	In total					
2012.	392 (70%)	113	58	563	334	131 (39%)	0	10	9
2013.	575 (76%)	108	78	761	408	156 (38%)	0	1	5
2014.	695 (80%)	114	55	864	437	227 (52%)	14	14	4
2015.	763 (80%)	81	115	959	452	273 (60%)	10	23	3
2016.	862 (85%)	71	84	1017	462	317 (69%)	49	35	11
2017.	729 (79%)	76	121	926	464	230 (50%)	11	18	9
2018.	741 (79%)	82	116	939	478	275 (58%)	10	17	6
2019.	909 (82%)	80	124	1113	469	243 (52%)	21	17	5

*Table 2: Statistics of the Office and the Judiciary for the period 2012-2020*  
 (Source: Office for the Prevention of Money Laundering, Financial Intelligence Unit,  
 Summary of the annual report on the work of the Office for 2011, 2012, 2013, 2014, 2015,  
 2016, 2017, 2018 and 2019)

It is clear from the table above that notification of suspicious transactions in most cases, over 70%, come from obligors. The Office's statistics indicate that since 2015, over 50% of analytically processed cases have been forwarded to the competent authorities for further action. The period before 2015 is characterized by a slightly lower percentage of cases forwarded, below 40%. When looking at judicial statistics, it is clear that only a small number of cases result in an investigation, indictments, and, finally, a conviction. As expected, the year with the highest number of analytically processed transactions, 2016, also recorded the highest number of investigations conducted (49) and indictments filed (35), but convictions were handed down in only a third of cases (11). Table 3 and Table 4 show the relation between the total number of reported, accused, and convicted perpetrators of the money laundering crime. The distinction between the two tables lies in the legal regulation of the money laundering crime. Table 3 refers to the criminalization of the crime of concealment of illegally obtained money (Art. 279), according to the old CPC / 97. Table 4 contains the criminalization of the crime of money laundering (Art. 265) under the new CPC/11, the application of which began on the first day of 2013.

*Table following on the next page*

Year	Reported					Accused				Condemned			
	Concealment of illegally obtained money Art. 279. CC/97				Total criminal offenses against the security of payment transactions and business	Concealment of illegally obtained money, Art. 279. CC/97			Total criminal offenses against the security of payment transactions and business	Concealment of illegally obtained money Art. 279. CC/97			Total criminal offenses against the security of payment transactions and business
	paragraph					paragraph				paragraph			
	1.	2.	3.	4.		1.	2.	3.		1.	2.	3.	
2010.	7	1	/	1	3502	/	1	/	1497	/	/	/	1002
2011.	7	1	4	/	3324	5	1	/	1348	/	/	/	842
2012.	9	/	7	/	2428	1	/	/	1335	1	/	/	877

*Table 3: Correlation of reported, accused and convicted adult perpetrators for the criminal offense of money laundering from 2010-2012*

*(Source: Statistical Reports of the Central Bureau of Statistics of the Republic of Croatia: Adult perpetrators of criminal offenses, reports, charges and convictions in 2010-2012)*

From the table above, it is clear that, in 2010 and 2011. no convictions have been passed for the crime of concealment of illegally obtained money under Art. 279 CC / 97, while in 2012, only one conviction was recorded.

Year.	Reported					Accused						Condemned				
	Money laundering, Art. 265. CC/11				Total crimes against the econom y	Money laundering, Art. 265. CC/11					Total crimes against the econom y	Money laundering, Art. 265. CC/11				Total crimes against the economy
	paragraph					paragraph						paragraph				
	1.	4.	5. <sup>47</sup>	6.		1.	3.	4.	5.	6.		1.	4.	5.	6.	
2013.	2	/	/	/	1522	/	2	/	/	/	1185	/	/	/	/	776
2014.	5	/	5	/	1454	2	/	/	/	/	1128	/	/	/	/	817
2015.	9 <sup>48</sup>	1	3		1842	8	/	1	2	/	994	5	1	2	/	747
2016.	16 <sub>49</sub>	18	3	/	2089	3	/	1	4	/	1009	3	1	4	/	746
2017	6	14	6	/	1875	1	2	/	5		727	1	/	5	/	609
2018	2	2	/	/	1500	1	/	/	6	/	688	/	/	3 <sub>50</sub>	/	559
2019.	7	/	1	/	1384	1	/	1	/	2	669	1	1	/	2	589

*Table 4: Correlation of reported, accused and convicted adult perpetrators for the criminal offense of money laundering from 2013-2019*

*(Source: Statistical Reports of the Central Bureau of Statistics of the Republic of Croatia: Adult perpetrators of criminal offenses, reports, charges and convictions in 2013-2019)*

The table above shows that no convictions were handed down for the crime of money laundering in 2013 and 2014.

<sup>47</sup> Money laundering was committed in a financial or other business or the perpetrator was engaged in money laundering or the material gain was of great value

<sup>48</sup> Art. 265, para 1 (8), para 2 (1).

<sup>49</sup> Art. 265, para 1 (11), para 2, (2), para 3 (4).

<sup>50</sup> In all three cases, a suspended sentence was imposed (6-12 months).

On the other hand, the years 2016 and 2019 record the largest number of convictions, since, in the observed periods, a conviction was passed to all persons charged with the criminal act of money laundering (in 2016 total of eight accused and eight convicted persons; in 2019 total of six accused and six convicted persons). It should be noted that the tables above are not a clear indicator of the actual state of the crime of money laundering, as the crime of money laundering is usually not prosecuted separately from the predicate crime. The perpetrator is often tried in a single procedure for all crimes, including (all) predicate crime and money laundering crime as a necessary consequence.

## 5. CONCLUSION

Money laundering is a derivative form of crime that is linked to the predicate crime, which created financial profit that has subsequently become the object of money laundering. The Republic of Croatia has a very well-developed legislative framework aligned with international standards and international documents. Legislative solutions in the field of anti-money laundering are complex and cover a diverse range of activities of different institutions. This refers not only to the repressive apparatus (police) but also to the involvement of other public bodies (the State Attorney's Office) to detect money laundering, prevent and sanction it. Given the complexity of the phenomenon of money laundering, its prevention must be complex as well, so it is not enough to prevent only from a criminal point of view, but it is necessary to do so through other ancillary legislation. Criminal groups use very sophisticated methods, aided by the knowledge of financial experts. Due to the above, both methods and measures to combat money laundering must keep pace with innovative ideas of new technological advances used by organized criminal groups. States pay special attention to the preventive approach in the fight against money laundering by establishing a supervisory system that will recognize attempts to infiltrate "suspicious" money into the financial sector at the deposit stage. An effective fight against money laundering requires effective and timely cooperation between prevention and law enforcement agencies. By timely informing the law enforcement authorities, further measures and actions will be taken to temporarily confiscate illegally acquired money until the end of the criminal proceedings if it is determined that there are grounds for suspicion that it represents material benefit proceeds of crime.

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## **BUSINESS MODEL ADAPTATION TO MACRO-ENVIRONMENTAL SHOCKS IN NON-PROFITS: A CASE STUDY**

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### **ABSTRACT**

*As the business macro- and meta-environments become increasingly turbulent and prone to shocks, organisations must respond strategically to threats and opportunities. Interest in the concept of Business Model Adaptation has been steadily growing, although much of this has been confined to profit-driven organisations. This study explores this concept from the perspective of a non-profit case study in response to the Covid-19 shock, to ultimately build upon existing work and provide theoretical implications for non-profits. This paper thus links the themes of Business Model Adaptation, non-profits, and macro-environmental shocks. Primary qualitative data was gathered through semi-structured interviews and analysed using the thematic analysis approach. The Covid-19 shock and its implications upon the organisation were examined through the Business Model lens. This paper's findings reveal that the charity's Business Model Adaptation is mainly consistent with underpinning literature that is based upon commercial organisations, although certain differences are highlighted. The charity's Value Proposition remained relatively stable, depending upon a flexible Operational Model. On the other hand, the Revenue Model was notably subject to vulnerability amid the macro-economic forces. The findings dictate that diversification of the revenue streams plays a crucial part in building financial resilience, which conforms with previous studies. The aspects of creativity and strategic agility are reiterated throughout the paper in their importance for Business Model Adaptation. Further research is needed to enable a generalisability of the results.*

**Keywords:** *Business Model Adaptation, Environmental Shocks, Macro-environment, Non-profits, Strategic Adaptation*

### **1. INTRODUCTION**

This paper addresses the strategic adaptation of the Business Model (hereafter referred to as BM) amid macro-environmental shocks such as Covid-19. Unlike previous studies, this paper examines the relevant issues from the perspective of a charitable case study organisation. Enriching the depth of empirical data around non-profits in this research gap contributes to social development as it ultimately guides non-profit practitioners, who play important roles in local and global communities (Lakdawalla and Philipson, 2006; Ciucescu, 2009). The findings do not intend to present a definitive answer with a fit-for-all solution for non-profit Business Model Adaptation (BMA) but rather to illuminate some of the surrounding ambiguities. The macro-environment is increasingly unpredictable and chaotic, as events and shocks arise from meta-level trends (Dreher, Gaston and Martens, 2008). It is thus vital for any organisation to develop strategic agility but also a certain resistance to shocks. The BM serves as a useful tool to examine strategic functioning and thus BMA appears to be the ideal concept for responding to turbulent macro-environments. Saebi, Lien and Foss (2017) define BMA it as "*the process by which management actively aligns the firm's BM to a changing environment*". However, much of the existing literature regarding BMA is confined to profit-driven businesses and neglects non-profits (McDonald, Masselli and Chanda, 2019).

This raises two main questions to be explored: How could non-profit organisations successfully adapt their BM to macro-environmental shocks? And how similar is this process to that of for-profit businesses?

## **2. LITERATURE REVIEW**

### **2.1. Environmental shocks**

Environmental dynamism refers to the high degree of turbulence and unpredictability in the business macro-environment that is generated by underlying megatrends such as globalisation, urbanisation, and digitalisation (Voelpel, Leibold and Tekie, 2004; Gregor, 2019). This environmental turbulence drives sudden shocks and events with a potential legacy on organisations (Li and Liu, 2014). Meyer (1982) refers to 'environmental jolts' as sudden and unprecedented events which impact organisations on a "disruptive and inimical level". Similarly, Shepherd, Douglas and Shanley (Shepherd, Douglas and Shanley) hone the term 'Environmental shock' to emphasise the direct impact which immediately jeopardises the organisation's activities. To maintain consistency, this study uses the more recent term of 'Environmental shock'.

### **2.2. The business model**

According to Chesbrough and Rosenbloom (2002), the BM concept dates back to Chandler's seminal book 'Strategy and Structure' from 1962. Zott and Amit (2010) explore the functioning of the BM as a holistic instrument to create, deliver, and capture value. Therefore, the core components of the BM are identified as Value Proposition (VP), the Operational Model for Value Delivery (VD) and the Revenue Model for Value Capture (VC). Focusing on a single component is dangerous as it may lead to perplexing perceptions of the situation and therefore overfitting solutions; rather, all facets of the BM are considered holistically. In line with the growing environmental dynamism, the literature stream of BM dynamics within the management field has been gaining attention over recent years (Teece, 2010). Concepts such as 'BM Innovation' and 'BM Evolution' appear in literature, although they are of little relevance as they refer predominantly to contexts of market competition. In the case of macro-environmental shocks, the concept of BMA is deemed most suitable, and it is defined by Saebi, Lien and Foss (2017) as "the process by which management actively aligns the firm's BM to a changing environment". A dynamic adaptation would enable the firm to seize opportunities and sustain strategic resilience. In their seminal work on non-profit BM dynamics, McDonald, Masselli and Chanda (2019) highlight the need for further investigation of this concept from a non-profit perspective.

#### *2.2.1. The perception of opportunities and threats*

In management literature, macro-environmental change can be perceived by an organisation as either beneficial or threatful (Paul, Mohsin and Abu Ahmed, 1998; Corneliu, 2018; Trzcielinski, 2020). An opportunity is defined as a situation in the business's environment that promotes the fulfilment of goals through the exploitation of disposable resources (Trzcielinski, 2020). According to Schumpeter (2013), it is a market disequilibrium that generates opportunities. On the other hand, Kirzner (1999) claims that opportunities already exist, and it is up to an alert entrepreneur to recognise and pursue them. Despite the minor variations in perspectives, no fundamental contradiction has been inferred between the two schools of thought (Trzcielinski, 2020). Both theories refer to opportunities and agile entrepreneurs. Although these theories are based on competitive markets, they are both applicable in contexts of environmental shocks and events, which represent substantial disequilibrium and would therefore create or make opportunities more visible.

### **2.3. Pressures against Business Model Adaptation**

The process of responding to opportunities and threats requires resources such as time and capital, as well as the ability to defeat inertia and resistance to change from stakeholders. Saebi, Lien and Foss (2017) carry out a study to prove that organisations are more likely to adapt their BM under the circumstances of identified threats rather than opportunities and claim that organisations do not typically tend to implement significant changes unless obliged to by existential threats. Nevertheless, Trzcielinski (2020) dictates that agile enterprises tend to focus on opportunity exploitation rather than survival and defence against threats. Barriers to strategic adaptation include time pressure, bureaucratic complexity (depending on the organisation size), financial capacities, and pressure from stakeholders to perform and maximise profit (Kuokkanen et al., 2009; Corbo, Pirolo and Rodrigues, 2018). In cases of highly unpredictable or sudden events, time is often limited, whereas in a financial crisis capital would present a problem. The inertia of existing BMs and 'conventional' practices tend to form an inescapable rigid structure (Voelpel, Leibold and Tekie, 2004; Saebi, Lien and Foss, 2017). Unless a change is crucial, it is likely to witness a certain degree of resistance to change in the BM, be it psychological or bureaucratic (Saebi, Lien and Foss, 2017). Such attachments to the status quo are dangerous for strategic adaptation and should be dealt with by injecting structural agility.

### **2.4. Non-profit organisations**

Ciucescu (2009) defines non-profits as organisations that prioritise altruistic causes (social, cultural, etc) rather than profit generation. Empirical research on these organisations is meagre in comparison to the rich volumes of work on for-profits (Maguire, 2009). However, according to Lakdawalla and Philipson (2006), the underpinning theory of for-profit businesses applies directly to non-profit organisations, given that the functioning of both types of organisations is indistinguishable. Nonetheless, Lakdawalla and Philipson (2006) indicate the importance of further research to build a stronger understanding of the nature of the non-profit sector.

#### *2.4.1. Non-profit BMA*

Non-profit VP and VD may adapt to environmental shocks to a certain degree (McDonald, Masselli and Chanda, 2019). However, given that non-profits prioritise the social cause rather than profit, their VP is more likely to be regarded as undeferrable and maintain their vision and mission statements. As for the Revenue Model, although charitable organisations do not prioritise profits, they require VC to remain active and self-sustainable (McDonald, Masselli and Chanda, 2019). Revenue may accrue in the form of donations, grants, fundraising events, or nominal fees charged to cover service/product costs. Chang and Tuckman (1991) conducted a study that suggests that a high concentration of revenue streams may result in a financial vulnerability of non-profit organisations. They oppose the generalisation that non-profits are reliant on a single revenue stream, although their findings suggest that revenue is concentrated to a certain extent. Therefore, during times of external shock, such concentrated revenue streams may encounter obstacles and expose the organisation to financial threats. Additionally, evidence dictates that the devotion of non-profits to raise funds often affects its ability to diversify revenue concentration (Chang and Tuckman, 1994). While the substantial majority of empirical research regarding macro-environmental BMA refers to profit-maximising corporations (Banham, 2010), the importance of non-profits calls for further research (Lakdawalla and Philipson, 2006). Non-profit organisations are often ill-understood, as a result of incorrect assumptions and a lack of empirical research, and are therefore neglected (Anheier, 2000). During periods of environmental dynamism, non-profits must also seize opportunities and defend against macro-environmental threats (McDonald, Masselli and Chanda, 2019).

However, very little empirical research is available to support this argument or to provide examples of opportunities and threats that non-profits encounter (McDonald, Masselli and Chanda, 2019).

### 3. RESEARCH METHODOLOGY

The adoption of a case study research method was deemed most adequate to facilitate the exploratory collection of initial findings within the literature gap (Yin, 1994). The selected organisation is a local UK charity with a mission statement of facilitating the social integration of people with physical and learning disabilities into the local community; the charity's VP is summarised as "friendship" (Table 1). Primary data was collected through semi-structured interviews with the charity's representatives, seeking depth rather than breadth (Polkinghorne, 2005; Gill *et al.*, 2008). The organisation employs 7 paid members of staff and 150 volunteers, who work together to deliver value through social events and activities and to raise funds for the charity. As a result of the Covid-19 pandemic (macro-environmental shock), the charity was obliged to adapt its BM, which thus qualifies it as a relevant case study. All interview participants hold senior-level positions and have worked for the charity for many years, which enabled them to provide reliable and insightful qualitative data. Each participant focussed on their represented BM component: the first participant (P<sub>1</sub>) reflected upon the VP during Covid-19, the second participant (P<sub>2</sub>) provided insight into the Revenue Model, and the third participant (P<sub>3</sub>) explained the impact upon the operational model. Before the collection of data, the study's ethical considerations were approved by Heriot-Watt's School of Social Sciences, fully complying with research ethics regulations. Interviews were conducted online via videoconference due to safety restrictions at the time of the research. The average interview duration was 45 minutes (in the range of 30-60 minutes), and in total generated 28 pages of single-spaced verbatim transcripts. The thematic analysis approach was then implemented to organise and identify themes and patterns that emerged from the findings (Braun and Clarke, 2006). The most notable limitation of the proposed methodology is the limited time availability (Collis, 2014). Thus, to generalise the final results and confirm a pattern, it would be necessary to carry out further research on a larger scope (Saunders, Lewis and Thornhill, 2019).

### 4. FINDINGS AND DISCUSSION

Figure 1 summarises the key findings that are drawn from the set of data and the discussion that follows. Some of the results provide direct support of the underpinning literature as represented by the green lines, whereas the red lines suggest a lack thereof. The conformities prove the similarity of non-profit BMA to that of for-profits, which ultimately supports Lakdawalla and Philipson's (2006) theory.

#### 4.1. Environmental shock

There is a clear consensus in identifying the Covid-19 pandemic as the sole major environmental shock faced by the organisation. The participants indicated that the organisation had been resilient to environmental forces prior to Covid-19 and that this was the "*first time*" that such a situation occurs. Per the theory proposed by Gregor (2019), the shock indeed emerged as a result of underlying megatrends, namely globalisation and urbanisation (Sigler *et al.*, 2020). The pandemic fits into the definition of 'environmental shock' provided by Shepherd, Douglas and Shanley (2000) and by Meyer (1982), as reviewed earlier: it entailed 'sudden and unprecedented events' that impacted the charity on a 'disruptive and inimical level'. The interview participants reported that Covid-19 directly jeopardised the organisation's activities, causing interruptions on a substantial scale. P<sub>1</sub> reported the two chief consequences of the environmental shock: "*Any face-to-face contact had to be stopped and that's what we were all about...The other thing is fundraising.*"

The highlighted struggles are predominantly financial and practical, both of which are reflective of the macro-trends directly resulted from the environmental shock: practical constraints such as social distancing measures and the subsequent macro-economic crisis. This foreshadows the BM aspects that would be most impacted by the shock: VD and VC. In commenting on the evolution of the shock and its consequential circumstances, P<sub>1</sub> said that *"they're going to last longer"*. An element of uncertainty is an emerging sub-theme that was reiterated throughout the interviews as the participants admitted they do not know when the charity *"could continue doing events."* This conforms with the underpinning literature in the sense that the nature of the environmental shock is highly unpredictable and turbulent (Corbo, Pirolo and Rodrigues, 2018; Gregor, 2019).

#### 4.2. Non-profit BMA

The case study BM conforms with the underpinning literature in terms of BM structure as explored by Teece (2010) and Zott and Amit (2010). It has clear VP, VD, and VC (Table 2). However, each component varies slightly in details, such as revenue sources (sale transactions vs donations). Nonetheless, there is a large degree of similarity with commercial businesses, upon which the large majority of the literature lays. Regarding BMA, the participants explained both the holistic process and specific viewpoints of the different components, presented in what follows.

BM aspect	Case study organisation
Value Proposition (VP)	Friendship and social integration for people with special needs. Beneficiaries gain skills, confidence, more social lifestyles, etc.
Value Delivery (VD)	Social events and activities delivered by staff members and volunteers such as art classes, day trips, educational projects, etc.
Value Capture (VC)	Direct donations, fundraising events, grants, etc.

Table 1: A brief overview of the case study organisation through the BM lens

##### 4.2.1. Increased demand for Value Proposition

During Covid-19, the organisation witnessed an increase in demand, as a result of the intensified sense of loneliness among people with disabilities, and P<sub>1</sub> reported an increased dependence upon the charity. Consistently, P<sub>2</sub> explained that not only the beneficiaries continued to require social interaction, but the charity's demand increased significantly as the charity became a *"lifeline"*. This finding contrasts with the generally reported impact of Covid-19 upon for-profit businesses, such as the 17.5% decline in demand for exported products and services<sup>1</sup> (Gough, 2021). This could suggest an important difference between for-profit and non-profit BMA, and link with the perspective that the non-profit's VP is undeferrable and would be unlikely to re-establish its social goal. Thus, one may assume that the main alterations would be within VD and VC, as is also suggested in section 4.1. Although this may reflect a trend among the larger non-profit sector, further research is required to generalise a pattern for other organisations. Further paths for discussion follow from the reported increase in demand, such as whether it was interpreted as an opportunity or a threat for the organisation. Although underpinning theory commonly paints demand as a positive and desirable state (Saebi, Lien and Foss, 2017), the current findings provide evidence to suggest otherwise as P<sub>3</sub> explains: *"We actually cannot meet up and that is 100% what we're about."* Additionally, the demand in this case directly challenges the remit of the charity, which aims to minimise loneliness. Therefore, in this case, the evidence dictates that an increased demand presents a threat for the organisation in meeting goals.

<sup>1</sup> Certainly, there have been exceptions such as the case of Zoom, which benefitted significantly from Covid-19. Although, such exceptions are not representative of the general trend.

This could also trigger pressure from donors to maximise utility, as discussed in the literature review. Nonetheless, one financial opportunity arises from the increased demand for loneliness relief. The participants reveal that the organisation is often ill-understood and overlooked upon. P<sub>2</sub> explains this issue and the importance of promoting social integration among this niche group: *"What we're considered to be is peripheral. It's not health, it's not education, it's sometimes taken for granted quite, that loneliness thing, and quite how important feeling connected to a community it is to somebody's mental wellbeing."* However, as a result of Covid-19, the organisation was recognised as essential for mental wellbeing for the first time and thus gained access to new revenue streams such as public grants. The organisation's VP stood out in its importance and presented a lucrative opportunity that interplayed with VC.

#### 4.2.2. Operational model of value Delivery

During Covid-19, the organisation adapted its VD to provide services via online platforms, which meant that the premises were not being used. This is an operational issue that also links to the Revenue Model as it uses financial resources. According to the interview participants, VD adaptation required creativity and P<sub>1</sub> explained that the charity offered devices to those who did not have any, to enable them to facilitate access to online activities. However, the participant also explained that the beneficiaries who did not own any devices are those who resist change and would not accept the new VD in any case. This is one example of change resistance as highlighted by Beerel (2009) and is comparable to the resistance from stakeholders in commercial BMA. For activities such as art clubs and cooking classes that require specific ingredients, the organisation creatively delegated staff and volunteers to deliver packs with the required ingredients and tools to the participants, adhering to social distancing measures. According to P<sub>2</sub>, this enabled the beneficiaries *"to stay connected...to have something to structure their day and squash their boredom."* As for the challenges P<sub>3</sub> reported conducting online volunteer inductions and teaching some beneficiaries with learning disabilities to operate technology, which in the beginning *"was really difficult"*. The lack of personal interaction was reported to negatively impact the motivation of volunteers and staff. This emerging sub-theme links to the *"anxiety"* that P<sub>2</sub> described in response to the uncertain circumstances. Similarly, P<sub>2</sub> explained that furloughing staff also negatively impacted motivation: *"you lose the attachment with your staff, and that's not a positive thing from anyone's point of view"*.

#### 4.2.3. Revenue model of Value Capture

Despite the altruistic nature of the charity, revenue generation is still crucial in order to remain self-sustainable. P<sub>2</sub> reports that the majority of the organisation's revenues comes in the form of direct donations, whereas fundraising events and grants are estimated to make up the rest. This maintains consistency with the work of Chang and Tuckman (1991), supporting the positive correlation of a diversified Revenue Model and financial resilience to environmental shocks. P<sub>2</sub> specifies that the charity is reliant on various VC streams, which has contributed to reducing its financial vulnerability during Covid-19. Additionally, P<sub>1</sub> commented that the organisation had not been impacted by the 2008 financial recession, providing further evidence of this financial resilience to macro-environmental shocks. According to P<sub>1</sub> and P<sub>2</sub>, the organisation had generally been independent of *"government or local authorities for funding"*, which was one factor of its resistance. Nonetheless, P<sub>1</sub> identified that the VC was the *"biggest struggle"* out of the three BM components during Covid-19. This was a result of endangered revenue streams rather than increased costs, as the combination of a poor macroeconomic scene and social distancing measures challenged all of the organisation's revenue sources, as explained by P<sub>1</sub>: *"A lot of people lost their jobs and income was a struggle so a lot of our donors in that way were impacted. The second thing is a lot of fundraising events all had to be cancelled."*

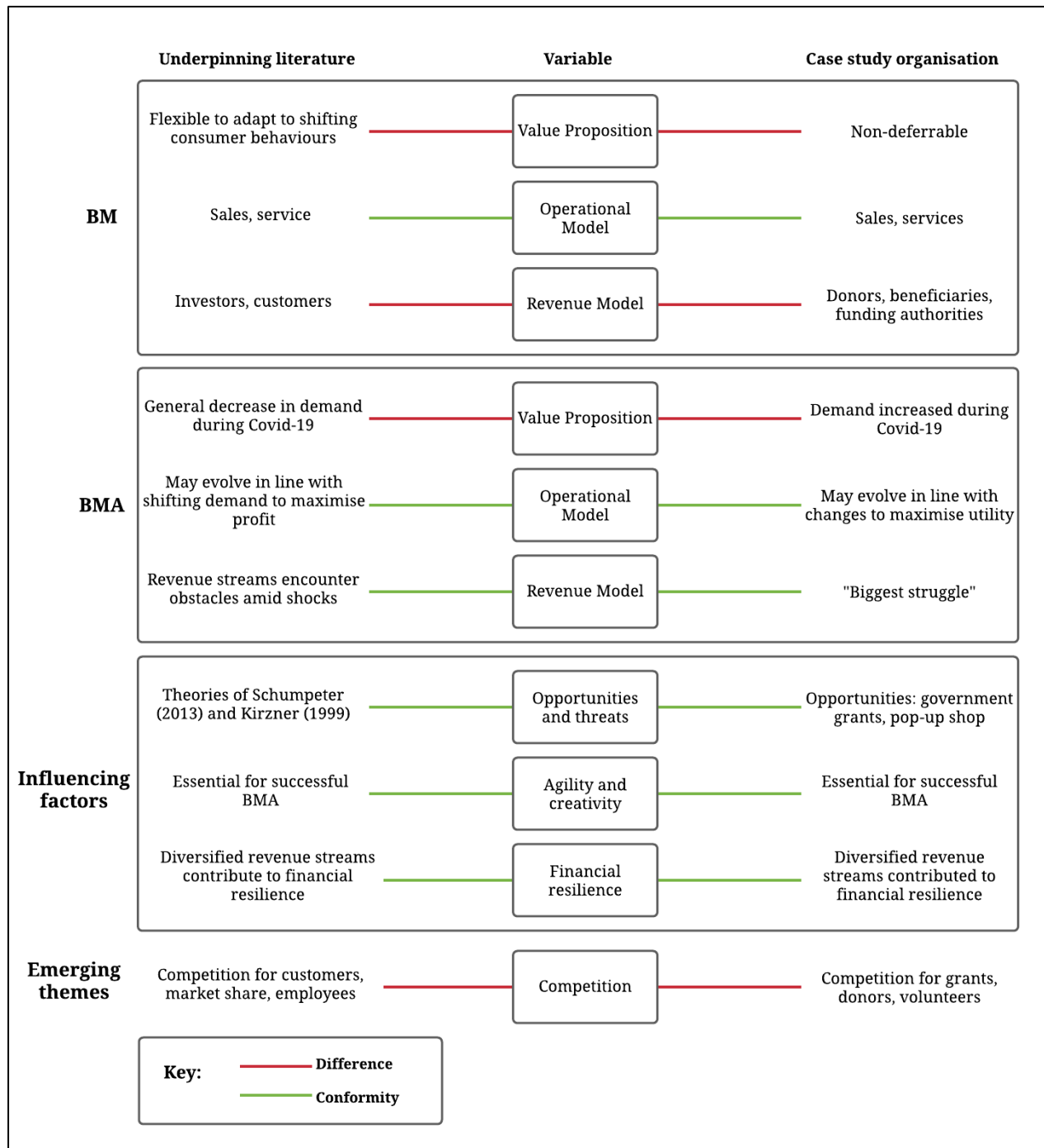


Figure 1: Visual diagram of the case study findings

On the other hand, P<sub>1</sub> and P<sub>2</sub> identified lucrative opportunities such as access to public grants. Additionally, the charity reached out to local businesses and received donations in the form of branded items and leftover stock. Then the unused premise was creatively converted into a pop-up shop, thereby adapting itself to the existing government guidelines that allowed shops to be open. According to P<sub>1</sub> and P<sub>2</sub>, this improvised revenue stream was a great opportunity which “made quite a lot of money” to mitigate the cost of the unused office. Other measures included furloughing some staff members to preserve financial reserves. According to P<sub>2</sub>, this harmed staff motivation, although it enabled the organisation to adapt its Revenue Model to the macro-environmental shock.

## 5. CONCLUSION

This paper develops an initial theoretical understanding to constitute the foundation for this new path of empirical research. The research findings imply certain consistencies and differences concerning the underpinning literature of commercial BMA and the case study organisation. Additionally, the findings confirmed a positive correlation between certain organisational characteristics and the perceived success of the case study BMA. For example, the organisation's diversified revenue stream provided financial resilience during the Covid-19. The research contributes to expanding the research of McDonald, Masselli and Chanda (2019). It is important to reiterate at this stage that the findings are specific to the current case study and are not representative of the whole non-profit sector. Therefore, further research is required to generalise the findings. As demonstrated in the previous chapter, the research findings largely conform with the existing literature, based upon commercial businesses. The insight of the findings is twofold. First, this helps in concluding the similarity of commercial and non-profit organisations, given that both business types fit well into the BM framework. Therefore, the functioning in response to macro-environmental shocks should also showcase a degree of comparability.

### 5.1. Practical implications

The data indicates the relevance of the BM within non-profits, which may assist in guiding practitioners. For example, the assessment of the environmental shock through the BM lens should continue to be incorporated by charitable organisations. The importance of certain highlighted factors such as creativity and strategic agility in response to is essential and special attention should be paid to the VC and diversification of revenue streams to develop financial resilience. Finally, non-profit leaders may be encouraged to learn from their profit-driven counterparts during times of macro-environmental shocks, as there are clear similarities in terms of strategic BMA.

### 5.2. Limitations and future research

Two chief limitations follow from this paper. First, in anticipation of the limited timeframe and resources available for the study, the scope was restricted to a single case study organisation. Therefore, generalisations about the applicability of the measures to non-profits as a whole are problematic. Even among the subpopulation of small-sized charities, the applicability of the measures may vary substantially. Consequently, the obtained data was rich in nature but presented a limitation in terms of generalisability. Second, the Covid-19 pandemic is yet to be concluded at the time of writing this paper. This limitation may present a threat to validity and reliability in the long term. Therefore, the macro-environmental shock may still evolve further over time. Future research may be conducted once that environmental shock is announced 'over', although at this point it is premature to predict a definite end to the situation.

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## SUSTAINABLE FOOD PACKAGING: EXPLORING THE CONSUMER ATTITUDE-BEHAVIOUR GAP IN THE UAE

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### ABSTRACT

*A fundamental shift has been witnessed towards sustainable practices all around the world. Overpopulation, deforestation, pollution levels, global warming, harmful CO<sub>2</sub> emissions, and a large amount of waste produced have caused significant environmental degradation. On waste produced, non-sustainable food packaging causes high levels of pollution and waste that is further added to the environmental deterioration. Hence, individuals, corporations and governments are shifting towards the production of sustainable food packaging (SFP). These cause less harm to the environment; clean technologies are used for its production and it is recyclable. However, it is seen that there are discrepancies present between the attitudes and behaviours of consumers towards SFP products. Consumers may have a positive attitude towards SFP products, but it is not seen in their purchasing behaviour. Number of factors show variations in the attitude and purchasing behaviour of consumers. Hence, the main aim of this study is to explore the presumed gap between attitude and behaviour of consumers towards SFP products in the UAE. Furthermore, Theory of Planned Behaviour (TPB) and Value-Belief-Norms (VBN) theories will be utilized. To achieve the aim, four hypotheses were developed and quantitative data was gathered through utilizing online surveys. Consequently, to analyse the data, reliability analysis, factor analysis, linear and multiple regression analysis were used. From the analysed data, in-depth discussions and conclusions were made pertaining to the aim of this study.*

**Keywords:** *Attitude - Behaviour gap, Consumer, Environment. Sustainability, Sustainable Food Packaging (SFP)*

### 1. INTRODUCTION

Food packaging is an important aspect of a product. It is not only used to protect the product constituents but also is a communication pathway between businesses and consumers (Draskovic et al., 2009). According to Charles et al. (2011), food packaging helps in: preserving the contents of the product, promoting the product, easy use of the product and the ability to recycle the packaging without causing further environmental harm. With the rise in environmental degradation, pollution and carbon emissions, governments and organizations must shift to sustainable practices. Hence, sustainable food packaging (SFP) has been introduced that requires less energy for its production and transportation. In addition, SFP ensures the food constituents are well protected and its value stays throughout its lifecycle (Madival et al., 2009; Russell, 2014). Subsequently, consumers are now well aware of their consumption of products. Their behaviour, attitudes and approaches are continually evolving and are in search of businesses that are focused on sustainability (Biswas and Roy, 2015; Ampuero and Vila, 2006). Nonetheless, when it comes to purchasing SFP products, consumers are not willing to opt for them. Many studies have shown variations seen in attitudes and buying behaviours of consumers towards SFP products (Orzan et al., 2018; Prakash and Pathak, 2017; Moisander, 2007). Therefore, the main aim of this paper is: *To explore the presumed gap*

*between attitude and behaviour of consumers towards sustainable food packaging products in the UAE.* To dig deeper into this topic, the primary objectives that the paper would look into are: to assess the importance of sustainable food packaging globally and in the UAE, to explore the important policies and regulations imposed by the UAE government towards sustainability practices and to examine the drivers (such as environmental concern, personal norms and willingness to pay) that assist consumers into purchasing sustainable food packaged products.

## **2. LITERATURE REVIEW**

With the easy access to information, consumers are well aware of the negative impacts of packaging and the amount of waste it generates. Packaging has also caused high levels of pollution over the years. Hence, consumers are looking for sustainable food packaged (SFP) products that do not cause harm to the environment (Seo et al., 2016; Orzan et al., 2018). With consumers being environmentally aware of the harmful effects of packaging, the type of packaging used for products is also considered among other factors (such as design, aesthetics and convenience) while purchasing a product (Thøgersen, 1999; Bone and Corey, 2000). Unfortunately, governments and corporations face challenges in encouraging customers to purchase SFP goods. Trying to persuade consumers to shift and change their consumption patterns that support the production and selling of SFP products has been difficult (Rokka and Uusitalo, 2008).

### **2.1. Sustainable Food Packaging (SFP): Definition**

The Sustainable Packaging Coalition (SPC) (2011) has introduced eight main principles under which SFP can be defined. These are: it must be valuable, safe and in good condition for customers and society all through its lifecycle, it must adhere to market protocols (such as performance and cost), SFP is produced using renewable energy, SFP efficiently uses clean or recycled materials, it is manufactured using only clean production, it is produced with the help of materials that remain harmless over its lifecycle, SFP is produced by effectively utilizing resources and once the lifecycle of SFP has come to an end, it is adequately recovered and recycled in biological and/or industrial closed-loop cycles (Gendell, 2011).

### **2.2. Sustainable Food Packaging in the UAE**

In UAE alone, there is comparatively less research done on sustainability (Sleiman and Chahine, 2019). Moreover, the Ecological Footprint in the UAE remains one of the highest among other countries as per the UAE State of Green Economy Report (2017, pp. 76-79). The marine life in the region is deteriorating at an alarming rate caused by plastic wastage (Todorova, 2017). With the amount of waste that is generated every year, more landfill space is required until it reaches its saturation point. (Tesorero, 2018). Therefore, the UAE government is on a mission to shift to sustainable practices (Sleiman and Chahine, 2019). Some of the programs started by the UAE government to encourage people to shift to sustainable practices are the Abu Dhabi Vision 2030 (EAD) which is focused on protecting the environment and the Abu Dhabi Compost Plant introduced in 1977, which aims to effectively manage organic waste (MOCCAE, 2017; UAE Government Portal, 2020). Moreover, in 2016, the Dropit Initiative was introduced that is focused on spreading awareness on the harmful effects of waste produced by utilizing single-use plastics. (The Drop It Campaign, 2016). There are also communities introduced that encourage people to live sustainably such as Masdar City, Abu Dhabi and Sustainable City, Dubai. In a few years, Jumeirah Hotel in Saadiyat, aims to become completely plastic-free (Maceda, 2018). Even the supermarkets in the UAE are on the journey to sustainability such as Waitrose (Sleiman and Chahine, 2019). Despite governments and organizations in the UAE focused on altering consumer consumption and encouraging them to opt for sustainability and SFP goods, it remains a challenge (Sleiman and Chahine, 2019).

### 2.3. Sustainable Consumer Behaviour

Even though consumers are increasingly concerned about environmental degradation and the shift towards SFP products (Rokka and Uusitalo, 2008), it is not seen in their buying behaviours towards SFP goods (Thøgersen, 1999, 2004; Uusitalo, 1989, 1990; Thøgersen and Ölander, 2003). Moreover, there are studies such as the Theory of Planned Behaviour (TPB) (Ajzen, 1985) and Value-Belief-Norms (VBN) Theory (Stern et al., 1999) that show that attitudes do influence behaviours of consumers. Unfortunately, the attitude and buying behaviour of consumers towards SFP goods are considerably weak (Wicker, 1969; Webster, Jr., 1975; Ajzen and Fishbein, 1980). A poor relationship between consumer's attitudes and buying behaviours towards SFP products can be due to many factors. Some of these factors may include consumer's personal needs that may interfere with societal needs. This is sometimes known as the 'free-rider tendency' (Uusitalo, 1989). Also, conflicts between product features and environment characteristics; lack of motivation; limited room for change are some other factors that affect the discrepancies between attitudes and behaviors (Uusitalo, 1989; Thøgersen, 1999, 2004; Thøgersen and Ölander, 2003; Moisander, 2007).

### 2.4. Theoretical Framework

According to Orzan et al., (2018), almost 30% of consumers are interested in the protection of the environment. Unfortunately, it is not shown in their purchasing behaviours of SFP products. Hence, this paper will examine the inconsistencies in attitude and buying behaviour with the help of the Theory of Planned Behaviour (TPB) (Ajzen, 2011) and Value-Belief-Norms (VBN)(Stern et al.,1999).

#### 2.4.1. Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) is an extension of the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). TPB is a conceptual framework that is focused on predicting and evaluating human behaviour in specific situations (Ajzen, 1988). Perceived behavioural control (PCE) is an additional component in the TPB framework (Ajzen, 1991). PCE refers to an individual's perception of the degree of difficulty or easiness to accomplish a particular behaviour. Hence, high PCE indicates it is easy to conduct a particular behaviour while low PCE indicates that it is difficult to do so (Manstead and Fischer, 2001). Moreover, an individual with high PCE develops high intentions to perform the particular behaviour as compared to someone with low PCE (Ajzen, (1991).

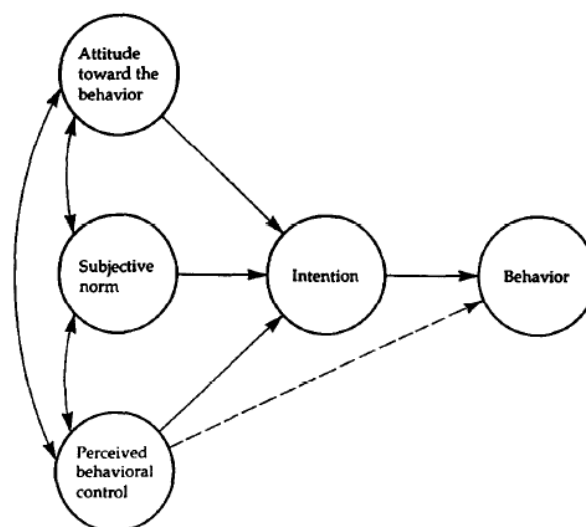


Figure 2: Theory of Planned Behaviour (Ajzen, 1991)

In various researches about the study of consumers' purchasing decisions, TPB had been applied (Prakash and Pathak, 2017; Scott and Vigar-Ellis, 2014; Van Birgelen et al., 2009). TPB helps understand consumers' preference for SFP from cognitive aspects such as environmental awareness, information and concerns to TPB aspects such as PCE and subjective norms (Martinho et al., 2015). With the help of the TPB model, it is seen that the relationship between attitudes and behaviour of consumers are comparatively weaker than expected towards SFP products (Wicker, 1969; Webster, Jr., 1975; Ajzen and Fishbein, 1980).

#### 2.4.2. Value-Beliefs-Norms (VBN)

Value-Beliefs-Norms (VBN) was introduced when Stern (2000), Stern et al. (1999) and Stern et al. (1995) had used Schwartz's (1977, 1973) moral norm-activation theory. VBN refers to the development of environmental human behaviour. Pro-environmental behaviours develop from particular personal values, from beliefs that consider specific values that consist of risks and from beliefs that an individual attains to reduce those risks (Stern et al., 1999). Hence, it imparts a series of variables, ranging from values to environmental matters to specific beliefs about problems that arise due to a particular action. Subsequently, the ability and responsibility of human beings to prevent issues to arise in turn encourage personal norms for behaviour (Stern et al., 1999; Stern, 2000).

### 2.5. Hypothesis

To understand why a gap is present between attitude and behaviour between consumers towards SFP products, a set of factors were taken into consideration. These factors are Attitude (ATT), Personal Norms (PN), Environmental Concern (EC) and Willingness to Pay (WTP). With the help of the above-mentioned factors, a series of hypotheses were developed:

- *H1: Purchasing behaviour of consumers is significantly influenced by their attitude towards sustainable food packaged products.*
- *H2: Purchasing behaviour of consumers is significantly influenced by their personal norms towards sustainable food packaged products.*
- *H3: Purchasing behaviour of consumers towards sustainable food packaged products is significantly influenced by their environmental concerns.*
- *H4: Purchasing behaviour of consumers is significantly influenced by their willingness to pay more for sustainable packaged food products.*

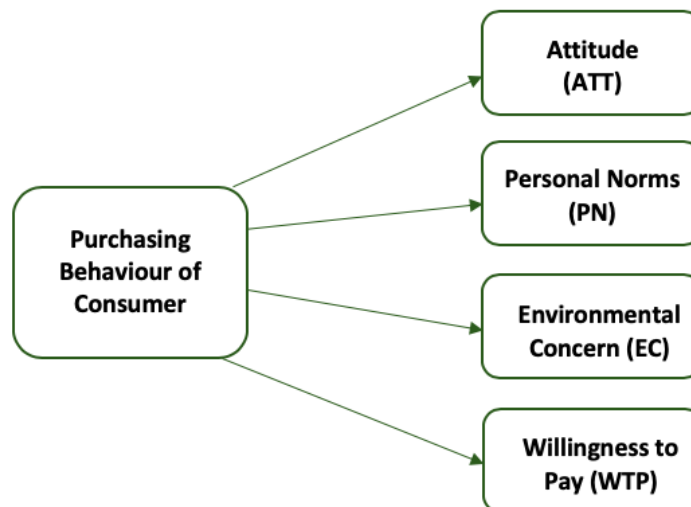


Figure 2: Conceptual Framework (Own Source)

### 3. RESEARCH METHODOLOGY

To accomplish the main aim of this paper, i.e. to study the expected gap between consumers' attitude and behaviour towards SFP products in the UAE, it is imperative to test the hypotheses mentioned earlier. When testing the hypotheses, it enables one to understand attitudes, behaviour, motives and willingness to purchase SFP products. Therefore, the research methodology used in this paper is quantitative research. Subsequently, this study followed objectivism ontology and positivism epistemology to test and prove the hypotheses in line with TPB and VBN. Moreover, it also follows a deductive reasoning style. Since this research requires testing and proving hypotheses, online surveys were used to obtain data. A large and diverse group of participants ranging from different age groups and different cultural backgrounds were required for this research. Hence, the design of the survey was in a way that the questions directly depends on the effectiveness, accuracy and response rate of the data collected. The questions in the online survey were obtained from different researches such Orzan et al. (2018), Han and Yoon (2015), Koenig-Lewis et al. (2014), Khare (2015), Jang et al. (2011) and Wee et al. (2014). The constructs were developed in line with the hypotheses formed. These constructs are based on attitude (ATT), environmental concern (EC), personal norms (PN), willingness to pay (WTP) and purchase intention (PI). Subsequently, the survey consisted of a total of 21 questions, all well structured. The average total time a participant would take in completing the online survey was about 10-12 minutes. The online survey was given to almost 300 participants, out of 153 (51%) of individuals actively participated and answered all questions in the survey. The data collected was then analysed using SPSS software. A combination of descriptive statistics, reliability analysis, factor analysis, linear and multiple regression analysis were done on the data collected from the online survey.

### 4. DATA ANALYSIS AND FINDINGS

With the data collected from the 153 responses received, 16 nationalities took part in the online survey. The majority of the participants that took part, were in the age group 18-25 years. Furthermore, 63.40% of the participants responded that they buy SFP products; while, 47.71% opted for paper, 24.84% opted for biodegradable plastic and 16.99% opted for glass when asked their favoured ecological packaging. Moving on, when reliability analysis was done for each construct, WTP had the highest reliability value (Cronbach  $\alpha$  = 0.826), followed by PN (Cronbach  $\alpha$  = 0.814). The least reliable construct was EC (Cronbach  $\alpha$  = 0.496). To test the internal validity of the constructs, factor analysis was used. The results show that extraction values were high for ATT1 (0.798), ATT2 (0.821) and low for EC1 (0.784), EC2 (0.659). In the rotated component matrix, ATT was positioned at the top-level (Loading factor = 0.882) while EC was positioned at the low level (Loading factor = 0.689). The external validity of the questions in the online survey has been already identified as it has been utilized for other research. Linear regression analysis was applied to evaluate all factors against dependent variable PI. Hence, it proved that all four hypotheses mentioned earlier in this paper had a positive or significant impact on PI (R square = 50.5%). With the help of multiple regression analysis, WTP (Standardized Coefficient Beta = 0.377) and PN (Standardized Coefficient Beta = 0.355) had the highest significance to PI while EC was not shown to be significant to PI (Standardized Coefficient Beta = 0.085).

### 5. DISCUSSION OF FINDINGS

Through the data analysis, it was found that attitude (ATT) had a poor correlation with purchase intention (PI). Moreover, ATT was found to have less impact over PI. Hence, this does tests and proves the hypothesis *purchasing behaviour of consumers is significantly influenced by their attitudes towards SFP products*. Moreover, in TPB, the main aspect of the theory is an intention to perform a behaviour.

Therefore, if the intention to perform an action is high, higher will be the chance of engaging in that specific action (Ajzen, 1991). Hence, this also proves that there does exist an attitude - behaviour gap of consumers towards SFP products in the UAE. This can be due to many reasons. One of the reasons may be due to a lack of awareness of SFP products among the consumers in the UAE (Razak et al., 2019). Organizations in the UAE can implement green marketing practices wherein much emphasis is given on the design, promotion, price and distribution of products that do not harm the environment (Mishra and Sharma, 2010). Another reason could be that despite the UAE government taking efforts to enforce sustainability practices and promotion of SFP products, consumers are still not aware of those regulations and policies (Razak et al., 2019). Moving on, it was found that personal norms (PN) had a very high significance on PI among all other factors. This shows that purchasing behaviour of consumers is highly influenced by their PN towards SFP products in the UAE. Hence, it tests and proves the hypothesis *purchasing behaviour of consumers is significantly influenced by their personal norms towards SFP products*. In the VBN theory, sustainable responsible behaviour depends on either moral norms or personal norms (PN). PN depends on two aspects; specific beliefs connected with behaviour and the sense of responsibility that consumers have on their acts towards the environment (Aguilar-Luzón et al., 2012). Hence, consumers in UAE have a high level of awareness of the consequences of their actions towards the environment and they feel highly responsible for the protection of the environment. Subsequently, the hypothesis *purchasing behaviour of consumers towards SFP is significantly influenced by their environmental concern* has been tested and proved. However, there exists a weak correlation between environmental concern (EC) and PI according to the findings. In addition, EC was also found to be not significant to PI. In Ajzen and Fishbein (1980) paper, general attitudes like environmental concerns have less or no impact on certain behaviour (like purchasing behaviour towards SFP products in this case). EC has the ability to influence perceptions and interpretations of situation-specific behaviours, normative and control beliefs. This in turns directs to influencing over attitude, subjective norm and perceived behavioural control (PCE) which leads to EC having an impact on intention and behaviour. Unfortunately, there was no further explanation on how general attitudes like EC do influence these certain behaviours (i.e. purchasing behaviour (Bamberg, 2003; Tanner, 1999)). When hypothesis *purchasing behaviour of consumers is significantly influenced by their willingness to pay for SFP products* was tested and proved, it was found that willingness to pay (WTP) had a very high correlation with PI. Moreover, WTP was highly significant towards consumers' purchasing behaviour of SFP products followed by PN. Hence, UAE consumers are willing to spend more money on SFP products. In 2018, KPMG issued a report which has concluded that almost 36 percent of UAE residents in the age group 20-34 years possess high disposable income.

## 6. CONCLUSION

The main aim of this paper was to *explore the presumed gap between attitude and behaviour of consumers towards sustainable food packaging products in the UAE*. Moreover, this paper was supported by two theories, i.e., Theory of Planned Behaviour (TPB) and Value-Beliefs-Norms (VBN) theories. With the data obtained from online surveys and through linear and multiple regression analysis, it can be concluded that there does exist a gap between attitude and behaviour amongst the consumers towards SFP products in UAE. Furthermore, personal norms and willingness to pay were two factors that had the highest significance over the purchasing behaviour of consumers towards SFP products in the UAE. On the contrary, environmental concerns had little or no impact on purchasing behaviour of consumers towards SFP products in the UAE.



Therefore, in order to close the gap between attitude and behavior and increase environmental concerns among the consumers in the UAE, the government has established new regulations and policies. Moreover, organizations must be focused on planning and implementing green marketing strategies that are focused on sustainability.

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## GLOBALISATION AND CHALLENGES OF MODERN ECONOMY

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### **ABSTRACT**

*Globalisation is a modern ,21st century oriented way to create better communities which are safer, prosperous and technologically advanced, where discrimination ,poverty and religious instability are a non-existential reality. Developing World is changing very fast ,albeit ever than before. Economies are growing there but sharing of wealth is still at its medium pace.Economic changes are bringing social, religious and psychological changes.For example : Rural youth of India is migrating to Urban India as well as to Urban centres of the World and this has changed their whole thinking patterns, whether it be related to economy or legal and religious sentiments . Some positive but some negative too, positives like more awareness about women rights and negatives like more caste/community consciousness. Regions like South east Asia, MENA (Middle East and North Africa), Latin America and other parts of Africa and Asia are struggling to improve their bureaucratic systems and overall economic systems. Globalisation can definitely be a problem solver but that has to be accompanied by human rights and civil liberties. Liberalisation is greatly connected with Globalisation and vice-versa. Liberalisation again has to be accompanied by Women's education and rights, privatisation, opening of the economy, housing and pensions for all, etc etc. Capital markets are a great way of increasing wealth in a nation.It provides great opportunities for a middle class worker to increase his/her wealth in a systematic manner. Nations with great GDP also have great market capitalisation.Knowledge should be internationally managed and sustained in a manner that it is freely accessible with no charge even for a pen/pencil, should be fluidly available, and content should be decided for making people good International citizens.Welfare is a responsibility which Globalisation can very well full-fill. Welfare should touch not only economic well being but space and platforms should be created for expression of creativity in every field specially Technological advancements, because any society does not feel fully satisfied until and unless it sees its' next generation involved in science and technology.Tourism is another great way of not only enhancing Globalisation but also bridging gaps of geopolitical differences, for example bringing differences between Crimean Tatars and Russian people by enhancing regional tourism including cuisine tourism. The World cannot run without sustainable finance ,specially keeping in mind large government debts around the World ,for example the failure of Greece and Lebanon Governments and increasing Sovereign debt of developing nations like India.Digitalisation is the next key for the next level of humanity and therefore it is of utmost importance to give its importance of share.This will give rural and under-privileged people change to be connected to outside world and go global for their businesses.*

**Keywords:** *Globalisation, liberalisation, sovereign debt, Crimean tatars, market capitalisation*

### **1. INTRODUCTION**

World War 1st and 2nd both were fought for land, mineral wealth and access to trade regions including seas, straights, gulfs, oceans, high mountain passes, and plains as well as for controlling human capital for labour purposes. But the wave of democracy in 1940s and 50s including rights such as economic and social changed the way nations and World operates. Globalisation i.e movement of capital and labour were a regular phenomenon during colonisation too but the nature of that movement was colonial and it was against the principles of equal access to opportunities.

From the formation of United Nations in 1945 till the fall of Soviet Union, globalisation operated on a very small scale due to cold war although its nature changed from being a colonial to a capitalist one. After 1990s when the geopolitics dictated the expansion of privatisation, liberalisation and globalisation around developing nations, two poles emerged one was totally supportive of these changes and another was totally against . But both categories of people missed the point, that it is not the globalisation which is a problem but non-representation of people in government which is a problem. The solution is as simple as it could be and that is they should have demanded good governance, improvements in welfare. Because if the people are given free voice in administration, justice system then globalisation can do wonders for developing and developed nations equally. Therefore, Capitalism with strong human rights are the way forward.

## **2. IMPROVING INTERNAL ADMINISTRATION IN DEVELOPING NATIONS TO ASSIMILATE THEIR ECONOMIES INTO GLOBALISATION**

### **2.1. Representation in government while incorporating Globalisation in Developing Nations**

As Edmund Burke said in 1774 “Your representative owes you, not his industry only, but his judgment; and he betrays, instead of serving you, if he sacrifices it to your opinion”. I did Quantitative research on a random sampling basis on 20 people from India, which can best represent all developing nations.

Survey Questionnaire:

- 1) Does Globalisation benefitted India : Yes, NO, Cant say.
- 2) Does Indians have a constant say in the functioning of Indian Government: Yes, No, Cant say.
- 3) Do you think any improvements are needed in Democracy, human rights and justice system: Major improvements needed: Little improvements needed, No improvements needed, Cant say.
- 4) What do you prefer: Globalisation with strong democracy, Globalisation, Strong Democracy.

For the third question, 17 out of 20 gave preferences that Indians do not have a constant say in Government's functioning, and they said that directly or indirectly this is the main reason of non-development of grass-root economy. They also indicated favour for Globalisation as is proved by their answers on the fourth question where 18 out of 20 answered that they prefer Globalisation with strong democracy because they feel that MNCs generate employment and also bring technology. For example my former School teacher, Savita Vajpeyi, who's husband is a government employee said that Indians have no constant say in bureaucracy of India but at the same time preferred Globalisation with strong democracy because strong democracy removes internal inefficiencies and that enhances production and creativity which leads to enhanced Gross National Income and per capita consumption of basic necessities. The whole survey indicated towards people's favour for more rights and representation in government as well as integration in Globalised and liberalised economic structure. This is also evident if compare China and India ,although China is not governed by democratic structure but if we look into internal bureaucratic efficiencies, it is evident that India has less efficient courts and police and overall bureaucratic structure than China .And therefore over the past three decades China has had more economic and technological progress than India. For example China has assessors 'system in justice delivery, which is not a jury system but close to it, which enhances efficiency of their courts, whereas India follows proper Judge system which enhances delays and overall corruption. Let's take another example of Myanmar, where hybrid civil and military government rule is prevalent.

And the parliament is unable to provide rule of law. And changes such as reducing the role of the military, limited president's executive power, decentralisation of state power are still missing. In such circumstances a failed economic state can be the only result, and economic production as well as nationalistic assimilation of domestic economy into a globalised trade structure cannot be the reality. The theory of collective wisdom triumphs any other phenomenon for enhancing internal efficiencies. Therefore with strong representation in administration, Globalisation is set to benefit the whole world because then the economies would be more competitive, economical and political transactions would not take its ugly turn and geopolitical stability would be the norm.

## 2.2. Examples of Good governance and flowering Globalisation

If we take the historical example of England, then we will find a strong connection between good governance and growing international trade. When in 12th century, English King Henry II took a major step in developing jury system by declaring the use of local reputation as a form of proof for land disputes, and then in 17th century Bill of Rights declared that the highest authority of administration is Parliament and not the King. These developments were further refined and given shape for a proper and stable democratic society. And because of these changes, England was able to expand its trade to different continents and build most advanced Military Industrial Complex. Now let's take modern example of Singapore, it has one of the world's most business-friendly regulatory environment and is among the world's most competitive economies. It became independent when regional politics was going through a turmoil like Konfrontasi, and faced problems like unemployment, education, lack of natural resources and land. Foreign investments were invited since early 1960s but GDP started to increase majorly from 1990s when Globalisation meet with already improved conditions in housing, wages, education, professional justice and changes like elected presidency system, Group constituencies for minority representation, privatisation.

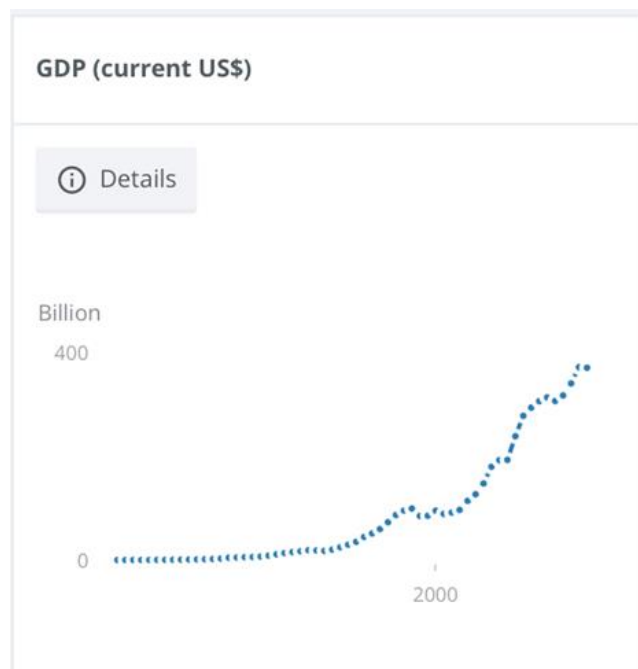


Figure 1: Singapore's GDP from 1960-2019

(Source : [data.worldbank.org](https://data.worldbank.org) ;

<https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=SG> ; World Bank national accounts Figur data, and OECD National Accounts data files)

Therefore, Internal administration and its efficiency will lay the foundations for the environment in which economies will reach to its highest natural standards and will create an atmosphere where their economies can be easily integrated into Globalisation so that it benefits both developing and developed worlds.

### **3. RISING DEMAND FOR POLITICAL CHANGES IN DEVELOPING WORLD**

With International trade increasing, awareness about political and economical rights have also enhanced and people's perspectives 'have changed many fold. For example : India's GDP drastically increased since LPG (Liberalisation, privatisation and Globalisation) in 1990's. This prosperity has resulted in some positive changes like more consciousness of democratic rights, access to better finance and housing, women are increasingly playing more role in the society, increased importance of education. But the growth is mainly driven by big companies and the grass root economy or which we technically call unorganised sector did not witnessed any major improvements which resulted in many adverse impacts like jobless growth, declining agricultural growth, rural to urban migration where it has been estimated that by 2050 more than 50% of India's population will live in cities, imbalance in service and manufacturing sector, inefficiency of justice delivery system and political corruption. And due to these negative changes, sharing of wealth and creation of unorganised but legal wealth are a non-existential reality in India. And demands are increasing in developing world, just like in India for major political, legal, social and economic reforms. For example in Indonesian society, the reform era has not totally ended post Suharto-period, and they demand more revolutionary reforms such as greater economic freedom, reducing corruption, strengthening judiciary, modernised and simplified investment regulations, increasing labor market flexibility. Indonesian people are demanding such reforms because they have experienced political mismanagement, geopolitical instability and are more conscious about statehood, rights, and their national identity because of the rise in education and middle class, increasing polarisation since 2017 elections and also because of the decentralisation that followed post-Suharto rule, and also because of their integration into globalised world. And these overall internal changes must be brought as early as possible, not only to avoid more polarisation but also to uplift lower and middle classes out of insecurities and uncertainties. These changes will bring space and platforms to nations 'for enhancing their economies upto their natural standards and then they can easily integrate them into Globalised economy and finance. Hence, developing world, more than at any particular time of history, is most desperate and impatient to get proper democratic mindset oriented functioning of bureaucracy, whether it be of legislative, executive, judiciary or military branch of the government.

### **4. IMPLEMENTING LIBERALISATION DEMANDS FAIR COMPETITION IN THE ECONOMY AND IMPROVED HUMAN RIGHTS**

Here I will take the example of Arab spring, which will explain that MNCs working in a particular region won't enhance prosperity alone, unless internal managements are improved. International Corporations were already active in the MENA (Middle East and North Africa) region but rule of law, social equality, justice, women empowerment, administrative corruption, political monopoly (dictatorship) existed on a large scale. And on the other hand foreign companies were working for their nation's strategic interests'. All these conditions erupted in the suicide of Mohamed Bouazizi which sparked protests in Tunisia and then spread to other nations of the region. But if we see the situation of nations where Arab spring was a reality, then one can safely conclude that the so-called Arab Spring brought nothing but blood and suffering to the people of the region, that were blinded by the promise of Western-style democracy. And data presented, on Arab Spring, by Egypt's president back in 2018 says that "more than 1.4 million perished in Syria, Iraq, Libya and Yemen as a result of the attempt to

introduce Western-style democracy across MENA, while another 15 million people became refugees. For example in Iraq, rampant corruption, outdated infrastructure, insufficient essential services, skilled labor shortages, and antiquated commercial laws stifle investment and private sector participation. And it is predicted that in the next five years Iraq can be Category E or F failed state, which is the lowest category of failed states. Now let's take a look at what's happening in Latin America. One thing which can be generalised for all the nations out there is that "people hate their governments", not necessarily indicating shift towards right wing politics but that's the reality. Specially Mexico, Colombia and Brazil, they are operating on anti-establishment sentiments. Due to the unequal distribution of wealth and the widening gap between rich and poor, as well as the delay in meeting people's demands, large-scale protests and violence have broken out in many Latin American countries. Latin America's economic growth is stalling and diplomatic relations tend to be diversified and fragmented. There are currently 191 million poor people in Latin America, accounting for 30.8% of the total population: 72 million people (11.5%) live in extreme poverty and the malnourished population amount to 42.5 million people(6.6%). Now, how can liberalisation work in nations 'where violence, political and even military institution work on the principles of corruption, deceit and overall criminal attitudes. Therefore working on the internal management is a pre-requisite for liberalisation to properly work in a very assimilative and equity oriented manner.

## **5. PROMOTING CAPITAL MARKETS AS A SOURCE OF INCOME FOR MIDDLE CLASS**

### **5.1. Challenges faced in developing nations**

Developing nations face various challenges from regulatory to political and trust issues. Here, I have taken Nigerian capital market as a reference. Registrar's administrative inefficiency is the primary demotivating factor . Other problems like lack of relevant information, low participation rate (only 3 million participated in a nation of 155 million), lack of transparency of stockbrokers, poor supervision of Companies, government's inadequate policy. Fiscal and monetary dominance of the debt market is another key problem in Nigeria.

### **5.2. How Globalisation plus justice can help develop capital markets in developing nations**

Nigerian Policies like SAP ( Structural adjustment programme ) in 1986, privatisation of corporations, restoration of democratic rule in 1999 and renewed impetus for liberal economic policy reform aimed at attracting local or foreign private capital, creation of domestic institutional savings pools (with the pension reform in 2004 and consolidation of the banking sector in 2005), caps on deficit financing from the central bank, and such measures helped in enhancing capital market depth from 6.8% in 2000 to 17.1% in 2018 . The increase in market capitalisation is not a guarantee of increased growth i.e of GDP. Infact the growth of GDP through justice delivery attitude of governments will guarantee the increase in development and overall GDP per capita. Because there is a general observation which says nations 'which have greater GDP tend to have larger market capitalisation than those with lower GDP.

## **6. EDUCATION: A UNIVERSAL RIGHT**

### **6.1. Globalised Education**

FDI in education can help make youth International citizens with awareness about contemporary issues and they can adopt the mantra of "Think Global and act Local". Along with FDI, International and regional obligatory commitments of the governments, proper funding channel for education (at least primary) by International organisations, exploring diplomatic corridors (bilateral and multilateral) for exchange programmes and other educational research assistance can majorly improve educational quality and levels, specially in the third world nations.



## **6.2. Education alone won't increase productivity and social unity**

Compared to other countries, US has had one of the highest rates of educational access in the world and yet it has one of the highest rates of inequality. For industries to spring up, manufacturing to be globalised we need favourable environment which can be provided by a stable government which follows basic tenets of rule of law because it contributes to growth via accumulation of factors of production and increase of TFP (Total factors of productivity). Democracies are less polarised societies, because among other things everyone can freely express their own interest and politically articulate it.

## **7. GLOBALISATION AND WELFARE GO TOGETHER**

### **7.1. Technology transfer from Globalisation**

Very interesting example is, although it involves minor software technicality, of McDonalds using Dynamic Yield's core personalisation product and world-class engineering teams as they bring new, bigger and even better capabilities to the market, and through this they are bringing Customised menu options which will deliver menus according to the weather, time, restaurant traffic in order to deliver customers smoother and richer experience. And these kind of technology transfers can provide direct and indirect employment and other opportunities which would enhance National Income and overall standards of living. It is these technological and management changes which enhances experiences of public and gives them sense of social satisfaction. And such changes can not only add to the local economy but also contribute towards food security, environmental protection, prevent over crowding of spaces, prevent traffic problems, etc. But these innovations happen in an environment where organisations' foundation have been built in a free, bureaucratically stable and democratic oriented framework.

## **8. TOURISM THAT ALTERS GEOPOLITICS**

Peace tourism intends to reduce root causes that create situations where violence has been perceived as inevitable. It expresses the importance of having positive peace rather than merely eliminating direct violence, by enhancing per capita incomes and it is one of the preventive factors that mitigate the civil conflict escalation. For example Crimean tatars living in Russia visiting other cities of Russia can help in integrating them into Russian nationhood by familiarising them with people, if it has that kind of political support that is needed.

## **9. FINANCING NATIONS, WHILE BUILDING THEIR INTERNAL STRENGTHS**

### **9.1. Reforming Emerging markets internally plus Sustainable External loans**

For example : Lebanese political leaders did not establish any accounting documents. Lebanon and Saudi Arabia were the only two states in the world without an official budget. It was materially impossible to determine what taxes have been levied. Therefore we can see nations need internal reforms, and it is not limited to economic management but extends to political and social including legal reforms.

### **9.2. IMF's Conditionality needs a pause**

IMF's usual prescription is budgetary belt tightening to countries who are much too poor to own belts and its role as a generalist institution specialising in macro-economic issues needs reforms. Conditionality has also been criticised because a country can pledge collateral of acceptable assets to obtain waivers. Conditionality is the biggest barrier to sustainably finance developing markets. For example, India needs sustainable finance from foreign soil but the foundations of the nation should be strong enough to manage domestic economy in a very grassroots growth oriented way.

## **10. DIGITALISATION - WORKING WHILE NOT WORKING (GATEWAY OF NEW OPPORTUNITIES FOR SMALL FARMERS)**

Digital solutions in agriculture offer small-scale farmers a range of opportunities. They can more easily exchange know-how, remain in closer communication, and access information about markets and prices, weather, etc. It gives people 'space to work efficiently, fully focusing on their work, while being fully free of headaches like documentation, information, lease of land or equipment, and specially they do not have to face harassments at bureaucratic offices.

## **11. CONCLUSION**

Globalisation is a two way business and can work out properly and in a sustainable way only if democratic substances like rule of law, equality, constant checks over politicians, bureaucrats and judges by citizens of that country are prevalent with strong procedures to ensure that.

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## THE IMPACT OF COVID-19 CRISIS ON SHAREHOLDER CONFIDENCE IN THE BUSINESS PERFORMANCE OF CROBEX LISTED COMPANIES

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### ABSTRACT

*This paper aims to present the impact of the COVID-19 pandemic on shareholder confidence in the business performance of CROBEX listed companies. A multiple linear regression model was used to create a net market value ratio indicating shareholder confidence in the companies' business performance. The research results indicate that investor confidence in CROBEX listed companies, measured by the net market value ratio, decreased by 12.33 percent during the corona crisis in 2020 compared to 2019. However, the comparison of the COVID-19 crisis and the 2008 financial crisis has shown that investor confidence in CROBEX listed companies increased by 4.27 percent. The higher the net market value ratio, the greater the shareholder confidence. State aids to entrepreneurs for the preservation of companies' operations during the COVID-19 crisis helped maintain greater shareholder confidence. The market value of companies is the main indicator of investor confidence in company management and its ability to adapt to crises.*

**Keywords:** COVID-19 crisis, CROBEX, net market value ratio

### 1. INTRODUCTION

In economic history, the years 2020 and 2021 will be remembered for the global economic shock caused by the COVID-19 virus. In economic history the world never faced suspension of almost all economic activities to protect the population from the spread of a pandemic. A sharp decline in global economic activity and huge uncertainty about the duration and consequences of the pandemic has resulted in increased risks to financial stability at the global level. Many scientific papers covering the crisis caused by the COVID-19 virus predict high economic costs. Bloom, Cadarette, and Sevilla (2018) specifically predict the costs of the health care system (public and private), loss of employee productivity and social distancing. The most evident impact of the COVID-19 crisis is on financial markets, especially on the global stock market (Peterson and Thankom; 2020). In the USA, the stock index measuring the performance of the stocks of 500 large companies, S&P 500, as well as the Dow Jones Industrial Average and NASDAQ indices, dropped drastically. The pandemic also had a negative impact on the movement of economic activities in the Republic of Croatia. The sudden decrease in business volume due to epidemiological measures was a great shock for the non-financial corporations' sector, which also affected the labour market and the economic expectations of households. The negative mood of investors also marked the trends in the capital market at the beginning of 2020. The CROBEX index values dropped to levels recorded at the beginning of the previous global financial crisis in 2008. Under such business conditions, the main objective of this paper is to investigate how much the COVID-19 crisis, which started in 2020, undermined the shareholder confidence in the possibility of business performance of CROBEX listed companies in comparison with the performance in the previous 2019, as well as the performance during the 2008 financial crisis.

The research was carried out on CROBEX listed companies, which should, therefore, be the most successful companies on the Zagreb Stock Exchange and in the Croatian economy. The paper consists of seven parts with an introduction and conclusion. The second part presents the theoretical framework of the research and relevant literature review. The third part analyses the impact of the COVID-19 crisis on stock exchange indices. The fourth part covers the methodology and descriptive analysis of data included in the model. The fifth part presents modelling by multiple linear regression. The sixth part presents the results of econometric analysis.

## **2. THEORETICAL FRAMEWORK**

As an element of external environment, natural disasters group among external factors that have an impact on the way activities are performed and the companies' business performance (Stojčić, 2020). In the past ten years, natural disasters have been the subject of numerous macroeconomic and microeconomic research (Noth and Rehbein, 2019). At the macro level, the main focus of researchers is on possibilities for protection from natural disasters and risk reduction in the areas of banking, insurance, and the labour market (Stojčić, 2020). Studies of the impact of natural disasters at the microeconomic level more often analyse negative effects of natural disasters on business operations of enterprises than positive ones. In particular, they identify difficulties in supply chains, changes in customer demand patterns, difficulties in finding the necessary financial resources and the necessary human capital (Kraus et al., 2020). On the other hand, some researchers like Noth and Shuwer (2017) point out the positive effects of natural disasters on the behaviour of societies as a whole, including enterprises. The above-mentioned research shows the researchers' interest in investigating the effects of natural disasters at the macro and micro-level and especially contribute to the understanding of reactions of societies in the conditions of natural disasters. However, their contribution to understanding the impact of the disturbances due to the COVID-19 crisis is basic, because such examples have not been recorded in economic history (Ding et al. 2020). On the other hand, there is little interest of researchers in studying the effects of the COVID-19 crisis on company business operations. They also differ in their approach to this issue. For example, some researchers examine company performance outcomes. Huayu et al. (2020), Bartik et al., (2020), Kraus et al. (2020) study the operational differences between different groups of companies. Bartik et al. (2020) and Kraus et al. (2020) examine the reactions of financial markets to enterprises. Ding et al. (2020) compare the responses of societies in earlier pandemics throughout history. Studies to date on the effects of the COVID-19 virus on societies' behaviour are rare. Some researchers focus on performance outcomes (Huayu et al., 2020; Gu, Mack, and Salvatore, 2020), some on differences in the operations between different groups of companies (Bartik et al., 2020; Kraus et al., 2020), on financial market responses to enterprises (Ding et al., 2020) or comparisons of societies' responses in earlier pandemics throughout history (Hassan et al. 2020). In the context of this research, it is important to point out the research carried out by Ding et al. (2020), who concluded that the pandemic had an impact on the business performance of the observed companies, but also on their position on the financial markets. The analysis was carried out in the first quarter of 2020 on more than 6000 enterprises from 56 economies (countries). They reached the conclusion that the pandemic has affected the drop in stock prices in almost all companies, but has been milder in financially more stable enterprises in the pre-pandemic period and companies that were less exposed to the pandemic. Another important observation is that stock market performance of companies was influenced by their attitude towards corporate social responsibility practice and risk management. In their research, Baker et al. (2020) analyse the effects of restrictive policies, i.e. closure of large companies.

They note that the restrictive policies that led to the shutdown of large companies, the limitation of commercial activities, and social distancing had a strong impact on the economy. Bénassy-Quéré and Weder di Mauro (2020) analyse the impact of labour and movement restrictions due to the COVID-19 virus and point out that Europe is one of the most affected regions. As national governments had reacted strongly to the pandemic through various strategies that led to labour and movement restrictions, these strategies had a major impact on the decline in economic activities. Numerous constraints have consequently triggered an economic crisis twice the size of the 2008 crisis. In their paper, Aslam, Mohti, Ferreria (2020) point out that European stock exchanges acted like American "slides" during the COVID-19 pandemic. Namely, investors were unable to cope with market pressure and followed other people's proposals, which resulted in irrational investments and loss of market efficiency, because investors are acting under market pressure, which results in multiple fractality of stocks. European countries such as Spain and Italy have banned short sales on stock markets, which can deflate market prices. A paper by Allen & Carlletti (2009) is to be pointed out regarding the research related to the global financial crisis in 2008. They concluded that the 2008 global financial crisis turned into a recession, and note that the main causes are loose monetary policy that created a bubble accompanied by mortgage loans, weak regulatory structure and high leverage in the banking sector. In their book on the corona crisis, Šonje and Kotarski (2020) concluded that the two major crises of the 20<sup>th</sup> century – the 2008-09 Great Recession and the 2020 corona crisis – are the introduction to a new century in which markets and technological progress will continue to drive growth, but the fluctuations related to long-term trends will increase.

### **3. THE IMPACT OF COVID-19 CRISIS ON STOCK EXCHANGE INDICES**

After the financial crisis in 2008, the world economy gradually recovered and continued to grow and develop. The stability of economies, stock markets in particular, has ensured economic progress for many countries that was halted at the end of 2019 due to the emergence of the COVID-19 virus. The year 2020 will be remembered for the global pandemic that sparked tectonic economic breakdowns around the world unprecedented in past economic history. Research by Nicola et al. (2020) confirms that the pandemic has affected the decrease in the value of stock exchange indices in Europe and the USA. In the USA, the stock index measuring the performance of 500 large companies, S&P 500, as well as DJIA (Dow Jones Industrial Average) and NASDAQ indices, drastically dropped until the government provided economic assistance in the fight against the COVID-19 pandemic. Zhang et al. (2020) also concluded in their research that, along with the US stock market crash, the European stock market also crashed. They took the UK's main index FTSE as an example, which dropped by 10%, which is a greater decline than in 1987 when its value was lowest. Taking into consideration the onset of the coronavirus pandemic in Croatia, investors started panicking on the domestic capital market as well. From the historic 19.02.2020 to the closing of the market on 19.03.2020, the main stock index of the Zagreb Stock Exchange, CROBEX, lost 32.3 percent dropping to levels at which it was at the peak of the 2009 financial crisis. The market capitalisation of all companies listed on the regulated Zagreb Stock Exchange market dropped from HRK 151 billion a month ago to HRK 124 billion. All of the above points to a similar scenario, already recorded at the end of 2008, when the global financial system nearly collapsed. To mitigate adverse consequences for the economy and preserve the stability of the financial system, the Government of the Republic of Croatia and the Croatian National Bank (CNB) have undertaken a series of interventional and coordinated actions to eliminate instability and insolvency in the financial market. All fiscal, monetary, and supervisory measures have temporarily mitigated the adverse effects of the pandemic. However, the decline in economic activity combined with government measures necessarily led to a decline in general government revenues and a strong increase in financing needs.

Nevertheless, the Republic of Croatia has maintained its investment-grade rating. Compared to the world financial crisis in 2008, today's Croatian economy is more resilient after all, and membership in the European Union provides the Republic of Croatia access to European funds and mechanisms for a faster recovery of economic activity. With the emergence of each crisis, societies face difficulties in their business operations, i.e. insolvency. The Z-score model (Altman, 1993) predicts operating difficulties. One of the model variables is the X4 variable representing the market value of capital in relation to total liabilities. This "measure shows how much company assets (the market value of the company) can be reduced before liabilities become larger than assets and the company becomes insolvent" (Altman, 1993, p. 187). A higher indicator is interpreted as the existence of investor confidence in the company business performance, while a low indicator points to investor distrust and expectation of poor results. On this basis, two hypotheses were set:

- H1: Investor confidence in the business performance of CROBEX listed companies has been reduced due to the COVID-19 crisis in 2020 compared to 2019.
- H2: Investor confidence in the business performance of CROBEX listed companies was undermined more during the financial crisis in 2008 than during the COVID-19 crisis in 2020.

In this paper, shareholder confidence is measured by the indicator of the net market value of companies constituting the CROBEX index.

#### 4. METHODOLOGY AND DATA

The main objective of this paper is to investigate how much the COVID-19 crisis has undermined shareholder confidence in the possibility of business performance of CROBEX listed companies. The research was conducted based on data from financial statements and market prices of stocks of 17 companies constituting the CROBEX index for 2020 and 2008. To test the set hypotheses, a model was created using multiple linear regression that points to indicators affecting the increase or decrease of the companies' net market value ratio. The multiple linear regression model expresses the stochastic linear relationship between the dependent variable  $y$  and the independent variables  $x_1, x_2, \dots, x_k$ ; the model can be represented in the following form:

$$Y = b_0 + b_{1x1} + b_{2x2} + \dots + b_k x_k$$

wherein:

$b_i, i = 1, 2, \dots, k$  – regression coefficient

$b_0$  = constant.

Descriptive statistics and multiple regression analysis were carried out in the SPSS software. Based on the data for 2020 and 2008 for 17 companies in the CROBEX index, the calculated indicators are most commonly used for determining the insolvency or business difficulties of companies (Altman, 1993) or business excellence of companies (Belak and Aljinović-Barač, 2008), i.e. indicators of liquidity, indebtedness, activity, and profitability. In creating a business excellence model (Belak and Aljinović-Barač, 2008, p. 31), the authors pointed out that capital market indicators such as earnings per share, dividends per share, return on shareholders' equity, dividend yield, and the price-to-earnings ratio are not statistically significant for distinguishing good from bad companies.

## 5. DEVELOPMENT OF MODELS

Current research conducted on the market value of companies included identifying key variables influencing investors' decision-making regarding investing in certain stocks of companies listed on a stock exchange. Considering the data available for the dependent variable, the company market value and liabilities ratio was used that was further developed in the paper and called the net market value (NMV) ratio, and for independent variables, liquidity, indebtedness, activity, and profitability indicators were used. Only statistically significant variables from the second step were included in the model: debt-to-equity ratio, asset turnover ratio, ROA, ROE, and Z-Score. In the created model, the value of the coefficient of multiple determination R<sup>2</sup> and the value of the corrected coefficient of determination R<sup>2</sup> are high, while the standard error value is 0.846091, which shows that the obtained multiple linear regression model is representative because it explains approximately 93.20 percent the dependence of the dependent variable on all independent variables. The Durbin-Watson value amounts to 2.397, i.e. as d value is slightly higher than 2, it can be assumed that the autocorrelation coefficient is approximately 0. TOL (Tolerance) values of all independent variables in the model are higher than 0.2, VIF (variance inflation factor) is slightly higher than 1 and it can therefore be concluded that there is no problem of multicollinearity in the model (Table 1). As shown in Table 1, all independent variables, except for the constant, are statistically significant  $p < 0.05$ .

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Er.	Beta			Tolerance	VIF
1	(Constant)	.185	.313		.593	.558		
	D/E Ratio	.088	.022	.199	4.033	.000	.842	1.188
	ATR	-2.371	.409	-.292	-5.793	.000	.807	1.240
	ROA	-16.425	2.392	-.387	-6.868	.000	.642	1.557
	ROE	4.022	.934	.229	4.308	.000	.725	1.379
	Z SCORE	1.552	.074	1.171	21.080	.000	.662	1.510

*Table 1: Model of non-standardised coefficients  
 (Source: Author's work)*

Based on the indicator from Table 2, the following formula of the net market value (NMV) ratio of the companies has been defined:

$$\text{NMV RATIO} = 0.185 + 0.88 \text{ D/ER} - 2.371 \text{ ATR} - 16.425 \text{ ROA} + 4.022 \text{ ROE} + 1.552 \text{ Z-SCORE}$$

The net market value of a company is influenced by debt-to-equity ratio, asset turnover ratio, ROA, ROE, and Z-Score. The constant amounts to 0.185 and represents the estimated value of the dependent variable if the values of all independent variables are zero. Any unit increase in any value of these coefficients increases the companies' net market value provided that other variables remain unchanged. Table 2 shows that the residual mean square is good (0.716) and that the F-value is large (92.310).

*Table following on the next page*



ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	330.410	5	66.082	92.310	.000 <sup>b</sup>
	Residual	20.044	28	.716		
	Total	350.454	33			
a. Dependent Variable: (number of shares x market price of shares) /total liabilities						
b. Predictors: (Constant), Z SCORE, ROE, Debt-to-Equity Ratio, Asset Turnover Ratio, ROA						

Table 2: ANOVA  
(Source: Author's work)

## 6. RESEARCH RESULTS

The market value of shares is linked with the situation in the economy that is best reflected in the movement of gross domestic product (GDP).



Legend:

X-axis	-1	0	1	2	3	4
2008 crisis	3. Q 2008	4. Q 2008	1. Q 2009	2. Q 2009	3. Q 2009	4. Q 2009
2020 crisis	4. Q 2019	1. Q 2020	2. Q 2020	3. Q 2020	4. Q 2020	1. Q 2021

Graph 1: Real growth rates of the quarterly gross domestic product  
(Source: Croatian Bureau of Statistics, [https://www.dzs.hr/Hrv/Covid-19/bdp\\_4\\_q.html](https://www.dzs.hr/Hrv/Covid-19/bdp_4_q.html))

According to the data of the Croatian Bureau of Statistics (2021), quarterly GDP in the fourth quarter of 2020 was in real terms 7.0 percentage lower than in the same quarter of 2019. According to the first estimates, GDP in 2020 was in real terms 8.4 percentage lower than in 2019. The GDP decline per quarter is higher than the decline that occurred during the 2008 financial crisis, as shown in Graph 1. GDP trends are reflected in the values of stock exchange indices. Graph 2 shows the movement of the CROBEX index per quarters for 2020 and 2008. The CROBEX index had lost 26.61 percentage of its value in the first quarter of 2020 compared to 31/12/2019, but recovered some of its value and annually decreased only by 13.79 percentage of its value. During the 2008 financial crisis, CROBEX lost 67.29 percentage of its value. The CROBEX index drop was higher in 2008 than in 2020. In 2020, shares in the CROBEX system recorded a significant decrease in market value. At the end of 2020, 52.94 percent of companies recorded a decrease in value, while 47.06 per cent of companies recorded an increase in the market value of their shares.

The formula obtained by multiple linear regression based on the data from financial statements for 2020 and 2008 of CROBEX constituents reads as follows:

$$\text{Net market value (NMV) ratio} = 0.185 + 0.88 \text{ D/ER} - 2.371 \text{ ATR} - 16.425 \text{ ROA} + 4.022 \text{ ROE} + 1.552 \text{ ZSCORE}$$

Table 3 shows the net market value ratio of companies for 2020, 2019, and 2008.

		2020 NMV R	2008 NMV R	2019 NMV R	% 2020/2008	% 2020/2019
1	AD PLASTIK	1.44	1.08	1.26	133.36	114.71
2	ADRIŠ	1.32	1.77	1.28	74.90	103.44
3	ARENA	2.50	1.27	2.24	197.20	111.58
4	ATLANTIC	2.64	2.79	2.49	94.76	105.91
5	ATLANSKA	1.78	1.61	1.87	110.29	94.97
6	ĐURO ĐAKOVIĆ	-3.54	1.86	2.30	-190.35	-154.06
7	DALEKOVOD	11.08	7.24	8.03	152.95	137.92
8	ERICSSON	5.62	7.35	5.29	76.49	106.23
9	HT	5.60	5.49	4.46	101.99	125.58
10	IGH	-7.19	4.16	-13.21	-172.77	54.43
11	INGRA	2.58	2.93	5.22	87.93	49.41
12	KONČAR	1.74	1.70	1.98	102.36	87.79
13	KRAŠ	3.01	1.41	3.21	213.95	93.93
14	OPTIMA	31.71	-0.80	43.39	-3962.65	73.07
15	PODRAVKA	2.69	1.86	2.45	144.61	109.61
16	VALAMAR	2.28	16.84	2.31	13.54	98.80
17	SAPONIA	1.29	5.19	1.23	24.91	105.42
	<b>Average of CROBEX constituents</b>	<b>3.91</b>	<b>3.75</b>	<b>4.46</b>	<b>104.27</b>	<b>87.67</b>
	<b>CROBEX</b>	<b>1739.29</b>	<b>1715.60</b>	<b>2017.43</b>	<b>101.38</b>	<b>86.21</b>

*Table 3: Market value and liabilities ratio in 2020, 2008, and 2019*

*(Source: Author's work)*

The net market value ratio of a company tells us about shareholders' confidence in business performance. If shareholders do not have confidence in business performance, the shares lose their value and then the liabilities become greater than the market value of the company's assets and the company becomes insolvent. Higher ratios show the existence of investor confidence in the business performance of the company, while low ratios indicate investor distrust and expectation of poor results and possible business difficulties such as bankruptcy. The average net market value indicator amounted to 3.91 for CROBEX listed companies for 2020, 4.46 for 2019, and 3.75 for 2008. The net market value ratio shows that the confidence of investors of CROBEX listed companies decreased by 12.33 percentage during the corona crisis in 2020 compared to 2019, thus verifying the first hypothesis: investor confidence in the business performance of CROBEX listed companies has been reduced due to the COVID-19 crisis in 2020 compared to 2019. Over the same period, the CROBEX index decreased by 13.79 percent. The average net market value ratio has shown that investor confidence in CROBEX listed companies increased by 4.27 percent measured by the net market value ratio, thus verifying the second hypothesis, H2: investor confidence in the business performance of CROBEX listed companies was undermined more during the financial crisis in 2008 than during the COVID-19 crisis in 2020. The CROBEX index rose by 1.38 percent over the same period. Shareholders' confidence in the business performance of companies is greater in the COVID-19 crisis than in the 2008 financial crisis also due to state aids to entrepreneurs. Since the beginning of the COVID-19 crisis, the government has introduced business support schemes for entrepreneurs

for maintaining their business operations, especially for those who were forced to suspend their operations during temporary lockdowns. The exact extent of the impact of the crisis on the economy as a whole is still unknown and will depend greatly on the further development and duration of the epidemiological situation as well as on economic and social circumstances and further measures that will need to be undertaken both at the domestic and global level. Uncertainty about further development and duration of the pandemic greatly increases systemic risks affecting the stability of the overall global financial system, including the Croatian financial system, which additionally affects shareholders' confidence in the companies' business performance.

## 7. CONCLUSION

The COVID-19 virus has caused global economic shock and financial instability. A sharp decline in global economic activity due to the partial or total suspension of economic activities aimed at protecting health has resulted in an increase in risks to financial stability at the global level. After the escalation of the pandemic, financial markets were marked by high volatility, which also affected stock prices, equity indices and trading in stock markets. The negative mood of investors marked the trends in capital markets. Almost every market has touched its lowest point since the big 2008 crisis. Since the objective of this paper was to investigate how much the COVID-19 crisis undermined shareholder confidence in the possibility of business performance of CROBEX listed companies regarding business performance in the previous 2019, as well as regarding the performance during the 2008 financial crisis, several observations can be made in conclusion. Shareholders' confidence in the CROBEX listed companies business performance during crises measured by the net market value ratio decreased by 12.33 percent during the coronavirus crisis in 2020 in comparison with 2019. When the COVID-19 crisis is compared with the 2008 financial crisis, shareholder confidence increased by 4.27 percent due to state aid to entrepreneurs affected by the COVID-19 crisis. In addition, the COVID-19 crisis led to a decline in the market value of stocks, but to a lesser extent than the financial crisis in 2008. If the shareholders have no confidence in the business performance of the company, the stocks lose their value and liabilities become greater than the market value of the company's assets, resulting in the insolvency of the company. A small sample could be considered as the main constraint of this paper because only 19 companies constitute the CROBEX index. For further research, it would be useful to expand the sample to all companies on the Zagreb Stock Exchange to compare the results and observations obtained, which could serve in forming future economic policy guidelines. Moreover, many analysts believe that the consequences of this new pandemic will be more pronounced in the coming period, while the expectations of investors and their prediction of future market developments will also affect the future financial situation on the market. Some of the questions that are often posed is "Would it be profitable to buy shares now?" or "Will prices continue to drop?". Perhaps there is a possible answer in the words of Warren Buffett (Hagstrom, 2013) who gave a clear message to investors: they have to think in terms of a period of 10 years, not 10 minutes, because if they are not ready to own any stocks for a decade, they do not need to buy them at all.

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## THE IMPORTANCE OF INVESTMENT OF PENSION FUNDS IN TOURISM OF THE REPUBLIC OF CROATIA

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### ABSTRACT

*The pension funds with the largest assets under management are aware of their responsibility for the future pensions of their members, which is why they are continuously looking for new opportunities for profitable investments with the least possible risk. The challenges of managing pension funds and the sustainability of the pension system of the Republic of Croatia have been in the public interest for some time. The same could be said for tourism, whose share in Croatia's gross domestic product (GDP) is the largest in Europe. A large part of the pension system of the Republic of Croatia consists of mandatory pension funds that form part of the second pension pillar and voluntary pension funds that form the third pillar of the system. Many pension funds have practiced investing their assets, consolidated with individual shares, in tourism, considering the business of travel companies very positive and sustainable in the long run. Also, state restrictions on risky investments and the conscious directing of pension funds' investments in tourism, which benefits greatly from them, also play a role in this.*

**Keywords:** *The pension funds, financial investments, tourism of the republic croatia*

### 1. INVESTMENTS OF PENSION FUNDS IN TOURISM

Tourism is one of the fastest growing activities in the whole world, including in the Republic of Croatia. As already mentioned, the Republic of Croatia is the European country with the largest share of tourism in GDP. Tourism in many countries plays an extremely important role in the economy, and for the Croatian economy, tourism is the main driver and strategic direction of development. Many experts agree with the thesis that it is very risky to build your economy on tourism, which this year has shown. The undeniable dependence of the Republic of Croatia on its own tourism is evidenced by a number of important indicators, from the share in total GDP, exports, total capital investments to the share in total employment.<sup>1</sup> Many pension funds have practiced investing their assets in tourism considering the business of travel companies very positive and sustainable in the long run. Also, state restrictions on risky investments and the conscious directing of pension funds' investments in tourism, which benefits greatly from them, also play a role in this. During the prosperous years, as a result of these investments, pension funds achieve the desired growth rate with minimal risks, while tourism capitalizes assets achieving higher growth than it would be without these investments. At the same time, all residents of the Republic of Croatia benefit from this practice because the state budget is being filled, which also affects the growth of living standards.

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<sup>1</sup> Ivandić, N. i Šutalo, I. (2018) The contribution of tourism to the Croatian Economy an IO approach. Ekonomski pogled Ekonomski pregled, 69(1), str. 20-42. Preuzeto s: <https://hrcak.srce.hr/195502> (22.09.2020.)

On the other hand, when world economies are hit by events like the current COVID-19 pandemic in 2020, the multiplier effects of poor business results of the tourist season negatively affect the functioning of the state and the entire economic sector. In particular, this applies to our already unstable and long-term difficult to maintain pension system.<sup>2</sup>

### **1.1. Structure of pension funds' investments in tourism**

The pension funds with the largest assets under management are aware of their responsibility for the future pensions of their members, which is why they are continuously looking for new opportunities for profitable investments with the least possible risk. Many pension funds have practiced investing their assets, consolidated with individual shares, in tourism, considering the business of travel companies very positive and sustainable in the long run. During the prosperous years, as a result of these investments, pension funds achieve the desired growth rate with minimal risks, while tourism capitalizes assets achieving higher growth than it would be without these investments. At the same time, this practice benefits all residents of the Republic of Croatia because it fills the state budget, which affects the growth of living standards. On the other hand, when world economies are hit by events like the current COVID-19 pandemic in 2020, they all suffer directly or indirectly from the multiplier effects of poor business results of the tourist season. "Partnership with pension funds has proven to be an ideal model for investing in Croatian tourism, which has exceptional potential for sustainable growth through investments in employees, destinations and quality. The capital increase of Imperial Riviera and the organization of this joint venture for the management and investment of tourist property in the region is a logical continuation of the successful cooperation between AZ as the leading pension fund and the leading hotel company in Croatia. We are very pleased that we have created a platform for further investments in large projects in tourism with the AZ Fund", said Željko Kukurin<sup>3</sup>, CEO of Valamar Riviere. Sustainable tourism development is the key component of the success of both the Croatian economy and the profitability of pension funds. Only the example of one fund from the following table shows how much was invested on 31.08.2020<sup>4</sup> by the PBZ-CO fund in securities of which quite a large majority in the tourism sector such as Adriatic Croatia International Club d.d. from Baška Voda, Helios Faros d.d. from Hvar, HTP Korčula d.d., FTB Turizam d.d., Modra Špilja d.d. in Visa, Turisthotel d.d. and Vis d.d.

*Table following on the next page*

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<sup>3</sup> <https://www.azfond.hr/az-mirovinski-fondovi-traze-prilike-za-nova-ulaganja-u-hrvatsko-gospodarstvo/> 26.08.2020.

<sup>4</sup> <http://www.pbzco-fond.hr/fondovi/fond-a/struktura-ulaganja/> 31.08.2020.

*Table 1: Securities valued by the valuation method*

Name of issuer	Identification mark	Currently estimated value	Assessment method	Date of last assessment
ADRIATIC CROATIA INTERNATIONAL CLUB d.d.	HRACI0RA0000	6.139,24 HRK	Discounted cash flow method	06.08.2020.
ČAKOVEČKI MLINOVI d.d.	HRCKMLRA0008	6.520,68 HRK	The method of comparative companies	06.08.2020.
PROFESSIO ENERGIA d.d.	HRDLPRRA0007	176,54 HRK	Discounted cash flow method	06.08.2020.
HELIOS FAROS d.d.	HRHEFARA0003	11,37 HRK	Discounted cash flow method	06.08.2020.
HTP KORČULA d.d.	HRHTPKRA0002	62,01 HRK	The method of comparative companies	06.08.2020.
LUKA RIJEKA d.d.	HRLKRIRA0007	25,04 HRK	The method of comparative companies	06.08.2020.
FTB TURIZAM d.d.	HRLRHCRA0008	1.486,84 HRK	The method of comparative companies	06.08.2020.
MODRA ŠPILJA d.d.	HRMDSPPRA0005	14,58 HRK	Discounted cash flow method	06.08.2020.
MERITUS ULAGANJA d.d.	HRMRULRA0009	500,31 HRK	The method of comparative companies	06.08.2020.
REPUBLIKA HRVATSKA MINISTARSTVO FINACIJA	HRRHMFO34BA1	97,3300 %	Price published on the official financial information service servisu	31.08.2020.
REPUBLIKA HRVATSKA MINISTARSTVO FINACIJA	HRRHMFO403E6	97,5000 %	Price published on the official financial information service	31.08.2020.
STANOVI JADRAN d.d.	HRSTJDRA0006	255,71 HRK	Discounted cash flow method	06.08.2020.
TURISTHOTEL d.d.	HRTUHHORA0001	3.052,71 HRK	The method of comparative companies	06.08.2020.
VIS d.d.	HRVIS0RA0002	10,10 HRK	Discounted cash flow method	06.08.2020.
ZAGREBAČKI HOLDING d.o.o.	HRZGHOO237A3	105,5345 %	Internal valuation model	06.08.2020.

Source: <http://www.pbzco-fond.hr/fondovi/fond-a/struktura-ulaganja/>



## **1.2. Effects of pension fund investments on tourism development**

In all pension fund investments, the primary goal is to maximize returns for members, with an acceptable level of risk. What remains constant, along with the concern for pension savings of members, is the desire to, as much as possible within the framework and conditions that our investments must meet, support the development and growth of the Croatian economy, so we have invested 5.7 billion kuna in the Croatian economy, said the President of the Management Board of AZ Pension Funds, Kristijan Buk.<sup>5</sup> One of AZ's investments is the one in partnership with Valamar, the largest tourism company in Croatia. Therefore, AZ pension funds together with Valamar have invested more than one billion kuna in Croatian tourism in the past four years. They are also continuing to invest through the recapitalization of Imperial Riviera, in which they will invest 426 million kuna. Tourism, which has a significant share in the overall Croatian economy, for its further sustainable development necessarily needs investments in raising the quality of accommodation, hotel capacity of higher categories and the development of additional facilities, said Kristijan Buk. Apart from the Az fund that invests in Valamar and Imperial Riviera, while other pension funds, it should be noted that the PBZ CO pension fund is the majority owner of Jadran from Crikvenica, Helios Faros from Stari Grad on Hvar, Vis and Modra špilja from Komiza, and Plavi pokojninsko or Erste the pension fund has a strong position in Sunce hoteli dd and Jadran Crikvenica d.d. In June 2017, Erste Fund bought 710,890 shares of Sunce Hoteli d.d. from the existing shareholders, thus acquiring a 16% share in the share capital of the issuer, and at the beginning of April 2018, together with the PBZ CO fund, it bought 34,754,768 shares of Jadran d.d. from CERP. Crkvenica, which at that time accounted for 70.74% of the share capital of the issuer. It is important to emphasize that by taking over the management structure in tourism companies by pension funds, it really comes to investing and supporting the Croatian economy not only in tourism but also all those branches that accompany it, such as construction, food sector and others. Also a good example is the previously mentioned Valamar, which with its business and investment together with pension funds contributes not only to tourism but also to the development of the destinations themselves, which then get the contours of development success and other segments due to the tourist infrastructure. The situation is similar on Hvar, Komiza and Vis.

## **1.3. Effects of investment in tourism on the business results of pension funds**

That the decline in pension fund returns is only a temporary situation is assured by the head of the Croatian Financial Services Supervisory Agency (Hanfa), Dr. sc. Ante Žigman points out that the historical contributions of pension funds, of all categories, show positive results in the long run and that the value of citizens' property is not and will not be endangered<sup>6</sup>. He goes on to say that in practice it is difficult to imagine a situation in which pension funds could 'fail' due to their poor investments. One of the basic tools for protecting assets prescribed by law is investment diversification, which ensures that if a particular asset in a pension fund loses value, there is always, for example, another asset class, which preserves the value of the asset. In addition, people who manage pension funds must also comply with strict regulatory requirements on the investment of pension fund assets, imposed by laws and regulations issued by Hanfa. It was this diversification that directed or in some way limited pension funds so that they could invest up to 10% of their assets in tourism, even though it is one of the most lucrative branches of the economy in Croatia. Emphasizing that pension funds are interested in various investments because investment dispersion is a necessary and most effective measure to reduce risk, AZ Funds Management Board member Mario Staroselčić emphasized that despite all challenges and completely new, never before recorded situations on the capital market, yields

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<sup>5</sup><https://www.azfond.hr/az-mirovinski-fondovi-traze-prilike-za-nova-ulaganja-u-hrvatsko-gospodarstvo/> 26.08.2020.

<sup>6</sup> <https://www.24sata.hr/native-sadrzaj/prinosi-mirovinskih-fondova-u-zadnji-12-mjeseci-u-pozitivi-707296> 18.09.2020.

exceeded expectations. set during the introduction of pension reform <sup>7</sup>. Tourism is certainly not only the most lucrative industry, but also the most resilient, which has best proven this on the example of the COVID-19 world health crisis. "Thus, the average annual returns of AZ mandatory pension funds of category B, in which the largest number of citizens save, from the beginning of business to the end of September 2019, amounted to 5.60%, and in category A, which should be particularly interesting to younger people 7.94 %. This year, the AZ fund of category B records a yield of 7.37%, and the AZ fund of category A 10.50%. Although there is a growing interest in voluntary savings in the third pillar, its potential to provide better pensions is still underused by citizens. And the yields are very good, so let's say this year AZ Profit records 9.69% yield, and from the beginning of work 6.49%. When the incentives provided by the state are taken into account, as well as the tax reliefs for employers, this savings in the circumstances we have on the market now is a very good investment option," said Mario Staroselčić <sup>8</sup>. Which indicates stable yields.

#### **1.4. Consequences of the COVID-19 pandemic on tourism and pension funds**

The impact of health crises on the economy has become a particularly topical issue with the outbreak of the coronavirus disease pandemic 19 (COVID-19), which in parallel with the health crisis has led to a major economic crisis. The first cases of this disease were recorded in December 2019 in Wuhan, the seventh largest city in China. <sup>9</sup> At the end of January 2020, the World Health Organization (WHO) warned the world of the existence of the COVID-19 disease epidemic, which spread very quickly from China to the rest of the world, and on March 11, 2020, declared a pandemic. 113 countries. Currently, just nine months after the outbreak in just one country, the coronavirus is present in 235 countries, with more than 32 and a half million infected and nearly a million dead. The countries with the most infected patients at the moment are the United States (USA), India, Brazil, the Russian Federation and Costa Rica, and the most deaths were recorded in the USA, Brazil, India, Mexico and the United Kingdom. <sup>10</sup> Although it is difficult to accurately estimate the economic damage caused by this coronavirus, economists agree that the pandemic has negative consequences for the global economy, which transcends even the 2008 global financial crisis. Circumstances in the market have changed significantly, so the structure of investments is changing, and this crisis has affected all segments of life and business, including pension funds, but the Croatian pension system has shown stability and resilience. Primarily, we see the impact of the COVID-19 crisis on tourism, although Croatia is predominantly a car destination that has prepared well for the 2020 season and made extremely good use of the potential of proximity to other emitting markets. In Croatia, in the period from January to the end of August, according to the eVisitor system, which includes tourist traffic realized in commercial and non-commercial facilities and nautical charter (eCrew system), 6.8 million arrivals and 47.6 million overnight stays, or 41 percent of arrivals, were realized. and 53 percent of overnight stays realized in the same period in 2019. Of that, foreign tourists realized 5.5 million arrivals and 38.3 million overnight stays, while domestic tourists realized 1.3 million arrivals and 9.2 million overnight stays. Thus, the previous results of tourist traffic in Croatia exceeded the initial predictions of the World Tourism Organization (UNWTO) on the realization of 30 percent of last year's tourist traffic <sup>11</sup>.

<sup>7</sup> <https://www.azfond.hr/az-mirovinski-fondovi-traze-prilike-za-nova-ulaganja-u-hrvatsko-gospodarstvo/> 26.08.2020.

<sup>8</sup> <https://www.azfond.hr/az-mirovinski-fondovi-traze-prilike-za-nova-ulaganja-u-hrvatsko-gospodarstvo/> 26.08.2020.

<sup>9</sup> Khanna, Rohit C, Cicinelli, Maria Vittoria, Gilbert, Suzanne S, Honavar, Santosh G, Murthy, Gudlavalleti, VS. (2020), COVID-19 pandemic: Lessons learned and future directions. Indian Journal of Ophthalmology. 2020;68:703-710.

<sup>10</sup> Podaci preuzeti s web stranice Svjetske zdravstvene organizacije

[https://covid19.who.int/?gclid=CjwKCAjw\\_LL2BRAkEiwAv2Y3ScsxxQAjcvXoUwBTT8qfQTaQdYRBNur5U3MpMYca9HwfkOODYMBhWhoCWk4QAvD\\_BwE](https://covid19.who.int/?gclid=CjwKCAjw_LL2BRAkEiwAv2Y3ScsxxQAjcvXoUwBTT8qfQTaQdYRBNur5U3MpMYca9HwfkOODYMBhWhoCWk4QAvD_BwE) (accessed 26.09. 2020).

<sup>11</sup> <https://mint.gov.hr/vijesti/hrvatski-turizam-premasio-ocekivanja-do-kraja-kolovoza-ostvareno-53-posto-lanjskog-rezultata/21821> 10.09.2020.

Compared to other countries in Europe in terms of tourism, Croatia records the highest growth. The best example of the success of the season are the indicators from August. In August, 2.7 million arrivals and 21.1 million overnight stays were realized in Croatia, ie 54 percent of arrivals and 64 percent of overnight stays in the same period in 2019. In August, the highest number of overnight stays was realized in Istria (5.1 million), while in Kvarner 4.2 million overnight stays were realized and in Split-Dalmatia County 4 million overnight stays. They are followed by Zadar County with 3.8 million overnight stays and Šibenik-Knin County with 1.7 million overnight stays. 1.2 million overnight stays were realized in Dubrovnik-Neretva County, while about 750,000 overnight stays were realized in Lika-Senj County and 84,000 overnight stays in Zagreb. At the national level, in August the highest number of overnight stays was recorded in Germany (5.3 million), Slovenia (2.8 million), Poland (2.2 million), the Czech Republic (1.3 million), Austria (800,000) and Italy. 760,000), Hungary (635,000) and Slovakia (520,000). Certainly, the loss of income in tourism reflects income in pension funds, but the assumptions are that the fastest revitalization after the pandemic will be tourism because it has the highest coefficient of elasticity in relation to the overall situation, and forecasts of the end of this crisis greatly facilitated the preparation and successful implementation of the next tourist season. To return to pension funds, investments of pension companies are divided into three types of funds that differ in risk and expected returns, ie in investment strategies.<sup>12</sup> Thus, type A funds are the most risky, but also with the highest expected returns. On the other hand, type C funds are the least risky, ie with the lowest expected returns. Regardless of the type of fund, it is important to emphasize that pension funds are long-term investors and the impact of such market shocks as this crisis, which occur from time to time, is expected to be neutralized during investment time when the market recovers. The second pillar of pension insurance in the Republic of Croatia is organized as the so-called life-cycle structure consisting of the three previously mentioned categories of mandatory pension funds. Thus, in category A funds, whose assets can be invested to a greater extent in riskier asset classes such as shares, the members are generally the younger population who have more than 10 years left until retirement. Category B pension funds invest more in Croatian government bonds, they are also allowed to invest in shares, but to a lesser extent than in category A funds. Such investment restrictions stem from the fact that persons who are members of category B funds are closer to retirement. more than 5 years until retirement. Finally, Category C funds have the most conservative investment strategy as they are required to invest most of their assets in government bonds that carry stable and predictable cash flows, and investing in stocks is prohibited. Persons who have less than 5 years left until retirement must be members of the category C pension fund, in order not to be exposed to the risk of falling share prices and in order to preserve the value of their future pensions. Therefore, the decline in the value of shares on the financial markets due to the outbreak of coronavirus COVID-19 hit the category A and B funds the hardest, but the assets of category C funds did not lose significantly in value. This is a consequence of the mentioned life-cycle model II. a pillar of pension insurance that ensures the protection of future retirees, both older people who will soon be entitled to a pension, and younger people who, given the number of years they have until retirement, can expect long-term stability.

## **2. EMPIRICAL RESEARCH - COST-EFFECTIVENESS OF PENSION FUND INVESTMENTS IN TOURISM IN THE REPUBLIC OF CROATIA**

### **2.1. Problem, goals and tasks of empirical research**

The paper is divided into theoretical and empirical part. The main objectives of the research within this specialist postgraduate thesis are to analyze:

- tourism, pension funds and the pension system of the Republic of Croatia

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<sup>12</sup> [https://www.azfond.hr/hanfa-mirovinski-fondovi-su-dugorocni-ulagaci-i-njihova-ulaganja-treba-promatrati-dugorocno/?gclid=EAIaIQobChMIoSONYKO7AIVgdeyCh0hhQOxEAAAYASAAEgIn2vD\\_BwE](https://www.azfond.hr/hanfa-mirovinski-fondovi-su-dugorocni-ulagaci-i-njihova-ulaganja-treba-promatrati-dugorocno/?gclid=EAIaIQobChMIoSONYKO7AIVgdeyCh0hhQOxEAAAYASAAEgIn2vD_BwE) 19.03.2020.

- the effects of pension fund investments on tourism development
- the effects of investment in tourism on the business results of pension funds
- the consequences of the COVID-19 pandemic on tourism and pension funds
- conduct an empirical study on the profitability of pension funds' investments in tourism in the Republic of Croatia

The professional contribution of this paper is in the applicability of the researched results, which is the possibility of recognizing the advantages and disadvantages of investing the capital of pension funds in the tourism of the Republic of Croatia. What is the impact on the operations of pension funds, its members and the entire pension system, and on the other hand, what are the results for tourism and the business of tourist companies and to what extent.

## 2.2. Methods of empirical research

In the process of making this paper, the following methods were used: method of analysis, method of description, method of synthesis and method of comparison which will collect primary data from the author and use them to explore answers to questions, and the writing will be supported. For the theoretical part, secondary data from the literature cited at the end of the paper were used. This applies to books, textbooks and scientific articles relevant to the field of management economics. Equally, literature from the field of tourism was used. In the context of the current crisis, current analyzes of prominent business consulting firms have been used. In addition, a significant source of data used during the analysis is the official annual parliamentary reports on the work of the observed pension funds. In addition to all of the above, relevant online sources were used.

## 2.3. Results

Primary data were collected for the purposes of the paper. The following table shows the data for investments in tourism of mandatory pension funds (Share in NAV and Share in issue) on 30.6.2020 (latest available results). As can be seen from the table, all pension funds have permits of about 10% of their assets invested in tourism. The assumption is that this percentage would be even higher if such possibilities were for safe and long-term yield from the observed branch. AZ fund in category A amounts to 11.39% of investments in tourism, while in category B 3.45% of investments in tourism for the observed fund. We see from the shares that these are Adris, ACI, Plava Laguna and others.

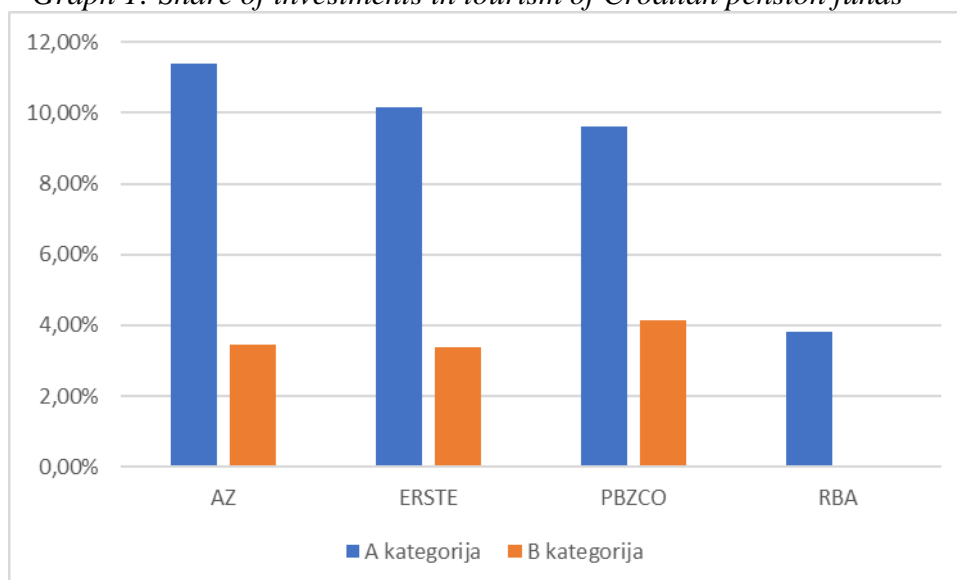
Table 2: Share of pension funds' investments in tourism on 30.06.2020.

Ticker	AZ			ERSTE			PBZCO			RBA			AZ - komada		ERSTE - komada		PBZCO - komada		RBA - komada	
	A	B	Idio u izdanju	A	B	Idio u izdanju	A	B	Idio u izdanju	A	B	Idio u izdanju	A	B	A	B	A	B	A	B
ACI-R-A	0,49%	0,18%	8,47%				0,10%	0,11%	3,04%				215	9.192			22	3.352		
ADRS-P-A	1,10%	0,60%	9,63%	1,16%	1,06%	6,19%				1,92%	0,67%	8,64%	10.105	643.186	3.979	415.785			11.870	574.582
ADRS-R-A	0,39%	0,36%	3,55%	1,24%	0,78%	2,86%				0,32%		0,02%	3.147	338.183	3.734	271.344			1.758	
ARNT-R-A	1,06%	0,39%	12,22%	2,07%	0,63%	7,19%	1,57%	0,67%	9,30%	1,20%		0,21%	14.036	612.488	10.325	358.408	8.352	468.467	10.840	
HEFA-R-A							1,04%	1,15%	77,73%								126.299	18.213.700		
HIMR-R-A	1,04%	1,22%	47,21%										5.084	698.155						
HTPK-R-A					0,09%	9,01%	0,49%	0,10%	14,63%						222.391	13.255	348.048			
ILRA-R-A	3,90%	0,15%	16,34%										69.898	324.509						
JDRN-R-B				0,57%	0,75%	30,76%	1,19%	1,17%	58,20%						56.051	8.547.346	126.047	16.153.656		
LRHC-R-A							1,05%		0,37%								1.114			
MDSP-R-A							0,21%	0,24%	91,63%								20.144	2.969.856		
PLAG-R-A	1,61%	0,31%	4,37%	2,80%	0,06%	0,42%	1,36%	0,15%	0,97%				4.048	91.897	2.660	6.638	1.385	20.024		
RIVP-R-A		0,18%	2,24%											2.821.657						
SUKC-R-A	0,11%		0,06%	0,64%	0,61%	15,13%	0,42%	0,04%	1,28%	0,39%	0,05%	2,77%	3.754		8.162	892.898	5.695	70.460	8.895	156.134
STJD-R-A							0,28%	0,14%	26,68%								1.700	100.000		
TUHO-R-A	1,69%	0,06%	2,94%	1,68%	0,01%	0,51%	1,76%	0,20%	3,66%				2.049	8.751	961	916	865	12.570		
VIS-R-A							0,16%	0,18%	73,36%								22.300	3.287.700		
Ukupno	11,39%	3,45%		10,16%	3,99%		9,63%	4,15%		3,83%	0,72%									

Source: Personal research of the author

Furthermore, the observed data show that the Erste Fund invested 10.16% of its assets in category A and 3.99% of its assets in category B. They invested the most in shares of Arena Hospitality Group d.d. for tourism and catering, then in Plava Laguna d.d. and in Turist Hotel d.d. Analyzing the PBZ CO fund, it is to be expected that they invest in Adris, but refrained from doing so, however within the A category in the amount of 9.63% of the total assets, they invested in Arena Hospitality Group d.d., Jadran d.d. Crkvenica, Liburnia Riviera Hotels and Tourist Hotel d.d. Regarding category B investments in tourism have invested 4.15% of total assets. It can be seen from the following chart that the largest investment in tourism was made by the AZ fund, which is linked to Valamar and the Imperial Riviera. As their President of the Management Board Kristija Buk<sup>13</sup> pointed out, AZ pension funds have so far invested HRK 5.7 billion in the Croatian economy. They have significant stakes in Podravka, Čakovec Mills, Imperial Riviera (former Imperial Rab and Hotels Makarska), Ilirija, Arena Hospitality Group, ACI, Atlantic Grupa, Končar elektroindustrija, Luka Rijeka, Luka Ploče and other companies. Their investment potential is really huge and it is a pity that it is not fully used at the moment. In addition to what has been invested so far, they are able to invest an additional 10 billion kuna. He further emphasizes that now is the time to invest in Croatia and support real projects. For good projects, money should not be sought outside Croatia. Any such investment in an infrastructure project directly raises Croatia's GDP.

*Graph 1: Share of investments in tourism of Croatian pension funds*



*Source: Personal research of the author*

Analyzing further activities, we see that AZ, ERSTE and PBZCO funds are quite active by investing in tourism, while the RBA is almost absent with this type of activity, especially in the B category.

### 3. CONCLUSION

In conclusion, looking at the observed research, you can draw a parallel between the investments of pension funds in the tourism sector and their investments in companies in other industries. First of all, the most successful project proved to be investment and management by pension funds Podravka d.d. which has survived and managed to build itself into a market leader despite the crisis that has hit it and to the general satisfaction of the local population.

<sup>13</sup> <https://novac.jutarnji.hr/aktualno/mirovinski-fondovi-imaju-10-milijardi-kuna-spremnih-za-ulaganje-u-razlicite-projekte/9715882/> 16.09.2020.

Such an example of a management structure is evidently successful in tourism and pension funds are proving to be a lasting guarantee of sustainable tourism development in the Republic of Croatia. In practice, it is difficult to imagine a situation in which pension funds could fail due to their poor investments. One of the basic tools for protecting assets prescribed by law is investment diversification, which ensures that if a particular asset in a pension fund loses value, there is always, for example, another asset class, which preserves the value of the asset. Therefore, the ability to invest is limited to ten percent of the value of the property, which actually reduces the possibility of higher and longer-term return on funds. In addition, people who manage pension funds must also comply with the strict regulatory requirements for investing pension fund assets, imposed by the laws and regulations issued by Hanfa. It was the Hanfa Council that announced that in the first half of this year, pension and investment funds performed better than the most conservative estimates. At the session of the advisory body of the financial regulator, which consists of the president of Hanfa, five members elected by associations at the Croatian Chamber of Commerce and three members appointed by the government, he said that the balance sheets of insurance companies could withstand a new shock in financial markets. Thus, the trust placed in the funds as a pledge of a more promising investment future is justified. Analyzing the data, we can see the justification for the investment of pension funds in tourism, which results in better profitability of the observed tourism companies. Pension funds with HRK 114 billion in assets can provide quality assistance to the economy and the development of the capital market only if they are allowed and begin to be viewed as a positive component in the market, and not as a frequently expressed danger in the media.

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## PERSONAL CHARACTERISTICS OF SELLERS AS A FACTOR OF INFLUENCE ON SALES PRODUCTIVITY

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### ABSTRACT

*Factors affecting sales effectiveness are often researched and discussed, and this paper focuses very closely on the dimensions of a salesperson's personal characteristics: self-confidence and physical appearance, and creativity as a feature that opens new doors to new approaches and opportunities. The survey was conducted on a sample of 506 respondents aged 18 to 65 years in order to determine their attitudes towards how these characteristics affect the buyer's perception of the seller or their change of attitude regarding the product sold by the seller. The main hypothesis of the research was: "Personal characteristics of salespeople affect sales productivity", and auxiliary hypotheses spoke about the positive relationship between these characteristics and sales performance. The results of the research confirmed all the hypotheses and it was found that the respondents believe that the attractive physical appearance, high self-confidence and creativity of the seller affect the sales result.*

**Keywords:** sale, characteristics of the seller, sale productivity, increase of sale productivity

### 1. INTRODUCTION

Every profit-oriented business organization classifies the increase and productivity of sales as one of its main goals and equally the success thanks to sales as a fundamental element of their business activities. Sales volume is largely a significant part of an overall business performance. The sales process is made up of a number of different components, but in order to be able to talk about the productivity of the sale itself it is crucial to mention buyers and of course the sellers. The demand for quality candidates through the framework of sales occupations is traditionally high and does not decrease over time, but only increases further through the progress and development of the market (Tomašević Lišanin, et al.). In order for the sales business to be as efficient as the sales productivity itself, there are a number of different rules, principles, models and characteristics that sales staff need to adopt. Examples from practice have shown great variability in sales efficiency of sellers. Although sales results can be measured and attributed to the influence of external factors such as market conditions, type and quality of goods and services sold, purchasing power and other characteristics of customers, some studies show possible importance of personal characteristics of sellers for achieving better working and sales activities and goals. Since each customer has the own needs and desires, attitude and certain expectations towards the product or service, it is the seller who needs to know how to assess what will really suit the customer. In many situations, the buyer will evaluate and decide to buy the product or service by considering the appropriate features of the seller. This paper is partially review paper that presents the collected secondary data for processing the topic and explains the relationship of personal characteristics in salespeople with

emphasis on physical appearance, self-confidence and creativity with the concept of sales productivity. In order to get an insight into the perception of respondents in Croatia about the importance of mentioned characteristics of personality as to get the fundamental for future much wider study of defining the competencies of salesperson, the preliminary research is conducted and presented at the last part of this paper.

## **2. THEORY REVIEW**

In order to be able to link sales efficiency and productivity, which depends only in part on the seller and the possession of certain personal characteristics, it is first of all crucial to mention and clarify the concept of sales function. According to Vukelic (2005), the company aims to sell as many of its products on the market as possible, and for the success of that, company needs sales force. For successful sales force management, the company needs to determine the motivational basis for which the sales force is ready to perform the tasks determined by the technology of sales organization. The job of a sales force consists of selling goods to customers and gathering market information. That is why it was emphasized that the sales staff must be constantly acquainted with all the services they offer to their customers. The management of the company has an important role in the overall sales function, which should primarily determine the market situation and carefully analyze the internal and external resources of the company (Razum, 2011). Sale is the most important business function of any trading company (Mrvica Mađarac, Jelica, 2015). It should not be understood as a one-time job but as a means of satisfying long-term interests that will be reflected in the business itself. The main goal should be to build partnerships and interpersonal relationships which can only be achieved by securing long-term benefits for both: the seller and the buyer (Donney and Cannon, 1997). Sale is understood through the feature of discovering business problems or good opportunities for customers and striving and helping the customer to know and understand them, offering information about possible solutions and providing after-sales service to ensure long-term satisfaction. The sale is often described as a great misconception and in many cases it is considered that it was forced and unconscious, that is, at the urging of the seller. A successful sale of a product or service is done at a time when the buyer does not feel that the seller wants to sell the product to him by force (Hansén, 2016). Persuasion represents only a small part of the sales business, and is closely related to the traditional approach to sales (Tomašević Lišanin, 2010). It is important to mention modern sales models, ie to note that market development and progress change the expectations that will determine the quality of sales and requirements for the seller. Only some of the "sales business trends" that are widely expected in modern companies relate to the already well-known advances in technology, the presence of telemarketing and video conferencing, the emphasis on seller-customer relationships, shorter product life cycle, international sales (Marks, 2006) . In accordance with the understanding of the sales function and the difference between traditional and modern determinants of sales, the question arises of how to understand and monitor the very effectiveness of sales. In terms of sales, efficiency is the result of the influence of various factors inside and outside the organization and therefore efficiency is related to the results of salespeople for which they are only partially responsible because they are influenced by various environmental factors (Piercy et al. 1999). The effect of sales is often described as the quality and quantity of sales covered over a period of time (Brown, Peterson, 1994). The sales organization efficiency model states that overall sales efficiency is conditioned by the characteristics of the salesperson, its efficiency, sales leadership, and the design of the sales organization (Cravens et al. 1993). In this model it is certainly necessary to pay attention to how everything starts from the seller and from the very characteristics of a sales person. The behavioral component and the results component represent the main aspects observed in an effective and professional salesperson (Razum, 2011).



It logically leads to the level in which it is necessary to consider the concepts of what a successful, quality and productive salesman means in general, what he must be like and what characteristics he must have. For people who do not see the need to manage and maintain relationships with their customers, it can be said that they are not destined to be part of the sales staff (Dwyer, 1987). Nowadays the relationship between buyer and seller is strategically designed, the process of developing the relationship is accelerated, and all that in order for organizations to succeed in achieving their goals (Wilson, 1995). The demanding market and environment dictate that the key elements of the success of sales organizations are the knowledge, skills, and characteristics of the individual (Anderson, 1996). Professional development is managed as a dimension in which the improvement of certain characteristics of the salesperson is assessed, which are related to the successful performance of the sales business. Every professional salesperson should know the potential customer well, have knowledge of the product or service and most importantly know the psychology of sales. The quality of the seller is reflected in the fact that he asks open and closed questions in a timely manner, listens to the buyer and tries to direct the communication towards the achievement of the goal related to the sale itself. Due to the wide range of possible sales jobs, but also all other variables to consider, it is not possible to provide a unique list of personal characteristics that a person with good predispositions for a successful sales career should possess. Becoming a successful salesperson becomes an experience with the possession of personal characteristics that are always emphasized as help towards the ultimate goal, which is to increase sales. Petz and Šulak (2005) state that a person's performance in any activity is conditioned through two basic factors, and that is the man himself and his personal characteristics depending on the surrounding conditions. Personality traits are the characteristics of an individual that determine his specific experience and behavior. They are relatively stable over time, and are acquired partly by inheritance and partly by upbringing/experience, ie their interaction (Bratičević, Miljković Krečar, 2014). Churchill et al (1985) define personal characteristics as psychological characteristics that improve a person's ability to perform. Somewhat later, Wiley (1997) connects personality as one's ability to perform tasks where a person's characteristics determine the course of a sale. Although in this research the emphasis is on the observation of all personal characteristics, emphasizing the importance of the characteristics of self-confidence, physical appearance and creativity, it is good to mention other similar research that corresponds to the topic. There is a lot more researches on the relationship between personal characteristics and the work efficiency of salespeople. Alessandri and Vecchione (2012) conducted research on insurance vendors, and the results showed that for their work efficiency it is necessary to have the characteristic of high conscientiousness and comfort. An analysis by Barrick and Mount (1991) showed that conscientiousness predicts success in almost all occupations, and the importance of other personal characteristics depends on the type of occupation. Another study by Wang and Liang (2012) conducted on insurance sellers obtained the result of the need for high extraversion in the sales profession. For jobs that require a high degree of social interaction, extraversion should be viewed as a positive trait within the sales activities. One of the first sales performance surveys was started by Walker et al. (1977) suggesting determinants of sales success, followed by several attempts to investigate the relationship between possible personality factors and sales success. The results of Lamont and Lundstrom (1977) suggest that endurance and social recognition are significantly and positively associated with performance, while empathy and ego strength were found to be negatively associated with performance. Spiro and Weitz (1990) come to the conclusion about the importance of the internal locus of control that is related to sales success. One of the most frequently mentioned terms in research on the connection between personal characteristics and sales improvement is self-efficacy. Self-efficacy is one of the main characteristics that is explored in the search for criteria related to sales performance.

Self-efficacy is essential for sales success where stress, high competition and rejection are inevitable aspects of the job. When salespeople have highly pronounced sales self-efficacy, they adapt more easily to stressful situations and remain committed to serving the customer and achieving sales. On the other hand, stressful situations cause helplessness to salespeople who do not trust their sales abilities and reduce their commitment to work, which often leads to withdrawal from customers, the company and the profession (Bratičević, Miljković Krečar, 2014). Sales success is based on a good and quality product or service, modern tools and techniques, existing marketing potential and personal characteristics of the seller (Hansén, 2016). Based on the above, different personal characteristics have been researched and each of them has a certain type of impact on the sale itself. Companies need to define a combination of characteristics that their job candidates in their organization need to have in accordance with their own needs, market, customers and sales situations.

### **3. RESEARCH METHODOLOGY**

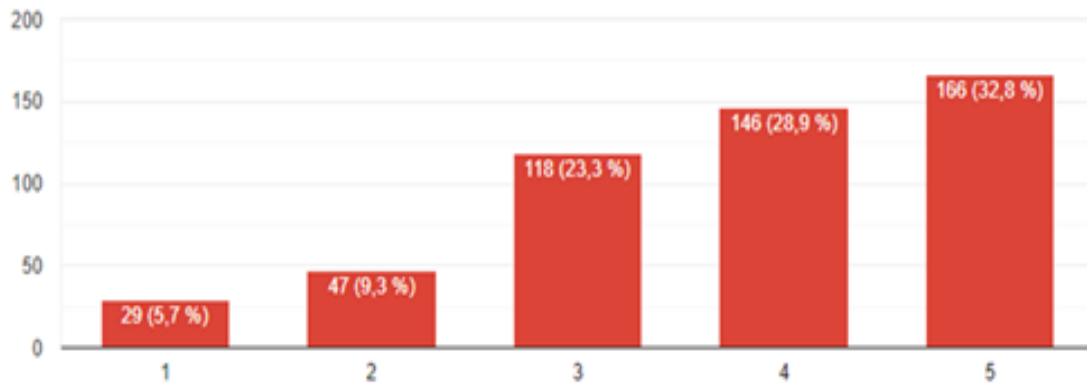
The main goal of the research is to determine the importance of different personal characteristics of salespeople as the factors that directly affects sales productivity. Although a number of characteristics that describe each individual can be discussed, in this study the emphasis was placed on individual selected characteristics, which relate to physical appearance, self-confidence, and creativity. The main hypothesis and auxiliary hypotheses are defined as follows: H1 "Personal characteristics of the seller affect the productivity of sales", H1.1 "High self-confidence of the seller negatively affects the sales presentation and buyer's decision to make a purchase", H1.2. "The physical appearance of the seller affects the purchase decision" and H1.3. "Creativity of sales staff is necessary for the quality of sales presentation." In order to prove the main and auxiliary hypotheses, as a measuring instrument, a specific survey questionnaire was designed and conducted digitally. The survey questionnaire contained socio-demographic questions and theses by which the attitude of the respondents towards the stated problem was measured. The target group of respondents referred to employees who work in sales as they are both the buyers and have experience with selling. The research was conducted on a sample of 506 respondents aged 18 to 65 years and all answers were taken into final analysis. The distribution of respondents by gender refers to 289 females (42.9%) and 217 males (57.1%). For the three set age ranks of respondents, the number of persons is the same in all categories. The highest percentage of 34.4% of respondents is between 46-65 years (174 people), 32.6% of respondents are between 31-45 years old (167 people) and 33% of respondents are between 18-30 years old (165 person). The level of education is also different, so the survey questionnaire was filled out mostly by people with secondary school (4 years) which is a total of 204 respondents (40.3%) and (3 years) of 172 respondents (34%). There are only 14,6% of respondents with a undergraduate degree and the smallest number of those who have a university master degree (11.1%).

### **4. RESULTS**

In the following research results, the respondents expressed their views and opinions on the basis of statements that express a positive or negative attitude towards an object of attitude. For the purpose of attitude measurement Likert Scale is used where absolute agreement was represented by value 5 and absolute disagreement by value 1.

*Figure following on the next page*

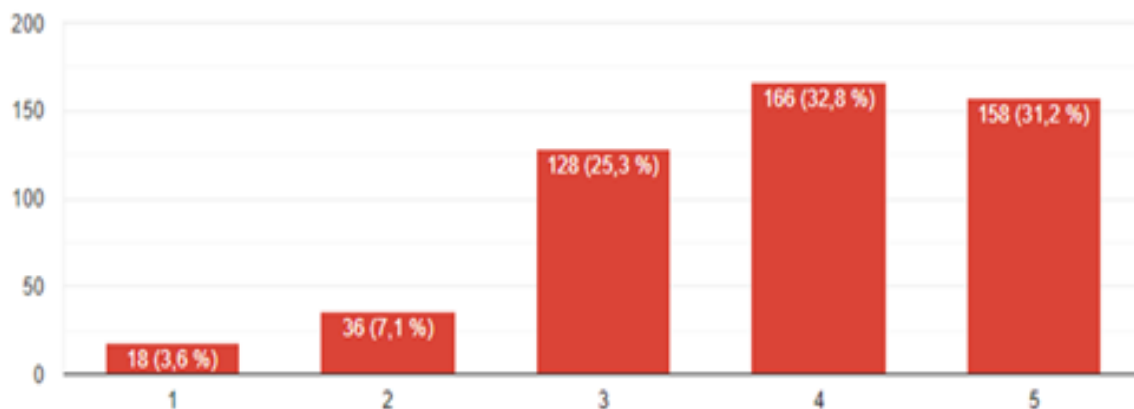
*Figure 1: Respondents' opinion on the statement "High self-confidence of sellers negatively affects sales presentation and attitude towards buying"*



*Source: Author*

Figure 1 shows that 166 (32.8%) respondents completely agree with the presented statement while 146 (28.9%) of respondents agreed and 118 (23.3%) respondents remained undecided. There are 47 (9.3 %) of respondents who disagree, and 29 (5.7%) respondents completely disagree with the above statement. Figure 2 presents opinion of respondents considering the importance of the physical appearance. The results show that a statistically significant percentage of respondents think it will have impact on their decision on making the purchase and there are 31,2% of them who strongly believe that and 32,8% of respondents who just think it will have some impact. Quite a percentage, 25,3% of respondents could not give their own attitude towards that problem and only 7,1% of respondents disagree while 3,6% completely disagree with this.

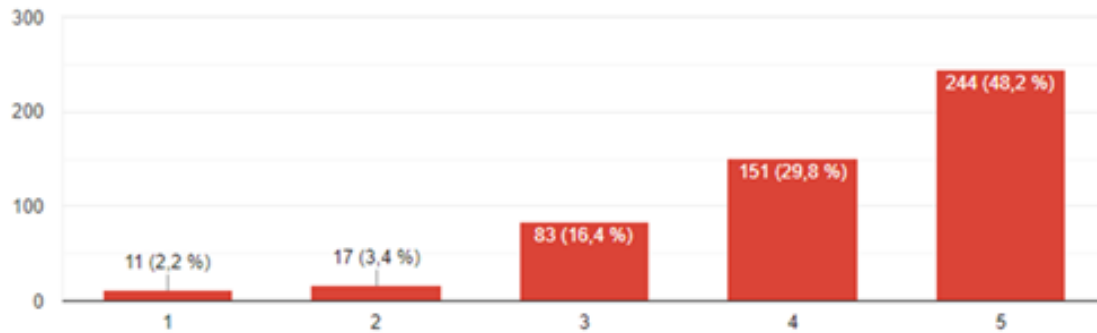
*Figure 2: Respondents' opinion on the statement "The physical appearance of the seller has a share in making a purchase decision"*



*Source: Author*

Importance of creativity of the seller's personality see 48.2% of respondents who completely agree and 29.8% respondents who agree (figure 3). Not a large percentage of 16,4 respondents cannot decide whether they think this characteristics is important. Statistically insignificant percentage of 3, 4% who did not agree with this presumption, and 2.2% who completely disagree.

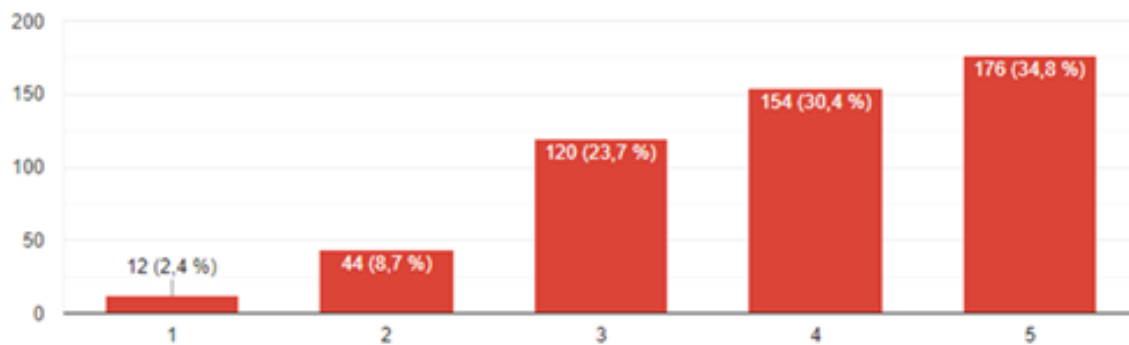
*Figure 3: Respondents' opinion on the statement "Creativity of sales staff is important in sales presentation"*



*Source: Author*

In Chart 4 it can be noticed that 176 (34.8%) of respondents completely agree with the thesis that consumers of goods or services are likely to drop the purchase when the person who sells show insecurity and even 154 (30.4%) of respondents agree with it.

*Figure 4: Respondents' opinion on the statement "Insecure seller means that the withdrawal from the purchase by the consumer even though the good or service is needed"*



*Source: Author*

There is 23.7% respondents who cannot decide but a very small number of them thinks that self-confidence does not have any impact on the decision of the purchase, only 8.7% respondents disagree and 2.4% completely disagree.

## 5. DISCUSSION

All auxiliary hypotheses defined through this research were closely related to the mentioned and selected personal characteristics that may be crucial for bringing various positive results to a company, and the main hypothesis was about the general importance of a set of selected, but also about all other personal characteristics that might improve sale and sales productivity. It is crucial to describe and present the obtained facts starting from the auxiliary hypotheses that will help to confirm or reject the main hypothesis of this research. First auxiliary hypothesis linked a personal characteristic of self-confidence and how it can affect a sales presentation and influence a purchase decision of a buyer. Self-confidence is generally recognised as a significant characteristic of an individual that influence better outcome in different life situations, but when it is said that an individual possesses high self-confidence it often divide opinions whether it is a positive or negative personal characteristic.

This first hypothesis stated that high self-confidence of the seller negatively affects the sales presentation and attitude a person to make a purchase and according to the results presented in figure 1, respondents clearly confirmed that they agree with this statement so the hypothesis can be confirmed. The second auxiliary hypothesis connects the physical appearance of the individual, in this case the seller, with the making decision of a buyer. Although employers when hiring often say that physical appearance is not crucial and therefore not important, the question arises as to how true this is and whether there may be jobs in which physical appearance has importance selecting candidates. As much as one does not want to attach importance to the physical appearance factor in business, other various studies have shown that potential buyers often notice a component of the physical appearance of the seller. Therefore the second auxiliary hypothesis that say that physical appearance of the seller influences the purchase decision, and according to the results in figure 2 can be accepted as confirmed. The third hypothesis emphasis the connection between the concepts of creativity as a characteristic of sales staff and heir work performance within the sales presentation activity. While some jobs require creativity as the major component of business success, for others, employee creativity is that important. That hypothesis said that sales staff creativity is necessary for the quality of sales presentation. Based on presented results it can be concluded that it is as well confirmed to be true. The main hypothesis of this research says that personal characteristics of salespeople affect sales productivity and all presneted results and confirmed auxiliary hypothesis go in favor of confirmation. The results show that for the sales profession and sales job, it is still necessary to have several key, specific and important personal characteristics. These characteristics should have a positive impact on several segments from the sales presentation followed by the consumer's attitude towards the purchase until the final purchase decision making. This way step by step, the sales process should result in more productive sales. Chart 4 set through the statement "Insecure sales person means the consumer's withdrawal from the purchase even though he needs it", with which the respondents agree, go in favour of confirmation of this hypothesis. It is through different types of factors that may start from a basic ignorance of the product or service that the seller needs to present and sell or lack of personal characteristics that may be important for quality work in the seller's workplace. The mentioned characteristics can also be linked in such a way that lack of self-confidence, lack of creativity as well as insecurity in self-presentation and physical appearance could result in a negative outcome of self-doubt, which ultimately affects business functioning. Regardless of the correct or incorrect assessment, potential buyers will not think too much and will very easily attach a "stamp of an insecure seller" to the person. If the insecurity of the seller is reflected in a poorly presented product or service, there is a high probability that the purchase will be abandoned. By giving up buying it will not be possible to talk about productive sales. While most believe that the price of a product or service is a key factor in making a purchasing decision, these types of research prove just the opposite. The quality of the sales presentation and performance that end up with purchasing decision increase productivity of sales, and are conditioned by a number of different factors, mostly the personal characteristics of the seller.

## **6. CONCLUSION**

Selling is a process that requires investing time and effort in mastering different skills as it is about demanding profesion. Failure in sales productivity dangerously affects the company's business, and unsuccessful salespeople are prone to fluctuations, which creates additional costs for the employer. Sales efficiency that is below-average is a consequence of the seller's lack of skills, inappropriate sales techniques or separate sales activities. The seller is called the main promoter of the product. Its impact on sales productivity is decisive because the seller increasingly has the role of advisor to the person and being an expert, he/she is the one whom the buyer trust and seek advice for all possible doubts that arise before making decisions to buy

a particular product or service. In order to design the quality sales staff, modern companies invest large financial resources for the training and development. Research presented has many restrictions and the most important one is the small number of respondents. However as it is performed as preliminary one and gives only directions for some future study that would correlate personal characteristics and productivity of sales people and that would be a very valuable for future development of sales profession.

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# **A SYSTEMATIC LITERATURE REVIEW ON THE TECHNICAL AND NON-TECHNICAL CYBER RISK MANAGEMENT MODELS IN THE OIL AND GAS SECTOR**

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## **ABSTRACT**

*Oil and Gas industry is an important part of the country's critical infrastructure that employs sophisticated equipment, tools, assets and specialized interdisciplinary knowledge. In order to improve productivity and efficiency, there is an increasing trend in the industry towards digital transformation. This, as a result increases cyber vulnerabilities and threats in the oil and gas industry. Therefore, cyber risk management has become a critical element in the process of digital transformation of petroleum sector. However, despite concerns about the cyber threats for oil and gas projects, research on integrating technical and non-technical cyber risk management models is scant, that may inform researchers and practitioners about the current body of knowledge. To address this gap, a rigorous and methodical approach was applied to conduct a systematic literature review of 73 peer reviewed articles, book chapters and conference papers, after performing a thorough search in the four major databases such as AAPG, Web of Science, SCOPUS, and ProQuest. The main aim of this paper is to conduct systematic literature review on the technical and non-technical cybersecurity risk management models available in literature that guides the practice of cyber risk management in the oil and gas projects. The findings of this paper illuminates key research gaps and helps to identify directions for further research. In the end, it was recommended that research efforts should be geared towards developing a holistic framework that will accommodate both technical and non-technical cyber vulnerabilities of the oil and gas projects and assist the industry to cope with the ever-growing complexity of digitization.*

**Keywords:** *cyber risk management, cybersecurity, digitization, oil and gas*

## **1. INTRODUCTION**

Oil and gas sector is an essential part of the energy field (Carvajal et al., 2018; BP, 2018; BP, 2019). Although there has been much focus on renewable sources of energy, petroleum and gasoline will still remain the essential source of energy in the global energy market (BP, 2018). This is evident from the fact that almost 57% of world energy consumption is met by oil and natural gas (BP, 2019). Moreover, according to EIA, the world energy demand is will reach a level of 820 QBTU in 2040 from 550 QBTU in 2012 (EIA, 2019) and more than half of this demand will be met by oil and gas sector.



Therefore, fossil fuel resources will remain vital for global economic and social development for the next two to three decades (EIA, 2019; BP, 2019). In order to keep up the pace with the ever-increasing demand of fossil fuels and the fall in the oil prices, the petroleum sector has ventured with technology so that they can produce petroleum resources efficiently and economically. As a result, oil and gas sector has rapidly digitized itself while moving towards intellectualization and automation (Infosys, 2018). This has opened up the doors for new opportunities and sophisticated challenges in all the sectors of petroleum industry. With the overwhelming increase in digitization, the cyber threat landscape is becoming overly complex and real. This has allowed the cyber-threat actors to exploit the nation-states critical infrastructure. The high profile incidents in the recent decade evidence the fast changing and increasing cyber threats (Upton, 2013). According to Lozowski (2012), during 2010-2011 the number of reported cybercrimes have been escalated to 400 percent. In the critical infrastructure these incidents increased from 41 to 198 in 2011 during a time duration of only one year. Keeping in mind the rapid change in the digitization and cybersecurity landscape, it is imperative for oil and gas producers to protect themselves against these stealth adversaries (Radler, 2011). The purpose of this paper is to systematically review the current knowledge of cybersecurity risk management (CRM) models (both technical and non-technical) available in literature that guides the practice of cyber risk management in the oil and gas projects, in order to identify the knowledge gaps for future work. Cyber risk management has become a critical element in the process of digital transformation of petroleum sector. However, despite concerns about the cyber-threats for oil and gas projects, research on integrating technical and non-technical cyber risk management models is scant, that may inform researchers and practitioners about the current body of knowledge. This paper analyzes the current literature on CRM models and their theoretical foundations. It identifies the factors affecting the technical and non-technical risk management in the oil and gas sector. It further examines some critical concerns about cyber risk management, and the discussion focuses on the weaknesses of the current models and organizational cyber risk management of the projects. This paper is organized as follow. The next section explains the methodology used to conduct this systematic literature review. It is followed by an overview of cyber risks and vulnerabilities in the oil and gas sector. The next part describes the technical and non-technical models available for effective cyber risk management in the oil and gas sector. Later the findings of the filtered studies have been qualitatively analyzed. The last section identifies the knowledge gaps, the avenues for future work and presents the conclusion.

## **2. METHODOLOGY**

The systematic literature review conducted for this study is based on the guidelines provided by various researchers [Cooper, et al. (2018); Pickering and Byrne (2013); Mullen and Ramirez (2006); Tabbaa, et al. 2019; Brereton, et al. (2006); Kitchenham (2004); Boell and Cecez-Kecmanovic (2015); Frank and Hatak (2014); White and Schmid (2005); Okoli and Schabram (2010); Okoli (2015); Rousseau et al. (2008); Siddaway (2013); Petticrew and Roberts, 2006); Fink (2019); Moher et al., (2008); (Webster and Watson 2002)]. This research divides the SLR process into nine stages. These nine stages have been classified into three broader categories as agreed upon by most of the researchers, that is, plan, conduct and document (Brereton et al., 2006), (Mullen and Ramírez, 2006), (Gunnarsson, 2019), (Kitchenham, 2004). During the planning stage, the need for SLR was justified, review protocol was developed and evaluated. During the next step, the conduct review, a broad research using different databases from various fields was conducted. These results were filtered using the inclusion criteria. Appropriate and relevant studies were short listed and analyzed. Finally, the results were documented in the document review stage. In order, to answer the main research question and to keep the research focused, subordinate research questions were defined (Figure 1).

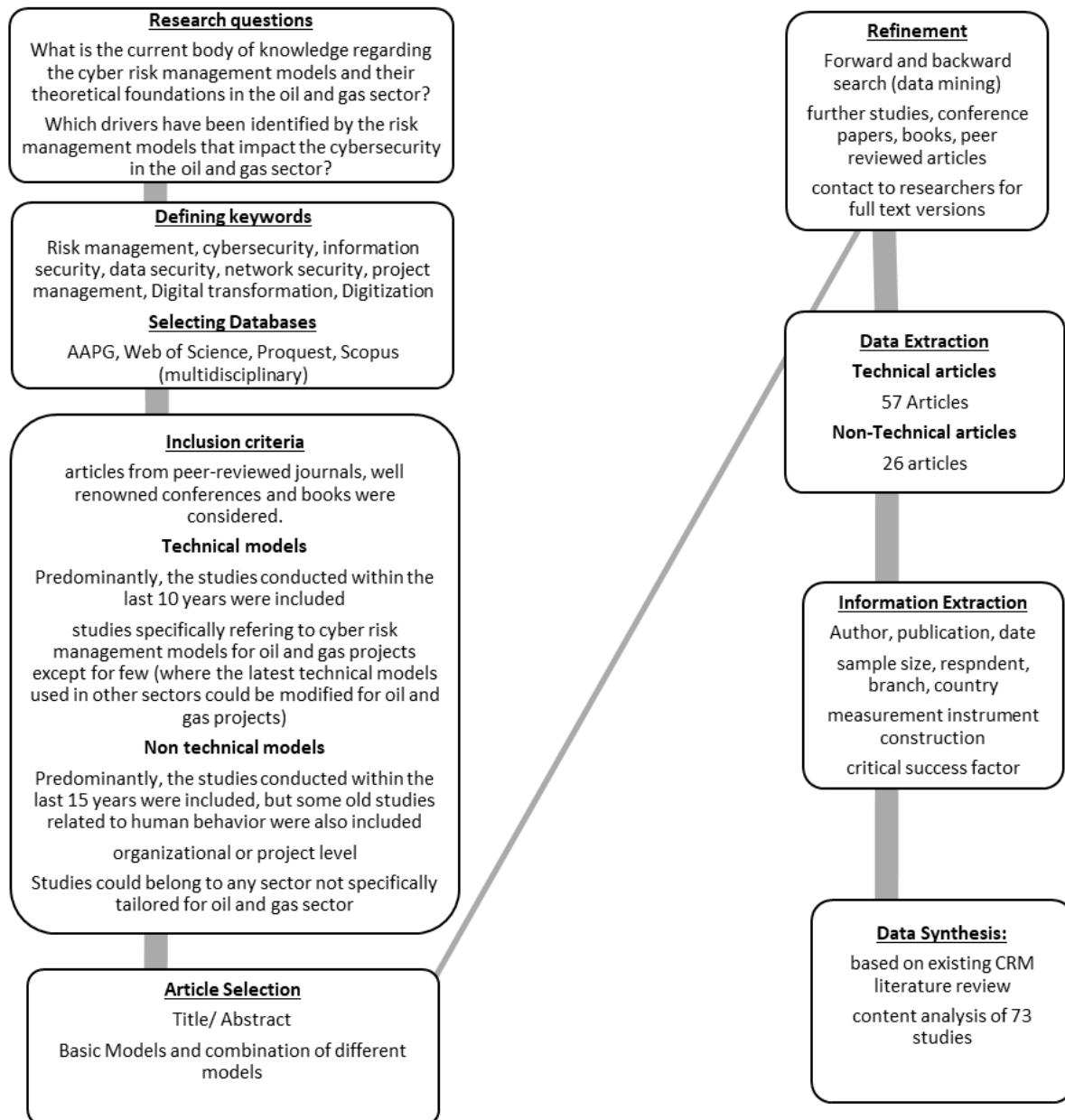


Figure 1: The systematic review process

The initial keywords based search resulted in thousands of articles, some of which may not be relevant to cyber risk management search or implementation. The resulting list of articles were manually reviewed first reviewing the titles and later using the abstract, introduction and conclusion of the papers. The manual filtering and comprehensive backward and forward search resulted in identification of 73 articles, that were reviewed comprehensively to answer the below research questions.

- RQ 1. What are the publication patterns on cybersecurity risk management in the O&G industry?
- RQ 2. What is the current body of knowledge regarding the cyber risk management models and their theoretical foundations in the oil and gas sector?
- RQ 3. Which drivers have been identified by the risk management models that impact the cybersecurity in the oil and gas sector?

For the purpose of first research question, the meta data was extracted, that is title, year, affiliation, type of publication, impact factor of the journals, number of citations and references of the selected articles. The shortlisted papers were also divided into three groups:

- **Concept paper:** This is an article that is theoretical and simulation based. They aim to develop new and unique solution to address a particular issue. Sometimes these concepts are validated through real time experimentation or the researcher's deployment in the field.
- **Case Study paper:** This is a paper the examine the product development, practical adoption of technology in the industry and field tests.
- **Review paper:** This paper investigates the existing literature and surveys including both technical and non-technical reviews.

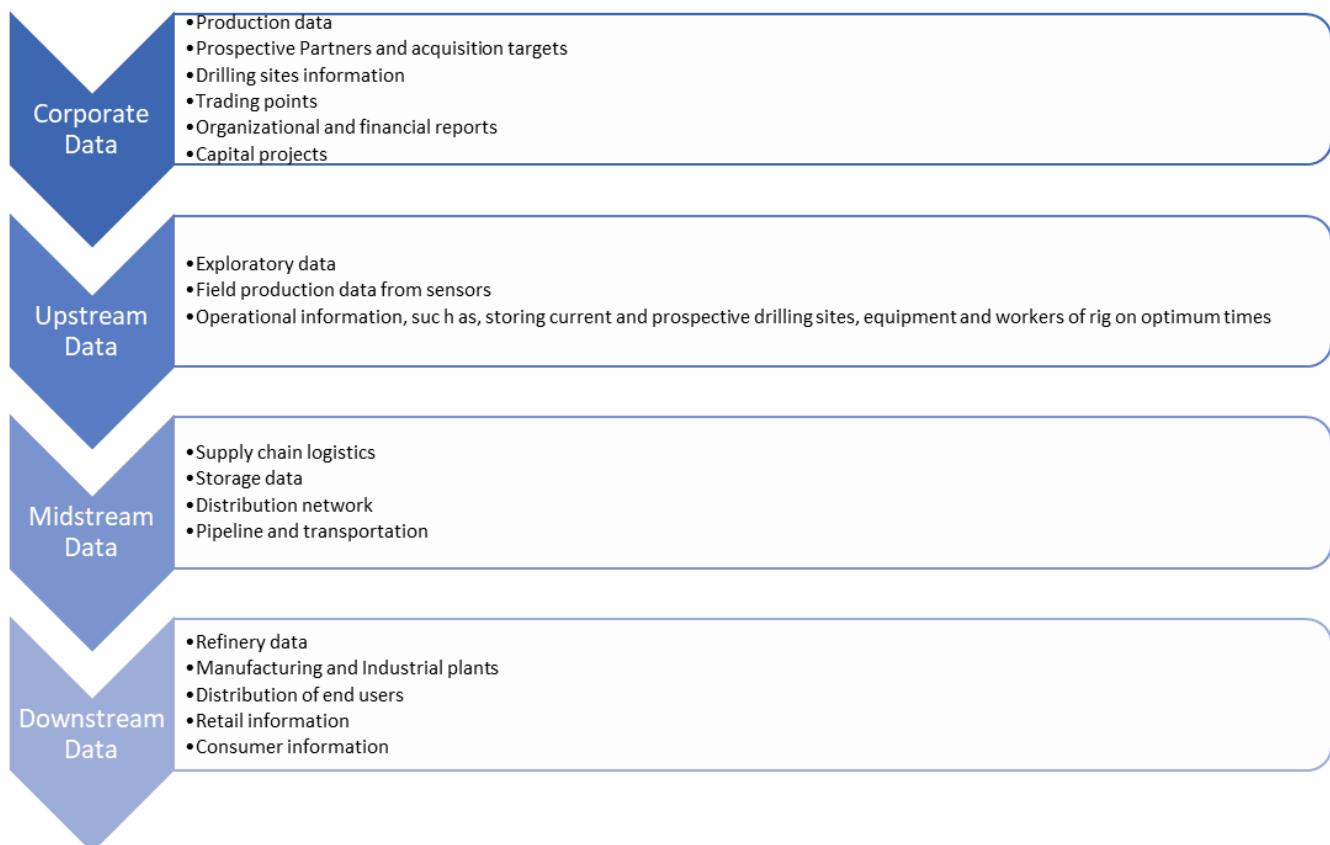
Some studies were classified under both concept paper and case study paper as they included both the theoretical concept and field deployment. First, systematic review process was applied to shortlist the studies and later, the selected studies were assessed qualitatively (Snyder, 2019). The qualitative research synthesis is also referred as synthesis by explanation or synthesis by interpretation (Thomas and Harden, 2008). A qualitative research synthesis has been conducted as the methodological design of the selected studies is so diverse that it makes meta-analysis almost impossible. The new conceptualization has emerged on the topic that necessitates the upgradation of knowledge through research and there is a lack of systematic literature review (Baumeister & Leary, 1997; Mach, et al., 2011; Baumeister, 2013). This study follows thematic literature analysis approach (Cronin et al., 2008). For the purpose of this study, various theoretical frameworks were analyzed in various disciplines like information systems, computer science, oil and gas sector, geology, business management, psychology and criminology. These conceptual frameworks were later integrated and the directions for future research were defined (Baumeister and Leary, 1997).

### 3. CYBER RISKS AND VULNERABILITIES IN THE PROJECTS: AN OVERVIEW

The introduction of Internet of Things and other human-computer interaction led to the emergence of various cyber risks. The cyber risks originated from connected systems, digital transformation and the advent of disruptive technologies (Radanliev et al., 2020). No system is made without vulnerabilities, even if the best quality standards are followed (Campbell, 2016). However, some exploits are complex and harder to be identified than others. These vulnerabilities are categorized into two broad categories, that technical and non-technical vulnerabilities. These vulnerabilities need to be considered while formulating and implementing cybersecurity frameworks and policies. Technical vulnerabilities are associated with the weaknesses in the operating systems and system applications. These vulnerabilities do not affect the functioning of the systems, therefore, mostly remains hidden unless and until efforts are made to specifically find and exploit them (Campbell, 2016). The security researchers look for the vulnerabilities and then develop patches to avoid exploitation. The patches are then tested again, in order to ensure that they don't introduce further problems in the systems. It is not possible to test all potential exploits in the software. Therefore, because of time and resources limitation, baseline vulnerabilities always exist (Campbell, 2016). The security of technology is only one aspect of cyber risk management. Humans play an important role in securing the information systems and networks. These are the humans who use the technical systems and decide to follow or violate the organizational or governmental processes. In the businesses, it may rise the financial cost of the project usually called 'pouring good money after bad'.

### 3.1. Vulnerabilities in the Oil and Gas Supply chain

Vulnerability and severity both plays an important role in the risk management. The digitization in the oil and gas supply chain has increased the number of vulnerabilities especially in the upstream operations. The threat landscape determines the number of vulnerabilities in the upstream. The attack surface includes the industrial control systems, operations, users, vendors, and interfaces, etc. Another source of vulnerabilities can be the data mode and the direction of its flow. Lastly, the vulnerabilities are also effected by the existing security and controls in the supply chain. On the other hand, the severity has both direct and indirect costs, for example, HSE (health, safety and environment) incidents, disruption in business activities, loss of credibility, identity thefts, legal and regulatory complications, etc (Nguyen et al., 2020). Figure 2 gives an overview of common vulnerabilities in the oil and gas operations.



*Figure 2: Oil and Gas Organizations: Vulnerabilities to Cyberattacks  
(Source: Rick and Iyer, 2016)*

## 4. TECHNICAL AND NON-TECHNICAL CYBER RISK MANAGEMENT MODELS

### 4.1. Technical Cybersecurity Risk Management

Technical risk management is mostly based on statistical or mathematical models. This study identifies six standard statistical and mathematical models that are used in different combinations to overcome the drawbacks of each model for risk management depending on the problem in hand. The three most commonly used models for cybersecurity are Non-Functional Requirement (NFR) approach, Bayesian network models, and DS evidence and CS-BP neural network. The other models deal with the asset or financial risk management. Surprisingly, DS evidence theory has still not been studied in the context of oil and gas sector (Table 2 in annexure). The cybersecurity models are used in various combination to ensure a robust technical cyber security. The emphasis of the use of CS models is on issues related to IT (information technology) environment, rather than ICS (information cyber security).

It is not clear whether the models are applicable to control room environment with the operator or how to deal with multi-step attacks using these models (Chockalingam et al., 2017). These models are mostly aimed at detecting the insider's threat. Therefore, there is a lack of use of models for problems related to insiders, outsiders, and their interaction, for example, social engineering or collusion attacks (Chockalingam et al., 2017). It was clear that the models used, sufficiently benefits the risk management and vulnerability management of cybersecurity of different assets. Moreover, the technical cyber risk management models primarily take into account the risk identification and risk assessment, while ignoring the safety and security aspect (Table 4 in annexure). Recently, there has been an increased trend towards deep learning due to technical advancement in neural networks and artificial intelligence (Qiang et al., 2018). However, it is difficult to create a realistic model for cyber security due to scarcity of information, especially the historic evidence on cybersecurity breaches and incidents (Yang et al., 2016). Chockalingam et al. (2017) found that the Bayesian models have the capability to bridge this gap. Especially, the use of combination of different models can help overcome the effects of lack of historic data on cyber security modelling. Henceforth, there is a need to further investigate these models and understand the capability they have to completely or partially benefit the cyber security project risk management in the oil and gas sector (Chockalingam et al., 2017).

#### **4.2. Non-technical Cybersecurity Risk Management**

Despite the emphasis on technology, addressing hardware and software vulnerabilities is only a part of the problem. According to Lanning, cybersecurity is a three-legged stool consisting of people, processes and products. Even if manufacturers manage to lock down or contain their technology, there are still the issues of phishing, human error and engineering or configuration problems, and the risks change daily (Meyer, 2017). Usually cybersecurity is considered more as a technological issue and steps are taken in that sector to mitigate it. However, in reality it is much more complex involving many different fields and aspects such as user behavior and culture (organization behavior theory), leadership, and governmental policies and procedures, rules and regulations, etc. (Yoon and Kim, 2013). These non-technical vulnerabilities also negatively impact the cybersecurity system. Non-technical vulnerabilities can be categorized as process and human vulnerabilities. The process vulnerabilities might include the procedure to get access to the business or data center. If the procedure does not include any verification or cross verification of the intruder, it becomes very easy for anyone to enter and introduce malicious codes in the system (Campbell, 2016). In today's world of digitization and exponential growth, the real challenge for cyber security is the provisioning of the disruptive technologies and the human cyber security behavior. Most of the cyberattacks occur due to human negligence and is considered the weakest and most vulnerable part of cyber security (Young et al., 2017; Jalali, 2018). Besides being the weakest link, if managed properly, human capital can be the strongest resource for cybersecurity (Bulgurcu et al., 2010). Different scholars have studied different aspects of human behavior and came up with different explanations for their behavior, intentions and actions. According to Freeman (1994), there are diverse stakeholders in an organization. These stakeholders have competing interests; therefore, conflict is inherent. In order to resolve the conflict, stakeholders dialogue is the key to balance their needs and demands. Moreover, reciprocity of the behavior is a common norm even for the corporation, which results in the formation of community with shared beliefs and interests (Freeman, 1994). Earlier, the researchers have argued that the cyber security can also be compromised by the non-compliance of the security policy by the employees (Pahnila et al., 2007; Herath and Rao, 2009; Herath and Rao, 2009; Siponen et al., 2009; Bulgurcu et al., 2010; Li et al., 2010).

Most of the researches in the past revolved around how to improve and enhance the employees' approach towards cyber security. Therefore, the researchers have analyzed the behavior of the employees towards security measures (Stanton et al., 2005) and proposed a framework that can be implemented to improve the security behavior in the organization (Leach, 2003). In order to explain the employees' security behavior, Workman et al. (2008) has proposed protection motivation theory (PMT), while (Ng et al., 2009) came up with health belief model. Nevertheless, all these models do not fully encompass the complex nature of the security behavior, as the employees' behavior is also influenced by their own individual beliefs and norms (Fishbein & Ajzen, 1975) or even organizational culture (Campbell, 2016) and structure (Ebrahimi et al., 2018) can play an important role in it. Yoon and Kim (2013) presented a comprehensive model by integrating these models to explain the employees' security perceptions and behaviors. They proposed moral obligation (that has not been used to explain the security behavior earlier) and organization's security culture play a vital role in determining the attitude of employees towards cyber security (Yoon and Kim, 2013). Despite these, this model is based on the perceptions and attitude of employees towards cyber security, not on their actual behavior based on their habits, situational factors, and sanction or reward system (Campbell, 2016). Later, Campbell (2016) tried to address this gap. He based his work on the integration of PMT, planned behavior theory and general deterrence theory. He conducted a qualitative study focused on the analysis of factors affecting the cyber security management of industrial control system (ICS). He identified collaboration and technology tools that had earlier not been identified in the context of ICS management. He argued that the management of the ICS is dependent on the organization's security culture that is directly associated with the management guidance and support. Therefore, the management should focus on fostering a culture of security in the organization (Knapp and Ferrante (2014). Knowles et al., 2015 found that the factors identified by Campbell (2016) can help to analyze the defense-in-depth strategies. This can in turn be used to develop the culture of cybersecurity in the organization (Campbell, 2016). Chowdhury et al. (2019) looked at the factors that impact the actual behavior of the employees not just their intentions. They identified the factors affecting the actual behavior of humans into two contexts, that is, behavioral and environmental. Psychological construct, moderating factors and consequences have a significant impact on the human firewall. According to them, in today's fast paced world, sometimes the cyber security gets compromised due to time pressure. They carried out a systematic review of literature in order to analyze the constraints that time pressure puts on human cyber security behavior and proposed an integrated framework to protect the human firewall (Chowdhury et al. 2019).

## **5. REVIEW FINDINGS AND DISCUSSION**

### **5.1. Trends in Publication**

In this paper, a systematic literature review is conducted using 73 selected studies covering various cybersecurity risk management frameworks. This section attempts to analyze the publication pattern of the filtered studies. This helps to reveal the current state of research in the cyber risk management. Figure 3 shows the distribution of studies conducted during the past two decades. The year 2013 witnessed the highest number of publications. It dropped in 2014, and since then there has been a gradual increase, that indicates the slow increase of interest of the oil and gas sector in cyber risk management. The distribution of technical and non-technical studies and their classification into concept, review and case study paper has been presented in the figure 4 and 5 respectively. Figure 6 represents the leading countries on cybersecurity research based on the region. Remarkably 47% papers are from US, that shows their increasing interest in the area.

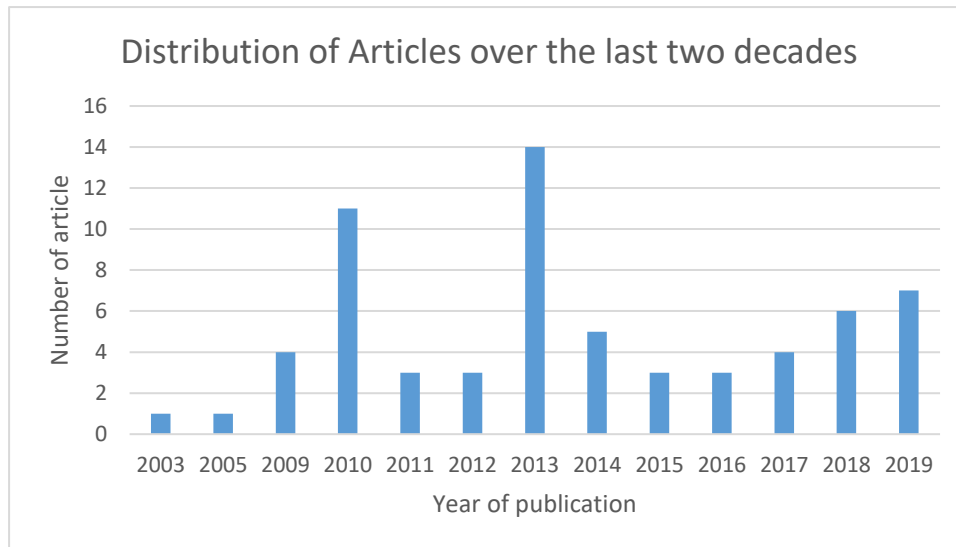


Figure 3: Trends in Cybersecurity Risk Management publications over the last two decades

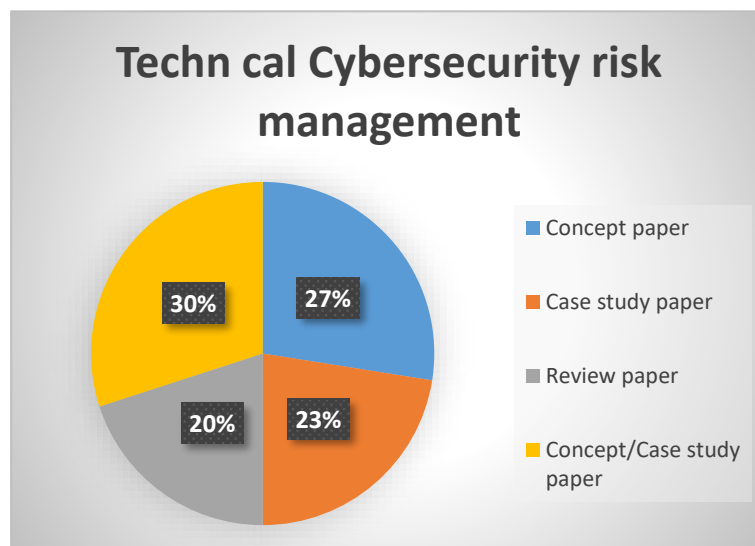


Figure 4: Distribution of technical cybersecurity risk management papers

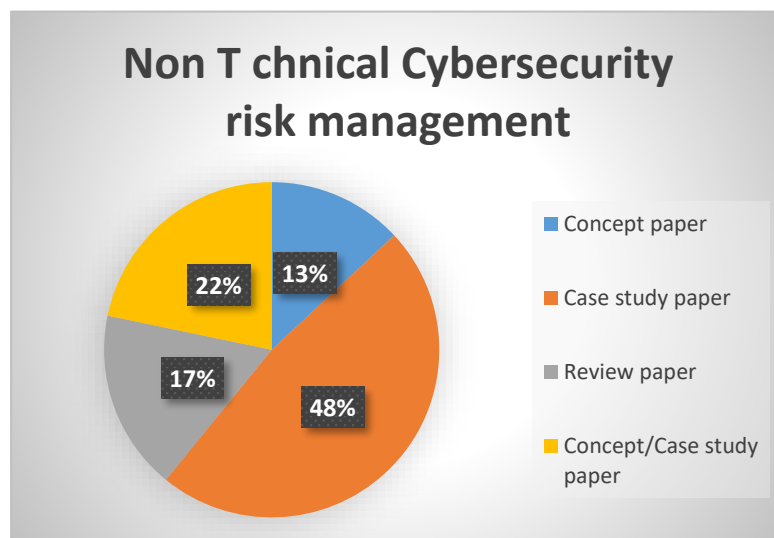
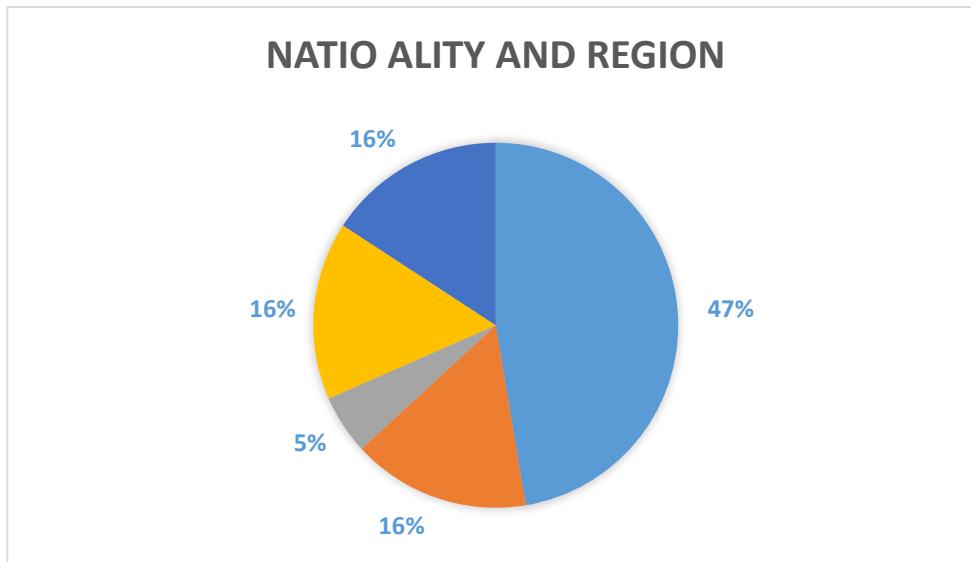


Figure 5: Distribution of non-technical risk management papers



*Figure 6: Distribution of filtered study with respect to region*

## **5.2. Factors affecting the Cybersecurity Risk Management**

The analysis of the selected papers revealed that earlier research investigated cybersecurity risk management in various contexts, e.g. different industries, companies, respondents and sample sizes). However, almost all the articles deal with different set of factors. The continuous increase of research related to cyber-risk management, further identified different critical success factors related to cyber risk management in the literature. Although many studies consider the common dimension of critical success factors (for example, commitment of top management). But unfortunately, none of them deals with the broader dimension of critical success factors that could later lead to development of a holistic framework (Hietschold et al., 2014). This study fills in this research gap by identifying a number of critical success factors and their dimensions, that could later contribute to the emergence of comprehensive cyber risk management framework.

*Table following on the next page*



Dimension	Critical Success Factors	Study
Social and environmental responsibility	Intention to comply with the ISP; Elements of social bonding include: attachment to families, commitment to social norms and institutions (school, employment) (social influence), involvement in activities, and the belief that these things are important; expectations of personal efficacy	Hirschi, (1969); Bandura, (1977); Ajzen, (1991); (Pahnila et al., 2007); Ng et al. (2009); Herath and Rao (2009); Siponen et al. (2009); (Jondle et al., 2013); Ali and Panneer Selvam (2020)
Training and learning	General information security awareness	(Bulgurcu et al., 2010); Ng et al. (2009)
Personal Norms and Beliefs	beliefs, attitudes, subjective norms, and perceived behavioral control	Ajzen (1991); Fishbein & Ajzen (1975); Pahnila et al. (2007); Myyry et al. (2009); Li et al. (2010); Yoon and Kim (2013); Ali and Panneer Selvam, 2020)
Stakeholders	Stakeholders perspective stakeholders dialogue reciprocity of the stakeholder's behavior, stakeholder balance	Pahnila et al. (2007); Freeman, 1994; Ardichvili and Jondle (2009)
Top management leadership and commitment	management guidance and support, organizational commitment, leadership perspective, leadership employee's security behavior, senior management actions, policies and values of the organization.	Leach (2003); Ng et al. (2009) Herath and Rao (2009) Siponen et al. (2009) (Ardichvili and Jondle, 2009); (Jondle et al., 2013) Yoon and Kim, (2013); Campbell (2016) Ali and Panneer Selvam, 2020)
Culture and communication	organization's security culture, organizational and individual beliefs and ethical culture, threat appraisal and facilitating conditions, perceived behavioral control, coping appraisal, rewards, the clear and visible peer security practices, clear representation of threat to organization and the level of severity.	Fishbein & Ajzen, (1975); Ajzen, (1991); Leach (2003); Pahnila et al. (2007); Siponen et al. (2009)
Risk analytical approach	Process Integrity, and Long-term Perspective	(Ardichvili and Jondle, 2009) (Jondle et al., 2013)
Organizational structure	Lower levels of centralization, formalization and hierarchical relationships performance of organizations Integration of supply chain mechanistic structure of organizations internal, customer, and supplier integration	(Ebrahimi et al., 2018)

*Table 1: Factors affecting cybersecurity risk management*

Table 1 represents several studies using different methodologies. All the factors identified from the existing literature were categorized into eight broad dimensions. It was found that top management leadership and commitment [(Leach (2003); Ng et al. (2009); Herath and Rao (2009); Siponen et al. (2009); Ardichvili and Jondle (2009); Jondle et al. (2013); Yoon and Kim

(2013); Campbell (2016); Ali and Panneer Selvam, 2020)] and employees and user's social and environmental responsibility (including their personal norms and beliefs) [Hirschi, (1969); Bandura, (1977); Ajzen, (1991); Pahnla et al. (2007); Ng et al. (2009); Herath and Rao (2009); Siponen et al. (2009); Jondle et al. (2013); Ali and Panneer Selvam (2020)] play the most important role in the human cyber risk management.

## **6. KNOWLEDGE GAPS AND FUTURE RESEARCH**

Risk management cannot only rely on statistical and mathematical models for cybersecurity management. The security of technology is only one aspect of risk management. Humans play an important role in securing the information systems and networks. These are the humans who use the probability, predictive and analytic models to make informed decision and opt to follow or violate the organizational or governmental processes. In the businesses, it may rise the financial cost of the project usually called 'pouring good money after bad'. It was found that the research in the area of cyber risk management primarily focuses on the information security, followed by project management, and psychology respectively. Unfortunately, there is a lack of interdisciplinary studies and from the perspective of criminology. Cybersecurity in oil and gas is a complex issue involving overlapping and interaction of different fields. Therefore, there is a need to have an interdisciplinary study embedded in all organizational activities in the cybersecurity context. Surprisingly, none of the selected articles has been studied in the context of oil and gas sector or project. Much emphasis has been placed on retail businesses and banking sector respectively. The unit of analysis in all the shortlisted studies is organization. There is a potential to explore human behavior and intention in the context of projects. In the technical risk analysis, it was pointed out that the models do not consider the human aspect of the risk management. The same applies to the human vulnerabilities as only one study takes into consideration the probability model. However, the attitude, beliefs, habits and technical knowledge all play an important role in employees and users' decision to comply with security policies. It is also evident that some aspects of human vulnerabilities are more mature than others. For example, there is plenty of work in the field of IS and understanding human intentions, perceptions and their actual behavior. But, on the other hand, ICS (information cyber security) and interdisciplinary studies in the oil and gas industry have been ignored. Overall it seems that there is a potential for conducting more research in this area.

## **7. CONCLUSION**

- During the review, it was found that no systematic literature review has been conducted on human aspect of cyber security risk management, whereas, in the technical risk management, systematic literature review has been limited to the Bayesian models used in cyber risk management.
- The publication trends from the filtered articles revealed that there is a demand for international collaborations and sharing of knowledge for the effective cyber risk management especially in the oil and gas sector.
- After analyzing the filtered studies, some unique relationships appeared. With respect to technical and human cybersecurity all the studies were designed with various aspects of technology and human beliefs, intentions, behavior and environment respectively. But none of them studies their interrelationship.
- The reviewed articles explicitly or implicitly applied theories from different areas of knowledge to address either technical or human intentions or actual behavior, except few that took into account interdisciplinary approach. There is need to further investigate the cyber security topic from the perspective of other fields such as criminology (for example, rational choice theory) as well as the information cyber system and integrate them together.

- Both technical and non-technical risk management studies have been conducted in relation to information system and not ICS (information cyber security). The review of the technical risk management models revealed that cybersecurity models are used to address primarily the issues related to IT environment, rather than ICS.
- It is also not clear that either these models can be used in control room environments with operator. Moreover, its ambiguous how to utilize these models to respond to multi-step attacks.
- There is a need to study these models further especially the applicability of DS evidence theory in the oil and gas industry.
- The technical models usually focus on the insider's threat. Therefore, they fail to take into account both insiders and outsiders, and their interaction (that is, social engineering or collusion attacks).
- From technical perspective, it is relatively better covered but the fast pace of digitization poses a challenge for cyber security to keep up the pace. Due to increased sophistication of technology in the form of neural networks and artificial intelligence, there has been an increased trend to use deep learning. Therefore, the models need to be upgraded to keep up the pace of technological transformation.
- There is need to further investigate the Bayesian models and explore what else they have to offer to manage cybersecurity risks in the oil and gas sector.
- Cybersecurity in oil and gas sector is a complex phenomenon requiring multi-disciplinary approach. Henceforth, there is a need for a holistic interdisciplinary research encompassing all organizational processes in the projects in the context of cybersecurity.
- There are various studies that discussed about non-technical cybersecurity risk management theories, but surprisingly, none of them has been studied in the context of oil and gas project or sector. Much emphasis has been placed on retail businesses and banking sector respectively.
- Different factors have been identified by the current studies that impact effective cyber risk management. This study presents all the critical success factors available in literature and categorize them into seven broad dimension.
- The unit of analysis in all the shortlisted studies is organization. There is a potential to explore human behavior and intention in the oil and gas projects.

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## COHESION POLICY AND COVID-19 CRISIS

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### ABSTRACT

*Evaluation of the EU cohesion policy provides valuable evidences that can be used to improve the implementation of the policy in the next programming periods. There are different studies and evaluation reports which confirm the benefits of the EU cohesion policy, but the effects are not always positive and equally spread across countries, regions, urban areas. This is confirmed when analysing data on regional disparities, while there are also more complex researches that give various conclusions on the effects of the EU cohesion policy. The main aim of the paper is to present an overview of the discussions about the benefits of the EU cohesion policy as well as to highlight the constraints in its implementation. The main characteristics of the EU cohesion policy will be briefly presented, followed by the chosen evaluation results. The EU cohesion policy must also anticipate and react in different crisis situations. Separate part of the paper provides an overview on the role of the EU cohesion policy in responding to current Covid-19 crisis. Approaches, new instruments and synthesis of the results will be presented to derive conclusions about the opportunities that EU member states (can) use to mitigate the effects of the crisis. The paper confirms the importance of EU cohesion policy in recent and previous crisis, but also gives guidelines that should be observed in more detailed in order to achieve effective responses. Long-term goals of the EU cohesion policy should not be ignored in the responses to Covid-19 crisis, the absorption of funds should be fast, but directed on key needs, which will produce the greatest impacts on results/development and that will not increase disparities.*

**Keywords:** Cohesion policy, Covid-19 crisis, Evaluation

### 1. INTRODUCTION

Cohesion policy of the European Union (EU) contributes to the main goals of the European integration, but also to national, regional and local needs. It enables EU member states, regions, cities and rural areas improve their development perspectives, to become more competitive and more resilient in this turbulent, global world. The EU cohesion policy gives support for job creation, competitiveness, economic growth, sustainable development, improves quality of life and is delivered through EU funds (European Commission, 2021k). This policy has a long been an important pillar of the EU, but also subject to much debate and evaluations (Fratesi and Wislade, 2017). There are different studies that confirm the influence of the EU cohesion policy, where it is often seen that these influences differ. It can be noticed that even though the EU cohesion policy presents significant and unique investment policy, there is a constant necessity to observe the effects, highlight the contributions, but also attempts to reduce obstacles which sometimes slow down the implementation or even lead to insignificant effects.

Second (connected) aspect that should be emphasized here is that EU cohesion policy has confirmed its role in previous crisis situations. The main aim of this paper is to present an overview of different discussions connected with the benefits and constraints of the EU cohesion policy. In the next section this will be elaborated relying on previous researches and evaluation results. A separate section of the paper will provide more detailed analysis on the role of the EU cohesion policy in responding to current Covid-19 crisis, where synthesis of the main approaches and instruments, with preliminary results will be given. Final section highlights conclusions that arise from this review.

## **2. BENEFITS AND CONSTRAINTS OF THE EU COHESION POLICY**

*"In whichever country you live, take a careful look around you and you will definitely notice a school, a bridge, a hospital, a port or any other project that benefitted from EU funding and has made a difference in your life. These are just a sample of what cohesion policy can do. Its effects are countless and growing over time"* (European Commission, 2021a). Even though the benefits of EU funded projects are visible across EU member states, different scientific and professional papers, data analyses, evaluation and policy reports confirm contradictory conclusions about the effects of the EU cohesion policy. It can be seen that the effects are unequally spread and sometimes the impacts are not positive as expected. Discussion about the benefits and constraints of the EU cohesion policy implementation, can be connected with its main aim, reducing regional disparities. Detailed analysis of regional disparities and the convergence process among EU regions is presented in Monfort (2020). By using different methods and instruments, in the analysis performed at different geographical levels, the author confirms that before the economic crisis 2008, disparities among EU regions has been decreasing so convergence was achieved. The crisis stopped convergence within the EU-28 (even though the effects were different across regions), disparities were growing within many EU member states and the impact of the crisis has been long-lasting as the EU has recovered from the crisis but the convergence process has not. His paper confirms *„that such a large-scale shock, even if temporary, can have permanent or at least long-lasting effects on convergence. This will need to be factored into the recovery process from the Covid-19 outbreak“* (Monfort, 2020, p. 22). Furthermore, Monfort (2020) highlights that growing disparities threaten popular support for the European project. Unevenly distributed negative effects contribute to Euroscepticism. This also coincides with the discussions that were seen about the multiannual financial framework and new programming period 2021-2027, but also with the discussions about previous financial frameworks and about the reforms of the EU cohesion policy. In Becker (2019) can be found more detailed, valuable scientific discussion on the reasons of criticism of the cohesion policy since its establishment. The author explains that the debates are connected with the task, the purpose and the significance of the policy. Fratesi and Wishlade (2017) give an overview of previous studies with the different conclusions about the impacts of the EU cohesion policy (e.g. the authors present research that has determined that EU cohesion policy helped to reduce the socio-economic disparities between core and peripheral areas in Europe and other study that maintained that there was no evidence of the Structural Funds having an impact on regional growth). The reasons for this is explained by the fact that EU cohesion policy is a multifaceted policy that seeks to address different economic and social objectives, while sometimes it is impossible to separate economic and social impacts. Interventions in different policy fields have different influences and spillovers on aggregate impacts. The aid intensity varies, there are influences of other policies, data availability, geographical scale. Conflicting results of different analysis have had a limited impact on policy development.

Analysis on „conditioning factors“ seems to be more helpful for policy-makers, so context and conditions for effective EU cohesion policy should be investigated (Fratesi and Wishlade, 2017). The authors also elaborate on the previous studies where the reasons for heterogeneous results in econometric estimates of the impact of EU Structural Funds on regional growth can be seen in data characteristics, estimation methodology and the presence of regressors other than the Structural Funds. Darvas, Collin, Mazza and Midões (2019) highlight that there are numerous papers which deal with effectiveness, convergence, inequality, governance and other aspects of cohesion policy, but that there are few papers that analyse the characteristics of successful programs and projects. Differences in growth effects of the EU structural funds can be found also in Mohl and Hagen (2008), where the authors (among other conclusions) show that the growth impact occurs with a time lag of approximately two to three years and that the regional impacts differs regarding different types of objectives. Differential benefits of the EU cohesion policy across member states is also presented in Crescenzi and Guia (2020). The regionally differentiated impact of the EU cohesion policy can be found in cohesion reports (e.g. Dijkstra, 2017), reports which provide a complex overview on the state of the Union's regions and territories (Monfort, 2020). In the chapter about the impact of EU cohesion policy of the “Seventh report on economic, social and territorial cohesion”, the results of the macroeconomic models suggest that cohesion policy investment will have a positive and significant impact on the EU economy (GDP) and that the impact is greatest in the main beneficiary countries. The impact at the regional level is also estimated and shows variations across the EU and within the countries (Dijkstra, 2017). Opportunities of EU cohesion policy are especially important for the new EU member states. Besides integration effects and opportunities to use EU funds, EU cohesion policy influences on the design of domestic policy interventions, where new development themes and concepts can be implemented (e.g. smart cities, social innovations, green cities, integrated urban development...). Through participation in cohesion policy it is possible to change the structure of public investments and increase the effects on the long-term competitiveness (Maleković, Puljiz and Keser, 2018). This overview confirms the need to continuously monitor and evaluate EU cohesion policy in order to determine the effects, give recommendations for future actions and possible reforms, which also recognizes European Commission and EU member states. Cohesion policy has been the subject of many evaluations, mid-term, ex-post evaluations conducted on operational programmes, thematic studies, meta-evaluations of the European Commission, as well as the focus of numerous academic studies from different disciplines (Fratesi and Wishlade, 2017). Evaluation reports (more on: European Commission, 2021f, 2021g, 2021h), can give guidelines to estimate if cohesion policy contributes to different development goals (on various levels) and to improve the implementation of the policy. Today, there are also valuable databases on European Commission – Eurostat (2021) and European Commission (2021d) that can be used to evaluate the effects in more detail. In a discussion about the benefits and constraints of the EU cohesion policy, there is one important aspect that should be observed in more detail. As Dotti (2020) explains, which is also confirmed in previous studies and policy reports, EU cohesion policy was an effective policy tool in most recent crises (e.g. refugee crisis, crises connected with natural disasters, global economic crisis etc.). Becker (2019, based on Deffaa, 2016) similarly affirms that the dramatic fall of economic activity, investments and employment in 2010, was “a wake-up call for EU cohesion policy”. This implies that EU cohesion policy can rapidly respond to emergency situations. During the 2020 started global “emergency situation”. Next chapter gives a review on the instruments that are connected with the EU cohesion policy and which are used to respond to current Covid-19 crisis.

### **3. ANOTHER „CALL FOR HELP“ FOR THE EU COHESION POLICY – RESPONSE TO CORONAVIRUS CRISIS**

In 2020 Covid-19 affected almost all countries, with significant health, socio-economic consequences, lockdowns, uncertainties, serious multiple crisis, short-term and long-term unfavorable effects (OECD, 2020). OECD (2020) verifies the importance of investigating the regional and local impacts of the Covid-19 crisis, which are heterogeneous. The authors present asymmetric regional impacts in dimensions such as health, economic, social and fiscal areas. Kapitsinis (2020) studies the spread of Covid-19 across regional economies in nine EU countries and confirms that the impacts of coronavirus Covid-19 are regionally differentiated. The risk is that a pandemic will further enhance territorial inequality, especially in parts of Europe that have not fully recovered from the previous crises (Bachtler, Mendez and Wishlade, 2020). This and similar researches confirm the need to include territorial approach in analysing Covid-19 effects as well as in policy responses. Place-based approach was applied in many government actions at all levels, e.g. OECD (2020) describes that this can be seen on policies surrounding masks or lockdowns, in providing fiscal support to protect firms, households, vulnerable populations, regions particularly hit by the crisis, in allocations of the recovery packages (OECD, 2020). As the other countries, European countries struggle with the impacts and consequences of the pandemic. According to the forecasts published in May 2021, the EU economy will expand by 4.2% in 2021 and by 4.4% in 2022, growth rates will vary across the EU and returns of the economies of the EU member states to pre-crisis level should be seen by the end of 2020 (European Commission, 2021i), but here we should highlight that this refers to forecasts and that Covid-19 will remain a public health concern still in 2022. From different EU initiatives, policy presentations and more comprehensive studies (especially those relevant to the health sector) can be seen that the EU actively reacts on the permanent health and economic crisis, through policy changes, new instruments and reallocations, where EU cohesion policy is seen as important solution. As mentioned in the previous section, this was not the first time that the EU cohesion policy helps in crisis situations. In July 2020, European leaders agreed on recovery package for the EU economy that will finance the EU's response to the consequences of Covid-19 through the Next Generation EU, which is combined with the 2021-2027 budget (Crescenzi, Giua and Sonzogno, 2021). Below is presented an overview of instruments of the EU cohesion policy that are used in responding to Covid-19 crisis. European Commission (2021b) confirms that solidarity and responsibility across and between EU countries are important in fighting against the Coronavirus consequences, where collective and coordinated actions are needed. This can be seen through different approaches from integration to lower levels of governance. In April 2020 the Commission provided a rapid response through: the Coronavirus Response Initiative (CRII) and the Coronavirus Response Investment Initiative Plus (CRII+), which were endorsed by the European Parliament and the European Council (European Commission, 2021b). According to Bachtler, Mendez and Wishlade (2020), the CRII initiative provided liquidity to Member State budgets by delaying the repayment of pre-financing and making expenditure that are connected with the Coronavirus crisis eligible, while CRII+ introduced further flexibility, regarding the possible transfer of resources between Structural Funds, between different categories of regions and regarding the flexibility in thematic concentration obligations. Funding from EU cohesion policy (European Structural and Investment Funds, ESIF) and the EU Solidarity Fund are seen as an opportunity and have important role in the CRII. Initiative wants to mobilize existing EU budget resources to provide support for an immediate response of the EU member states to the crisis, to channel the money where most is needed as soon as possible. Cohesion policy rules were also used for the Coronavirus related expenditure, while greater flexibility was necessary to reallocate financial resources on the areas of greatest need, such as the health sector, support for SMEs (small and medium-sized enterprises) and the labour market (European Commission, 2020a).

The first CRII package consisted of funds for immediate liquidity to accelerate European public investment, flexibility in applying EU spending rules and extend the scope of the EU Solidarity Fund. CRII+ introduces extraordinary flexibility, simplifies procedural steps, use of financial instruments and audit (European Commission, 2020c). Another important (frequently used) measure that arises from the initiative and should be highlighted is the 100 percent EU co-financing rate that was introduced for the accounting year 2020-2021 (Bachtler, Mendez and Wislade, 2020). CRII+ also provides support to the most deprived, where the rules for the Fund for European Aid to the Most Deprived are changed (European Commission, 2020c). The scope of the EU Solidarity Fund was enlarged. The fund is used to support countries hit by natural disasters, but in response to the Covid-19 and the health crisis the fund covers also major public health emergencies (European Commission, 2020a, European Commission, 2021c). According to European Commission (2021c), funding from the EU Solidarity Fund can cover part of public expenditure on rapidly assisting people affected by a major public health emergency caused by Covid-19 and protecting the public against the risks. The funding includes different medical, health sector and civil-protection-type measures, e.g. medical assistance, laboratory analyses, personal protective equipment, special assistance to the public, development of vaccines or medicines, improving preparedness planning capacity and related communication, sanitation etc. (European Commission, 2021c). In May 2020 another package was introduced, the new REACT-EU (Recovery Assistance for Cohesion and the Territories of Europe). This package supplements the previous crisis responses and measures, while also includes connection with the long-term recovery plan European Commission (2021b). This new type of funding represents the highest single-policy grant instrument in the EU budget, a top up to funding available in 2014-2020 programmes and additional to the allocations 2021-2027 and amounts EUR 47,5 billion (European Commission, 2021b). This initiative is instrument to connect the emergency crisis response and the long-term recovery (European Commission, 2020b). The funds can be used for projects that foster coronavirus crisis repair capacities and investments in operations contributing to preparing a green, digital and resilient recovery, where the success will depend on the strength – financial allocation, speed (by using existing programmes until 2023) and flexibility of the rules for the implementation (European Commission, 2021j). The REACT-EU regulation has been adopted on 23 December 2020 (European Commission, 2021j). These resources will be distributed from the European Regional Development Fund (ERDF), the European Social Fund (ESF), the European Fund for Aid to the Most Deprived and the Young Employment Initiative. Besides financing health sector, supporting SMEs, job maintenance, etc., financing should also be directed to support transition towards a digital and a green economy, providing access to services, especially for people in vulnerable situations and to support measures in the regions that are depended on vulnerable sectors (European Commission, 2021j). In order to use the flexibilities offered by the initiatives, EU member states requested amendments to their existing EU cohesion policy programmes, the Commission has modified internal procedures to achieve faster implementations, the administrative burdens have been alleviated, which confirms the attempts to implement different simplification in order to achieve higher benefits for all EU member states (European Commission, 2021b). Here can be briefly concluded, that the existing funds have been re-oriented, while new funds are available in all EU countries and regions to achieve the most possible effects, that is to mobilise the funds to get maximum possible assistance in activities against coronavirus. Member States have opportunities to immediately address key priorities in emergency situations: cover expenditures on healthcare, supportive measures related to labour market and SMEs working capital (European Commission, 2021b). Tracking the Covid-19 responses represents a challenge in cohesion policy because original monitoring systems were not designed to track the flexibility measures which are introduced as the results of the crisis (European Commission, 2021e).

The European Commission proposed a list of indicators to monitor the outputs of actions connected with the Covid-19 responses, with the purpose to support accountability, transparency and communication on different levels (Bachtler, Mendez and Wishlade, 2020). Coronavirus Dashboard on the Open Data Platform (European Commission, 2021e) can be used to analyse how the funds have been used in response to Covid-19 so far. Below can be found a brief overview of the main conclusions, while more detailed, separate analysis can be performed by using mentioned database in future studies, including also more complex analysis of the impacts, evaluation of the cohesion policy measures which are taken as a response to Covid-19. With higher data availability across all EU member states it is expected that these aspects will motivate numerous researches. According to data presented on the Dashboard, it is confirmed that the main focus of investments of the CRII, CRII+ measures refers to the health sector, to business sector and supporting people (including vulnerable groups). As of May 2021, figures on the volume of mobilised resources are (European Commission, 2021e):

- Regarding “reprogramming”: EUR 7.4 billion in EU reallocations for health actions, EUR 12 billion in EU reallocations in business support, EUR 3.8 billion of direct support to people, including workers and vulnerable groups.
- Regarding “financing and modified rules”: a EUR 7.6 billion immediate increase of liquidity, 176 cohesion programmes have opted for 100% EU co-financing, EUR 5.7 billion has been transferred between the Funds and between categories of regions.

The European Commission tracks the before/after changes in financial allocations before the Covid-19 crisis and tracks new Covid-19 indicators, while in addition to the Covid-19 specific indicators some programmes have also used other national indicators (European Commission, 2021e). From the available database (European Commission, 2021e) it can be concluded that:

- Health investments were supported in the 2014-2020 programmes with more than EUR 10 billion of EU support. The transfers of funds within and across the ERDF and ESF has resulted in a net increase in support to health actions, where the highest increases in EU allocations, changes in planned EU support to health care were seen in Spain and Italy.
- SMEs need urgent financial support, for current cost, but also to adapt to new circumstances. Changes in support to business, which encompasses different areas, has increased the most in Italy and Greece. Changes in planned EU support to enterprise intervention field imply significant changes in support regarding generic productive investments in SMEs, SME business development, entrepreneurship and incubation, investment in SMEs directly linked to research and innovation activities. Amendments to the ERDF rules enabled to provide grants to support working capital of SMEs affected by the crisis, simplified support for working capital loans and guarantees. Support is also seen through flexibility in the use of financial instruments.
- ESF support represents primary support for people to combat the effects of the pandemic. The highest amount of ESF support planned to combat the effects of a pandemic, according to the Dashboard, and having in mind constraint of the database (the total amount of support is higher because data for this aspect in the database refers to one of the Covid-specific indicator etc.) is seen in Italy and Poland. The structure of investments includes e.g. support to short-time work arrangements, supplementary wage for health care personnel, services for vulnerable groups etc.

Here will be interesting to investigate in more detail the results on the implementations based on targets for different (health, business, ESF investments, etc.) output indicators. The second set of measures under CRII and CRII+ helps to increase liquidity. European Commission allows EU member states to keep the unspent funding and to accelerate expenditure related to the Covid-19 pandemic.

The highest 2019 annual pre-financing amounts not recovered are determined in Poland and Spain (European Commission, 2021e). Many countries use the option of 100% European co-financing and modify their cohesion policy programmes. Transfers between funds and categories of regions were also possible (e.g. for the regions most affected), as mentioned before in the text, which is also confirmed in a Dashboard (European Commission, 2021e). Besides these indicators, in studies on the role of EU cohesion policy in mitigating the effects of the Covid-19 crisis, it would be useful to observe more detailed data about the EU's cohesion policy investments in health, including other funds and programmes, as well as examples of the impacts of the projects that were successful in using EU funds for health. Contributions in proposing recommendations how to respond to this crisis can be seen also in Research Networks on EU Cohesion Policy (Dotti, 2020). But, Dotti (2020) highlights another important question which should be observed and can be seen as part in some of the mentioned initiatives, whether Cohesion Policy should be used as the main instrument in different crises, regarding its role to address long-term objectives? Bachtler, Mendez and Wishlade (2020) warn also on the dilemma whether Member States can spend the resources effectively and the concern if there is sufficient coherence across the new EU recovery instruments with cohesion policy. It is highlighted again that long-term structural objectives and spending priorities of EU cohesion policy should not be undermined. Böhme and Lier (2020) present EU cohesion policy measures in response to the Covid-19 pandemic and discuss that the measures which are used to strengthen the role of national authorities and that recovery measures might represent constraints for long-term structural change, as well as risk for increasing regional disparities, even though the authors recognize the importance of the Policy in times of crises (especially its short-term responses). These aspects should be investigated in future studies, where some important more detailed considerations for investigation and implementation are presented also in the mentioned paper (e.g. ensuring strategic and long-term dimensions, strengthening multilevel governance and the cooperation...). Here is necessary to add that the preparation in advance (even though some events cannot be anticipated), building strong societies presents important part which should not be omitted when investigating the role of Cohesion Policy in crises. This can be connected with the opportunity to use different EU funds that can help in attempts to create resilient nations, regions and cities, which can be directed towards strengthening the potentials to react on the crisis, if these sources are adequately absorbed. The synergy of different instruments should lead to positive added value and not overlapping effects or competition in financing. Kapitsinis (2020) presents underlying factors that influence regional uneven mortality rate of Covid-19, such as air quality, demographics, global interconnectedness, urbanization trends, historic trends in health expenditure as well as the policies implemented to mitigate the pandemic. Studies on underlying factors can help in determining important preconditions and areas for investments that can contribute to reduce unfavourable consequences on time. In investigating the responses to a crisis, there is also a question of timely implementation of the projects with the highest contribution. Crescenzi, Giua and Sonzogno (2021) use sample of projects funded by EU cohesion policy to explore what type of actions and projects can contribute to the quick response to Covid-19. This approach helps them to develop a framework and give guidelines for the selection of recovery projects which will have the highest likelihood of contributing to the success of the Next Generation EU, where they recognize the negotiated participatory selection procedures for the projects as the most time-effective approach. When considering investment recovery strategies associated with the Covid-19 crisis, OECD (2020) warns that speed should not be the only criteria in investment projects, it is also important to observe the risk of fragmentation in financing, where long-term priorities should be in focus (which again confirms the need to observe other funding opportunities before, during and after the crisis). The OECD (2020) comments the results of the investigation among the 300 EU regional and municipal governments surveyed by the OECD and Committee of the Regions, in

(June) 2020, which (among other conclusions) imply on the increasing importance of subnational finance and well-funded mandates, clearly established roles and responsibilities, coordination in the design and implementation of measures among all levels of government. The role of trust and partnership among different actors is important for the success. The crisis is also motivating governments to observe the regional development as a tool for building regional resilience, through more accessible services, reducing digital divides, achieving net-zero carbon emissions, using the opportunities of globalisation (OECD, 2020). The theme of resilient regions and cities is an important part of cohesion policy implementation. Regarding the stronger effects of the crisis in some urban and in unfavourable areas, there are different instruments directed toward specific territories that should be activated on time. These themes can be discussed in future researches on the results of the implementation of the Covid-specific measures.

#### 4. CONCLUSION

Tracking cohesion policy impacts represents important, complex research question. Discussions, differences in conclusions about the effects of the EU cohesion policy, with its significant share in the EU budget, confirm the need to monitor and evaluate various aspects of the EU cohesion policy implementation, including conditioning factors for success. In order to give a broader overview of the benefits and constraints in the EU cohesion policy implementation, this paper observes and determines the importance of the EU cohesion policy in rapid response to Covid-19 crisis, through CRII, CRII+, REACT-EU and other intervention measures. These instruments supplement ambitious recovery plan of the European Commission. Existing funds have been re-oriented and new funds are available to address key priorities (e.g. in healthcare, business support measures, support to people) and to help recovery. Different levels of government must be included in Covid-19 recovery. Long-term goals of the EU cohesion policy should not be ignored in the responses to Covid-19 crisis. The paper also highlights the need to create resilient societies and to prepare in advance on possible shocks, where EU funds can significantly contribute. The absorption of funds should be fast, but directed on key needs and potentials that will produce balanced, positive, long-term effects across and within all European regional economies. Stiglitz (2020) warns that the post-pandemic world could experience even greater inequalities unless governments reacts properly. Regarding EU cohesion policy, there are potentials to boost convergence and achieve balanced recovery, but the approach must be adequate. Future studies can be focused on estimating the effects of particular EU cohesion policy measures which have been implemented as a response to the Covid-19 crisis, including also results based on „common“ Covid-19 indicators and analysis that will observe the most efficient way to connect short-term interventions and long-term goals of the EU cohesion policy.

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## **PROSECUTOR'S OFFICE OF THE REPUBLIC OF BULGARIA: ENSURING COMPLIANCE WITH LAW IN THE COURSE OF INVESTIGATIONS**

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### **ABSTRACT**

*The Bulgarian Prosecutor's Office is called upon to monitor compliance with the law by bringing to justice those who have committed crimes and supporting the charges in criminal cases of general nature, supervising the implementation of criminal and other coercive measures, taking action to repeal illegal acts and restoration in quick and urgent cases of self-violated rights and taking part in civil and administrative cases whenever required to do so by law. In the last few years, significant progress has been made by the Republic of Bulgaria in relation to combating crime and enforcing the rule of law. As a result of the excellent interaction between the judiciary, presented by the Prosecutor's Office of the Republic of Bulgaria on the one hand, and the executive, presented by the Ministry of Interior Bodies, State Agency for National Security, Commission for Anti-corruption and illegal assets forfeiture (CACIAF), and other institutions, a number of actions have been taken to prosecute a number of persons occupying high state positions for corruption crimes committed by them.*

**Keywords:** *Prosecutor's Office of the Republic of Bulgaria, Compliance with law, Functions, Jurisdictions*

### **1. INTRODUCTION**

A significant progress was made by the Republic of Bulgaria in the last few years with regard to combating crime and enforcing the rule of law. As a result of the cooperation between both the judiciary represented by the Prosecutor's Office of the Republic of Bulgaria and the executive power represented by the authorities of the Ministry of Interior, State Agency for National Security, Commission for Combating Corruption and Confiscation of Illegally Acquired Property and others institutions, was conducted criminal prosecution against a number of senior government officials for corruption offenses committed by them, including ministers and deputy ministers. The criminal liability of some of the richest Bulgarian citizens, whose property was acquired in a criminal way, and for whom the public opinion is that they are untouchable from the point of view of Bulgarian justice, is also engaged. As a result of these actions was affirmed within the society a sense of justice and equality before the law of all with no respect to their property status or social status. In a natural way this led to a high level of public approval of the actions of law enforcement agencies in the recent years.

## **2. ENSURING COMPLIANCE WITH LAW IN THE COURSE OF INVESTIGATIONS**

The activities of the Prosecutor's Office of the Republic of Bulgaria were highly appreciated not only by the Bulgarian society but also by the former composition of the European Commission in relation to the established Cooperation and Verification Mechanism (CVM) in the field of justice and internal affairs. Thus within the last issued monitoring Report on the progress of Bulgaria is pointed out the implementation of all criteria and moreover the Commission expressed the opinion that the progress achieved by the Republic of Bulgaria with regard to the CVM has been sufficient for the implementation of the engagements of the state committed since its accession to the EU. This statement does not in any way lower the expectations for beneficial results in the fight against corruption and organized crime in our country. Therefore, the efforts of the law enforcement bodies shall not remain accidental phenomenon but to become a tendency of strengthening the rule of law in the Republic of Bulgaria. There are also some concrete outcomes, which have an immediate implication on the social life. For example, the Republic of Bulgaria has one of the most secure capitals within the whole European Union. A concrete implication for that is the circumstance that the amount of undisclosed homicide cases last year is extremely low, namely – only two. There is also an increase of the detectability of other criminal activities according to which the society is extremely sensitive. In April last year, only one month after the committed offence, were detained the perpetrators and were imposed criminal liability for the committed by them brutal beating of the Bulgarian journalist Slavi Angelov in the city center of Sofia. The process of the detection of the accused persons was significantly hard for achieving because of the efforts of the perpetrators to cover their traces – they wore masks and hoods and after the committed crime they disappeared in different directions. There was a high public interest in the investigation, on the one hand because of the authority of Slavi Angelov as one of the best and prominent home journalists and editor-in-chief of a leading daily newspaper and on the other hand because of the circumstance that the committed against him beating is significantly serious violation of the freedom of speech. The fight against another long-lasting socially dangerous phenomenon having an implication on the well-being of the Bulgarian citizens, especially in the smaller towns, namely the conventional or the so-called domestic crime (thefts, robberies, etc.) is also one of the priorities of the law enforcement and prosecutorial institutions. Since the beginning of the last year, shortly after the beginning of the mandate of the newly appointed prosecutor general, in accordance with an issued by him Order was created a new organization jointly with the Ministry of Interior for countering such criminal offences. In this regard on the territory of different towns were conducted systematic specialized police operations aiming neutralization of persons suspected of committing such crimes. As a result of the activities of the Prosecutor's Office and the Ministry of Interior there was a significant decrease (about to one third) of the registered crime events of this type. A priority of the Prosecutor's Office is this to become a lasting trend in the future resulting in solving the problem with the domestic crime until the end of this year. These activities are actually a way of restoring the trust of Bulgarian citizens in the law enforcement bodies, which is of great importance also for achieving the goals of and overcoming the challenges faced by the Prosecutor's Office of the Republic of Bulgaria. Despite of the progress made and the achieved results in front of the Prosecutor's Office are standing concrete tasks and goals. The challenges of the Prosecutor's Office of the Republic of Bulgaria continuing to be the fight against the conventional crime, in particularly the crimes against the person and corruption. In this regard could be defined some group of problems, especially the countering corrupt practices, on first place in accordance with the existing legislation regulating the criminal proceedings. The Criminal code is adopted in 1968 in terms of socialist to that time period social order and planed economic that despite of his multiple changes do not answer enough the actual social economic circumstances.

Another consideration that should be mentioned is the extreme formalism of the Criminal Procedure Code exacerbating the criminal proceeding to a significant extend and hampering both the prosecutors and the investigative authorities and the court officials by the implementation of their duties. The function of the last group of official is also the overstated standard for proving by which the prepared by the prosecutor of charge indictment shall define all the circumstances to the extent as the prosecutor himself had been a witness of the criminal activity, which is unjustified level of detail. Another challenge faced by of the Prosecutor's Office of the Republic of Bulgaria is the correlation between the independence and responsibility of the magistrates. In order to have such responsibility it shall be made good developed monitoring mechanism guarantee the implementation of the provided disciplinary penalties and least but not last – the lack of enough political will for establishing legal base for effective functioning judicial system.

### **3. WRITTEN INSTRUCTIONS OF THE PROSECUTOR GENERAL**

The functions of the Prosecutor General, including the functions of supervision of legality and providing methodological guidance, cannot have an impact on any prosecutor in solving specific criminal proceedings. Following the amendments to the Judiciary Act in 2016, the Prosecutor's Office of the Republic of Bulgaria is no longer a centralized structure. The hierarchical subordination and centralization is preserved only between the administrative heads of the prosecutor's offices themselves and to the Prosecutor General. Regarding the explicit power of competence of the Prosecutor General in two separate directions and two separate powers:

- Methodological guidance of the activity of all prosecutors and investigators (Art. 136, para 5, Judiciary System Act<sup>7</sup>, analogically Art. 46, para 5 Criminal Procedure Code) for accurate and uniform application of laws and protection of the legal rights and interests of the citizens, legal entities and the state, by issuing general methodological instructions and guidelines regarding the activity of the Prosecution (power according to Art. 138, para 1, item 6 of Judiciary System Act). These are general acts, they generally refer to the activity of all prosecutors and investigators, they have the characteristic of recommendations, giving organizational preconditions and containing methodological indications for accurate application of law. Through the general methodological guidelines, containing principle directions for similar cases (often in case of legislative amendments) it is precisely the accurate and uniform application of laws by all prosecutors that is achieved. At the same time the methodological guidelines and directions, as being general and of principle, promote professional development and support the independent and autonomous exercise of prosecutorial activity. They do not refer to a specific case. The experts who carried out the Independent Analysis of the Structural and Functional Model of the Prosecution recommended that as much of the methodological guidelines and written regulation of the criminal prosecution as possible should be made public, as far as this is compatible with national security and effective criminal prosecution (2016). This recommendation has been partially implemented, and the current leadership of the Prosecutor's Office considers that the positive practice of publishing more acts of this kind should be continued, which will lead to full transparency in cases where the Prosecutor General has exercised his powers of methodological guidance.
- The exercise of legally regulated powers and supervision of legality in specific cases, in accordance with what is explicitly provided in the law (for example Art. 243, para 10 of Criminal Procedure Code, claims for reopening of criminal cases in line with Chapter thirty three of the Criminal Procedure Code etc.). By exercising the explicit power of competence of the Prosecutor General for supervision of legality (Art. 46, para. 5 of the CPC (2015)) in specific cases, the legal principle for supervision of legality is put into effect concerning

certain hypotheses, falling within the competence of the Prosecutor General, in accordance with the legal requirements. There is a relation between both jurisdictions of the Prosecutor General. This relation is expressed in the fact that through the effective methodological guidance and the accurate and uniform application of the law by all prosecutors and investigators, the need for the Prosecutor General to rule on specific cases is objectively limited and is not realized. There are many legal restrictions of the powers of the Prosecutor General, these are not absolute and are exercised according to legally regulated procedures. Moreover, the experts who carried out the Independent Analysis of the Structural and Functional Model of the Prosecutor's Office ascertained these circumstances and made recommendations for more active involvement of the Prosecutor General in specific cases, which is the practice in many prosecution services of EU (2021; Terziev, et al. 2021b; 2021c). The recommendation in the Independent Analysis of the Structural and Functional Model of the Prosecution that "the standard for decision-making on internal conviction should be amended, especially what concerns the part of the Prosecution" (2016). For this to happen amendments to the structural Judiciary System Act are needed as well as to the Criminal Procedure Code. The view, expressed in the independent analysis, that the lack of opportunity for anyone to intervene in the final decision of a junior or other prosecutor assigned with the case (even when the case is supervised by an appellate prosecutor) is a characteristic of the Bulgarian system, which causes problems (2016). Furthermore, the experts do not hide their surprise that at present administrative heads have no role in confirming, amending or revoking the prosecutorial decisions of their subordinates, given the fact that prosecutors at regional and district level are subordinate to their administrative heads.

The opinion that if the current legal framework is preserved in this form, it is necessary to take appropriate measures to issue an instruction that will give clear methodological guidelines on the application and interpretation of Art. 14 of the CPC. The Experts have expressed the view that "it is precisely the change of this standard, along with providing more guidelines by the Prosecutor General that would lead to greater consistency in the decision-making process within the prosecution service and increase the likelihood of achieving a final conviction." The cited recommendations show that the legal powers of the Prosecutor General of the Republic of Bulgaria are even more limited than the powers of similar figures in the judicial systems of the other EU states.

#### **4. WORKLOAD OF PROSECUTORS AND INVESTIGATORS**

According to CPC the investigating bodies are investigating magistrates and the employees of the Ministry of Interior appointed at the position of "investigating police officer", the employees of the Customs Agency, appointed at the position of "investigating customs inspector". According to the current legal framework – Judiciary System Act, Ministry of Interior Act, Customs Act, the investigate bodies are appointed after a competitive procedure, which is organized and conducted by the Prosecutor's College of the Supreme Judicial Council for the investigators and with regard to the investigating police officers and the investigating customs inspectors, by the respective body to which they are appointed - Ministry of Interior and Customs Agency. The Prosecutor's Office is not directly involved in conducting competitions for investigative bodies: it does not participate in competitions for investigative police officers in the bodies of the Ministry of Interior and the Customs Agency, and with regard to investigators, its participation is limited to including representatives in competition commissions, elected by a lot by the Prosecutor's College of the Supreme Judicial Council. The workload of prosecutors and investigators in the Specialized Prosecutor's Office is in a certain imbalance, and it should be noted that this actually occurs in certain periods of time.

This is because some cases are assigned on duty, according to a schedule approved in advance by the administrative head. In this period of time it is not possible to control the number of pre-trial proceedings initiated and distributed to the prosecutor who is on duty. This imbalance is partially overcome by the possibility, existing in the Internal Rules, approved by the Prosecutor General, for the distribution of files and pre-trial proceedings on the principle of random selection in PRB to exclude the overloaded prosecutor / investigator from the distribution of newly initiated files and pre-trial proceedings for up to 20 days. Such a problem was found during the thematic audit of the Specialized Prosecutor's Office at the beginning of the previous year. For overcoming it the administrative head was instructed to perform monthly monitoring of the number of distributed files and pre-trial proceedings by prosecutors and investigators in order to take actions ex officio in case of uneven workload. The Supreme Cassation Prosecutor's Office exercises control over the established mechanism for ensuring an even workload of the prosecutors and investigators from the Specialized Prosecutor's Office, and at the end of the year a thematic revision on the same issue will be carried out by the Appellate Specialized Prosecutor's Office (Terziev, Georgiev, Bankov, 2020a; 2020b). The fight against corruption is one of the priorities in the activity of the Prosecutor's Office of the Republic of Bulgaria, due to which in approving the internal structure of the investigation department in the Specialized Prosecutor's Office, by order of the administrative head, a separate anti-corruption sector has been included. Investigators who have more than 8 years of experience, 5 years of which as a judge, prosecutor or investigator, are assigned to investigate cases of corruption offenses committed by MPs, members of the Council of Ministers, chairmen of state agencies and state commissions, judges, prosecutors, investigators, members of the Supreme Judicial Council, inspectors in the Inspectorate to the Supreme Judicial Council and others, exhaustively listed public positions in the provision of Article 411a, paragraph 1, item 4 of the PPC.

## **5. INTERACTION WITH OTHER STRUCTURES IN THE FIGHT AGAINST CORRUPTION**

The interaction of the Prosecutor's Office with the competent state bodies for counteracting corruption is regulated in the respective special laws, on the basis of which the acts for interaction have been concluded, which according to the changes in the legislation are updated in due time. These are the following:

- The Anti-Corruption Commission (ACCIAP) pursuant to the Anti-Corruption and Confiscation of Illegally Acquired Property Act (ACCIAPA) in force of 23.01.2019, which regulates the measures for counteraction to corruption, the conditions and the procedure for confiscation of illegally acquired property in favor of the state, the status and functions of the Anti-Corruption Commission (ACCIAP), the interaction of the Commission with the Prosecutor's Office and with other state bodies is explicitly regulated (Art. 1, item 4 and Chapter Three of the ACCIAPA).
- The law also determines the scope of the crimes (listed in Art. 108, para. 1 of ACCIAPA<sup>22</sup>), for which the prosecutor is obliged to notify immediately the relevant directorate of the Commission in accordance with the development of the case (in case of refusal to initiate pre-trial proceedings; suspension or termination of the State Prosecution on the grounds explicitly stated in Article 108, paragraph 2 of the ACCIAPA, the submission of the case to the court with a prosecutorial act under the PPC - indictment, decree with a proposal to release the perpetrator from criminal liability with imposition of an administrative penalty or with an agreement to settle the case in court); in case of imposed precautionary measures on the property of the accused on the grounds of Art. 72 PPC.
- The bodies of ACCIAP and the other competent state bodies (Art. 16, para. 2 ACCIAPA) carry out inspections assigned to them by the Prosecutor's Office under the Judiciary Act

by collecting, analyzing and checking information during and on the occasion of information about events of corruption of persons holding senior public positions.

The joint acts for interaction with KPCONPI are:

- Instruction for interaction between the Commission for Anti-Corruption and Confiscation of Illegally Acquired Property and the Prosecutor's Office of the Republic of Bulgaria for implementation of the activities under Chapter Nine by the bodies under Art. 16, para. 2 of the Anti-Corruption and Confiscation of Illegally Acquired Property Act (promulgated SG, issue 82 of 05.10.2018, in force since 05.10.2018);
- Rules for interaction between the Prosecutor's Office of the Republic of Bulgaria and the Commission for Anti-Corruption and Confiscation of Illegally Acquired Property in application of Art. 72 of the Code of Criminal Procedure - ref. № 1186 of 22.11.2019 - regarding the secured property by the order of the PPC and its storage and management by ACCIAP by the order of the special law.

In order to effectively combat corruption at the highest level, in accordance with the competence granted to them, the Prosecutor's Office, the Ministry of Interior, the State Agency for National Security, the National Revenue Agency, the Customs Agency, the General Inspectorate of the Council of Ministers, the Inspectorate of the Supreme Judicial Council and the inspectorates under Article 46 of the Administration Act. The joint acts for interaction of the Prosecution with other state bodies are as follows:

- Rules for coordination and interaction between the Prosecutor's Office of the Republic of Bulgaria and the Ministry of Interior on conducted operational cases, conducting inspections and conducting urgent and initial actions in the investigation (Order № LS 2556 of 23.08.2013);
- Agreement for interaction and cooperation between the Coordination Council in the fight against offenses affecting the financial interests of the EU and the Prosecutor's Office (2019).
- Agreement for interaction between the Prosecutor's Office of the Republic of Bulgaria and the Agency for State Financial Inspection, № 1-33 dated 13.01.2017; for PFIA-№ 11-02-6 of 13.01.2017
- Agreement for cooperation and interaction between the Bulgarian National Audit Office and the Prosecutor's Office of the Republic of Bulgaria - № 1-28 / 15.01.2019;
- Rules for interaction between the Prosecutor's Office of the Republic of Bulgaria and the National Revenue Agency (Order № LS-4687 of 20.10.2014 of the GP);
- Agreement for cooperation and interaction between the Prosecutor's Office of the Republic of Bulgaria and the Financial Supervision Commission № GP - I-772 dated 23.06.2014;
- Agreement for ensuring access of the Inspectorate to the SJC to the information systems of the Prosecutor's Office of the Republic of Bulgaria - ref. №246 dated 28.02.2019, etc.

Along with the mentioned acts, the signed Memorandum of Understanding between the Prosecutor's Office of the Republic of Bulgaria and the European Investment Bank should be taken into account, as well as the forthcoming conclusion of an Agreement between the Prosecutor's Office of the Republic of Bulgaria and OLAF within a few days.

## 6. CONCLUSION

The concept of corruption covers not only the acts of active or passive bribery and trading in influence, incriminated in Section IV, Chapter VIII of the Special Part of the Criminal Code, but by order of the Prosecutor General in 2014 a Unified Catalogue of Corruption Crimes was introduced, which includes other crimes in which an official abuses his official position for his



own or another's benefit., possibly in return for payment. In this regard, in the last two years, a number of criminal proceedings have been instituted against some of the richest Bulgarians, who have exceptional financial and economic resources through which they can actively participate in corrupt practices. Such actions are unprecedented in their scale for the last thirty years, and the actions of the Prosecutor's Office in this direction continue with high intensity.

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## **BALANCING FREEDOM AND THE COMMON GOOD IN HUMAN RIGHTS DISCOURSE: JUDICIAL APPROACHES TO LEGAL CHALLENGES RELATING TO COVID-19 REGULATION AND INTERVENTION IN THE UK**

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### **ABSTRACT**

*The novel coronavirus pandemic has presented unprecedented challenges to individuals, businesses, and governments around the world. There has arguably never been a comparable global crisis of this scale and severity, though we may face challenges similar in scope in the future if there is not global action on other evolving issues such as global warming, and other global sustainability challenges. In this paper it will be argued that the response to SARS-CoV-2 presents a unique window into examining the tensions between individual freedom and measures implemented for the common good. This paper will examine select legal challenges to government regulations and interventions in response to the SARS-CoV-2 pandemic to distill the principles that UK courts are employing to balance individual freedom and the common good in the application of human rights. In *R. (on the application of Dolan) v. Secretary of State for Health and Social Care* [2020] EWCA Civ 1605, the Court of Appeal emphasises the principal of balancing individual rights and the general interests of the community in applying the European Convention on Human Rights, finding that the pandemic is sufficient rationale for restrictions on individual rights. The balancing of Convention Rights, however, as illustrated by cases such as *Philip v Scottish Ministers* [2021] CSOH 32, *Free Speech Union v Office of Communications* [2020] EWHC 3390 (Admin), and *Leigh v Commissioner of Police of the Metropolis* [2021] EWHC 661 (Admin) can result in varying outcomes depending on the weight afforded to different aspects of the proportionality analysis. It will be argued that whilst this balancing approach may not leave the legal observer with a confidence in the predictability of the outcome of such cases in the future, it may have the advantage of a desirable flexibility as we continue to face greater collective challenges in the future.*

**Keywords:** Human Rights, Proportionality, SARS CoV-2, UK

### **1. INTRODUCTION**

There is an intrinsic tension within human rights discourse between the protection of individual freedoms and the common good. Whilst not the first crisis of its like (eg. Minenko, 2021) the SARS-CoV-2 pandemic that spread across the globe in late 2019 has provided the background for incredibly heated and divisive manifestations of this tension in countries across the world. In the UK home 'lockdown' orders, mask mandates, and vaccination 'passports' have all elicited strong responses both from the proponents of individual freedoms, and the advocates supporting the public health measures. In the courts, this battle has been fought both in the realm of constitutional limitations, and human rights discourse. This paper will specifically examine how the courts have approached the inherent tension in the human rights analysis between individual freedoms and the common good (or public interest, terms which here will be used interchangeably). This paper will first provide an introduction to proportionality (the general judicial approach for balancing state action and human rights). It will then review some of the criticisms proffered of this approach, in particular the criticism that the proportionality test "has neither consistency nor coherence" (Barak, 2012, p. 482). Once the general jurisprudential framework has been examined this paper will explore how this framework has been applied to state restrictions imposed in response to the SARS-CoV-2 pandemic in the UK.

This analysis will confirm reflects the criticisms that the test may provides too much "interpretive room" (Iacobucci, 2003, p. 158). The analysis will also demonstrate, however, that a specific and detailed application of the proportionality test provides enough "interpretive room" to both serve the public interest and protect human rights.

## **2. PROPORTIONALITY AND ITS CRITICS**

This tension between individual freedoms and the public interest is manifest not only in the fact that many human rights are qualified rights (Sweet and Matthews, 2019, p. 32), but also in the judicial proportionality approaches found in human rights jurisprudence in countries around the world. In the UK, the Human Rights Act 1988 (HRA 1988) adopted the Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR), and in effect jurisprudence from the European Court of Human Rights in Strasbourg. The text of the ECHR, and the jurisprudence arising from Strasbourg and the UK Courts, balances the preservation of freedom and the necessity of limitations on these freedoms in the interest of the common good. Article 5, for example provides that "everyone has the right to liberty and security of person" (ECHR). This right however can be derogated in accordance with the law in several different circumstances, including "the lawful detention for the prevention of the spreading of infectious diseases, of persons of unsound mind, alcoholics or drug addicts or vagrants. (ECHR, Art. 5(e)). The courts are therefore tasked with deliberating on when these freedoms are to be protected, and when it is a legitimate for a state to restrict these freedoms. The SARS-CoV-2 pandemic provides the opportunity to observe the judicial balancing of freedoms and the common good in relation to the limitation of freedom in the context of a public health crisis.

### **2.1. The proportionality test**

Since the inception of human rights protections, courts have been developing judicial tests in order to determine where a freedom is being unduly restricted by the state. Jurisprudential consideration of Convention rights has developed the concept of proportionality. Barak defines proportionality in the human rights context "as the set of rules determining the necessary and sufficient conditions for a limitation of a constitutionally protected right by a law to be constitutionally permissible" (2012, p. 3). The proportionality test is comprised of four stages wherein "the question depends on an exacting analysis of the factual case advanced in defence of the measure, in order to determine (i) whether the objective is sufficiently important to justify the limitation of a fundamental right; (ii) whether it is rationally connected to the objective; (iii) whether a less intrusive measure could have been used; and (iv) whether, having regard to these matters and the severity of the consequences, a fair balance has been struck between the rights of the individual and the interests of the community" (*Bank Mellat v HM Treasury (No 2)* [2013] UKSC 39, para 20 (*Bank Mellat*)). The proportionality test has been the subject of many learned commentaries. It would be beyond the scope of this endeavour to do an exhaustive review of the elements of the proportionality test. It is however, useful to engage in a brief review of the different branches of the analysis. In order to trigger the application of the proportionality test, it must first be established that a right has been limited. This step places the onus of proof onto the petitioner to establish that the state has imposed some restriction upon a protected right. At this stage of the analysis any state limitation in exercising a right is generally accepted and triggers the application of the proportionality test (Barak, 2012; Sweet & Matthews, 2019). Even in instances where the state has revoked the measure which infringed the right courts have been willing to apply the proportionality test to provide precedent for the future.

In both *Philip v Scottish Ministers*, [2021] CSOH 32 (*Philip*) and *R. (on the application of Dolan) v Secretary of State for Health and Social Care*, [2020] EWCA Civ 1605 (*Dolan*) the court proceeded with the proportionality analysis even though some of the challenged measures had ceased or were soon to be revoked. Whilst the particular issue may be moot, these judgments provide guidance for legislators for future state actions.

#### *2.1.1. The proportionality test – Proper purpose*

Once the burden of establishing that a right has been discharged, the first stage of the proportionality test is 'proper purpose' test. This stage of the analysis seeks to determine whether the legislative objective is appropriate. Barak categorises 'proper purposes' into four categories, "specific purposes appearing in general and specific limitation clauses" (2012, p. 260), "implicit purposes" (2012, p. 261), "protection of the rights of others" (2012, p. 262), and "public interest considerations" (2012, p. 265). These are useful categories as they allow for the categorisation of different legislative intentions by their sources. For example, "specific purposes appearing in general and specific limitation clauses" (2012, p. 260) are found within the relevant human rights document. In Article 9(2) the ECHR, for example, the right to "manifest one's religion or beliefs shall be subject only to such limitations as are prescribed by law and are necessary in a democratic society in the interests of public safety, for the protection of public order, health or morals, or for the protection of the rights and freedoms of others." There is therefore a built-in identification of measures that would be considered to be proper objectives for limiting the enumerated right. "Implicit purposes" (2012, p. 261) are objectives that may not explicitly appear in the text of a human rights document, but may be read in based upon the text in the document. As Barak notes, "constitutional silence should not be interpreted as a negative solution" (2012, p. 262). The "protection of the rights of others" (Barak, 2012 p. 262) recognises that the rights of one individual or group may have the effect of limiting the rights of other individuals or groups. This consideration is particularly acute when positive rights are invoked (Möller 2012, Stoyanova 2018, Mattei, Ugo, Albanese, Rocco Alessio and Fisher and Ryan 2019). Barak's final category of proper legislative purposes, "public interest consideration" (2012, p. 265) invokes many similar rights conflicts, as this category includes such jurisprudential land mines such as the interests of national security which has pitted fundamental rights against state interests in a world where terrorism is a continuing threat (eg. *R. (on the application of Begum) v Special Immigration Appeals Commission*, [2021] UKSC 7).

#### *2.1.2. The proportionality test – Rational connection*

The second branch of the proportionality test is whether the legislative measure is connected to the legislative purpose. At this stage of the analysis the issue is not whether it is the best, most logical, or least intrusive means for achieving the objective. The concern is only whether there is a logical connection between the measure and the intended outcome. As Rivers explains "[t]he second stage of proportionality considers whether the decision, rule or policy under review is capable of pursuing the legitimate aim identified by the public authority" (2006, p. 196). There is, however, latitude built into this stage of the analysis. Indeed the first two stages of the analysis function to ensure the "public duty to avoid illegitimate aims and ineffective means" (Rivers 2006, p. 198). As such, this test has been called a "threshold test" (Barak 2012, p. 315), rather than a "balancing test" (Barak 2012, p. 315). This test therefore requires only a logical factual linking between the measure imposed and the objective that it seeks to achieve. Later branches of the proportionality analysis is where a detailed balancing of the specific measures with the infringed right is more fully considered.

### *2.1.3. The proportionality test – necessity test or "the less restrictive means" test*

The third branch of the proportionality test has been called the "necessity test" (Barak, 2012), or the "less restrictive means test" (Barak, 2012). It has been argued that this test is an expression of the "Pareto efficiency" principle (Rivers 2006, Beatty 2004). The Pareto efficiency test asks whether a less intrusive measure could be imposed "at no cost to anyone and to the benefit of one person." (Marzal 2017, p. 637). This formulation, however, has been criticised as "transforming proportionality to a technocratic norm" (Marzal 2017, p. 622) which does not allow for "fuzzy evaluative assessments" (Marzal 2017, p. 637) like the more philosophical deliberations of the values of a democratic society. Jurisprudence has also recognized that the less restrictive test does not allow for a court to substitute its measures without a level of consideration. The court should not create its own schemes that may achieve the aims of the measuresless impairment of the right. This was noted by Justice Sopinka in the Supreme Court of Canada in *R. v. Butler*, [1992] 1 S.C.R. 452 wherein "it is not necessary that the legislative scheme be the "perfect" scheme, but that it be appropriately tailored in the context of the infringed right" (p. 504-5). Whether one accepts the more factual formulation of the necessity test (Pareto efficiency), or a more incommensurable version of the test it is required that the state action is determined to be the least restrictive alternative in relation to the purpose of the measure.

### *2.1.4. The proportionality test – balancing test*

The final branch of the proportionality test is the balancing test. At this final stage the court balances the benefits of the measures with the harm caused by the limitations of the rights. There is an abundance of academic analysis of this final test, which mirrors the larger criticisms of the overall proportionality test. This test has been described as a "balance between costs and benefits" (Cianciardo, 2010, p. 181), which invokes criticisms that these balancing measures can not protect human rights so long as there is an "end which is important enough and a means that can be justified by that end" (Cianciardo, 2010, p. 182). This has led to efforts to formulate a doctrinal construction of the proportionality test (the balancing test in particular) to avoid the incommensurability of the balancing test (Barak 2010). Another critique is that when adjudicating the weight of human rights and individual freedoms the application of terms such as costs and benefits is not an exercise with "a common metric to assess the relative importance of values or interests that come into conflict in rights adjudication" (Barak, 2012, p. 38). There is an alternative analysis proposed by former Supreme Court Justice Frank Iacobucci, emerging from the Canadian version of the proportionality test, which argues that the final 'balancing' test should rather be conceived as a stage where rights can be reconciled. He argues that rather than viewing the analysis as conflicting rights being balanced at the final stage (*eg.* the state interest in public health vs. the individual's freedom), it should instead be seen as a reconciliation between rights (*eg.* the right for the public to be protected from a pandemic needs to be reconciled with the individual's freedom) (Iacobucci 2003). Iacobucci's argument is therefore that the final stage of balancing allows for the specific factual circumstances to define the scope of the rights that need to be reconciled, allowing for "properly defining the scope of the right [which] avoids a conflict in [the] case" (*Trinity Western*, [2001] 1 S.C.R. 772, para 29).

## **2.2. Critiques of the proportionality test**

The current endeavour may be to examine how the UK courts are deliberating on alleged human rights infringements in the context of the SARS-CoV-2 pandemic, however, a brief dalliance into the critiques of the proportionality test serves to better define the ongoing theoretical and philosophical debates. As has been foreshadowed by the above discussion, the proportionality test is familiar to quite a few, in particular Commonwealth, jurisdictions.

As such, criticisms arising from the jurisprudence of countries other than the UK is instructive. Whilst it is a rough characterisation, criticisms of the proportionality test can be mapped along a spectrum of certainty on one hand and 'incommensurability' on the other (to borrow the term from Barak (2012, p. 482). On the one hand there is a desire for rights to be fundamental, absolute, and inviolable. On the other there is the more complicated world where different rights conflict with the exercise of others. This is one common criticism of the proportionality test – balancing rights ultimately means that they are not being protected as the violation of such rights can be rationalized (Cianciardo 2010, Ramshaw 2017, Tsakyrakis 2009). For rights to be meaningful they should be certain and absolute, not subject to qualification. Another criticism, specifically of the proportionality test itself, is that the balancing of rights and interests is an irrational exercise based upon no common criteria (Habermas 1996). As Barak summarises:

- The argument is that any act of balancing between competing interests is based entirely on intuition and improvisation. It lacks any rational foundation. It is not based on any rigorous criteria. In addition, it lacks an objective component and instead relies entirely on subjective considerations of the person conducting the balance (be it a legislator, judge, or a member of the executive branch). herefore, similar cases receive different solutions and therefore the notion of balancing is arbitrary (2012 p. 484-485)

There are rejoinders to these criticisms, which to describe fully would also be beyond the scope of this particular exploration. One defence, from a Justice who is familiar with these determinations, was discussed earlier. As Justice Iacobucci argues, one should not perceive these deliberations as balancing conflicting rights (limiting one right for another), but reconciling rights within their particular scope within the specific facts of the case which he believes "allows courts to make case-specific determinations without sacrificing legal precedent or principle" (2003 p. 156). Whatever the criticisms and defences, however, the proportionality test – in its different versions across jurisdictions – is an essential analytical model for the deliberation of human rights issues and will continue to be the subject of debate so long as human rights are under judicial consideration.

### **3. UK MEASURES IN RESPONSE TO SARS-COV-2 AND HUMAN RIGHTS**

The word 'unprecedented' has been uttered an inestimable number of times since the inception of the SARS-CoV-2 pandemic. In response to this global pandemic the public health measures imposed by government were greeted with a rather polarized response. Indeed, this is not surprising as there has been few global events that have been met with such unprecedented (it is a rather appropriate word) state action affecting the lives of millions. The measures introduced in response to the pandemic included many measures that had a direct effect on individual liberties from home 'lockdowns', curfews, mask mandates, business closures, restrictions on assembly, and restrictions on free expression. These restrictions on individual rights have resulted in multiple human rights challenges. As such, these cases provide a unique window into how the courts have balanced individual freedoms and restriction imposed in the name of public health.

#### **3.1. R. (on the application of Dolan) v Secretary of State for Health and Social Care (Dolan)**

The *Dolan* case is a general challenge against the panopoly or restrictions brought in by regulation in March 2020 and July 2020 under the Public Health (Control of Disease) Act 1984, as amended by the Health and Social Care Act 2008 (Health Protection (Coronavirus, Restrictions) (England) Regulations (SI 2020/350), Health Protection (Coronavirus, Restrictions) (No. 2) (England) Regulations (SI 2020/684).

These regulations included the mandatory closing of non-essential businesses, the closure of places of worship, prohibitions against persons leaving their houses, and prohibitions on public gatherings. Criminal penalties were applied to these offences, however, the regulations included an exception of reasonable excuse. It is notable that the procedural background of this case is an application for judicial review. *Dolan* was an appeal of a Queen's Bench decision refusing permission for judicial review. The Court of Appeal, however, has the discretion to determine the claim itself rather than submit it to the High Court. The appellants had challenged on three grounds. First, that the regulations were *ultra vires*. Second, that the regulations were unlawful under public law. Thirdly, that they violated Convention rights under the HRA 1998. The only matters that will be examined here are the Convention grounds. While various Convention challenges were in fact academic, as the measures were no longer in force, the court addresses them as they had heard the full arguments (para 42). The regulations were challenged based on Article 5 (personal liberty), Article 8 (respect for private and family life), Article 9 (freedom of religion), Article 11 (right to peaceful assembly), First Protocol Article 1 (peaceful enjoyment of possession), and First Protocol Article 2 (right to education). Chief Justice Lord Burnett of Maldon, Lord Justice King and Lord Justice Singh dispose of the challenge to the home 'lockdown' regulation as a violation of Article 5 by finding that these orders were not indeed a deprivation of liberty under Article 5 as they were "subject to numerous, express exceptions, which were non-exhaustive, and the overriding exception of having a reasonable excuse" (para 93). According to this analysis there is not even a requirement to engage in analysing the express exemptions in Article 5(1)(e) relating to the controlling infectious disease and engage in a proportionality analysis. They also determined that the regulations did interfere with respect for private and family life (Article 8). As a qualified right they found that the government had to be afforded a "wide wide margin of judgement" (para 97) and dispensed with the proportionality analysis in a rather perfunctory manner. The court found that "there can be no doubt that the regulations did constitute an interference with article 8 but it is clear that such interference was justified under article 8(2). It was clearly in accordance with law. It pursued a legitimate aim: the protection of health. The interference was unarguably proportionate" (para 96). Article 9 (freedom of religion) is not dealt with as it is determined to be an academic matter as the restrictions had already been suspended, though they note that another case on this issue, *R. (on the application of Hussain) v Secretary of State for Health & Social Care*, [2020] EWHC 1392, was pending in the High Court. Mr. Hussain later lost his application for interim relief on the grounds that the infringement of his Article 9 rights was not disproportionate (para. 24). The court also determines that the infringement of Article 11 (right of peaceful assembly) rights was proportionate considering the exceptions provided, and the "powerful public interests which lay behind" (*Dolan*, para. 103) the restrictions. The nature of the infringement of the rights in relation to Article 1 of the First Protocol (peaceful enjoyment of possession) is characterized as a control of use matter, and not the deprivation of property. This characterization, and the "exceptional situation created by the pandemic" (para 108) led to the disposition that there was no disproportionate interference with Article 1. They also find that the measures implemented related to Article 2 of the First Protocol (right to education) are also not in violation as "article 2 of the First Protocol, reflecting a theme which runs throughout the Convention, envisages a fair balance having to be struck between the rights of the individual and the general interests of the community. In the exceptional circumstances of the pandemic, there is no arguable ground on which a court could interfere with the actions of the Government in this respect" (para 114). While procedurally *Dolan* is an appeal to a decision refusing judicial review, and thus squarely within administrative law, the case has been subsequently used as precedent in relation to its treatment of Convention rights (*Leigh, Francis*). The application of full proportionality test, however, is notably absent.

### **3.2. Leigh v Commissioner of Police of the Metropolis [2021] EWHC 661 (Admin)(Leigh)**

In *Leigh* the applicants requested an interim declaration relating to the Metropolitan Police Service's decision prohibiting a vigil to commemorate the tragic passing of Sarah Everard in Clapham Common. The police has issued a commjunction to the organisers stating the vigil couldn't proceed and "the vigil would be illegal and that their hands were tied by the COVID-19 regulations" (para 5). The applicants challenged the decision on Article 10 (freedom of expression) and Article 11 (freedom of assembly and association). The court declines to make an interim declaration primarily on the administrative law grounds that the communication do not amount to a decision, and is therefore not reviewable under judicial review (para 27). The court does however, relies on *Dolan* in relation to the Article 10 and 11 challenges:

- In *R (on the application of Dolan) v Secretary of State for Health and Social Care* [2020] EWCA Civ 1605, the Court of Appeal had to consider, amongst other things, the compatibility of an earlier version of the Regulations with provisions of the Human Rights Act. The court dealt with Article 11 at paras. 101 to 106. It is common ground between the parties in these proceedings that the reasoning of the Court of Appeal in those passages applies equally to the regulations with which I am concerned today. The court rejected the submission that the regulations were inconsistent with the rights conferred by Article 11 to peaceful assembly and association. They did so on the basis that the regulations provided a general defence of "reasonable excuse" (para. 101).

The court therefore relies on *Dolan* to dispose of the Article 10 and 11 challenges with very little discussion of the nature of the impairment of the right, or whether the measure is proportionate.

### **3.3. Free Speech Union v Office of Communications [2020] EWHC 3390 (Admin)**

The *Free Speech Union* case is an application for judicial review of Guidance Notes to broadcasters issued by Ofcom relating information about the SARS CoV-2 pandemic. As in *Dolan* an *ultra vires* argument is made, in addition to an Article 10 (freedom of expression) challenge. The Communication Act 2003, s. 318 allows for Ofcom to set standards in programming to secure standards objectives. One of these objective is to set standards relating to preventing "the inclusion of advertising which may be misleading, harmful or offensive in television and radio services" (Communications Act 2003, s. 318(h)). The Ofcom Guidance Note states that broadcasters must take care when broadcasting " statements that seek to question or undermine the advice of public health bodies on the Coronavirus, or otherwise undermine people's trust in the advice of mainstream sources of information about the disease" (Ofcom, 2020, p. 2). The broadcaster, however, can "editorial decisions about how to provide adequate protection to the audience in the circumstances" (Ofcom, 2020, p. 2). In light of the content of the Guidance, Mr. Justice Fordam concludes that the guidance was "legitimately and squarely within Ofcom's vires and squarely compatible with Article 10 freedom of expression under the Human Rights Act and at common law" (para 30). It should be noted that not caselaw is cited in support of this conclusion, and no fulsome proportionality analysis is undertaken in support of this conclusion. As in *Dolan* this is an application for judicial review and therefore has a different legal burden than human rights claims brought through different procedural mechanisms. The burden in the judicial review is whether the court finds a "realistic prospect that [the reviewing court] claim would grant the declarations that were sought on the judicial review claim form" (para 32). This presents a strange Catch-22. The court hearing the application for the judicial review is making this determination without a fulsome analysis of the legal tests that would likely have been applied later in a full judicial review.



### 3.4. Philip v Scottish Ministers [2021] CSOH 32 (Philip)

*Philip* is the judicial review (not just the application for judicial review) of Scotland's closure of places of worship in response to the SARS-CoV-2 pandemic. The measures, brought in under the Health Protection (Coronavirus) (Restrictions and Requirements) (Local Levels) (Scotland) Amendment (No 11) Regulations 2021 (SSI 2021/3) mandated the closure of places of worship in areas designated Level 4, excluding for a few exceptions (funerals, a commemorative event, a marriage ceremony of no more than 5 persons, and essential voluntary services) (Regulation 4(b) Schedule 5 IA). Criminal penalties apply to the contravention of the regulations. The measures were challenged as *ultra vires* the Scottish Parliament, and on the grounds that the measures violated Articles 9 and 11 of the ECHR. The challenge failed on the *ultra vires* argument, which is not going to be reviewed in detail here. On the Articles 9 and 11 challenge Lord Braid held that the measures were not proportional in respect to the freedom to manifest religious belief (Article 9(2)). This conclusion is based upon Lord Braid's fulsome application of the proportionality test. First he finds that the measures pass the legality test and are indeed prescribed by law, "are in precise terms and are not arbitrary in their application"(para 98). He finds that the measures have the legitimate aim to reduce the spread of SARS-CoV-2 virus. On the issue of whether the measures are proportionate he applies the *Bank Mellat* proportionality test. First, Lord Braid holds that the measures have a proper purpose as formulated in *Bank Mellat*, as the protection of the public from disease is an important enough objective to justify the limitation of rights (para. 101). On the second branch of the test Lord Braid finds that measures reducing human interaction are rationally connected with the objective of reducing transmission of the SARS COV-2 virus (para. 103). On the third branch of the *Bank Mellat* test Lord Braid has more difficulty with the measures. He finds that the respondents failed to demonstrate how less restrictive measures could not have achieved the objectives. In particular, Lord Braid identified that restriction on private prayer in places of worship as unjustifiable (para 115). On the fourth branch of the test, the balancing or proportionality arm, he finds that the measures has a disproportionate effect, in particular the restrictions on "all forms of worship, including private prayer, communion, confession and baptism"(para 126). Lord Braid's conclusion that the measures did indeed violate Article 9, however, do not lead him to a remedy which had the effect of overriding the regulations. Instead, he allows time for the respondents to amend the regulations in light of his decision (para 134). When the full proportionality analysis is applied in the *Philips* case it is not so easy for the court to dismiss the more particular effects of the enacted measures on the affected rights.

## 4. CONCLUSION

The SARS-CoV-2 pandemic has presented unprecedented challenges. In the name of public health, we have seen extraordinary measures implemented by the government to control the spread of the pandemic. Many of these measures have had a direct effect on individual human rights. The judicial treatment of the cases arising from these measures provides an interesting window into how the court will balance individual rights with the public interest in the face of a crisis. Human rights jurisprudence provides a rigorous, though not universally liked, test to assist the balancing of human rights and the public interest. The above analysis examines the critiques of this proportionality test, and in particular the criticisms that (1) that the ability of individual rights to be qualified or 'balanced' fundamentally undermines the integrity of those rights, and (2) that balancing lacks consistency and coherence (Barak, 2012). An analysis of the above UK cases on government measures in response to the SARS-CoV-2 pandemic leads to a rather different preliminary conclusion. In *Dolan*, it is not the proportionality test that allows for Convention rights to be abrogated, but rather the failure to apply the proportionality test in a specific and rigorous way. *Free Speech Union* illustrates this problem by dismissing a claim without a rigorous analysis, as it is merely an application for judicial review.

The danger of this procedural loophole is that a decision like *Dolan* (an application for judicial review) can be used as precedent for cases like *Leigh*, which avoids the particular and rigorous application of the proportionality test to the specific issue. When the court fully applies the proportionality test, as in *Philip*, we see a different outcomes with the measure failing to pass the proportionality test. In times of emergency rights need to be protected even more rigorously (Inter-Parliamentary Union and United Nations, Human Rights (Office of the High Commissioner), 2016). When the court applies the proportionality test thoroughly in *Philips* it provides a more nuanced and robust protection of fundamental rights than was afforded in *Dolan*. The fact that the legislative objective is a worthy one should not preclude a more rigorous analysis of the measures impact on rights. *Philips* does not, however, overturn the legislative measure. The decision does put the government on notice that the measures as applied are inconsistent with Convention rights. The full application of the analysis is not therefore a substitution of the court's decision for that of Parliament. It is instead, as Iacobucci describes "a vital exercise since it both invites and facilitates dialogue between the legislative and judicial branches of government"(2003, p. 162). While the critics of the proportionality test speak of it being too subjective and "incommensurable", an analysis of *Dolan*, *Leigh*, *Free Speech Union* and *Philips* demonstrates that it may indeed be the failure to apply the proportionality test in a rigorous way that leads to the erosion of individual freedoms. The problem then, may not be in the proportionality test, but rather in the failure of courts to apply it in a specific and meaningful way.

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