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Editorial office and administration:

Faculty of Business Studies and Law

Jurija Gagarina 149a, Belgrade, Republic of Serbia Tel: +381 (11) 31 31 246

Website: www.economicsandlaw.org e-mail: economicsandlaw@fpp.edu.rs

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FOREWORD

When we launched our magazine twelve years ago, our desire was to bring together scientific ideas about economics and law, areas that can not be separated and that are equally important for the development of society as a whole. At the same time, we thought about the need to critically observe and overcome both these two types of public activities of people. We wished that there would be controversy on the pages of the magazine, because we expected that there would be more cognitive light and that there would be less misunderstanding on the way we chose.

The mission of the magazine is also the intention to present and appreciate the reach of both domestic and foreign experiences, all due to the critical theory of influence.

Over the past seven years, we have made great efforts not to succumb to the temptation to direct the concepts and institutions of economics, law and management from the last century.

We have long noticed that there is a variety of solutions for managing the economy, law, management..., for technologies in these areas. Through our journal, we made them available to the public, both scientific and professional, in order to meet the changes and, why not, to create them.

In the choice of content, we were guided by the knowledge that there are many elements to which economics, law and management must pay attention. Some of them are: economic convergence, information-communication technologies in business, deformation of market competition, challenges of transnational and virtual corporations to domestic companies, creating images, brands...

Large social changes also bring new activities that are expanding and bring about market deregulation and foreign investment. Changes bring a new environment, new hierarchical levels, new responsibilities, and bring us into contact with new people or with same people in new roles. All this leads inevitably to the creation of a competition

of scientific explanations. In this game, our advantage should be this magazine which will also be an incentive for the spread of scientific thought and diversity in the field of economics, law and management.

For this reason, we are starting to index the journals in foreign databases, in order to expose the boundaries for disseminating our information and knowledge. In the following period, we want to be visible to the broad scientific public.

In achieving this intention, we count on, in addition to the experienced scientific staff, also on the scientific youngsters, PhD students from the scientific disciplines covered by our journal. It is our supply for the future - the filigree design of researchers for a new era of knowledge, as well as the critical and constructivist observation of reality.

We invite you to join us and give your contribution in spreading scientific dialogue.

Editor-in-chief

Emeritus professor Života Radosavljević

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RETRACTION No 1.

Retraction No1. for Ljubomir Miljković, Mitja Fabjanis for a April 2021 paper at the International Journal of of Economics & Law:

This article has been retracted at the request of the Editor-in-Chief and and deputy director of the Economic Institute of the Russian Academy of Sciences, Mikhail Lobanov. It was established that the article plagiarized parts of Chapter 4 of the monograph of the scientific advisor Dr. Nataliya Smorodinskaya from 2015: Н.В. Смородинская ГЛОБАЛИЗИРОВАННАЯ ЭКОНОМИКА: ОТ ИЕРАРХИЙ К СЕТЕВОМУ УКЛАДУ pp. 137-175. <https://economicsandlaw.org/vol-11-no-31/>

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Corresponding author: ljubomir.miljkovic@ppr.edu.rs

SUSTAINABLE ECONOMIC GROWTH THROUGH THE CLUSTER-NETWORK APPROACH TO ECONOMIC DEVELOPMENT

¹Ljubomir Miljković

Poslovni i pravni fakultet, Univerzitet u Beogradu, Srbija
ljubomir.miljkovic@ppr.edu.rs

²Mitja Fabjan

Ekonomski inštitut, Solovenija
fabjan@iis.si

Abstract: Global Recession 2007-2009 not only showed the financial-economic crisis in its traditional understanding, but became a kind of announcement of the establishment of a fundamentally different world order, starting with the adaptation of economic systems through a completely new paradigm. The authors show that in the 21st century the world is transitioning to a new, networked way of doing business and doing business based on dynamic horizontal interconnections, and the world economy and its subsystems are being reorganized into cluster network structures - more flexible than hierarchical structures and integrated into the market model. Through the ICT revolution and globalization, economies have been forced to develop on the basis of continuous renewal, i.e. to have innovative economic growth that will be sustainable. The paper presents the evolution of the industrial policy model, its models, as well as the cluster-network approach according to Porter's diamond model. The authors also presented the European smart specialization project through its implementation in the European Union.

Keywords: clusters, smart specialization, networks, industrial policy, competitiveness, productivity, diamond model

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RESEARCH OF THE INFLUENCE OF CONSTITUTIVE FACTORS OF TQM ON THE ENTERPRISE PERFORMANCE

Maja Anđelković

Faculty for Information Technology and Engineering,
“Union – Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: maja.andjelkovic@fiti.edu.rs

Dragana Radosavljević

Faculty of Business Studies and Law,
“Union – Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: dragana.radosavljevic@fpasp.edu.rs,

Radoljub Tomić

Faculty of Business Studies and Law,
“Union – Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: radoljub.tomic@fpasp.edu.rs

Abstract: *The focus of the enterprise strategy with TQM is maximal satisfaction of customer which can be achieved by superior quality supply and business performance which are reflected to the creating value for customers and business owners. The results of the research show a contribution of the TQM to the improvement of business performance, but this contribution varies in intensity depending on the type of performance and used criterions.*

Harmonization of a quality management system by ISO 9001 standards, which are based on principles philosophy of TQM (such a case is considered here), positively affects the operational and market performance of the company, with different intensity of the impact according to the size of companies and the industry sector. The impact of certification on financial performance is obvious and it always could be proofed.

One of the most important conclusion is that companies with certifications of QMS by the requirements of ISO 9001 standards make an effort to improve the quality of business and have a higher level of implementation of TQM, so they create greater benefits from certification as opposed to companies which have primarily motivation leading by marketing interests and requirements which could be competition and pressure of market impacted.

The basic factors of TQM are practically identified in the first decade of this century, and have become the basis for research to the degree of implementation and relationships between the elements of TQM and TQM as whole, and business performance. There is no strict guideline for selecting important factors and KPIs, but their different combinations depend on the skills of the choosing by researchers. Combinations of success factors of TQM could be: customer orientation, continuous process improvement, focus on employees and teamwork, global vision of the organization (first three are directly researched in this paper).

The considered example, by the model of transport-logistic services, is positioned in the supply chain frame.

The results are presented in tabular and graphic forms.

Keywords: TQM factors, QMS, enterprise, performance, KPIs, supply chain

1. INTRODUCTION

1.1. Thematic framework for research

The focus of the company's strategy with TQM is the maximum customer satisfaction that can be achieved by superior quality of supply and business performance, which is reflected in the creation of positive values for customers and business owners.

The impact of quality system certification on financial performance is obvious and can always be proven. One of the most important conclusions is that companies with QMS certified according to the requirements of ISO 9001, strive to improve business quality and have a higher level of TQM implementation, so that they create greater benefits from certification compared to companies that have primarily leadership motivated (as according to market demands, so marketing interests with different actions aimed at strengthening competitive advantage).

The basic factors of TQM were practically became the basis for research into the degree of implementation at enterprise and the relationship between the elements of TQM, TQM as a whole, and business performance. However, there is no strict guideline for the selection of important factors and KPIs, but just rather their various combinations whose choice and combining depend on the skills of the researcher.

Combinations of TQM success factors can be: customer orientation, continuous process improvement, focus on the employees and teamwork, and the global vision of the organization (the first three factors are directly explored in this paper). Analysis, formulation, evaluation and implementation of the strategy are equally important. The percentage of implementation failures can be very significant, at the level of 70-90%.¹

Business strategy defines the way the organization will function in the market. The operational strategy concerns the basic activities through which products or services are realized and delivered. Business activities are broader and concern many processes, such as material procurement, production, inventory management, delivery, satisfaction of customers, employees and stakeholders etc. Therefore, the operational strategy focuses on reducing process costs and improving profits for the entire business.²

Overall performance is possible through precise coordination of business strategies. Strategic fit is a concept that emerges for strategies that must be effective. The results show that business strategy (with innovation and other competitive advantages) and knowledge management strategy (codification and personalization) have a significant and positive impact on business performance (Radosavljević, M., Radosavljević, Ž., 2015). Understanding the importance of strategic integration and its influence to business performance is essential, because the choice of different methods and other factors can affect the performance of the company differently, which can lead to different, often wrong, conclusions.³

The above considerations should show that the authors have considered everything that is relevant to this paper, which is treated as an example at the level of a model of transport - logistics services, that is positioned within the supply chain.

¹ Đuričin, D., Janošević, S., Kaličanin, Đ. (2013). Menadžment i strategija, deveto izdanje, Ekonomski fakultet, Beograd.

² <https://thinkinsights.net/strategy/operational-strategy/>(access:05.04.2022)

³ MUHAMMAD SHAHID KHAN ET AL. (2020). THE MODERATING EFFECT OF STRATEGIC FIT ENHANCES BUSINESS PERFORMANCE: EMPIRICAL EVIDENCE FROM THE TELECOMMUNICATION INDUSTRY.

1.2. Review of research by other authors

The authors studied the literature and numerous examples at the case study level regarding the relationship between QMS, TQM, and enterprise performance. For example: Saraph, J.V., Benson, P.G., Schroeder, R.G. (1989), analyze instruments for measuring critical quality management factors; Flynn, B.B., Schroeder, R.G., Sakakibara, S. (1994), consider a framework for researching quality management and appropriate connectivity with measurement instruments; Powell, T.C. (1995), considers total quality management as a competitive advantage with appropriate empirical study; Milovanović, V. (2018), investigates the impact of overall quality management on business performance, at the level of hypotheses tested on a sample of 141 companies; Ahire, S.L., Golhar, D.I., Valler, M.A. (1996), considers the development and validation of structural TQM; Black, S.A. and Porter, L.J. (1996), specify the identification of critical TQM factors; Apprentice, S. (2022), processes data related to a survey conducted on the topic of supply chain quality research from the aspect of customer satisfaction, etc.

The authors worked on two projects and published corresponded monographs on the relationship between QMS, performance and TQM with special research on quality in terms of consumer satisfaction (Andjelković, M., Radosavljević, D., Tomić, R., 2022).

In this regard, the authors noted the need to setup a concept with possible rationalization in terms of constitutive factors (or groups of factors) TQM and their impact on the full implementation of TQM in an enterprise that achieves increased performance with such a level of TQM. That is why this research was started which is going on.

2. KEY SUCCESS FACTORS OF OVERALL QUALITY MANAGEMENT

The key success factors of TQM, in the format now studied by the authors, have become the basis for empirical research on the relationship between the degree of TCM implementation and enterprise performance. Researchers, in their plans and analyzes, choose the proposals of a group of success factors in the logical combinations.

Research models focus on the key success factors of TCM and the individual significance of each of them, which is determined on the basis of previous empirical studies (Milovanović, 2018):

- Commitment of top management;
- Customer orientation;
- Relations with suppliers;
- Process approach;
- Timely information and analysis;
- Continuous improvement;
- Focus on the employees;
- Social responsibility.

Only a part of the factors that will be the subject of direct research by the author will be presented here.

- a) **Commitment of top management.** Successful implementation of TQM depends on top management that determines values, goals and strategy in order to meet customer expectations and improve the performance of the company. A high level of quality needs to be always accompanied by the company's commitment to this goal, good communication, support and allocation of the necessary resources to improve quality. Performance evaluations need to have also the evaluation of managers and all employees, which should always be associated with the achievement of quality goals.

The general managers of the company translate the mission and vision (which are defined in the high-level corporate strategy) into concrete business strategies that make up the overall business plan.⁴ Logically, the global vision of the organization is defined by dedicated top managers.

- b) **Customer orientation.** This factor indicates the company's focus on meeting current and future customer needs, with increasing levels of customer satisfaction, always in line with changes in customer expectations. Companies can achieve a long-term competitive advantage if they are able to:

⁴ <https://thinkinsights.net/strategy/operational-strategy/>(access:05.04.2022)

- give the quick responses to customer requests (with the implementation of new ideas and technologies);
- produce and deliver products and services that meet or exceed customer expectations;
- have anticipating new needs and wishes of customers and timely prepare to respond to these challenges correctly.

Customers should be regularly invited to cooperate in the process of product development and testing, initiating services, or innovating the range of products and services of higher quality level. The goal is to translate the most valuable customers into of partners, so that they participate in the creation of programs and the realization and distribution of profits (customers - shareholders). Indicators of the degree of customers satisfaction are possible to get by frequently research of customer expectations and the degree of their satisfaction, the transfer of information to managers, as well as the use of this information to make plans and assess the quality achieved. Hence, such relationship marketing is developed, which is used as a means of sales promotion, but also in relation to the affection, trust and loyalty of customers. Customers are often members of multiple loyalty programs. Loyalty programs are seen as an appreciate tool for creating a long-term, profitable relationship between suppliers (it can also be the level of retailers) and customers (with aim is based on customer satisfaction). It is noted that even today, customers do not give quite clear answers, because mostly they themselves cannot rationally explain the real reasons for choosing a product or service (Plazibat et al., 2016).

- c) **Process approach with continuous improvement.** The main idea of the process approach is that the improvement of the performance of the company as a whole is achieved through the improvement and contribution of each individual process (typically through innovation, reorganization and reengineering). Process monitoring and statistical process control are important for detecting errors and their correcting in time, as well as for finding opportunities to increase process efficiency. There may be multiple operational strategies within the same company, but they need to be synchronized. The set of operational strategies (which have focus on the processes) usually includes additional strategies, such as

product development, conquering new markets, better performance in the existing market, customer engagement, etc.⁵

Variations in production, which occur due to the input of different basic quality, are reflected in the quality of finished products and services. Process management includes preventive and proactive approaches in order to reduce variation and improve product quality (Milovanović, 2018.). This includes that the most important involvement of all employees in the company, which is achieved by promoting and emphasizing the importance of quality, organizational learning, in accordance with specific motivation and incentives for employees (in terms of adopting proposals for their innovation and rewarding). Responsibility for quality applies to all employees in the company (and not only at the level of some organizational units, or directly to the control or quality assurance service), so that significantly increases the company's potential for continuous improvement quality and performances.

- d) **Focus on employees and teamwork.** Companies with TQM view employees as partners and valuable assets, what that increases the possibility of achieving better performance. Employees are the main part of human resources, they are the bearers of human capital, which is the most potent component of intangible activity (Milovanović, 2018). Commitment to employees influence to them to accept their greater emotional connection with the company, and that employees show their greater willingness to realize the organizational goals of the company. TQM practices support a philosophy aimed at maximizing the effects of teamwork of the groups and teams, with the inclusion and empowerment of all constantly trained employees (acquire new knowledge but also skills necessary for the specific work process in which they participate), with a high level of organization and reward system for contributing to the improvement of performance in accordance with the improvement of integrated quality.

⁵ Ibid;

3. COMPANY PERFORMANCE

Company performance, or business performance, must be viewed in the context of company strategy. Strategic management and business performance are inseparable. The assertion of performance (strategic planning, as a rule, has a positive impact on the company's performance) therefore refers to the macro aspects that need to be assessed, evaluated and analyzed (i.e. constantly brought to light accordance of strategic planning and company performance). Strategic planning that represents strategy in terms of its functions as an action taken by a company to achieve superior performance has been defined (Hill et al., 2004,5). The strategy defines the action to improve performance. Hence the view that strategy is defined (phenomenologically) as “a plan, a trick, a pattern, a position and a perspective” (Mintzberg, 1987).⁶

In our research, the goal was not to review the definition and meaning, but to link the strategic goals and performance of the company.

The performance of a company is traditionally associated with an increase in shareholder value. But, if the TQM is taken into account, it is clear that the performance is primarily related to customers (especially high-value consumers). Performance, at the level of social responsibility, can be measured by reducing the impact on the environment, improved of performance of health and safety at work, etc. TQM from the aspect of customer satisfaction (with the aim of increasing their satisfaction) is the subject of our research. Limited interpretation of performance is not good (eg financial performance) and is not fully relevant for assessing what the company has achieved and what it needs to do next to generate even better results.

Regarding enterprise performance research, KPIs (key performance indicators) were selected, according to the model of organization with implemented TQM. Otherwise, one of the obligatory KPIs is level of quality in the company. During the transformation of corporate strategy into quality strategy, a large number of accompanying problems appear, primarily of a practical nature (Arsovski, S., Marković, G., Dabetić, M., 2011).

Most often, the analysis of business flows is performed, and in particular, improvements in the company for a period of several years, data related to the results

⁶<https://lucidmanager.org/management/strategic-management-and-business-performance/>
(access: 03.04.2022)

are checked and analyzes are performed using the BSC (Balanced Scorecard). The Strategy Map of the organization contains business indicators based on financial reports (objects), to which KPIs of non-financial nature are added (with the creation of a network of their mutual connection with the importance of dependence and impacts). Based on the appropriate results of business performance monitoring through KPIs, it is possible to clearly identify which are the most important (critical) drivers of improvement to define the basis for business success management.

The analysis often uses “BSC Designer PRO” - software package,⁷ in accordance with the 4 perspectives of BSC (basic form: finance, customers, internal processes and people). Within the perspectives, the results (achievement of goals), KPIs, goals and initiatives (as an action plan) are observed, in order to determine the overall performance of the company and confirm hypotheses about the existence of correlations between process management and overall quality. There are other variants (“Whirlpool” Co., has 5 perspectives to follow: people, total quality, customers, finance and innovation). For each of these areas, specific objectives are made (5 to 7 main objectives) as well as performance measures of the KPIs that accompany them. The Controller Akademie has a similar approach to the BSC system, but only 3 main areas are followed here: growth, development and profit.⁸ These are indicators that need to be improved in an appropriate way in order to properly and responsibly manage business performance.

With “BSC Designer PRO” it is possible to prove how improving the performance of the process can affect the performance of the organization. Hence, simulations of process performance changes are often confirmation of some assumed significance of the impact on organizational performance is sought.

The strategy involves balancing the interests of all stakeholders in order to maintain business balance. Continuous performance measurement enables corrective actions to be planned and implemented at the strategy level in a timely manner.⁹

BSC and TQM, stand in such a relationship that it can be argued that they are perfectly aligned with TQM principles. However, the TQM does not explicitly show the transition from quality to financial success, so this is basically made possible through

⁷ https://bscdesigner.com/kpi_designer_manual/kpis.htm (access: 06.04.2022)

⁸ <http://mcb.rs/recnik/bsc-balanced-scorecard/> (access: 06.04.2022)

⁹ Niven, R.P. (2003). *Balanced Scorecard step-by-step*, Publishid by John Wiley & Sons, Inc.

the BSC (BSC can show what kind of reorganizing the principles what TQM should be accepted). The BSC also improves the effectiveness of the TQM program by first identifying those internal processes for which improvement will be critical to the success of the strategy achieved through TQM (however, the TQM impact cannot be explicitly seen in financial performance).

BSC and TQM do not always coincide, because the transition between quality to financial success does not always happen. Some US Malcolm Balridge Award winners were obvious examples of good treatment of TQM principles, but still experienced financial difficulties. Namely, firms that focus exclusively on quality and internal process improvement usually do not link all operational improvements to the expected outcomes in the perspective of product buyers or service users. The advantage of the BSC is that all key links must be explicit.

The BSC is based on five principles that serve as the basis for integrated strategic management. Each of these principles focuses on critical issues concerning:

1. Introduction of changes;
2. Transforming the strategy into operational goals;
3. Coordination of organization and strategy;
4. Transforming the strategy into specifying the jobs and responsibilities of each employee;
5. Transforming the strategy into a continuous process.

Strategic planning affects performance, as investigated (Miller & Cardinal, 1994), (Rogers et al., 1999), primarily from the aspect of identifying the existence of a positive correlation between strategic planning (with quantified goals) and firm performance. It was concluded that more formal strategic planning affects the improvement of business results.¹⁰ Further, according to the same source, it is argued that there is a positive correlation between the scope of formal strategic planning and a company's financial performance (Miller & Cardinal, 1994). This authors concluded that planning has a positive effect on growth and profitability, with a moderately positive correlation. Correlations show, in different cases, a significantly large fluctuation ($0.30 < r < 0.71$) but are sloped towards positive performance.

¹⁰ Ibid;

Based on our brief but focused review of strategic planning and its relationship to performance, it is clear that it is necessary to introduce some parametrically defined quantities (which are represented at the level of variation), and in this sense it is proposed to include TQM (then all can be cleared).

At the level of a special example, as shown in point 4, it will be possible to see the relationship between TQM and performance, in accordance with the set and achieved goals and plans of the company. The idea of the author is to present the results of the research in an obvious way, suitable for practical solutions to this type of problem in companies, without excessive theorizing and expanding the topic (remaining within the specified thematic framework). Here, to the readers, it was given only complementary references, e.g. (Cohen and Cohen, 1983), (Jaccard et al., 1990), (Venkatraman, 1989), (Baron, R.M. and Kenny, D.A., 1986), (Ahire, S.L., Golhar, D.Y. and Waller, M.A., 1996)¹¹, (Andrews, K.R., 1971), etc.

4. EXAMPLE

The paper gives a brief overview of the BSC, which is used by companies to connect financially with non-financial goals, as well as external perspectives (finance and customers) with internal perspectives (people and processes). The term “balanced” means that all 4 areas are mutually consistent (finance, customers, people, processes), but many companies in practice often give them different importance (greater or lesser) in terms of priorities in some of their business areas. Aspects related to customers, employees and processes are considered here (they are important for both, TQM and BSC), but, due to the lack of interviews with top managers and insight into specific financial documentation (or a situation that managers could realistically present), it has not been possible to consider aspects which concerning “commitment of the top management” (TQM) and the “finance perspective” (BSC).

Here, the basic aspects regarding the quality of supply chains are considered through the assessments and attitudes given primarily by customers and consumers. For the purposes in question, a Questionnaire was launched, on the basis of which answers

¹¹ Ahire, S.L., Golhar, D.Y. and Waller, M.A. (1996). Development and validation of TQM implementation constructs, *Decision Sciences*, Vol. 27 No. 1, pp. 23-56.

of interest for the subject were obtained (Šegrt, 2022a). As part of the same survey, the views of respondents at the level of the extended group were collected and processed (practically at the level of all represented categories of participants regarding supplying, production and delivery of products and services), according to (Andjelković, M., Radosavljević, D., Tomić, R., 2022). Theoretical bases of analysis, as well as a database with detailed answers of respondents) are contained in FPSP monographs that consider the problem of economic optimization and TQM at the level of supply chains (transport and logistics service systems).¹²

The questionnaire-2 was emphasized, which refers to “Research on the correlation between the performance of supply chains, the implemented TQM and customer satisfaction”. Particular emphasis was placed on the aspects related to attracting a larger number of customers, ie users or consumers, with an increase in consumer satisfaction and an increase in the total volume of realized transport and logistics services.

4.1. Hypotheses ¹³

The hypotheses are given according to the research described in detail in the monograph.

Hm (Main Hypothesis): The success of supply chains (SC) depends on the quality of service potential and the quality of the service process with a high level of customer satisfaction.

Auxiliary hypotheses:

1. **H1:** Alternatives at the level of transport and logistics arrangements contribute to improving the quality of supply chains.
2. **H2:** Ancillary services contribute to improving the quality of SC.
3. **H3:** The higher level of integral quality of SC attracts a larger number of customers / users and increases the total volume of realized transport and logistics services.

¹² FPSP (projekti: P1- Ekonomska optimizacija transportnih sistema na nivou lanaca snabdevanja; P4- Unapređenje totalnog kvaliteta digitalizovanih transportno-logističkih uslužnih sistema, 2022);

¹³ Ibid;

4.2. Summary evaluation of the survey

The summary assessment regarding the quality of supply chains by customers / users is detailed in (Apprentice, 2022a). Only the processed summary results and the corresponding output indicators will be given here. The direct dependences of performance, TQM and individual TQM factors are shown in the form of diagrams.

The scale with the appropriate grades is set in the interval 1 to 5 (1-Absolutely irrelevant, 2-Essentially irrelevant, 3-Not important nor irrelevant, 4-Important, 5-Absolutely important). The frequencies for the respondents' grades, in accordance with the corresponding table (Šegrt, 2022a), are given at the level of aggregate data, Figure 1.

If all essay answers to the survey questions are converted into numerical values, the following is obtained, according to (Šegrt, 2022a):

- The expected mean value of the parameter evaluation (answer to the question) in this case is:

$$\bar{x} = \frac{\sum x_i f_i}{n} = \frac{4821}{1186} = 4,06$$

- Variance:

$$\sigma^2 = \frac{\sum f_i x_i^2 - \frac{(\sum f_i x_i)^2}{N}}{N} = \frac{20339 - \frac{(4821)^2}{1186}}{1186} = \frac{20339 - 19597}{1186} = \frac{742}{1186} = 0,626$$

- Standard deviation is:

$$\sigma = \sqrt{0,626} = 0,791.$$

Taking into account the answers in the survey to the 22 questions asked (for customers-users of SC), it can be stated that the total expected mean value of the parameters of the random sample of the population is 4.06.

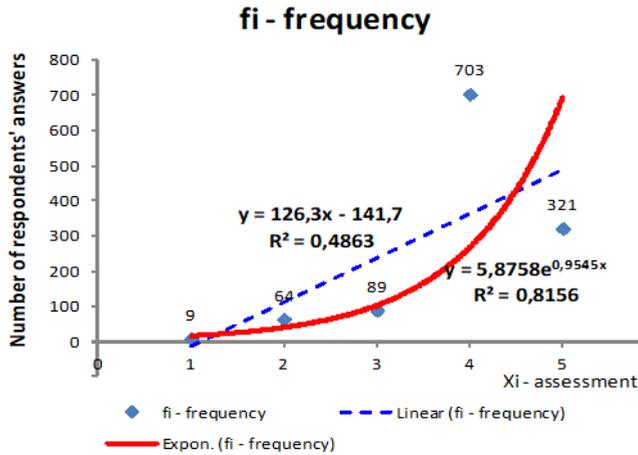


Figure 1. Diagram with the frequency of respondents' grades
(Source: authors)

Out of a total of 1186 questions asked regarding certain factors of interest for improving the quality of supply chain services and customer satisfaction, respondents gave 1024 answers or 86.3%, that they are important or absolutely important.

The obtained summary results of the statistical analysis of the survey, and taking into account the low level of standard deviation (0.791), as measures of deviation of individual responses from their mean, suggest that the main and auxiliary hypotheses can be accepted as correct. It is because of the absolute majority sample gave the answer in the survey was that the offered factors of interest for improving the quality of supply chain services and customer satisfaction are important or absolutely important (Šegrt, 2022).

4.3. Statistical analysis

The main statistical analysis is focused on the results of research on the relationship between TQM - QMS and company performance, in terms of different quality parameters.

The response from the field was satisfactory. Sufficiently good data have been obtained for their translation into final results, on the basis of which relevant analyzes should follow.

There are already basic statistical results based on the answers of the respondents to the questions from the Questionnaire - Survey that can be used in such a source form. The aim here is to group certain results according to groups of logically related questions/answers, as well as at the level of all questions from the survey, and to establish appropriate correlations and other relationships related to QMS/TQM status and forecasts whether TQM is going well (optimal) on the path from QMS to the full implementation of TQM (through TQM the company works much better - achieves maximum performance).

Regarding the derived results, and the benefits from them, the key analyzes are given in the corresponded appendix, report according to (Šegrt, 2022).

Here is a part of the analysis that cumulatively represents the parameters and relationships at the level of different quality systems in accordance with the set research frameworks. Based on the considered subject aspects of the quality system (QMS, TQM) and analyzed the relevant data from the tables (contained in Annex P3 of FBSL-Monographs), diagrams and other indicators were obtained that support the sustainability of the hypotheses and give an obvious picture of the relationship between QMS and TQM (according to basics at the level of comparison of TQM and QMS).¹⁴ In the monograph itself, a number of appropriate summary diagrams are given with clear indicators of interest for a closer interpretation of the achieved results of the monograph, in more detail in (Šegrt, 2022).

¹⁴ Faculty of Business Studies and Law (P4- Improving the total quality of digitized transport and logistics service systems, 2022);

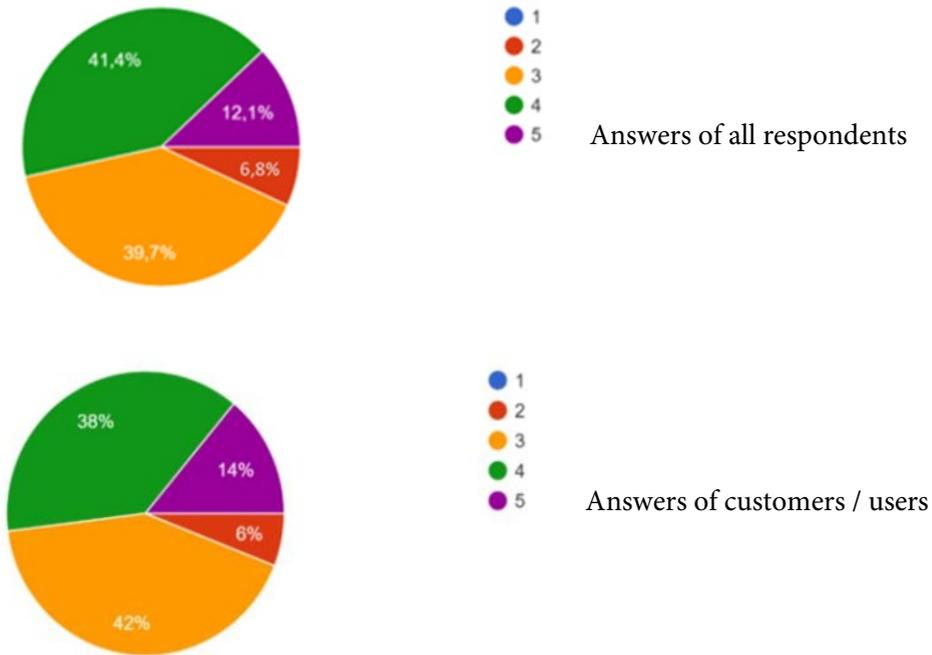


Figure 2. Quality assessment of SC given by:
a) - all respondents and, b) - customers/users
(Source: authors)

Analyzing the relationship between TQM (which was created as the upgrade of the already implemented QMS) and the actual-documented QMS according to which the company operates, where in both cases it was important to determine the company's performance (through the performance of enterprise with QMS and TQM, and their relation and consent), certain results were obtained which are shown in the graphs and with comments as in the pictures that follow. Explicitly stated aspects of quality (although it is practically impossible) are conditionally treated here at the level of an independent project "quality system" (hence the parameter "aspects of quality" appears).

4.4. Results of descriptive statistics

When researching the interrelationships of two variables, the methods of simple regression and correlation analysis are applied, and in the case of observing several variables, then the methods of multiple regression and correlation are used. The word “simple” only means that these are two phenomena, and by no means that the analysis is simple.

In accordance with fig. 3 (as well as according to the calculated correlation), it can be noticed that TQM and QMS do not have a high level of agreement of the results (correlation of 0.3186 means that it is a positive linear correlation of medium strength; the range 0.25 - 0.64; according to some authors this would be weak correlation¹⁵ where the range is: 0.21-0.40). It could have been clearly expected, since in a significant part of the concepts there are certain differences between QMS and TQM (strong leadership versus employees and teamwork, product and service orientation versus customer orientation, orientation to a high level of standardized work versus continuous improvements), with a strong global vision of the organization with TQM. Nevertheless, the QMS quality management system should be understood as a path to TQM.

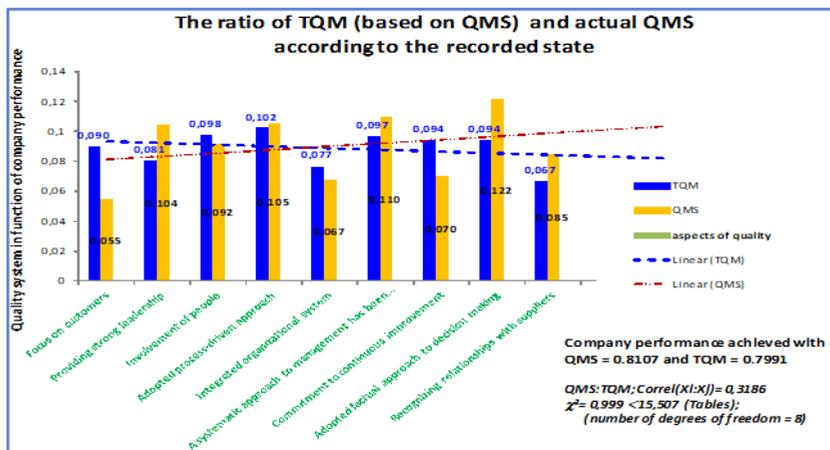


Figure 3. Basic aspects of QMS and TQM quality at the system level (Source: authors)

¹⁵ (Guilford, 1978), (Evans, 1996): Value of correlation coefficients with interpretation;

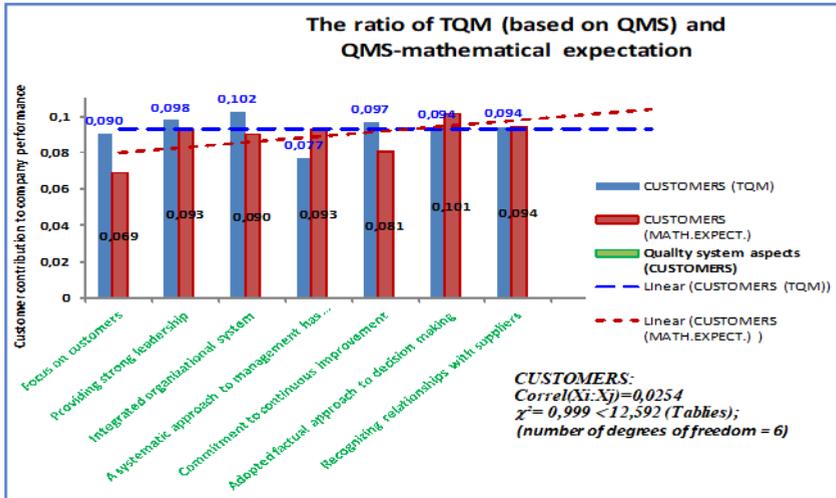


Figure 4. Quality aspects of QMS and TQM with special reference to customers/consumers (Source: authors)

Today, it can be stated that the evolution of quality management (QM) development is based on a new approach, primarily in terms of deepening knowledge for quality (from QMS, through TQM, BE and E, IQDM¹⁶ to the body of knowledge for QM), according to (Majstorović, 2009).

Numerous analyzes have shown that the best approach is the simultaneous application of QMS / TQM, just when the organization realizes the greatest benefits, ie. much better than at the beginning when QMS or TQM are introduced and when applied separately.¹⁷ It can also be concluded that there is a positive and dominant impact of TQM on the quality of products with innovative content. Conclusions according to the performed analyzes (Majstorović, 2009) can be identified as:

- QMS good practice has a positive impact on various aspects of an organization's business performance (from sustainable development to innovation), and vice versa;

¹⁶ IQDM - Integrisani model podataka kvaliteta za podršku svim procesima, podprocesima i aktivnostima kvaliteta tokom životnog veka proizvoda

¹⁷ Cerović, B. (2004). Ekonomika tranzicije, Ekonomski fakultet, Beograd.

- The paradigm of good practice in Republic of Serbia was also confirmed, ie. that the good practice of QM(S) in our country has had a significant positive impact on the overall business performance of organizations (Majstorović, 2009).

Due to the way in which companies work, with implemented QMS and TQM (and in accordance with the assessment of appropriate achievements), the results based on correlations of factors (customer, processes, employees) are logical, more precisely in these cases, for TQM and QMS, there is practically always positive linearly very weak correlation ($r = 0$ do 0.20), or it can be negative linearly very weak correlation ($r = -0.20$ do 0), as in the case of the factor “employees” due to the different way of working, training and the applied system of motivation and rewarding).

Below are diagrams that confirm the obtained assessment of quality systems at the level of supply chains. In accordance with the comparison of the results shown in Figures 8.9 and 8.10, the data as in Table 1 were established.

The ratio of the values of the QMS and TQM quality system indicators, based on the individual answers of the respondents (Fig. 7) and on the basis of the cumulative answers of the respondents (Fig. 8), helps to understand the results from Table 1 in a more obvious way.

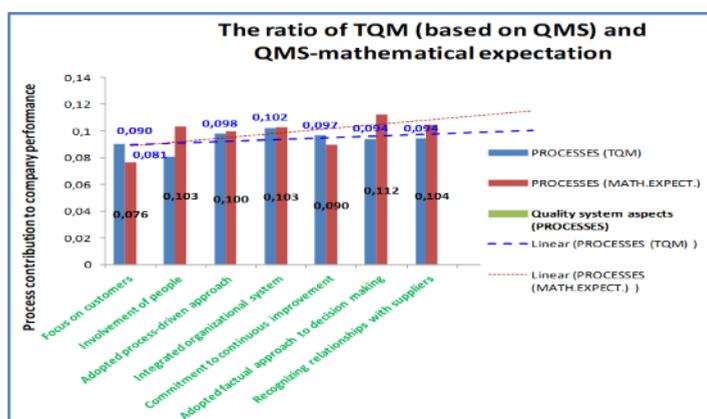


Figure 5. QMS and TQM quality aspects with special reference to processes (Source: authors)

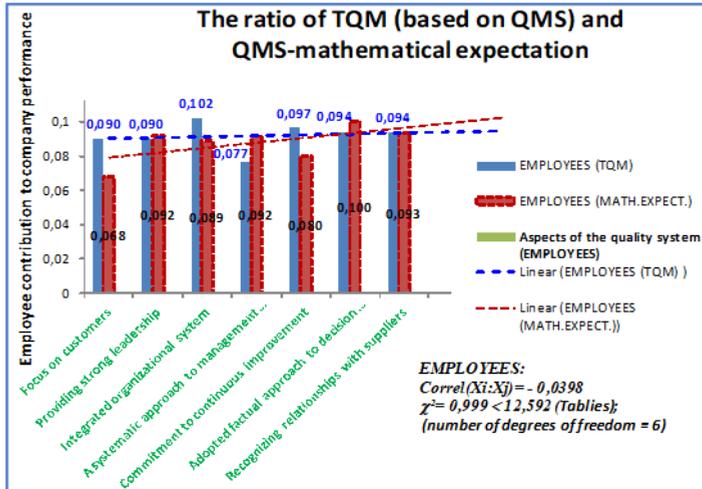


Figure 6. Quality aspects of QMS and TQM with special reference to employees (Source: authors)

Table 1. Functional dependencies - applied Excel functions

Functional Dependencies (Excel Functions)	Value	Assessment
CORREL(QMS; QMS/TQM)	0,992148627	Excellent positive correlation [0,85-1,00]; Individually (Answers to 10 questions: Answers to 22 questions)
CORREL(QMS; QMS*)	0,578912618	Positive middle correlation [0,40-0,75]; Individually: Cumulative (Answers to 10 questions)
CORREL(QMS/TQM; QMS/TQM*)	0,695796583	Positive middle correlation [0,40-0,75]; Individually: Cumulative (Answers to 22 questions)
CORREL(QMS*; QMS/TQM*)	1,00	Excellent positive correlation [0,85-1,00]; Cumulative (Answers to 10 questions: Answers to 22 questions)
CHITEST(QMS; QMS^)	0,939695493	Individually (Answers to 10 questions); Tables (p=0,05; r=3)=7,81472776; Accepted because it is 0,939695493 < 7,81
CHITEST(QMS/TQM; QMS/TQM^)	0,92645049	Individually (Answers to 22 questions); Tables (p=0,05; r=3)=7,81472776; Accepted because it is 0,92645049 < 7,81
CHITEST(QMS-TQM; QMS-TQM^)	0,833160675	Overall individually (Answers to 10 questions); Tables (p=0,05; r=3)=7,81472776; Accepted because it is 0,833160675 < 7,81
CHITEST(QMS-TQM*; QMS-TQM^*)	4,73567E-25	Overall cumulative (Answers to 22 questions); Tables (p=0,05; r=4)=9,487729037; Accepted because it is 4,73567E-25 < 9,49

(Source: authors)

It is logical that, with strong models of quality systems according to some of the above ISO standards (or SRPS ISO, eg SRPS ISO 9001), organizations work and achieve good business results (through the supply of quality products and high repeatability services), so it remains the dilemma of understanding the extent to which the TQM concept is accepted with changes in the culture and behavior of employees (in certified organizations) when it comes to achieving optimal quality (at the level of integrated processes) with a focus on the customer satisfaction.

The authors are aware of the fact that it is necessary to set plans far more ambitiously and conduct research on the subject category, so only data that can be compared with the achieved average value for QMS (QQMS = 8,277) will be presented, which refers to the average score given by respondents regarding the presence of TQM culture and the introducing of the concept of total quality, as shown by QTQM = 7.30 (excellent grade is conditionally taken as $Q^* = 10$; the appropriate scale is set in the interval 1 to 10).

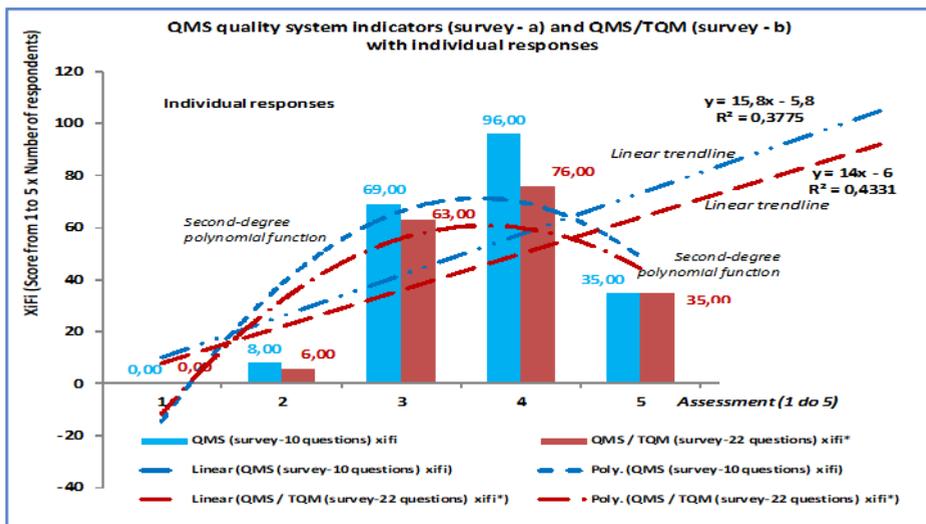


Figure 7. QMS and TQM quality system indicators based on individual responses of respondents (Source: authors)

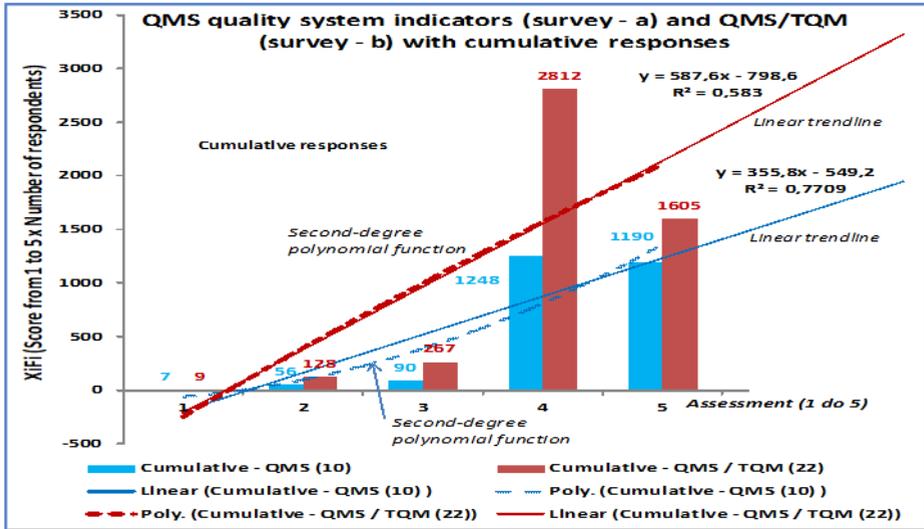


Figure 8. QMS and TQM quality system indicators based on cumulative responses of respondents (Source: authors)

CONCLUSION

Based on the previous analysis, it can be concluded that the key success factors of TQM, in accordance with the systemic interaction, will lead not only to increased customer and owner satisfaction, but also to improve the quality of deliveries of products and services at company with implemented QMS.

Since the implementation of TQM is a complex and continuous process of change, it is necessary to define an appropriate plan for measuring the progress of this process, which is achieved through performance measurement (in accordance with KPIs and appropriate tools). It must be emphasized here that non-financial performance measures are gaining in importance, with the help of which it is possible to timely assess the effects (in the early period of the business) and their connection with the performance of the company. Also, measuring performance is an integral part of TQM as it continuously achieves the goal of improving the process, quality and business of the company, which is not limited by anything (especially regarding the deadlines for final deliveries).

Everything that takes place on the basis of TQM, and its impact on the company's operations, needs to be documented and managed with such data and information. The documented data management system concerns complete processes in the company (better said at the company and environment level), from providing the necessary inputs in the form of data derived from measuring the performance of the supply process, through employees (their training, teamwork and satisfaction), and finally to the delivery services and products (with after-sales support).

These data is significant because of quality, of the realization of plans, but also about the causes of quality problems, ie that on the other hand everything that has been identified should be objectified (as much as possible quantified, assessed and evaluated), and for defining of possible directions for necessary improvements. Improvements do not happen by themselves, and they are necessary not only because of technological and business trends, but also because of the perception of constant innovation of consumer demands, and of course because of building a more competitive market position of the company - supplier.

The concept and importance of performance measurement, performance measurement systems, performance measures and appropriate tools, BSC perspectives, etc., will be the subject of research by authors in future projects and publication of the papers on subject topics, ie. regarding the research and definition of advanced models for identifying the correlation of achievements and trends in the development of quality systems (especially TQM) as a means to improve the overall performance of enterprises.

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Corresponding author: lazar.cvijic@fsp.edu.rs

THE IMPACT OF COVID-19 ON (GLOBAL) SUPPLY CHAINS - SITUATION IN REPUBLIC OF SERBIA

Lazar Cvijic

Faculty of Business Studies and Law,
“Union - Nikola Tesla”, University Belgrade, Republic of Serbia
e-mail: lazar.cvijic@fsp.edu.rs

Ljiljana Stankovic

Faculty of Business Studies and Law,
“Union - Nikola Tesla”, University Belgrade, Republic of Serbia
e-mail: ljiljana.stankovic@fsp.edu.rs

Abstract: *The topic of this paper is the impact of the pandemic on global and smaller supply chains; further, the paper deals with changes which have occurred when the transportation of goods around the world from producers to consumers is in question and how this affects business in Republic of Serbia. The authors further deal with the issue of how supply chains in Republic of Serbia react and what difficulties, challenges and innovations trade companies in Republic of Serbia face, especially large companies and distributors. To what extent it is possible in this sector to establish work from home and safety, both for employees and for customers, consumers. The current situation suggests that it is best to focus on domestic production, reduce or even eliminate dependence on sources that are considered risky.*

The aim of this paper is to point out the latest trends and innovations that are happening in the supply chain; they are all caused by the pandemic. The paper also provides the answer as to what companies in Republic of Serbia are doing and what they can expect in the coming period.

Keywords: *supply chains, trade companies, logistics, COVID, Republic of Serbia.*

INTRODUCTION

Since the COVID-19 epidemic, which is still present, has become a pandemic, analyzes and predictions have begun about the consequences it will leave behind. First, we have the analyzes of the possible projections of social arrangements around the world. Soon followed the forecasts concerning the economy and what kind of economic recovery curve awaits us. There are V, W or U and similar forecasts that try to predict when the economic recovery will begin and what it will look like. As far as Republic of Serbia is concerned, the authorities are mostly providing positive information, ie opinions that our economy is not endangered by the situation caused by the pandemic.

The first news in the world from the economy was related to e-commerce and the situation with goods from China, where it all began. China is also the largest producer and exporter of consumer goods, and thus the largest participant in supply chains and channels. marketing. Then, many countries realized how much they depend on goods from other countries, especially China, especially when it comes to masks and other medical goods whose urgency for use has increased to the extreme.

The governments of many countries have taken certain measures to help the economy in the crisis. China, as the largest exporter, is slowly emerging from the crisis, while other economically strong countries are trying to find the right models to mitigate the economic impacts of the pandemic. In our country as well, the Government helped the economy, it still helps today, and that also applies to companies that largely depend on efficient supply chains. We will see in the coming period whether that help has been sufficient.

The topic of this paper is the impact of the pandemic on global and smaller (local) supply chains. It also deals with the issue as to what changes have occurred when the transportation of goods around the world from producers to consumers is concerned and how it affects business in Republic of Serbia. Significant changes in supply chains, especially global ones, took place even before the pandemic and these changes often required large investments, which created a problem for our market. How do supply chains in Republic of Serbia react and what difficulties, challenges and innovations do trade companies in Republic of Serbia face, especially large companies and distributors?

1. GLOBAL SUPPLY CHAINS

In the last few decades, the interconnectedness of production processes that stretch through many countries has been growing, with each country specializing in certain stages of production of goods. From this connection and the growing demand and supply of products, global supply chains have emerged.

When the Covid-19 pandemic calms down, the world will be very different. The supply shock that began in China in February and the demand shock that followed after the global economy closed, showed vulnerabilities in firms' production strategies and supply chains almost everywhere. Temporary trade restrictions and shortages of pharmaceuticals, critical medical supplies and other products highlighted their weaknesses. These developments, combined with the US-China trade war, triggered the rise of economic nationalism. As a result, producers around the world will be under greater political and competitive pressure to increase domestic production, increase employment in home countries, reduce or even eliminate dependence on sources considered risky, and reconsider the use of flexible production strategies that include minimizing inventory in their countries. It is obvious that the approach to supply chain management will have to change after the pandemic (hbr.org (2020)).

Insistence on supply chain flexibility was present even before the virus emerged. Many large companies have predicted the end of the existence of supply chains as we know so far. This opinion was influenced by the following tendencies and innovations in supply chains and logistics:

- robotization and automation (robotic warehouses, etc.);
- the steady increase in the role of e-commerce, which has risen sharply in the pandemic in many sectors;
- blockchain technology (data protection during the movement of goods through marketing channels);
- artificial intelligence (customer service);
- “last mile delivery” (problems of high costs of delivery of goods to end users at the very end of the marketing channel - eg from port to consumer address);
- digital transformation;
- analysis of large databases to support decision making.

2. THE SUPPLY CHAINS AND LOGISTICS IN REPUBLIC OF SERBIA BEFORE AND DURING THE PANDEMIC

These above-mentioned innovations have been applied to a lesser extent in our companies, mainly as an attempt and desire to keep pace with modern trends in supply chains. The appearance of the pandemic also influenced other domestic companies to resort to alternative solutions and adapt to the new situation. In this way, these innovations become major sustainability factors.

Traditional approaches to procurement and inventory management, which include tracking sales history, seasonal changes and demand, while maintaining a certain level of inventory and secure inventory, have proven to be insufficient even before the supply of goods was interrupted. There is increasing talk of a transformation from demand planning to demand design and “What if...?” scenario definition, in order to create alternative strategies if some market disruptions occur. Software development companies for inventory forecasting and optimization have recognized this trend and started offering solutions that have these capabilities with excellent application of AI (artificial intelligence) in inventory management and demand design modalities.

In a crisis situation like this, it makes more sense for several smaller decentralized distributions to be more adaptable and flexible in finding alternative solutions, compared to having large systems whose supply chain strategy is based on economies of scale and efficiency. They are unable to implement changes in the mode of operation, due to major supply disruptions. As far as the workforce is concerned, large systems have the advantage because they can afford and resort to raising the level of automation in warehousing processes, in order to reduce dependence on the workforce that is in short supply.

Automation and robotization of warehousing processes are becoming a priority and something that has become a necessity that should provide a more sustainable model for supply chains. This novelty has not been significantly applied in our country due to high costs.

Large and less frequent purchases in hypermarkets have become relevant again, because consumers are resorting to them in a crisis. Hypermarkets are better supplied in the challenges of product availability, because it is easier to logistically supply them with large deliveries, and they can have a larger choice, which enables a reduced number of purchases and exposure to the risk of a pandemic. The need to finish everything in

one place, allows traditional stores to expand their range even with pharmaceutical products (in the part of the range where they are not limited by law), for the needs of personal pharmacy, which together with food and hygiene meet the basic needs of a household. Changing consumer behavior opens up new opportunities and new distribution channels, the comprehensive channel (omnichannel) becomes even more pronounced, so larger stores become small distribution centers for e-commerce platforms, or click-and-collect, where the consumer can order goods online so that he can pick it up himself or have someone else pick it up for him. This is often done in combination with local shops, restaurants, pharmacies and other shops.

Although e-commerce has been expanding in recent years, e-commerce platforms may have had slower growth in the past than expected, specifically in Republic of Serbia. The main reason, from a logistical point of view, was the high distribution cost, but the platform had to exist. Every major consumer goods chain, but also all the pharmacies, have their own respectable online platform for sales and distribution. “Last mile delivery”, the part of the service to the customer's door, which is the most expensive and which created the most losses, makes an additional step forward with companies that have entered the market as providers and experts in that part of the service. Organizations that operate in the B2C segment, through bicycles, motorcycles, scooters and cars, with not so high distribution costs, provide a good service, as they perform the task within an hour or two.

It is important to mention the development of the marketplace and dropshipping distribution models that Amazon and Alibaba have resorted to for years. There are also potentials that Republic of Serbia and the entire market of the Western Balkans have. The path of online distribution development has been made much easier, due to a larger number of well-developed courier services with good national coverage and the ability to deliver goods within 24 hours, through their collection centers, although due to the increased number of orders during the pandemic it was a great challenge to meet all requirements.

An efficient supply chain can no longer function without digital transformation, stable ERP systems, WMS and TMS systems, forecasting tools. At this moment it is necessary to invest in data analytics and business intelligence tools that will provide transparency and visibility of the way of working, as well as in indications and guidelines whether it is done in the right way or not (instore.rs (2020))

2.1. Research (surveys) on the effects of the pandemic on business in Republic of Serbia

Already at the beginning of the pandemic, in the period from 13 to 17 March 2020, a survey was conducted by the American Chamber of Commerce in Republic of Serbia (AmCham Republic of Serbia), which aimed to present in a structured way the current and expected economic impacts of the pandemic on business companies in the Republic of Serbia, as well as measures to be taken to minimize the negative effects on the health of citizens and the domestic economy. The research is based on examining the perception of AmCham member companies about the situation in the domestic economy after the outbreak of the COVID-19 epidemic and the accompanying measures adopted by the Government of the Republic of Serbia to prevent the spread of the infection. The research was conducted through a quantitative, anonymously completed, electronic questionnaire among AmCham member companies and qualitative telephone interviews with directors of selected companies, including directors of companies dealing with retail, wholesale, distribution and logistics. When asked about the impact of COVID-19 on the business of companies, more than half of the respondents (55%) said that they already have difficulties in doing business, while 42% expect that they will happen in the coming period. Only 3% do not expect significant effects, and no respondent believes that the effects of COVID-19 will be positive for business. The biggest challenge they faced at that time was the organization of work and management of people (73%), after the majority accepted the recommendations to enable work for employees outside the company's premises. The decrease in travel opportunities affects about 67% of respondents, which is especially visible in the tourism and hospitality sector, but also in sectors that depend on frequent business trips abroad, including distribution and logistics. The branch of field sales was particularly affected by the restriction of movement in the interior of the country. The same percentage of companies (67%) encounters or expect a slowdown in sales and a reduction in cash flow. The main reason for this is the decline in demand for products and services, the reasons for which may vary depending on the industry. Other industries, including distribution and logistics, will slow sales due to reduced needs and changing customer priorities in the changed environment. Among other challenges, there are interruptions or delays in the supply chain (54%), logistical challenges in international transport (43%), as well as optimization of the number of workers in relation to demand (30%).

Regarding the measures to be taken, according to the respondents at the time, the results of the research clearly highlight several sectors that are particularly affected by the COVID-19 epidemic - tourism and hospitality, distribution and logistics, as well as special branches of industrial production (e.g. car industry). 73% of respondents from these sectors claim that the negative effects of COVID-19 on their business are already clearly visible, and about half of them expect a drop in sales of 50% or more in the coming period. When it comes to the transportation and logistics sector, it is necessary to enable the so-called green lanes for uninterrupted international transport of goods, re-establish the suspended issuance or renewal of licenses for international transport of goods, as well as extend the validity of all certificates and qualification cards for professional drivers (amcham.rs, 2020, pp.2-5).

Another study, Business in Republic of Serbia from the point of view of CFOs, conducted by TPA Republic of Serbia¹, confirms the trend of localization when it comes to the supply chain. The conclusion is that the logistics sector is under attack due to border barriers and that companies whose operations require international transport are reconsidering the possibility of optimizing the supply chain. When asked if they are considering redefining the current supply chain, 87.3% are not considering redefining the current supply chain, 10.9% are still planning a new way of organizing the supply chain, while 1.8% have decided to redirect supply from global to local and regional suppliers. These data suggest that deglobalization (or localization) may be a chance for local and regional development (tpa-group.rs, 2020, p. 6).

3. THE EXPERIENCE OF CERTAIN COMPANIES

Companies in Republic of Serbia, which are part of global systems, in the transition from a regular to a crisis business model had an important advantage - information in advance, because most of Europe began to face the corona virus a few weeks before our country. Rapid response in such conditions has proven to be especially necessary in the field of retail. At certain moments, stores in Republic of Serbia were faced with 20 times

¹ TPA Republic of Serbia is one of the leading companies in the field of accounting, tax consulting and auditing in Republic of Serbia, which is a member of the TPA Group. TPA Group has over 1,700 employees working in 30 offices in Albania, Austria, Bulgaria, Croatia, the Czech Republic, Hungary, Germany, Montenegro, Poland, Romania, Republic of Serbia, Slovakia and Slovenia.

higher demand for certain items. The change in working hours and restrictions on movement required that distribution and logistics be organized in a completely different way than before.

Courier services in Republic of Serbia increased their business up to ten times during the epidemic, according to the Association for Electronic Communications and the Information Society of the Republic of Serbian Chamber of Commerce. The third wave in the development of courier services, state these associations, was the moment when they started concluding permanent contracts with retail chains, but also with other stores, even the smallest stores.

“From the smallest pharmacies to entrepreneurs who have small production - everyone has started to inquire how they can send their own product, without it costing them a lot,” says the secretary of the Association (bbc.com, 2020).

Delhaize Republic of Serbia

“Trade has shown that it is ready to withstand drastically increased demand; the supply of food in our market must not be stalled,” said the vice president of operations and supply chain and a member of the executive board of Delhaize Republic of Serbia.

According to him, this company managed to redefine the complete supply chain and, together with suppliers, find modalities of work in order to further improve the flow to the stores and manage to supply them as soon as possible. They also had a small advantage, because they are part of a large group and they knew weeks in advance what was coming. They were ready to provide the Distribution Center and store capacities with stocks and to have enough goods in continuity.

He adds that in March the demand was definitely extremely strong, but that at this moment it is still impossible to talk about the exact percentages. The situation has been changing from day to day.

Asked whether distributors of foreign brands, as well as domestic manufacturers - from large systems to small suppliers - managed to withstand the dynamics of the pre-crisis period, the increased situation on the shelves and all the costs that accompany it, he said that “they have succeeded so far”.

“It shows the resilience of the whole system. Most manufacturers and suppliers have proven to be reliable. We had problems with only a small part of the procurement from abroad, but at this moment it has been solved,” said the vice president of operations and supply chain and a member of the executive board of Delhaize Republic of Serbia (plutonlogistics.com, 2020).

Carlsberg Republic of Serbia

What all market participants felt was the limited capacity created due to the previous focus on balancing cost and quality. There is also the problem of delivery of goods and the unpredictability of consumer behavior parameters, says customer supply chain director of Carlsberg Republic of Serbia.

“What all the companies have started to do is optimize the portfolio, ie to show the reaction in accordance with consumer behavior.”

She adds that, specifically, consumers in this industry focused on other packaging, so the production was planned in the same way. Covid-19 also influenced all these events to happen significantly faster than before.

“Decision-making has accelerated drastically. We were in constant touch with the suppliers, and we switched from the monthly to the weekly level of meetings, so that we could react urgently. In such conditions, it is very important what kind of relationship you have with suppliers and transporters - this is an item that is always important, but now especially. Also, in addition to prioritization and optimization of inventories, it is very important to simplify the whole process - to focus on the essence and not to look at business “too broadly”.

She also believes that delivery to individuals, which is not so developed in our region at the moment, will be one of the directions in the future and that the supply chain industry will have to be more flexible. It will stop being driven by the costs (plutonlogistics.com, 2020).

Nelt group

The executive director of the Republic of Serbian market of the Nelt Group stated that this company managed to contract distribution with two other large and important

companies this year. A regional distribution for the markets of Republic of Serbia, BiH and Montenegro has been agreed with the company Kraš, while a distribution for the Republic of Serbian market has been agreed with the company Nestle in Republic of Serbia.

He added that digitalization was their commitment even before the corona virus, but that it is now certainly the right decision. This is why the way that traders look for goods has completely changed. Now it is done through the mobile application “Nelt Market”. In cooperation with the principal Philip Morris International (PMI), a global pioneering project in the field of digital trade in tobacco products to retail was launched. Out of 15,000 facilities, which are covered by the company's products, on average on a monthly basis, about 10,500 to 11,000 of them use the digital way of ordering goods.

The employees visit the facilities and help the owners with this way of ordering goods, and there is also a Call Center which can be contacted by the owners of shopping facilities, and the operators order the goods they need, instead of traders doing that. This way is recognized by customers as an improvement in work, because they can choose the time when they order the goods and when it is delivered to them (instore.rs 2, 2020).

CONCLUSION

The fact is that the pandemic has changed the way of life of the entire planet. It has brought challenges and uncertainty, both to people's daily lives and to business. Businesses had to adapt and be flexible, reduce the number of employees or even shut down. This was particularly significant for the supply chain industry, both for global and local supply chains. Closed borders, difficult flow of goods (including all types of traffic), pressure on courier services and other aggravating circumstances have accompanied the business of this sector since the beginning of the pandemic. In some sectors, the share of e-commerce has increased several times because consumers have increasingly turned to this type of procurement, even when it comes to food products. This has put additional pressure on companies when it comes to meeting distribution and delivery deadlines.

Business optimization, which implies switching to local suppliers, to several smaller decentralized distributions is to be expected. Responding to changes in consumer priorities, digitalization and the increased role of e-commerce and courier services is

what awaits companies from this industry in our country in the coming period. Business planning in the future will be of great importance for these companies since no one can know for sure how long this pandemic situation will last.

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Corresponding author: milijana.danevska@fppsp.edu.rs

EU INSTITUTIONAL CAPACITIES IN CRITICAL INFRASTRUCTURE PROTECTION

Milijana Danevska

Faculty of Business Studies and Law
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: milijana.danevska@fppsp.edu.rs

Vladan Stanković

Faculty of Business Studies and Law
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: vladan.stankovic@fppsp.edu.rs

***Abstract:** Bearing in mind that the European Union is one of the key factors on the international scene when it comes to the protection of critical infrastructure (CI), it has launched a number of initiatives and research programs to protect CI. In this regard, the EU has studied various aspects of critical infrastructure protection, as well as the impact they have on damaging or destroying critical infrastructure on various segments of human activity, such as telecommunications, education, health, transport and others. The terrorist attacks in Madrid in 2004 and London in 2005 drew special public attention to the danger of attacks on critical infrastructures. Subsequently, the European Council asked the European Commission to prepare a comprehensive strategy and action plan to improve the protection of European Critical Infrastructure (ECI), which it did.*

***Keywords:** European Union, EU institutions, critical infrastructure, protection, directives*

INTRODUCTION

The protection of critical infrastructure is extremely important for the well-being of the citizens of each country, because the survival and functioning of society and the

state as a whole often depends on the existence and functioning of individual (infrastructural) facilities and systems. Given that critical infrastructure is an important segment of both national security and European security, its protection is one of the priorities of every country. Therefore, states, especially in the past few decades, are taking special protection measures, which include, among other things, expanding the number of entities participating in that protection. Namely, due to its exceptional complexity and the range of facilities and systems on which the functioning of the state depends, it is difficult to define the concept of critical infrastructure. Also, defining the content and essence of the term CI differs from country to country, which is understandable given that each of them starts from its national interests and values. In the most general sense, CI “includes individual public and private sector institutions, distribution channels and 'networks' of persons and information that guarantee the smooth and continuous flow of people, goods, services, which is crucial for the stability of the country's economic and security system.” (Jakovljević: 2010) The category of 'critical infrastructure' includes telecommunications, electricity, gas and oil storage and transmission, banking and finance, transport, water supply, emergency services (including medical, police, fire and rescue services) and other institutions. (Jakovljević: 2010). Accordingly, CI includes all national capacities, services and information systems that are vital for the state and due to the inability to act or damage them could jeopardize national security, national economy, public health, public safety and efficiency of government. The issue of protection of CI is especially important because its endangerment can lead to a crisis, ie the emergence of crisis or emergency situations. Also, there is a possibility that crisis and emergency situations will lead to damage to CI. This indicates the interdependence of individual elements of KI, which can be seen in the example that if there is a threat to the operation of a particular hydropower plant, it may affect the work of certain health care institutions that are supplied with electricity from the plant.

The protection of the European Union's critical infrastructure is one of the important factors at the international level. The EU has launched many initiatives and programs to protect critical infrastructure. All member states participate in its protection, because if a critical infrastructure is disrupted or interrupted, it can easily be transferred to neighboring countries. A good example is complex infrastructures such as the energy network or gas pipeline, which are located throughout the EU and have vital nodes and critical assets in different Member States. Also, infrastructures belonging to the transport sector can be considered vital for two or more Member States, such as

transnational roads and tunnels set up at state borders and the like (Rehak, Markuci, Hromada and Barcova: 2016, p.7-12).

1. DEFINITION OF THE CONCEPT OF CRITICAL INFRASTRUCTURE

The problem in defining the term critical infrastructure is due to the wide scope that it can cover, as well as the great variety of content that is multidisciplinary in nature. The very term “infrastructure” can be defined as “the basic framework of a system or organization” while a multitude of definitions can be used for the phrase “critical infrastructure”, because the term “critical” is variable and difficult to define. On the other hand, the complexity of the definition is influenced by the fact that the concept of critical infrastructure has changed over time, so it has sometimes remained unclear or insufficiently defined. Namely, the term protection of critical infrastructures (CIP) was first used by President Clinton in 1996, after the terrorist act on the Federal Building of Alfred P. Maraha in Oklahoma in 1995 (Executive Order, July 1996). This order highlights certain national infrastructures, which are of great importance for the United States, and whose disabling or destruction would have a great impact on defense, economic security and the well-being of citizens. NATO has a similar approach: “Defining critical infrastructure is a logical first step in protecting it, and therefore the definition used in a given country is often a reflection of that country's priorities. As there is no universally accepted definition, critical infrastructure is generally considered to be those facilities and services that are vital to the basic functioning of a society or without which society would be severely hampered “(NATO Commitment Reports: 2007). Regardless of the complexity of the definition, the notion of critical infrastructure is usually defined in one of two ways. The first method consists of listing all vital infrastructures, as was the case in the 2003 US Critical Infrastructure Protection Strategy, one of the first documents of its kind (The National Strategy for the Physical Protection of Critical Infrastructures and Key Assets, United States Government, Washington: 2003). From the scientific point of view, another approach is especially important, which defines criticality as a result of specific characteristics. In this case, certain (relational) properties of the system are determined, because the given system is critical in relation to other systems or entities. Namely, the system is critical for the second system when the first is necessary in order to continue the work of the second. Thus, the German National Strategy for Critical Infrastructure Protection defines

criticality as a relative measure of the consequences of disruption or failure of a function related to the delivery of goods and services to society (Bundesministerium des Innern Nationale Strategie zum Schutz Kritischer Infrastrukturen, Bundesministerium des Innern. Berlin: 2009, p.7). In this sense, critical infrastructure is the infrastructure needed to continue the operation of other major technical and / or social systems or needed to provide goods or services considered vital to the functioning of modern society (Lukitsch, Müller, Stahlhut: 2018, p.12).

There are several definitions of critical infrastructure, but all of them, in principle, refer to assets and property, which is crucial for the smooth functioning of the economy and society. Here are a few definitions. United States: “Critical infrastructure is a term that refers to the wide range of different assets and assets that are necessary for the daily functioning of social, economic, political and cultural systems in the United States of America (USA). Any disruption in critical infrastructure elements poses a serious threat to the proper functioning of these systems and can lead to property damage, human casualties and significant economic losses “(Murray: 2012). Australia: “Critical infrastructure is those physical facilities, supply chains, information technology and communications networks that, if destroyed or disabled for a long time, could significantly affect a nation's social or economic well-being, or affect Australia's ability to sustain national defense. and ensure national security “(“Critical Infrastructure Emergency Risk, Management and Assurance “Emergency Management Australia, A Division of The Attorney Generals Department: 2003). European Union: “Critical infrastructure is the property, system or part thereof located in the territory of a Member State and which is necessary for the maintenance of key social functions, health, security, safety, economic or social well-being, and whose disruption or destruction would have a significant impact to a Member State “. European Union: “European Critical Infrastructure - ECI, means critical infrastructure located on the territory of a member state, whose disruption or destruction would have a significant impact on at least two member states. The significance of disturbances in the functioning of critical infrastructure elements should be assessed on the basis of interdependence criteria. This implies effects resulting from cross-sectoral dependence on other types of infrastructure “(Council Directive 2008/114 / EC). In general, the definition of critical infrastructure frameworks varies in many countries and depends on various specifics, ranging from political circumstances to geographical locations.

2. NORMATIVE REGULATION OF CRITICAL INFRASTRUCTURE IN THE EU

Following the terrorist attack in Madrid in March 2004, the Council of Europe in June 2004 asked the Commission to prepare a comprehensive strategy for the protection of critical infrastructure. In its response in October 2004, the Commission adopted a document relating to terrorism as a potential threat. The document, entitled “Communication from the Commission to the Council and the European Parliament on Critical Infrastructure Protection in the Fight against Terrorism: 2004”, offers clear suggestions on what would improve European prevention, preparedness and response to a terrorist attack affecting critical infrastructure. The Council adopted the Commission's intention to propose a European Program for Critical Infrastructure Protection (EPCIP / EPCIP) and agreed on the Commission's arrangement for the Critical Infrastructure Warning Information Network (IMUKI / CIWIN). The European Critical Infrastructure Protection Program consists of three parts: the Identification and Designation Directive (ECI), the Financial Program and the Critical Infrastructure Warning Information Network (CIWIN). In November 2005, the Commission adopted a Green Paper on a European Program for Critical Infrastructure Protection (EPCIP) (Commission of the European Communities, Green Paper on a European Program for Critical Infrastructure Protection: 2005) which sets out its policy commitments to establish EPZKI and IMUKI. Also, this document provides a definition of critical information infrastructure protection, which states that “all programs and activities of owners, operators, manufacturers and users of infrastructure and regulatory bodies, which aim to ensure quality functioning, reduce damage and speed recovery of critical information infrastructures in case of failures or attacks on critical information infrastructure, together represent a program for the protection of critical information infrastructure” (Green Paper on a European Program for Critical Infrastructure Protection: 2005). The protection of critical information infrastructure should be viewed in the context of cross-sectoral connectivity, given that it permeates almost all other critical sectors and should be coordinated with the protection of all other critical infrastructure sectors (Marija Mićović: 2016, p.77).

An integral part of the EPZKI / EPCIP program is the 2008 Council of Europe Directive 2008/114 / EC. It defines critical infrastructure, common procedures for the identification and labeling of European critical infrastructure, a common approach to assessing the need to improve protection, as well as all risky approaches with the first

priority of the threat of terrorism. Directive 2008/114 / EC is the basis for the next steps in defining the criteria for critical infrastructure. Annex III of the same document lists the procedures that each Member State needs to implement, through several consecutive steps:

- **Step 1:** each Member State should apply sectoral criteria to create an initial selection of critical infrastructure within the sector;
- **Step 2:** each Member State should apply the definition of critical infrastructure, according to Article 2, point a) to potential European critical infrastructures identified after step 1. Significance is determined by using national critical infrastructure identification methods or by reference to cross-cutting criteria, at the appropriate national level. For infrastructures used to provide basic services, the availability of alternative infrastructure should be taken into account, as well as the duration of service interruptions / establishment;
- **Step 3:** Each Member State should apply the cross-border element for defining European Critical Infrastructure in accordance with Article 2, point b) to potential European Critical Infrastructures that have passed the first two steps of this procedure. The following step of the procedure applies to a potential European critical infrastructure that meets the definition. For infrastructures used to provide basic services, the availability of alternative infrastructure should be taken into account, as well as the duration of service interruptions / establishment;
- **Step 4:** Each Member State should apply cross-cutting, cross-sectoral criteria for the remaining European Critical Infrastructures. Cross-cutting, cross-sectoral criteria should take into account: the severity of the attack, and for the infrastructures used to provide basic services, the availability of alternative infrastructure, as well as the duration of service interruptions / establishment. If the potential European critical infrastructure does not meet the cross-cutting, cross-sectoral criteria, it will be considered that it is not a European critical infrastructure (Škero, Ateljević: 2015, pp. 192-207). In this way, the steps in determining the criteria for critical infrastructure are defined, the first step in identifying and determining the European critical infrastructure - ECI and the need to improve their protection is presented. It emphasized that it refers to the energy and transport sector, but also that it should be considered with special reference to the

assessment of the interaction of the sector, among other things, especially in relation to the information and communication technology sector. (Škero, Ateljević: 2015, pp. 192-207).

In March 2009, the Critical Information Infrastructure Protection Initiative (Communication for the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Critical Information Infrastructure Protection: 2009) established the European Public European Public Private Partnership for Resilience (EP3R) (EN3A: 2009) as a coordinating body for the European response to the cyber threat to the Union's critical information infrastructure. The role of the Working Groups established by this Partnership is to encourage the exchange of information and good practices, to enable the exchange of information and good practices in this area, and to identify basic preconditions for security and resilience in Europe. In the meantime, in 2013, the Critical Infrastructure Warning Information Network (CIWIN), a platform for exchanging information on common threats, weaknesses and appropriate measures and strategies to overcome risks to protect critical infrastructure, was created as a pilot project.. One of the 11 critical sectors considered by this platform is information and communication technologies (Proposal for a Council Decision on a Critical Infrastructure Warning Information Network (CIWIN)). Although primarily aimed at Member States, the CIWIN platform also provides access to authorities, organizations and experts from third countries in the framework of formal cooperation with the EU on activities related to the protection of critical infrastructure. (Rizmal, Radunović, Krivokapić: 2016, pp.25-26).

Also, in 2019, the 2008 Directive was revised, after which a new Critical Entity Resilience Directive (CER) was adopted in 2020, amending some old directives. The aim of European policy in this area is to ensure the functioning of the property, system or part of it, which can only be achieved on the basis of a common European framework for the protection of critical infrastructure.

Namely, the directive states that if the European Union wants to effectively protect Europeans, it should continue to reduce vulnerabilities, including the vulnerability of critical infrastructure, which is necessary for the functioning of its society and economy. Stating that the means of subsistence of European citizens and the good functioning of the internal market depend on various infrastructures, which are necessary for the maintenance of vital social and economic activities. To achieve this, the entities

providing the necessary services need to be resilient, ie able to resist, absorb, adapt and recover from incidents that could lead to serious, potentially cross-sectoral and cross-border disruptions (Directive of the European Parliament and of the Council on the resilience of critical entities: 2020).

This proposal aims to improve service delivery by increasing the resilience of critical entities, which are essential for maintaining vital social functions. This reflects recent calls for action by the Council and the European Parliament, which have encouraged the Commission to revise its current approach to better reflect the increased challenges for critical entities and ensure closer alignment with the Network and Information Systems Directive (NIS). Moreover, the proposal reflects national approaches in a growing number of Member States, which tend to emphasize cross-sectoral and cross-border interdependence. They also recognize the importance of resilience, in which protection is only one element along with risk prevention and mitigation, business continuity and recovery. Given that critical infrastructures are at risk of being potential targets of terrorists, the goal is to ensure the resilience of critical entities, which is also contributed by the goals of the recently adopted EU Counter-Terrorism Agenda.

Given the growing interconnectedness of infrastructures, networks and operators (managers) providing basic services across the internal market, and that the current critical infrastructure protection framework is not sufficient to meet all challenges, it is necessary to fundamentally change the approach to protecting specific means of strengthening the resilience of the critical entities that govern them. As evidenced by the 2019 evaluation of the NIS Directive, existing European and national measures face limitations in assisting operators (managers) trying to address operational challenges and vulnerabilities due to their interdependent nature. There are several reasons for this, first, operators (managers) are not fully aware or do not fully understand the implications of dynamic risks within their work. Second, resilience efforts differ significantly between Member States and sectors. Third, not all Member States recognize similar types of entities as critical (Directive of the European Parliament and of the Council on the resilience of critical entities: 2020).

In addition to jeopardizing the smooth functioning of the internal market, security risks and threats, especially those with cross-border and potentially pan-European action, can have serious negative consequences for citizens, businesses, governments and the environment. Indeed, at the individual level, security risks and threats can affect

Europeans' ability to travel, work and use public services such as healthcare freely. Finally, security threats, such as major power outages and serious accidents, can undermine security, fostering uncertainty and undermining trust in operators, as well as in the government responsible for their oversight and public safety.

This proposal reflects the priorities of the Commission for EU Strategy, which calls for a revised approach to critical infrastructure resilience that better reflects the current situation and anticipates future risks, as well as increasing interdependence between different sectors and the relationship between physical and digital infrastructure.

The proposed directive replaces the ECI Directive (2008), takes into account and builds on other existing and envisaged instruments. The proposed directive represents a significant change compared to the ECI Directive, which applies only to the energy and transport sectors and which focuses exclusively on safeguards and provides a procedure for identifying and designating ECIs through cross-border dialogue.

First of all, the proposed directive would have a much broader sectoral scope, covering ten sectors, namely energy, transport, banking, financial market infrastructure, health, drinking water, wastewater, digital infrastructure, public administration and space. Second, the directive provides a procedure for Member States to identify critical entities using common criteria based on national risk assessments. Third, the proposal sets out the obligations of the Member States and the critical entities they identify (Directive of the European Parliament and of the Council on the resilience of critical entities: 2020).

CONCLUSION

Bearing in mind that critical infrastructure is a complex system, we believe that a holistic approach should be taken in its protection. Given the challenges, risks and threats that countries face, it is necessary that all countries within the European Union are in agreement on the definition and protection of CI. This is regulated by the EU Directive on Critical Infrastructure Protection from 2008, which is a good model and provides an opportunity to take over certain solutions, especially in the field of regulating public-private partnerships. The Critical Infrastructure Resilience Directive of 2020 complemented the importance of CI protection by emphasizing critical infrastructure resilience. Also, the said Directive expands the critical infrastructure

sectors, provides for a procedure for the identification of critical entities using common criteria and sets out the obligations of the Member States and the critical entities they identify.

Critical infrastructure protection is a concept that is still under development. Namely, there is no standard model of protection at the global or European level. The directives of the European Commission are framework and significant changes can be expected in the near future. The state of development at the level of the European Union is such that the Union is also looking for its identity in this area. Significant efforts and resources are being invested to arrange it conceptually and practically. One of the possible solutions is to regulate this area through international and European standards that would prescribe the best practice in the field of critical infrastructure protection (Keković, Ninković: 2020, p. 104).

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Corresponding author: bajramhaliti3000@gmail.com

REFLECTION OF RACISM, FASCISM AND NAZISM ON THE ROMA DURING THE SECOND WORLD WAR

Bajram Dj. Haliti

Faculty of Business Studies and Law,
"Union - Nikola Tesla" University, Belgrade, Republic of Serbia
e-mail: bajramhaliti3000@gmail.com

Abstract: *The topic of our scientific paper is racism, fascism and Nazism as retrograde political ideologies. We first included Racism, which, through a pseudo-scientific approach, classifies mankind as a so-called "human being". "races", citing anthropological and biological differences that it categorizes and on the basis of this positions on the harmony of superiority and inferiority strictly separating them. Starting with that, "race mixing" is unacceptable, they should live separately and those at the bottom of the scale, controlled, must be destroyed. A follower of racism is called a racist.*

*Racism is the name for an ideology that believes that race is the foundation of human society, that is, that an individual's belonging to a certain race must be the basis for his social position. Racism is sometimes defined as the belief that certain races are superior or inferior to each other. Based on this belief, racism is sometimes simply defined as racial intolerance.*¹

Fascism (ital. fascismo)² was a political movement that ruled Italy from 1922 to 1943 under Benito Mussolini. The name is also used as a generic term for similar movements, emerging mainly after World War I, characterized by authoritarianism, nationalism, militarism, corporatism, anti-communism and anti-liberalism. Some historians and political scientists reject such terminology and prefer to use the terms right-wing extremism or totalitarianism³, although many consider them not precise enough.

¹ https://www.academia.edu/9842750/Rasizam_Seminarski_rad?email_work_card=title

² Renan, E., Šta je nacija, Srpska nacionalna omladima, Beograd, 1907, str. 24

³ Kasirer, E., Mit o državi, Beograd, 1972, str. 233-246.

Nazism or National Socialism (German: Nationalsozialismus) refers mainly to the totalitarian ideology and practice of the National Socialist German Workers' Party (Nazi Party, German Nationalsozialistische Deutsche Arbeiterpartei or NSDAP for short) led by Adolf Hitler. Nazism is also called the policy adopted and implemented by the German government in the period from 1933 to 1945, a period which in German history is still called Nazi Germany or the Third Reich. ⁴

The Ustashas, officially the Ustashas - the Croatian Revolutionary Movement, were a Croatian fascist ultranationalist, clerical and terrorist organization founded by Ante Pavelić in 1929 in Italy. The organization was at the head of the Independent State of Croatia, from April 1941 to May 1945 ⁵

Keywords: Racism, Nazism, Fascism, Ustashism, Joseph Arthur De Gobino, Houston Stuart Chamberlain, Benito Amilcare Andrea Mussolini, Alfred Rosemberg, Adolf Hitler, Ante Pavelić

1. RACISM

1.1. The notion of racism

In general, racism is a political, social and cultural belief, attitude and action, but also a doctrine of racists. And racist is a common name for all people who pretend to be pure race and who, by absolutizing the values of their race, underestimate the value of other races or, ultimately, advocate rule over others until their extermination (genocide).

It is believed that the term “race” was introduced into the natural sciences by Georges Buffon as a strictly biological concept that means: human knee, family lineage and the like. The word “race” itself comes from the Latin word *radix*, meaning root. There are also interpretations according to which this word originated from the old German noun *reiz* with the meaning: line, direction. In the English dictionary - which is one of the most influential today - this expression first appears during the 17th century. And in the language of German science and philosophy, it was introduced by Leibnitz in 1700, in the sense of generation, and Kant, in 1775, gave it the modern meaning of “race of the human population”, ie distinguishing people based on their innate physical characteristics.

⁴ [Sr.wikipedia.org/sr-ec/Nacizam](https://sr.wikipedia.org/sr-ec/Nacizam)

⁵ [Sr.wikipedia.org/wiki/Ustaše](https://sr.wikipedia.org/wiki/Ustaše)

With the discovery of the objectively existing biological conditionality of different groups within the human species, the prevailing opinion in science is that all people, according to the biogenetic classification, form one species - homo sapiens.

Although it has been scientifically proven that there are no “pure” races - which is sufficient evidence for the unscientific and illusory nature of all racist teaching - this teaching is still influential. When it develops into a ruling ideology and policy, it enables the activation of the powerful energy of human destructiveness. Thus, for example, during the Second World War, extremely wild forms of hatred and destruction of peoples and “races” were manifested. This, in turn, has intensified efforts to develop and defend the idea of equality between races and ethnic groups.

Racism is an anti-scientific, relational ideology that justifies class and nationalist goals with various biological and human characteristics, ie the human race. Such a determination, even if it is ideologized, is burdened by not recognizing any natural and biological bases of social differences, that is, by not understanding the relationship between the individual and society towards nature. Basically, similar one-sidedness is manifested in modern non-Marxist social sciences, for which, after all, racism is a form of xenophobia, an increase in social intolerance caused by socio-status dissatisfaction.

Joseph Arthur de Gobino

Joseph Arthur comte de Gobineau (July 14, 1816 - 1882) was a French diplomat, philosopher and sociologist and the founder of racism. This French aristocrat is remembered for contributing to the theoretical basis of racism by promoting the theory of “race” and glorifying the Aryan race as superior and ruling. Through his *Essay on Human Race Inequality*, he argues that the division between aristocracy and plebs is natural, and that the difference is that aristocrats inherit more Aryan genetic traits because of minor interbreeding with inferior races.

Gobino's writings were quickly praised by white racists, Americans who support slavery, such as Josiah C. Nott and Henry Hotze (Josiah C. Nott and Henry Hotze), who translated the book into English. They left out about 1,000 pages of the original book, including those passages that negatively describe Americans as a racially mixed population.

His actions also influenced followers of Gombinism, such as Richard Wagner, Wagner's son-in-law Houston Stewart Chamberlain, and Romanian politician Professor A. C. Cuza and the leaders of the Nazi Party, who later subsequently edited and republished his work.

He tried to prove that certain races are significantly different from each other not only physically, but also spiritually, and that their mixing causes declines in development. In fact, Gobino could not accept that Blacks and Yellows belong to the same human family as Whites.

Houston Stewart Chamberlain

William J. Shearer (William J. Shearer) and Roderick Stackelberg, authors who analyzed the emergence of racism and later Nazism, highlight Houston's Stuart Chamberlain as one of the most important intellectuals to influence the formation of a Nazi worldview. Shearer points out that Nazi-oriented writers in the 1930s and 1930s were the most prominent writers in the world. In the 19th century, they considered Chamberlain the “spiritual founder” of Nazism.

Hans Michael Frank

Hans Michael Frank (June 23, 1900 - October 16, 1946) claimed that Hitler had read Chamberlain while he was in Landsberg Prison from 1923 to 1924. In any case, Chamberlain recognized the similarity of his ideas with Hitler's ideas on interracial struggle, eugenics, and anti-Semitism (see Chapter Six). After their meeting in Bieret (Bayreuth) in October 1923, in 2013, a ill Chamberlain enthusiastically declared, “Germany has finally found a savior.” Nevertheless, Chamberlain should not be seen as a pseudo-philosopher who made a crucial influence on Hitler's racial philosophy because Hitler called the Germans Aryans in his works, and Chamberlain - Teutonic. Rather, it's fair to say that Chamberlain's influence was mixed with the hypothesis of other racial theorists.

In his study entitled *Hitler's View of the World*, Eberhart Jekyll argues that in the post-1918 period, Hitler was still refining his ideas and even changing them in some respects (especially those related to foreign policy) when he wrote the book *My Struggle*.

Bertrand Russell

Bertrand Russell (Trelek, May 18, 1872 – Pehnriinderjdrajt, February 2, 1970) - Numerous scientists who studied the emergence of racism and subsequent Nazism have adopted numerous theories about the influence of theorists and pseudo-philosophers who represented eugenics and “scientific racism” before Hitler's advent. However, there is very little evidence for them. Bertrand Russell, among others, is thought to have influenced Hitler through his work “Political Geography” because he used the term Lebensraum (nem. Lebensraum — “living space”) attributed to Russell. Hitler justifies the views expressed in my struggle when it comes to interracial struggle and the need for expansionism.

There will hardly ever be a scientific hypothesis about an individual or group of pseudo-philosophers who have made a crucial impact on the formation of Hitler's doctrine defined in *My Struggle*. Rather, it can be found, based on comparative analyses, that it is an evolutionary process of racist theory contributed by numerous pseudo-philosophers from the mid-19th century to the emergence of Hitler, which gives it its final form and moves to implement and reshape civilization.

2. FASCISM

2.1. Appearance and characteristics

The term “fascism” and the words and coins derived from it are used primarily to denote a kind of ideology, party, movement, regime, system and technique of control and government, which came to the fore in the period from the end of the First to the end of World War II. a period that some historians, such as Ernst Nolte, have described as the “era of fascism.” An important characteristic and source of fascism is radical and authoritarian nationalism, and the basic goal of these ideologies, parties, movements and regimes was to establish complete (total) control “in the name” and in the alleged “interest” of the nation of the people (Volk) or the nation state. over all forms of social life, ie. totalitarianism, so that all national potentials are aimed at achieving the goals set by fascist ideology and the leader (Führer, Duce, Caudillo, leader).

In an effort to appropriate the tradition and glory of the Italian national movement, the leader of the Italian fascists, former socialist Benito Mussolini (1883-1945)

organized his followers into fascists (alliances) which after uniting with the nationalists in 1921 he joined with the National Fascist Party whose members and supporters are called fascists.

From the very beginning, World War II was a conflict between democracy and fascism, and with the German attack on the USSR and the Japanese attack on the United States, these two great powers entered the anti-fascist coalition whose victories they decisively contributed to. Since fascism is not only a system of government but also an ideological-political movement, it is not a mere authoritarian regime and dictatorship, but also an ideology that offers certain conservative and sometimes radical authoritarian solutions to the problems facing the so-called. mass and industrial societies, that fascism was not eradicated by victory over it in World War II. The emergence of neo-fascist ideology, parties and movements, although without much influence, should not be underestimated as it seemed in the time after the First World War. Elements of populism that were very common in German and Italian fascism, in Peronism and Francoism, exist as a tendency in a number of modern regimes with ideological or religious platforms. ⁶

Mussolini aspired to make fascism an international movement, so he tried to organize a fascist international with occasional congresses.

Benito Amilcare Andrea Mussolini

Benito Amilcare Andrea Mussolini was an Italian politician, journalist and leader of the National Fascist Party, who ruled Italy as Prime Minister from 1922 until his removal in 1943. He created a fascist state using personal charisma, absolute media control and the persecution of political opponents. He bore the title of duce (Italian: il duce - leader). Defeat in World War II led to the fall of Mussolini and the fascist regime.

In 1912, Mussolini was one of the leading members of the Italian National Directorate. The Italian Socialist Party, which was expelled from membership due to its opposition to the party's position on neutrality in the First World War. He later founded the fascist movement. After the march on Rome in October 1922, he became the

⁶ Stanovčić, V. Enciklopedija političke kulture, Politika, Beograd, 1993. p. 319-320.

youngest Italian prime minister in history until the appointment of Matteo Renzi in February 2014.

Mussolini tried to postpone the Great War in Europe from 1939 at least until 1942. Mussolini joined Hitler on June 10, 1940 and introduced Italy into World War II, although he was aware that Italy did not have the military capacity to wage a long world war against France. and the United Kingdom Mussolini believed that after the inevitable peace with France, Italy would gain territorial concessions from France and then concentrate its forces on a major offensive in Egypt, where the United Kingdom and the Commonwealth were numerically weaker than the Italians.

The war continued to be very unfavorable for Italy, so on July 24, 1943, shortly after the Allied landings in Sicily, the Grand Fascist Council voted against him, and the next day King Vittorio Emanuel III ordered Mussolini's arrest. On September 12, 1943, Mussolini was rescued from prison by a landing on Gran Sasso by German special forces. He then became the leader of the Italian Social Republic, the satellite regime of Nazi Germany in northern Italy. At the end of April 1945, when complete defeat was imminent, Mussolini tried to escape to the north, but was captured and liquidated by Italian partisans. His body was taken to Milan where he was hanged.⁷

Alfred Rosenberg

Alfred Rosenberg (Tallin, January 12, 1893 – Nurnberb, October 16, 1946) was a Nazi politician and prominent race theorist, one of the first members of the Nazi Party, Minister of the Occupied Eastern Territories. He was sentenced to death at the Nuremberg War Crimes Trials.

In 1929, he founded the Militant League for German Culture (Kampfbund für deutsche Kultur) and later the Institute for the Study of the Jewish Question, which attacked Jewish influence on German culture and studied Jewish history from anti-Semitic perspectives. In 1930 he published the book *The Myth of the Twentieth Century* (*Der Mythos des zwanzigsten Jahrhunderts*) in which he presented his racial, sociological and pseudo-historical ideas. The book, along with *Mein Kampf*, was the

⁷ Sr.wikipedia.org/wiki/benito_Musolini

most important source of ideas of the Nazi movement, although it was often criticized among the Nazis for Rosenberg's philosophical views, mostly those related to religion.

1.2. Racial theories

Rosenberg was one of the party's main racial theorists. His ideas were based on the works of earlier authors such as Arthur de Gobino, Houston Stuart Chamberlain and Madison Grant, but also on Hitler's own ideas. For him, race was a spiritual, not a biological concept.

At the bottom of his racial ladder were blacks and Semites, and at the top was a white, Aryan race. The Nordic peoples are superior to other Aryans, and include Scandinavians (including Finns), Germans, Dutch, Flemings, and British. Among them, the Germans are at the highest position; they are at the very top of the racial ladder and are the only true heirs of the ancient Nordic people who are responsible for the entire progress of civilization. Although many Nazis considered the Slavs an inferior, subservient race, Rosenberg argued that they too could fit into the Aryan race and German culture.⁸

2. NAZISM

2.2. Ideology and doctrine

Nazism or National Socialism is an ideology that pretended to be a national and socialist view of the world. In fact, national socialization was an attempt to unite nationalism and socialism. The basic postulate of that movement became the state unity of all Germans, proclaimed in 1871, which decisively influenced national feelings and national consciousness, which was filled with pride due to military victories from 1854 to 1871 and the classification of Germany among the world powers. The arming of Germany at the end of the 19th and the beginning of the 20th century strongly intensified the aspirations as well as the demands for German rule in the world. That was the real goal of Germany in the First World War, and its defeat in 1918 did not mean the defeat of those demands, but on the contrary led to the outbreak of

⁸ https://sr.wikipedia.org/wiki/Alfred_Rozenberg

nationalism and all its manifestations with the desire to renew Germany's military power.

The defeat of Germany in the First World War did not represent the defeat of nationalism and militarism in it, because soon after the end of the war, strong nationalist and militaristic tendencies reappeared. This was also affected by the fact that the Versailles Peace Treaty, for most Germans, was humiliating. It was not difficult for Nazism to fit into such an atmosphere, which was often intensified by the pathological desire for revenge.

After the end of the First World War, nationalism took over racist and social Darwinist theories and placed them at the center of its ideology. In the doctrine of racism, anti-Semitism was especially brutal, as well as the Nazi policy of "creating a lordly people and a racial elite from a pure Nordic race." An important element of Nazi ideology are some anthropogeographic conceptions, especially Ratzel's, according to which the soil on which individuals live, as completely independent individuals, creates a connection between them and becomes the basis of society and the state. In addition, Racl founded the theory of living space (*lebensraum*), which formed the basis of Kjollen's geopolitics and its unscientific explanations and justifications for the policy of imperialism. Theory of living space and geopolitics occupied a prominent place in the ideology of National Socialism.

In the absence of a clearly defined program, especially in relation to internal social and economic problems, the Nazis pointed out the supreme leader (Führer as "supplement" to that program and classified the myth of "God's grace" and the like). The ideology of Nazism represented the negation of everything advanced in human mission and the very fact that its basis was the idea of conquest and enslavement.

Hitler Adolf (20 April 1889–30 April 1945)

On April 20, 1889, in the village of Brasnau on the Austrian-Bavarian border, a child was born who was destined to rule in one of the most difficult periods in human history.

The German Workers' Party was an ideal tool for Hitler - it was a party at the very bottom and so he had a chance to play a leading role. He offered his services, and slowly pushed the party forward, until in 1920 he resigned from the army so that he could

dedicate himself to strengthening the party. We have an unusual talent for articulating the most vulgar populist prejudices, and his self-awareness and self-confidence have slowly begun to take shape. He learned to lie convincingly, to pretend to be clumsy, and his distrust corresponded to his contempt. People are driven by fear, greed, passion for power, envy, often evil and unimportant motives; politics, Hitler concluded, is the ability to use these weaknesses for one's own ends.⁹

Hitler's bloodthirsty speeches hit the wire. The number of those attending party meetings doubled and then tripled.

In a short time, Hitler made his way to the position of the undisputed leader of the Party, which was given a new name, the National Socialist German Workers' Party (NSDAP - Nationalsozialistisch Deutsche Arbeiterpartei), or briefly the Nazi. In the pubs in Munich, Hitler recruited an army of vagrants called Sturmabteilung (brown shirts), or SA. Their task was to spread terror, fear and violence on the city streets. At the meetings, they would act as bodyguards, mercilessly beating anyone who questioned Hitler's words. And while his brutal gangs ruled the streets, he began a campaign to enchant respectable society.¹⁰

In 1923, the Nazi Party began organizing a series of riots in Bavaria, Hitler was sentenced to five years in prison for trying to overthrow the Bavarian government. The party was dissolved, but not for long. Above all, Hitler wanted to form a movement that would break the backbone of social democracy and destroy the power of the Jews.¹¹

After joining the newly formed National Socialist Workers' Party (NSDAP) in 1919 and seizing the position of its president in 1921, replacing the demagogic social attributes of the party program with the National Chauvinist Party, he quickly established himself as the most extreme exhibit of the revanchist-militaristic circles of defeated Germany.

On August 19, 1934, Germany went to the polls and the Führer Adolf Hitler, with almost 90% - out of 46 million voters, only about four million had the courage to vote against him. The Nazi revolution was over. Hitler became the dictator of Germany.

⁹ Tvist, M. Najveći zlotvori u istoriji muškarci i žene, POLITIKA, Beograd, 2004, str. 225-226.

¹⁰ Tvist, M. Najveći zlotvori u istoriji muškarci i žene, POLITIKA, Beograd, 2004, str. 226.

¹¹ Шели Клајн, Највећи злотвори у историји – диктатори, Београд, д.о.о. Народна књига, Београд, 2004.str. 74

In the morning hours of January 20, 1933, after several months of bloody political debate, Adolf Hitler became Chancellor of the German Reich.

From the beginning of his dictatorship, Hitler used the fact that the Weimar Republic was never officially abolished. That constitutional vacuum enabled Hitler to pass laws as he pleased. In just a few months, he broke the backbone of the entire opposition by banning communists and social democratic parties. Those were difficult times for Germany, and after only a year, it felt that it would be even harder.

On August 19, 1933, the German people were called upon to express their agreement with Hitler's takeover. It was not an election - it was more about the people's confirmation of the new chancellor's role.

Forty-five and a half million voters turned out; although over thirty-eight million voted "Yes", four million and two hundred and fifty thousand had the courage to vote "No".¹²

From his program and book, and then the policy of the Reich Chancellor of January 30, 1933, it is clear that he planned and prepared the ground for waging a war of aggression against a number of other states, that he prepared a crime against peace and genocide against Jews, Slavic and Roma people (Haliti 1997: 51).

Hitler turned Germany into a totalitarian state. He introduced a fascist dictatorship, began the ruthless persecution of Jews and communists, abolished political parties, parliamentarism, trade unions, human rights and freedom of the press. Science, art, economy, the state and the army are merging, "gleeing", into the party's National Socialist apparatus (Dašić 2012: 422).

The German Nazis were especially prominent in inciting national and racial hatred. By preaching the theory of the purity of the German race, the Nazis managed to intoxicate and seduce a significant part of the German people, ideologically preparing them for the war of conquest (Dašić 2012: 422).

Germany was rapidly arming itself and preparing for the expansion of Nazi terror throughout Europe (Dašić 2012: 422).

¹² Šeli Klajn, *Najveći zlotvori u istoriji – diktatori*, Beograd, d.o.o. Narodna knjiga, Beograd, str.77

3. USTASHAS

Ustasha is a term colloquially used to describe members of the Croatian fascist movement when it was founded in 1929 by Ante Pavelic under the name Ustasha - Croatian Revolutionary Organization (UHRO), which Nazi Germany appointed the ruling party in 1941 after the founding of the Independent State of Croatia. Ustasha - Croatian Liberation Movement (UHOP). The Ustasha movement in the Independent State of Croatia also had its own paramilitary formation called the Ustasha Soldiers, which was founded by Pavelic's order on May 10, 1941. In 1944, it was formally integrated with the Croatian Home Guard into the Croatian Armed Forces (HOS). Despite that, he used the term Ustasha even after that time for Pavelic's followers, that is, supporters of the Independent State of Croatia. Since the Ustasha regime was responsible for many crimes committed in World War II, the term Ustasha gained pejorative meaning, and after the war it was used by the Yugoslav authorities for separatist-oriented Croatian political emigration (so-called Ustasha emigration).

Ante Pavelić

Ante Pavelić (Bradina, 14 July 1889 - Madrid, 28 December 1959) was one of the founders and leaders of the Nazi / Fascist Ustasha movement and a war criminal. After the occupation of Yugoslavia, the Nazi occupier appointed him head of the puppet Independent State of Croatia, with the title of poglavnik.

Pavelić was a lawyer and politician from the Croatian Party of Rights during the Kingdom of Yugoslavia. When he was elected a member of the National Assembly of the Kingdom of Serbs, Croats and Slovenes in 1927, he said in his first speech that his arrival was not a confirmation that he recognized the current situation, but that he would fight against it for Croatian independence. How much intolerance and violence lurked behind that statement could not be guessed at the time.

By the end of the 1920s, his political activities were becoming more radical as he called on Croats to revolt against Yugoslavia and planned to create an independent Croatia under Italian protectorate.

After King Alexander I Karadjordjevic introduced the January 6th dictatorship in 1929 and banned all political parties, Pavelić went abroad and, together with the Internal

Macedonian Revolutionary Organization (VMRO), planned to break up Yugoslavia, for which he was sentenced in absentia by Yugoslav authorities death.

In the meantime, Pavelić came to Italy, where he founded the Ustasha movement with the aim of creating an independent Croatia. Pavelic included terrorist actions in the Ustasha program, such as bombings and assassinations, started a small uprising in Lika in 1932, and it all culminated in the assassination of King Alexander, carried out together with the VMRO. Pavelić was once again sentenced to death in absentia in France. Due to international pressure, the Italians arrested him and kept him in prison for 18 months, which greatly hindered the Ustashes in the following period.

Shortly after the Axis invasion of Yugoslavia in April 1941, Slavko Kvaternik, with German permission, proclaimed the founding of the Independent State of Croatia in Pavelic's name, who soon returned, took control of the puppet government and soon created a political system similar to Nazi Germany and fascist Italy. Pavelić had to make territorial concessions to the Italians. The brutal regime led by Pavelić was responsible for the genocidal persecution of Serbs, Jews and Roma living in the NDH, which included the mass murder of hundreds of thousands of Serbs and tens of thousands of Jews and Roma, as well as the persecution of anti-fascist Croats. The racial policies of the Independent State of Croatia significantly contributed to the rapid loss of control over the occupied territory, where the population went en masse to the partisans and Chetniks, and even forced the German authorities to try to curb Pavelić and his genocidal campaign.

At the end of the war in 1945, Pavelić ordered his army to fight even after the German surrender, but he himself fled to Austria and avoided repatriation by being in Bleiburg. Pavelić eventually reached Argentina, where he remained politically active. When Croatian-Ustasha immigration to Argentina in 1957 celebrating "Independence Day", ie the day of the creation of the Independent State of Croatia (April 10), Blagoje Jovović shot Pavelić, but the former Ustasha leader survived, after which he fled to Franco's Spain. He died in Spain from the wounds received during the assassination. He never came out of the hospital. He was buried in Madrid, where his grave is still located as of January 2022.¹³

¹³ https://sr.wikipedia.org/wiki/Ante_Pavelić

CONCLUSION

The 20th century is, unfortunately, the century of Genocide. Different groups (national, ethnic, racial or religious) have experienced as such, throughout history, an attempt at partial or complete extermination. That century was marked by a monstrous inhuman desire to exterminate entire national, ethnic, racial or religious groups as such, to prevent their biological, cultural, social and environmental survival.

These aspirations have been noticeable in the entire history of civilization, since the original community, to reach their peak by embedding in the foundations of the Nazi ideology defined in *Mein Kampf*, Adolf Hitler and implementing it in extermination camps in World War II.

The genesis of discrimination and segregation of the Roma dates back to more than 1000 years ago, when the Roma set out from the homeland of India to wander the world for centuries. European rulers reacted to the appearance of Roma queues by passing orders and laws that legalized the persecution, isolation and suffering of Roma.

In the middle of the 19th century, this animosity was articulated in the emergence of Racial Theory among a layer of “quasi-scientists” in Western Europe. It is paradoxical that the originators of this idea are not Germans, but the French Earl Joseph Arthur De Gobino and the British Houston Stuart Chamberlain.

In this doctrine, the Roma are treated as a “dirty race” and as such destined for extinction. In Germany, the term “life unworthy of life” is being introduced, suggesting that Roma should be sterilized and eliminated as human beings. This term, with the same name, was incorporated into the Nazi racial theory in 1933. The entry of other Roma into the territory of Germany has been strictly forbidden ever since. In 1926, the “Gypsy Suppression Act” was passed in Bavaria.

Hitler began persecuting Roma as early as 1934, and sent the first to camps during the 1936 Berlin Olympics. In the same year, they were selected for sterilization and castration and sent to camps in Dachau, Dieselstrase, and Sacsenhausen.

Thousands of Roma were killed in the Babi Jar valley, then Einsatzgruppen D burned the bodies of 800 executed Roma in Simferopol. In November 1941, about sixty brothels had already been established in the occupied territories where Roma women - prisoners of war were forced to work. A concentration camp in Jasenovac was established in

Croatia in 1941. Opposite Jasenovac, between the rivers Sava and Una, was the village of Ustica. From 1942 to 1945, there was an Ustasha camp for Roma - a “gypsy camp”.

It housed Roma families who, after being deported due to overcrowding, could not be accommodated in the 3C Ciglana Jasenovac camp.

This was followed by the transport of Sinti and Roma from Germany to the Auschwitz-Birkenau camp, where 4,000 Sinti and Roma were executed with poison gas in just one day.

Thirty-nine Roma children were transferred from St. Josefspflege to an orphanage in Mulfingen, Germany, where 35 were executed during various experiments on them.

When the first Soviet soldiers entered Auschwitz on January 27, they found only one Roma among the surviving detainees.

None of the Sinti and Roma survivors were called as witnesses at the Nuremberg trial. Unlike the Jews, most of whom disappeared in gas chambers, Roma died and were executed outside the camps, were killed individually or in groups where they were found or died on the way to the camps, which makes it difficult to estimate the number of Roma victims.

Adolf Hitler is the personification of the greatest evil that has befallen the Roma in their history. Or it is an even greater evil and injustice that this fact is not recognized by the Roma through the forms of international law. Some perpetrators were punished and some escaped punishment, but none because of the Genocide committed against the Roma.

Auschwitz-eternal admonition. You need to write about it, talk about it, make movies. Not to intimidate people, but not to forget Nazism and to warn of the danger that threatens the world from growing Nazism. All those who want to rehabilitate the Nazi era today should be brought to that museum, those who claim that there was no camp or extermination, those who in 1978 kept bookstores in some countries under the name “Rudolf Hess” with Nazi literature and the flag, those who tolerate neo-Nazi organizations and their provocative practices in the West. Of course, also those who made it possible for thousands of Nazi criminals to live and develop their criminal activity in the world even today.

Based on established facts, eyewitnesses, witnesses, historical and legal documents, it is indisputable that the crime of genocide against Roma was committed during the

Second World War. Roma victims of genocide have not been compensated. No one has calculated how many 39 fewer Roma there are today as a result of the crime of genocide. The whole world knows about the murder of six and a half million Jews, the whole world talks about the tragedy of the Jewish people and few talk about the tragedy of the Roma, few know that three and a half million Roma died in the camps of the Third Reich. Our three and a half million Roma in the Second World War have not yet been officially recognized by the German government. There is no official book that talks about the Roma Holocaust. Let's say that three and a half million dead is the closest to the truth, three and a half million for one forgotten Holocaust. The truth about the suffering of our Roma remained in Auschwitz. I hope that this scientific work across Europe will make a significant contribution to spreading knowledge and teaching about destruction and will be a starting point for discussions between parents and children about morals, ethics and human values, not only today but also in the future. But this study and my scientific work cannot, for the one who is interested, be anything but the beginning¹⁴.

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Corresponding author: adriana.jovic.bogdanovic@fsp.edu.rs

CHALLENGES OF PROMOTION OF HOTEL SERVICES DUE TO THE COVID-19 PANDEMIC

Adriana Jović Bogdanović

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: adriana.jovic.bogdanovic@fsp.edu.rs

Vladana Lilić

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: vladana.lilic@fsp.edu.rs

Suzana Pajić

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: suzana.pajic@fsp.edu.rs

Abstract: *The changes that have taken place in the tourism sector, viewed as a whole, have had an impact on the hotel industry, from the perspective of users of hotel services and those who provide these services. In addition to the fact that tourist activities were at their minimum, and at one point almost completely stopped, there was also the fear of contracting a deadly virus. New circumstances require new strategies, both the provision of hotel services and public appearances, promoting and influencing people to start using hotel services again. In order to influence the existing and new users of hotel services, it was necessary not only to offer new services, different from the competitors, but also to convince people that their health will be preserved during their stay. These circumstances put new tasks before marketing managers, who had to apply crisis marketing in a completely new light due to the circumstances of the pandemic. This paper will present recommendations for the implementation of marketing activities in the new circumstances caused by the COVID-19 pandemic.*

Keywords: *hotel industry, COVID-19 pandemic, crisis marketing*

INTRODUCTION

Tourism is important because it contributes a lot to world GDP, while also employing a huge number of people. The stalemate in this sector had consequences for other sectors, closely related to it, such as the hotel industry, food and beverage production, the increasingly modern industry that organizes weddings and the like. Tourism, and with it the hotel sector, is the sector most affected by crises, regardless of their cause. Tourism-related services are typically labour-intensive, with numerous links to other major segments of the economy, such as transport, cultural and creative services, or financial and insurance services (WTO, 2021). The report, jointly presented with the UN World Tourism Organization (UNWTO), says international tourism and its closely linked sectors suffered an estimated loss of \$2.4 trillion in 2020 due to direct and indirect impacts of a steep drop in international tourist arrivals. Among all the hospitality industries, hotels are the first to be affected since the restrictions for domestically/overseas travelling directly affect their core business (Chen, Jang & Kim, 2007).

Providing hotel services in a modern environment is much more than offering accommodation. First of all, there is the personalization of services, which is the case with services and products of other sectors. Today's hotel guests expect to be recognized as individuals, and expect such a service. Accordingly, it is desirable to pay attention to the needs and expectations of hotel service users who form the base of loyal hotel visitors. Automation and the application of new technologies are becoming more common in this sector. Finally, the presence of contactless services is especially important for the period of crisis that will be discussed in the paper. All this is important in the period of crisis caused by a virus whose spread is easy, and the mortality from it is high. Therefore, as a necessary condition for the continuation of business, hotels have faced the need to adjust the way they provide their services, but also the need to apply marketing in case of crisis situations.

The hotel sector is significantly endangered due to travel restrictions, but also due to the fear of individuals from becoming infected, and avoiding staying in hotels with a larger number of people. Therefore, the task of the hoteliers was to adjust the way of providing services, but also the way of promoting them, about which more will be said in the continuation of the work.

1. IMPACT OF COVID-19 PANDEMIC ON HOTEL INDUSTRY

Covid-19 has affected every sector across the globe, and the hotel industry is among the hardest hit (Krishnan, Mann, Seitzman & Wittkamp, 2020). The ramifications of this pandemic, such as travel bans, border closures, and quarantine instructions, have resulted in many businesses in the tourism and hospitality industry either limiting or closing their operations (Japutra & Situmorang, 2021). While the delivery of other services could be performed in new circumstances, hotel service providers, due to the connection to a certain facility, did not have that alternative.

Epidemics caused by certain variants of the SARS virus, such as this one, have occurred before. The most common virus with SARS-CoV-2, which caused disease named COVID-19 was certainly the SARS virus. Apart from the similarities in the structure of the virus itself, there is also the fact that SARS was transmitted from animals to humans in China, from where it then spread across the planet. SARS-CoV-2 followed the same path. In January 2020, a novel coronavirus, SARS-CoV-2, was identified as the cause of an outbreak of viral pneumonia in Wuhan, China (NIH, 2021). To date, the SARS-CoV-2 virus has affected more than 263 million people worldwide and killed more than 5 million people (WHO, 2021). In addition to SARS, the world has faced an epidemic in the last century caused by the Spanish flu, the HIV virus, swine flu, Ebola and the MERS virus. What distinguishes previous pandemics from the current one, and especially from the SARS and MERS pandemics, is the fact that they are much easier to control, and that they had significantly less consequences for human health and tourism in general, and even by hotel sector. Actually, the SARS and MERS epidemics were rapidly controlled and did not affect the hospitality industry beyond the Eastern Asia setting and in the short run (Garzia-Gomez, Demir, Diez-Esteban & Bilan, 2021).

The specificity of the COVID-19 pandemic in relation to others is its global distribution. Therefore, tourism and hospitality are threatened around the world, not just in certain areas as was the case with previous pandemics. Speaking of hospitality, hotel closures have been present on almost all continents. COVID-19 epidemic in January of 2020 caused an almost 90% decrease of China's hotel occupancy (Nicola et al., 2020). The situation was similar in Europe, where the pandemic mostly affected countries that make a significant contribution to total GDP through tourism. Since the appearance of the corona virus in Europe, the largest number of infected people has been recorded in Great Britain, Russia, Turkey, France and Germany. The virus came

to Europe from China via Italy, which recorded the largest number of deaths in the first days after the virus appeared, and mandatory quarantine was soon introduced, as well as a ban on the operation of restaurants and museum cafes. Thanks primarily to vaccination against this disease, in 2021 there was an increase in the number of tourist trips, but also stays in hotels. The Occupancy Rate climbed by 16.8 points from 2020, crossing the symbolic 50% threshold (to 52.4%). Revenue per Available Room reached €53.0, a 66.7% increase from 2020 (Panayotis, 2021).

However, despite the improvements compared to 2020, hotel visits are still significantly lower than before the virus. According to McKinsey's forecasts, the recovery of the hotel sector to pre-crisis levels is not expected until 2023. The predictions of some other organizations are somewhat different and more pessimistic. The report from the U.S. Travel Association published in July this year, predicted business travel spending wouldn't reach pre-pandemic levels until 2024 (Mandel, 2021). In the United States, through the end of 2020, hotel revenue declined by 50%, a \$124B loss in a \$270B revenue industry (AHLA, 2021).

Of all hotels with attached restaurants, bars and attractions, Luxury hotels were identified as the most impacted by the pandemic (Koserowski & Wong, 2021). At the same time, it is already evident that the increase in the number of passengers and hotel visitors is increasing in the area of vacations and tourist trips, while the number of hotel guests traveling for business purposes is extremely low. This is important to point out because the business travel segment in the pre-crisis period recorded a significant share in the total number of trips.

During the summer of 2021, the number of tourist trips was relatively stable and uniform, considering that a large number of tourists could afford even more expensive trips, considering the savings achieved in 2020, but also the appearance of vaccines from several different manufacturers.

2. CRISIS MARKETING

A crisis is an interruption in the course that is expected, both unplanned and unwanted process that takes some time, and that can be completed in a variety of ways. The crisis disrupts the sense of continuity and therefore important decisions must be made in a short period of time.

The crisis is for one organization, and so for hotels, a circumstance in which it is no longer possible to act normally, which makes it impossible achieving its goals and opardizing the very survival of the organization.

In short, the crisis can be described as a situation that:

- represents a turning point in a development or a sudden change in one or more fundamental variables that jeopardize the achievement of current basic norms and goals, thus the survival of the system is at stake;
- represents the decision-making process under time pressure;
- reflects the existence of management problems (Osmanagić Bedenik, 2010).

When a crisis occurs, there is insecurity, stress, panic and confusion which is felt by the management, employees, but also the external public involved in this event. All this makes it difficult to make the right decisions for which there is not much time in a crisis. Crises once they pose a threat to human life, the local community, the environment, and almost always by the financial condition and reputation of the company.

In order for organizations affected by the crisis to return to their previous state, additional funds are often needed, as well as management skills. The consequences of a crisis that is not adequately managed can be long-term poor performance, or may even result in the organization shutting down.

In the theory in the field of crisis management, there is an opinion that crises do not necessarily mean a worsening of the previous position, but that they can also represent milestones and lead to improvements compared to the previous period. Given the nature of the crisis situation currently affecting the planet, not just the hotel sector, we believe that the current situation must be viewed solely as a threat, in order to eliminate it as soon as possible. Human life is inviolable, so all activities in order to preserve it must be taken.

Crisis marketing is used in situations when the organization cannot meet the expectations of users of products or services, regardless of whether it is of lower quality or lower quantity than expected. What end users expect is that their expectations are met. One of the characteristics of crises is that they occur suddenly, so they cannot be predicted many days in advance. Such was the case with the spread of the corona virus and the consequent decision-making on the ban on travel, the operation of hotels and restaurants, and in some countries on the ban on the movement of the population.

Due to the specific crisis situation, information was crucial. It can be concluded that this step failed, generally speaking, considering that the coronary virus pandemic was accompanied by a pandemic of false news. Crisis marketing often means informing the affected parties about the new situation, its causes and, most importantly, ways to solve it, but also to compensate for the damage suffered by the organization's clients. It is in this part that the key role of public relations is.

In addition to public relations management, crisis marketing in the modern business world, and especially in the conditions of the pandemic, when almost the entire world population was at home and online at one time, social networks also play a significant role.

At the same time, creators of social media platforms, made following content by marketers much easier than before. Namely, marketing on social networks represents the creation of adequate content and its placement to target groups, but it also includes monitoring what is written about a brand on social networks. Ignoring criticism or not answering questions from existing and potential users of products or services will certainly negatively affect the reputation of any organization. This activity, fortunately, does not mean constant reading of everything that is found on the Internet, but implies the optimal use of tools developed for that purpose. To that end, Google itself has developed Google Alerts, which informs if something about the organization appears on social networks, shortening the time necessary to follow social networks. Another commonly used way to track mentions on social media is to use hashtags. Organizations can choose keywords based on which they will be familiar with the use of their organization's name on social networks by external stakeholders.

3. CRISIS MARKETING OF HOTEL SERVICES DURING THE COVID-19 PANDEMIC

Regardless of the extent of the consequences, pandemics from 1996 to 2018 negatively affected the tourism sectors of as many as 129 countries around the world (Karabulut, Bilgin, Demir & Doker, 2020). This data indicates the need to include business strategies due to the pandemic in the portfolio of business strategies in crisis situations. Overcoming the health scare of COVID-19 in order to maintain a favourable reputation can be enhanced with the help of marketing (van Leeuwen Boomkamp &

Vermolen, 2021). Crisis marketing management strategies of many organizations have been put to the test due to the spread of the corona virus. It is important for a hospitality company to be well prepared for a crisis because the hospitality industry is a year-round one and highly sensitive to the negative impact of a crisis since guests and employees are a part of the product itself (Albattat & Mat Som, 2019). In modern business practice burdened with business in pandemic impacts, there are differences in the breadth of corporate crisis management practices, from business to business, from one country to another (Jevtić, Stošić Mihajlović & Latin, 2020). Many companies are directly affected by the crisis, but flexible organizations quickly reorganized and set out to conquer the market through the internet and social networks.

The current pandemic is a kind of test of knowledge and skills of managers in charge of crisis management. Understanding a crisis and immediate post-crisis response is essential for future crisis management (Morrish & Jones, 2020). Responses to crises in hotel industry may vary depending on the country or region. These differences are conditioned by differences in infrastructure, preparedness for crisis situations, GDP, income level of the population. Companies with more flexible corporate policies can better face the new crisis situation in short term than those companies which can not easily undo their decisions.

A special challenge for promoting hotel services during the pandemic comes from meeting non-vital needs, as well as the fact that it is possible to use another type of accommodation (used by a smaller number of people). The fact that the share price of hotel chains reached its minimum during the crisis speaks of the extent of the crisis that has affected the hotel sector. The financial performance of the hotel is much worse due to the corona virus than it was due to some other pandemics. Therefore, this crisis is specific in that the entire sector is affected, not just individual entities.

An additional specificity of this crisis is reflected in the fact that the possibility of obtaining a certain service or product is not endangered, but that human health and even life appear as a kind of stake, ie a significant decision-making factor. As tourists' concerns about security and health risks increase, epidemics can directly affect individuals' travel behavior (Mao, Ding & Lee, 2010). It is thus essential for hoteliers to address changes in consumer demand following the unexpected COVID-19 pandemic and restore travelers' confidence (Jiang & Wen, 2020).

Hygiene and cleanliness were at the top of the list of factors when making decisions about choosing a hotel and before the current pandemic. Earlier threats to human health (spread of the SARS virus) have certainly contributed to this. The characteristics of the current pandemic have only further strengthened the importance of this factor as one of the crucial ones in the consciousness of hotel service users. Moreover, health will be a key influencing factor in the tourism and hospitality industry recovery after the COVID-19 outbreak due to the residual fear associated with this pandemic and similar diseases (Wen, Kozak, Yang & Liu, 2020).

As digital and other emerging platforms become mainstays in the hospitality industry, it is crucial to have a clear focus on goals, objectives, strategies, and investment approaches to guide marketing campaigns and activities for marketers (Koserowski & Wong, 2021). Social media and use of mobile applications can be useful tool in promoting hotel services. The reason for the significant role of social networks during this particular crisis situation is that many other activities were disabled. Due to the closure of shopping malls, it was not possible to do marketing at points of sale, for example. Thus, the very nature of the crisis has to some extent conditioned the nature of crisis marketing.

First of all, they can be used to convey a message directly to the target group. These may be former users of hotel services, because it is often more cost-effective to turn to loyal consumers than to create a database of new ones. This is especially evident in the business conditions as they are now present. It is desirable to be transparent and honest in your address. The situation is really in crisis, considering that many individuals were life-threatening or lost someone close. Therefore, the address should not contain mitigation in order to avoid potential revolt. In particular, it is desirable to emphasize the hope that the recipient of the message is in good health, and thus emphasize this component.

The second part of the address should indicate the practical part of caring for individuals. Many hotels were turned into covid hospitals when it was most needed (eg. Lemon Tree Hotels, IHCL Group, Ginger Hotels) providing additional beds, monitoring doctors and nurses on call. This is a great example of philanthropy that is very highly positioned in the minds of consumers and service users.

Another important factor in the decision-making process may be the use of artificial intelligence and non-contact forms of business by the hotel. In addition to the

benefits of protecting human health due to the pandemic, marketers can use this form of business to promote the innovation of hotel management. Group of hotels in India (ITC's Welcomhotel which cooperate with Manipal Hospital in Delhi), provided free accommodation to doctors who changed their place of residence to treat COVID-19 patients. That same hotel also emphasizes the importance of applying contactless technology. In that way, they just pointed out their contribution to the fight to preserve the health and lives of people, but also pointed out their disposal of the most modern technologies.

There are also promotion options for those hotels that have not found themselves in the role of temporary hospitals. For them, it is desirable to highlight the activities undertaken in order to protect the health of their guests and their employees, since it is sometimes impossible to ensure complete absence of contact with guests with hotel employees. The concept of consumer satisfaction has undergone a transformation, and this is especially noticeable in the segment of hotel services. Namely, the hotel service has not been equated with getting accommodation and meals for a long time. Hotel service is much more than that, especially in the new circumstances.

Many hotels were forced to carry out their activities with fewer people than before the pandemic due to the need to lay off staff in order to reduce costs. However, this should not have been an excuse to reduce the level of quality of services provided.

Employees had to be acquainted with new ways of performing their work tasks, in order to maintain the expected level of service, but also contribute to the good reputation of the hotel, which is one of the key goals of marketing.

In essence, the period after the appearance of the vaccine is the period in which it was already desirable to opt for a more intensive marketing campaign.

And now, at the end of 2021, an intensive marketing campaign can be conducted. Vaccination takes place in almost all parts of the world, the so-called system has come to life. green passports. As this scenario progresses, travelers will plan new trips and look for new places to stay.

CONCLUSION

The corona virus was not only a challenge for the medical sector, but it left its consequences on almost all areas of human life. A particularly challenging period was for tourism and everything related to it, including the hotel industry. Due to the impossibility of a large number of people staying in one place, many hotels did not operate. Large losses were suffered, and many hotels were closed.

The crisis situation due to the pandemic required the reaction of marketing managers as well. It was a “fight against an invisible enemy,” as the virus was often called. It was necessary to attract guests to stay in a certain hotel, at a time when there are justifications for suspicions of endangering health and life.

The key in the implementation of marketing strategies was to highlight the activities that the organization has undertaken in order to preserve the health of its guests, and this is the basic message that the implementers of the marketing strategy had to follow.

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Corresponding author: milos.karajovic@gmail.com

CATEGORIES OF INTEGRATED PERFORMANCE MEASUREMENT SYSTEMS AND CRITICAL REVIEW

Miloš Karajović

Faculty of Business Studies and Law
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: milos.karajovic@gmail.com

Zoran Kaličanin

Faculty of Business Studies and Law
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: zoran.kalicanin@fbsp.edu.rs

Milica Kaličanin

Faculty of Business Studies and Law
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: milica.kalicanin@fbsp.edu.rs

Abstract: *Limited resources are often recognized as initial factor for developing economical sciences. The same cause is looking for optimization form macro down to micro level - the companies. There is lack of financial resources, i.e., the fact is that decision makers do not have resources in unlimited amount, so the company has to follow aims and to make optimizations. In order to be able to make the best decisions, managers need adequate inputs in form of different types of reports. The question in the article is which parameters has to be followed, only financial or non-financial too, and are any of them more relevant. During last decades there are a lot of approaches developed in this field. They are presented in this place, commented and in the final, there is critical review of so far research and common practice.*

Keywords: *key performance indicators (KPI), system for performance measurement, aims of the company, reporting.*

INTRODUCTION

The main goal of every business entity and its owner(s) is to maximize profits, i.e., to maximize the return on investment. The problem that arises is the recognition of profitable investment opportunities, on the one hand, and the possibility of financing them from own or borrowed funds, on the other hand. Financial management has the greatest responsibility for ensuring the constant creation of new value in an organization and measuring its success through the performance indicators of that organization. In order to improve the company's performance, it is necessary to design instruments for their continuous monitoring and systematic measurement, in order to draw conclusions based on these analyzes and take appropriate actions.

In modern business conditions determined by strong competition and the need to obtain information quickly, as a basis for decision-making, traditional management tools are becoming inadequate and too rigid.

In the field of performance measurement, there is no any relevant professional body nor associations in which previous knowledge would be collected and systematized, so the definition of performance measurement system is the result of heterogeny individual approaches and work. Having in mind mentioned, there is noticeable diversity and non-cohesiveness in the approaches to defining performance measurement systems. We have only the opportunity to summarize relevant until now published papers based on which we can say that integrated system for performance measuring has to combine financial and non-financial data and indicators to provide information for strategic decision-making purposes.

1. CATEGORIZATION OF SYSTEMS FOR PERFORMANCE MEASURING

In this paper will be considered and discussed approaches of several authors in wider timeline. Basic research that are taken are from: Bititci, (1994), Ghalayani et al. (1997), Artley and Stroh, (2001), Speckbacher et al (2003), Garengo et al, (2005), Folan and Browne (2005), Slack (2007), Chenhall and Langfield-Smith, (2007), Kaplan and Norton (2008), Jamil and Mohamed (2011), Yildiz et al (2011) and Franco-Santos et al (2012).

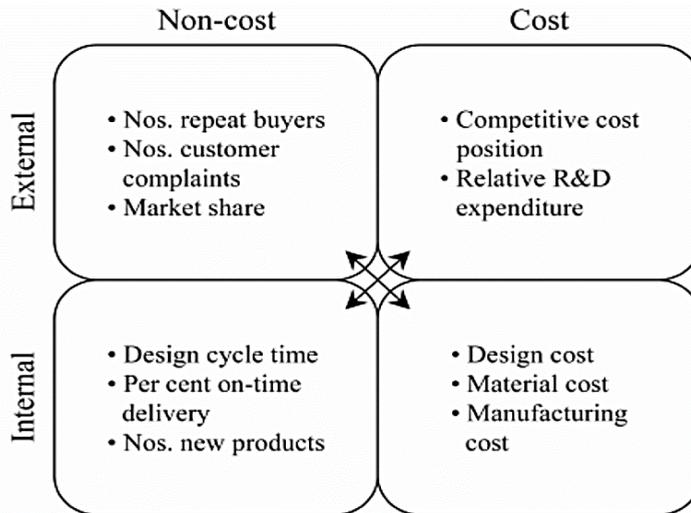
Never mind how many aspects to light from different sides all these approaches cannot be easily aggregated and systematized in new categorization. But, if we consider what was essential aspect for categorization, we can form two groups and say two typical areas that systems for performance measurement set as priority: (1) the structure of the performance measures they include in the system, and (2) the ways in which individual measures are presented and their interrelationships.

1.1. Measures of performances by the structure

In the following will be presented performance measurement systems according to performance measurement structures. The structure of performance measures pertains to a set of nominated indicators used in the system and to their relationships. The most famous four approaches in this systematization are:

- Performance Measurement Matrix,
- Performance Pyramid,
- Balanced Scorecard and
- Performance Prism.

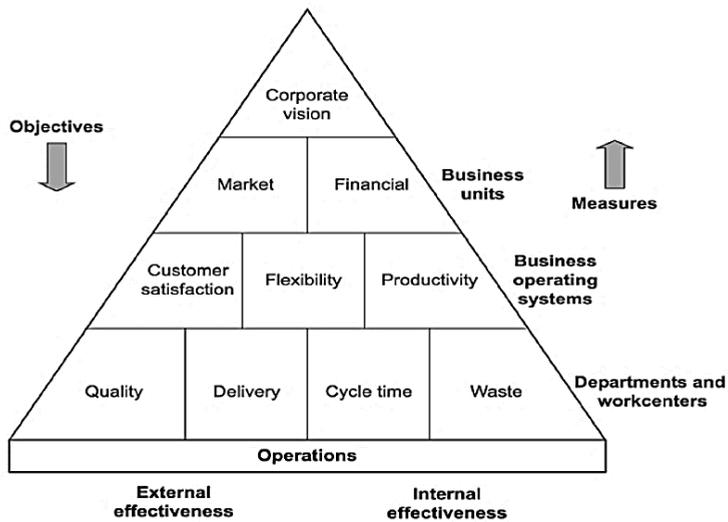
Performance Measurement Matrix is introduced, from this point of view, a long time ago by Keegan et al in 1989. Because of fundamental principles which were fundament for many later (and modern) researches, the main ideas will be presented in this place.



Source: Keegan *et al.*, 1989

We can consider this approach for innovative for that period of time. It is a try to make integration of different categories and types of measures of performances. It is putting into relation and taking common characteristic of, on the first site, different categories. Main contribution is linking different classes of measures; internal and external, cost and non-cost. On the other side as a critic of the approach can be pointed out rough standing, since it is not balancing this set of measures and it does not consider driving measures which are in later research found as relevant such as marketing measures and measures taking human resources into account. Having in mind all strengths and weaknesses this theory was later adopted, improved and used as inspiration and base for later more sophisticated works.

Performance Pyramid is also characterized as pioneer in integrated approaches for measuring performance. Authors Cross and Lynch (1988) are creators of this concept. They were not satisfied with traditional financial performance measures. They named this approach in a tendentious manner using acronym SMART for Strategic Measurement Analysis and Reporting Technique. The guide presented in this approach is corporate vision, and it is on the top of constructed pyramid. Depending on corporate vision as a leading idea are born all further functional relations between internal and external efficiency. Graphic illustration of ideas presented in this theory are presented as follows.

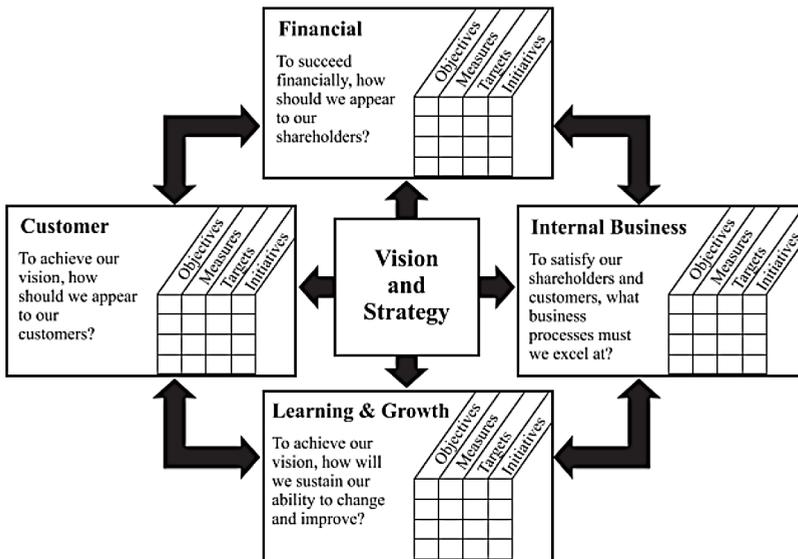


(Source: https://www.researchgate.net/figure/Performance-Pyramid-Tangen-2004_fig4_228947377 visited 16.02.2022)

As presented on the picture above, there are four levels for transmission strategical aims to daily activities. Top of the pyramid is corporate vision whose purpose is to define market on which organization will perform business activities and the way on behavior on that market. From this level the pyramid is split on two hemispheres: left and right. The left one is for external components and the right one is reserved for internal effectiveness. Therefore, on the second level targets and results are sublimated on the level of business units. External component of second level pertains to the market and internal on the finance. In this stage all aims are long term and strategic. The third level is level of business operating systems. On this level is area where strategic and daily performance measures are met and has to be reconciled. External component pertains to customer satisfaction, internal component is productivity and mediator zone is flexibility which has to reconcile them. Bottom level is operational and relates to departments and work centers. Final outcome of this level is advancement of processes, and this is done through indicators of productivity and delivery on external side and through cycle time and waste on internal side of effectiveness.

Based on everything mentioned, the conclusion is that described approach is sales oriented and financial measures are supporting instrument in business activities. Also, there is a lot of indicators that are non-financial nature.

Balanced Scorecard (further BSC) is the most famous in approach in the theory and the most often used approach in the practice of integral performance measurement. The roots of the theory are usually connected to Harvard business school. This method is the first time published in the paper “The Balanced Scorecard: Measures That Drive Performance”. BSC ensure balanced approach in performance measurement and that is the biggest contribution of the approach in this area. BSC is management system that enables the company to concretize its strategy using performance measures grouped into four different functional perspectives. Four areas of the approach that will be discussed are most often compared to four legs of the chair. You (company) need all four of them and they have to be balanced; otherwise welcome to uncomfotability and problems with sitting there. Illustration of this is presented bellow and followed by explanations.



(Source: <https://www.mdpi.com/2071-1050/12/8/3221> visited 16.02.2022)

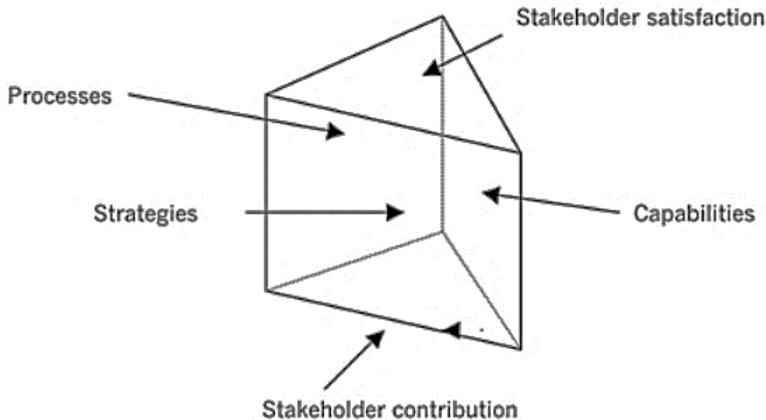
Measurement process of the scorecard is used to accomplish critical management process:

- Clarify and translate vision and strategy,
- Communicate and link strategic objectives and measures,
- Plan, set targets, and align strategic initiatives,
- Enhance strategic feedback and learning.

Kaplan and Norton are emphasizing the need of the manager to have mainly financial measures of business activities. The main reason for this is the timeline. Namely, financial information is generated from accounting function. Accounting is evidencing past events, so financial measures are not oriented on present, and managers has to make decisions for the future. From this reason the dilemma is arising are financial measures critical. These measures are the most accurate measures of achieved performance, but there is need to complete them with another kinds of measures.

To achieve success, business entity has to ensure balance between all four aspect presented on the picture above. Financial component is traditional and the aim is to present indicators that are presenting financial and earning position of the business entity. Measures that this component is offering pertain to increase of revenue and decrease of costs which is nothing new. Customer's perspective is important for the organization and managers interest is moving from achieving financial results to ensuring customers satisfaction. From short term perspective there are no fast benefits from increasing customer care, but long-term view has different perspective. This group of measures has the leading role because it is ensuring long term increase of earning capacity of the entity. Internal perspective covers processes which are critical to achieve the goals of owners and other stakeholders. This internal component is the fact which author of the approach are pointing as key difference between their approach and all traditional ones. Learning and growth is becoming more and more important in new age and the fourth industrial revolution. This component includes all activities that are directed to trainings of individual and the organization as a whole.

Performance Prism is an approach with the aim to support management how to select indicators which are relevant to evaluate effectiveness and efficiency of the company. The prism has five dimensions which can be presented as on the picture.



(Source: <https://www.accaglobal.com/an/en/student/exam-support-resources/professional-exams-study-resources/p5/technical-articles/performance-prism.html> visited 16.02.2022)

Authors are defining that main stakeholders are investors, customers, intermediaries, employees, regulators, communities and suppliers. Therefore, the comprehensive strategy has to fulfil their expectations. On the other side, there is need to measure contribution of stakeholders, so that is new dimension of the prism (bottom and upper one). In order to generate satisfaction of stakeholders from their contribution, it is necessary for the management to ensure a set of business activities. This refers to (1) strategy, (2) processes and (3) capabilities in the organization. The performance prism introduces a novelty in the form of measuring the efficiency of business processes and the ability of the organization and its employees.

2. MEASURES OF PERFORMANCES BY THE WAY OF PRESENTATION

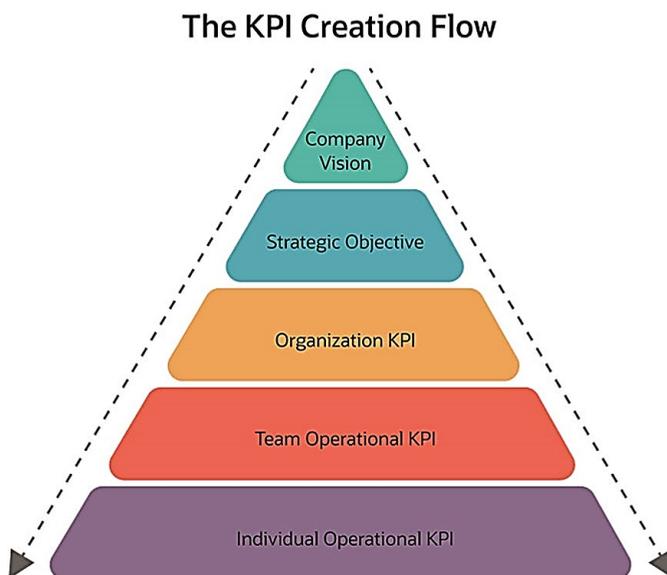
The research is made for the approaches which are relevant for the presentation of measured performances to the management. By the development of the technology, software applications in the companies, presentation of performances is significantly changing. If we consider business intelligence as new modern component than this area

will be more interest in the future and decreasing role of the individual in operational work and increasing it in the area of defining and constructing ways for presentation.

Performance measurement system can be represented by the following performance measures:

1. key performance indicators – KPI list,
2. performance control panel – “Tableau de bord” and
3. management cockpit.

KPI list is management tool in which is defined list of relevant (key) measures of performance. These KPIs are followed and compared with priorly defined targets. Identification of really key indicators is complex task. There are several approaches to the identification, but the most common is from the top to the bottom of the organization. The beginning phase in this process is to define strategy, vision and aims of the organization. Second phase is definition of list of the indicators that will measure progress and the status of defined targets. The best way to present how KPI is created and used is the picture bellow:



(Source: <https://www.netsuite.com/portal/resource/articles/erp/key-performance-indicators-kpis.shtml> visited 16.02.2022)

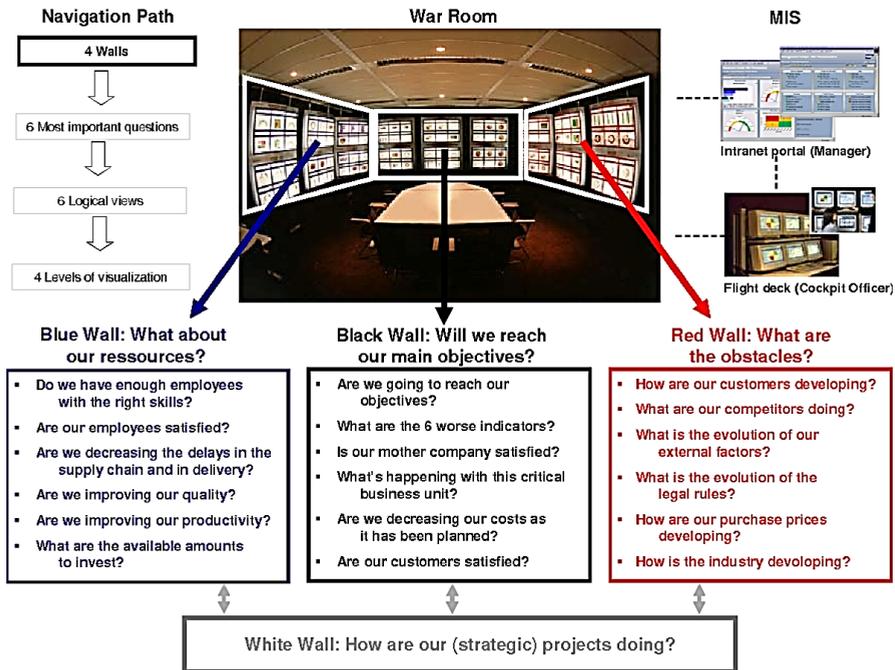
“Tableau de bord” is approach defined by group of French authors. The lading idea is synthetic overview of the situation. There is relatively low number of measures that management should follow and it has to be presented similar to control board of the car where you constantly follow only the most important categories: speed, fuel, temperature and torque. These parameters are enough for smooth drive. Authors Artley and Stroh make parallel between the vehicle and the company performances which are followed in the similar manner:



(Source: <https://www.my-procar.com/garage-et-reparation-auto/probleme-dysfonctionnement-tableau-de-bord> visited 16.02.2022)

In this parallel, fuel is recognized as finance, the company has to have enough financial resources to achieve wanted state. Temperature is shown as buyers which has to be satisfied (if they are too cold or too hot this will not bring new value to the entity). Torque presents internal processes which has to be in line with defined aims. Learning and growth are compared to the speed in the vehicle, the growth has to be sustainable.

Management cockpit is the last approach that will be presented. Originally, it was developed by Patrick Georges and the company “N.E.T. Research”. This approach is taken by the most famous accounting software company SAP AG from Germany. The presentation of this approach is usually called “war room”, this is because of the presentation form in which the management is following and visualizing all the data.



(Source: <https://www.semanticscholar.org/paper/Management-Cockpit-War-Room%3A-Objectives%2C-Concept-of-Daum/0925179a348176f7ab1d920e00b12125bf1aa8d4> visited 16.02.2022)

The war room title is implemented because of two main reasons: effective supply of information and effective cooperation of managers. By default, it is assumed that war rooms are technically advanced, but that is not precondition for this approach.

2.1. Critical review of categories in which are systematized measures of performance and their diversity

In order to become and remain successful organization in a modern business environment, decisions and judgments of its management should be based on adequate information on performance measures. Hence, organizations must have a modern and a customized performance measurement system to follow their success (in the broadest sense of the word). In this sense, traditionally is, almost dogmatically, used managerial wisdom that company “cannot manage what cannot be measured.” Efforts which have

been done so far in the field of creating useful systems for measuring performance, cannot be considered as insignificant. Numerousness and diversity speak in favor of this hypotheses (Kaplan and Norton, 1992; Kaplan and Norton, 1996; Stern and Shiely, 2001; Neely et al, 2001; Barnabe, 2010).

However, each group of companies, as well as each individual company, develops its own system of reporting and monitoring of the achieved results as well as planning future events.

Organizations of different types are almost always in a situation where there is a large number of goals, and on the other hand the resources and competencies necessary to meet them are limited. This circumstance leads to disorganization that occurs as a consequence of the negative effect of the external environment on the system (the measure of disorder is entropy), so that changes disrupt the system and can lead to errors in adapting the system to the new environment.

Quality management reports, as well as overall successful communication, consist of clear messages, systematic standardization and reduction to the essence. The following are explanations of the HICHERT © SUCCESS reporting rules. Following the SUCCESS rules provides the basis for successful business communication. The following seven rules are recommended for written (reports, statistics) and oral (presentations, lectures) business communication:

- SAY: Say the message
- UNIFY: Standardize content
- CONDENSE: Collapse information
- CHECK: Ensure quality
- ENABLE: Implement the concept
- SIMPLIFY: Avoid complications
- STRUCTURE: Organize a report

These seven rules can be grouped into a reporting pyramid. The reporting pyramid has three levels:

1. Message (Say, Structure)
2. Visualization (Unify, Condense, Simplify)
3. Data (Check, Enable)

There is a lot of factors which will indicate which performance measurement systems will be used and how many indicators will be measured. Because of that fact, we cannot say that universal performance measurement system can be established. Some of factors that determine this are: size of the company, competitiveness, level of technological development, organizational structure and business strategy. With the growth of the company, it is natural to expect that the company is using more complex performance measurement system and to follow more indicators. On the other side, this can lead to bureaucracy and the reports are becoming the aim for itself, not the instrument and the tool for decision making process.

Very high interest in growth of the company and connecting this fact to the management shows author Isak Adizes. The effectiveness of his methods is contained in the concept of life cycles that indicate a wide range of managerial challenges. In his work, Adizes defines several stages of development of an organization, and they are:

- courtship,
- the period of infancy,
- wild years: go-go,
- adolescence,
- top form,
- aging,
- aristocracy and
- final doom.

In his works based on concrete experiences as a consultant, Adizes strives to point out the circumstances that will direct managers to keep the organization in the top form phase. During the development of a company, it inevitably goes through a large number of changes. It is up to the management of the company to use these changes as opportunities or to recognize them as a problem.

CONCLUSION

In order for the organization to be able to respond to external factors, it is necessary for the interior of the organization to be maximally organized, to function homogeneously and to have a sufficient amount of quality information to make better decisions to take advantage of the challenges. Therefore, just concretely tailored system for performance measurement can be used as adequate base for making decisions.

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Corresponding author: nedeljko.krajsnik@gmail.com

INSTITUTE OF FACTUAL EXPROPRIATION

Nedeljko Krajsnik

Law Office

e-mail: nedeljko.krajsnik@gmail.com

***Summary:** In this paper, the author pointed out an unusual legal phenomenon that has occurred in practice, and that is the seizure of real estate by public authorities and limiting or depriving individuals of property rights, without prior procedure prescribed by law and without compensation to the owner of the property, justifying it in the general interest. Since an individual is not able to oppose such behavior of public authorities, the only way to protect is to go to court, but there is another problem, because no law defines such a legal situation. However, the courts took over the role of interpreters of positive legal regulations and took the position that in this case it was a de facto expropriation, and through case law they defined this institute and practically equated the rights of individuals with persons whose property is expropriated in regular proceedings. most importantly, they took the position that the right to hope due to confiscated real estate does not become obsolete.*

***Keywords:** public interest, property rights, expropriation, factual expropriation*

INTRODUCTION

One of the basic human rights is the right to property, which is protected by numerous international legal instruments, such as The Universal Declaration of Human Rights was adopted at the United Nations General Assembly on December 10, 1948 - (“Everyone has the right to own property alone and in association with others, and that no one shall be arbitrarily deprived of his property”), Convention for the Protection of Human Rights and Fundamental Freedoms, adopted by the Council of Europe on 4 November 1950 - (“Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public

interest and subject to conditions provided by law and general principles of international law “), The International Covenant on Civil and Political Rights adopted by the United Nations General Assembly on 16 December 1966 - (“All are equal before the law and are entitled without any discrimination to equal protection of the law. In this regard, the law must prohibit all discrimination and to provide all persons with equal and effective protection against all discrimination, in particular as regards race, color, sex, language, religion or belief, national or social origin, property, birth, etc.), etc.

We will briefly review the protection of property rights as defined by the Convention for the Protection of Human Rights and Fundamental Freedoms, given that this convention also establishes a court that guarantees the protection of prescribed rights, the European Court of Human Rights, based in Strasbourg.

Protocol I to the Convention for the Protection of Human Rights and Fundamental Freedoms, adopted in Paris in 1952, defines Article 1 as the right to property, ie the protection of property in such a way that: *“Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law. The foregoing provisions shall not, however, in any way affect the right of the State to apply such laws as it deems necessary to control the use of property in accordance with the general interest or to ensure the collection of taxes or other contributions or penalties.”*

From the very definition, it is clear that the right to property, as an individual legal interest of an individual, has guaranteed protection, but with exceptions in relation to the general interest, respectively in the convention guaranteeing protection of rights, the state is left with the right to deny the same right. However, in order for the state to deny this right, it must first be defined by law, so the restriction of an individual right must be in the general interest.

One of the procedures by which the state enables the restriction of an individual's right to property is the expropriation procedure, which in the general interest excludes real estate from an individual, thus denying him the right to property without his will, but provided that the individual receives adequate satisfaction, usually in money.

However, despite the legally defined procedure of deprivation or restriction of property rights through positive legal legislation, in practice it happens that the state through institutions owned by it, to build goods in the general interest, deprives or

restricts the right of an individual without prior procedure and without adequate compensation for revoked or limited right.

In such a situation, an individual is forced to seek protection of his rights in court, proving the rights he had and which was limited or taken away by the actions of state institutions in the public interest, without a procedure and adequate compensation, which is the topic of this paper.

1. THE CONCEPT OF EXPROPRIATION

Expropriation is an administrative-legal way of acquiring property by the state as a user of expropriation, ie a legal institute by which the state authoritatively encroaches on the property rights of an individual deprives or restricts those rights in its favor or in favor of someone else, in general. public interest, for the purpose of construction of facilities, or performance of other works of general interest, with compensation.

This institute exists in the legal systems of almost all countries, and the specificity of the countries of the former SFRY is that the laws from the earlier period and the former joint state are almost identical, so now we have several states that have almost identical laws in many areas of law, in this case the Law on Expropriation, which identically, with minor differences due to adjustments and corrections in the past period, regulates this important institute in all countries in this area (the so-called “countries of the Western Balkans”).

Thus, the specificity of the institute of expropriation is that the state from the position of government decides to whom and to what extent it will limit or deprive the right of ownership of real estate, which is preceded by determining the general interest, ie deciding which objects are of general interest.

In the light of the international legal admissibility of expropriation, the presumption of fairness is taken, by basically replacing one property with another (whereby the previous owner, ie the holder of real estate rights, ceases to be the holder of property rights with fair monetary compensation) or acquiring ownership of some another property.

In this regard, international documents protecting the rights of the individual (for example, the aforementioned European Convention for the Protection of Human Rights and Fundamental Freedoms) allow expropriation as a way of restricting one of the guaranteed basic human rights, but we are provided that the procedure is prescribed by law, that it be carried out exclusively for the purpose of realizing a specific public interest and, perhaps most importantly, if this restriction or deprivation of rights is accompanied by appropriate compensation. This compensation must include compensation for the fair market value of the real estate on which the right is limited or revoked, in order to establish fairness, ie reciprocity of the rights that the former owner had and those given to him in the expropriation procedure. In short, a balance of general and individual interest must be struck in each case

Expropriation of real estate is done for the needs of the user of expropriation, in such a way that the previous owner of the property loses the right of ownership, and the new owner establishes that right, in such a way that the expropriation acquires the right to use the property for the purpose of expropriation. it must be in the public interest. The user of expropriation can only be a public authority, which is the state or a unit of local self-government.

Therefore, in order to start the expropriation procedure, the general interest must be determined, which defines which public good must be built and in which area, and who will be the user of expropriation, and who will be the investor of that project.

The public interest is determined by a decision made by the highest executive body, the Government, and this decision must be published in the Official Gazette, which is considered to be publicly announced and accessible and known to all. The public interest usually includes various infrastructure projects, such as the construction of roads, airports, water supply, sewerage, regulation of watercourses, construction of settlements and the like.

The expropriation procedure is a strictly formal procedure defined by the law to the smallest detail, so in essence there should be no controversial issues, but of course this is never the case in practice, because there are often situations that can not fit into regulations, due to specifics each individual case, and most often it is a large number of cases in which a large number of different problems occur.

2. EXPROPRIATION PROCEDURE

2.1. Determining the general interests

Before submitting a proposal for determining the general interest for the construction of facilities or performance of works to the Government, the expropriation beneficiary is obliged to prepare and submit an expropriation plan in accordance with the spatial plan. The expropriation plan must contain a study prepared on the basis of and in accordance with the conditions of spatial planning, and the expropriation plan shall be accompanied by data on the owners whose real estate is being expropriated. The expropriation plan is exposed to public inspection at the seat of the local self-government unit in whose area the facility is intended to be built or works of general interest are performed, within 15 days, and within that period objections can be given to the body that determined the conditions for arranging the space.

After these activities, the proposal for determining the general interest in the construction of facilities or works is submitted to the Government through the administrative body for property and legal affairs, and the Government makes a decision on determining the general interest in construction or works, published in the Official Gazette.

2.2. Submitting a proposal for expropriation

Since the general interest for the construction of the facility or the execution of works has been determined, the user of expropriation submits a proposal for expropriation to the administrative body responsible for property and legal affairs according to the location of the real estate proposed for expropriation. The proposal for the expropriation of real estate must specify the user of the expropriation, the real estate for which the expropriation is proposed, the owner of the real estate and the facility or works for which the expropriation is proposed.

After receiving the proposal for expropriation, the competent administrative body, ex officio, without delay informs the owner that the proposal for expropriation of his real estate has been submitted, with a warning that he is not entitled to reimbursement of costs for investment in land and buildings made after he has been notified in writing by the administrative body of the submitted proposal for expropriation, except for those costs that were necessary for the regular use of real estate.

Expropriation will be recorded ex officio in land registry and other public records in which data on real estate are kept, after which the alienation of real estate in respect of which expropriation was recorded, as well as changes in other relations on real estate, has no legal effect on the expropriation user.

2.3. Decision on expropriation

The decision on expropriation is made by the administrative body after the procedure in which the hearing of the owner of the real estate to be expropriated is obligatory. If there is a discrepancy between the land registry and the factual situation on the real estate, the right of ownership of the real estate will be discussed as a preliminary issue.

The decision on expropriation contains the code of the act determining the general interest, the designation of the expropriation user, the designation of the object or works for the construction of which the real estate is expropriated, the designation of the expropriated real estate, the designation of the real estate owner, the owner's obligation to hand over (payment of compensation) and the deadline for possession.

For the procedure of determining compensation, it is important to point out that the right to compensation is determined for expropriated real estate, facilities and plantations, exclusively covered by the final decision on expropriation, according to the nature and purpose of these properties at the time of expropriation.

2.4. The procedure for consensual determination of compensation for expropriated real estate

After the decision on expropriation becomes final, the administrative body is obliged to schedule and hold an oral hearing without delay for consensual determination of compensation for expropriated real estate. The administrative body will try to reach an agreement on compensation, warning them of their rights and obligations under the law, and in order to prepare a hearing, the parties may submit their bids, and the administrative body will obtain written information from other bodies on facts that may be relevant.

Compensation for expropriated real estate is determined, as a rule, by giving another appropriate real estate that corresponds to the value of the real estate expropriated in the same municipality or city. If the owner of the expropriated real estate does not accept other appropriate real estate as compensation, or if the expropriation beneficiary cannot provide such real estate, a fair monetary compensation is determined, which cannot be lower than the market value of the expropriated real estate.

If the parties reach an agreement on compensation before the administrative body, it is entered in the record, which must contain all the information necessary to fulfill the obligations of the expropriation beneficiary, and is concluded when both parties sign the record in which the agreement is entered.

However, one of the most common problems in expropriation proceedings is the issue of the amount of compensation for expropriated real estate, because in many cases it is not possible to reach an agreement on the amount of this compensation between the expropriation beneficiary and the former owner, in a special court procedure, which is defined by the Law on Out-of-Court Procedure.

However, this type of problem eventually gets its solution through one of these two procedures, whether administrative or judicial, but one of the more serious problems that has arisen in the past is that the state, or institutions entrusted with the exercise of public authority, have limited or deprive individuals of property rights, build facilities of public interest without prior procedure provided by law, without a formal determination of public interest, and most importantly, without compensation to property owners for their reduced or revoked property rights.

In practice, such treatment is called “factual expropriation”.

3. FACTUAL EXPROPRIATION

The concept of factual expropriation is not known in positive legislation, this term has been defined in practice, in the practice of courts, and as such is used in proceedings initiated by aggrieved property owners to protect their reduced or revoked rights.

In this paper, we will deal with the case law and the institute of factual expropriation in Bosnia and Herzegovina, as a negative example of abuse of power and force that the state has in relation to the individual, which is justified by the general interest..

Thus, as we have already stated in the previous chapter, the expropriation procedure is a strictly formal procedure and consists of two separate procedures: the first is the procedure of expropriation of real estate in which it is determined which real estate is expropriated, for what purpose evidence is provided, in the sense of determining the type of real estate, quality, content, etc., which is done through obtaining the findings and opinions of experts of the relevant profession; the second procedure, or the second part of the expropriation procedure, is the procedure of consensual determination of compensation for expropriated real estate, which is initiated after the decision on expropriation becomes final, and in this part of the procedure an agreement on compensation is concluded between of expropriated real estate, according to the decision on expropriation. If no agreement is reached, the case is referred to the competent court to determine fair compensation in out-of-court proceedings, according to the rules of out-of-court court proceedings.

From this it is clear that the expropriation procedure itself is a very complex procedure, it has its own strict and predefined rules and procedures, so when all this is taken into account, it is very difficult to say that “actual expropriation” took place without none of the required procedures occurred or implemented.

Yet, the court practice has defined this term out of the need to classify or equate actions that have taken place, which do not have their basis in legally defined procedures, with the procedure that has a legal basis, so that the injured party can be provided with legal protection. In other words, the jurisprudence equated the rights of an individual whose right to property was reduced or revoked in a regular expropriation procedure with an individual whose same right was reduced or revoked without a previous expropriation procedure and determining fair compensation for the revoked right.

Following the above, the definition of “factual expropriation” was defined, which this institute defines as *confiscation of possession from the property owner for the construction of buildings or other works of public interest, without a previous expropriation procedure in front of the competent administrative body and without determining fair compensation to the owner for occupied real estate.*

This definition, although not derived from legal provisions, is more or less used by all courts when resolving this type of dispute.

4. BASIC CHARACTERISTICS OF FACTUAL EXPROPRIATION

Just from the definition of factual expropriation, the basic characteristics of this institute can be determined, and they are:

- Confiscation of possession from the property owner for the construction of facilities or the performance of works of public interest;
- Absence of legal basis for this type of action by the state or state-owned institutions;
- Absence of a decision on determining the general interest for the construction of facilities or undertaking works of general interest;
- Absence of administrative procedure for reduction or deprivation of property rights, and thus lack of decision on expropriation of real estate;
- Lack of fair compensation for confiscated / expropriated real estate.

When looking at the above characteristics, it can easily be seen that they are in complete contradiction with the basic characteristics of the expropriation procedure, so that they represent the exact opposite of the procedure defined by this law.

But, as the court practice sought a way to equate this procedure with the already existing and legally defined expropriation procedure, the term “factual expropriation” was adopted, for the simple reason of finding a way to deprive property owners who have been illegally deprived of property rights to real estate in the general interest, equal to the owners of real estate whose same right was taken away in the legally defined expropriation procedure, more precisely to ultimately equalize their rights.

The owner of the real estate according to which the factual expropriation was carried out is not formally deprived of the right of ownership, because he remained the holder of that property right in public records due to the lack of grounds for change of ownership, but he is *de facto* deprived of that right, because he cannot use the right in the way guaranteed to him by international conventions, the constitution and the law. Therefore, one of his basic human rights has been violated, and this cannot be justified by the public interest, because, among other things, the European Convention for the Protection of Human Rights and Fundamental Freedoms defines when and under what conditions a state can restrict and deprive individual rights.

As the introduction of the “factual expropriation” institute equated the deposited owner of the real estate with the owner of the real estate from whom the real estate was exempted in the regular expropriation procedure, he was thus guaranteed the right to

fair compensation for confiscated real estate. Since in the actual expropriation procedure it is not possible to restore the previous situation, because the public interest has an advantage over the individual, it is possible for the deposited owner to demand fair compensation for confiscated real estate, according to the same rules as this compensation in the expropriation procedure: in allocating other immovable property of the same or similar characteristics and in a similar location as the immovable property confiscated, or compensation in cash, in an amount that may not be less than the market value of the confiscated immovable property. In practice, the fee is usually determined in cash.

And perhaps the most important position taken by the courts in cases of “factual expropriation” is that the right to compensation does not become obsolete, because in these cases it is not a matter of compensation for damages, as a legal institution that has defined deadlines in which compensation for damages can be claimed, but it is essentially a request for compensation of property, which, according to the Law on Real Rights, does not become obsolete..

5. JUDICIAL PROTECTION IN CASES OF FACTUAL EXPROPRIATION

As we have already stated, the institute of “factual expropriation” originated, defined through court practice, it does not exist in positive legal regulations, which in itself means that the courts have taken on the role of interpreters of the law and taken the position that owners who have been factual expropriated have the right to judicial protection of their violated rights, specifically property rights on real estate.

Perhaps it would be more correct to say that these owners are the only ones entitled to judicial protection in these cases, because there is no other procedure they could initiate in order to exercise or protect their right. Here, we primarily mean the administrative procedure, specifically the expropriation procedure which, logically speaking, should be initiated in these cases. But, as the expropriation procedure is a strictly formal procedure whose rules are prescribed by law, these same legal provisions define that the procedure can be initiated only by the expropriation user, so the owner of the real estate is doomed to the impossibility of conducting this procedure. Hypothetically, the expropriation procedure could be initiated by the expropriation user

by determining the general interest and submitting a proposal for expropriation, but this did not happen in practice. Even if there was a will for that, the procedure would have to be suspended, because it would determine that the real estate for which expropriation is requested, has already been put to use, ie that a facility or works of general interest have already been built or performed on it. Since the expropriation procedure is a previous procedure for the construction of facilities or the performance of works of general interest, then this procedure loses its meaning and cannot be carried out if the real estate has already been brought to that purpose.

Here we will mention the Constitutional Court of BiH, which first defined the term “factual expropriation”, took the position that the owner whose rights are inherited by illegal actions of public authorities has the right to protection of these rights in the form of fair compensation for confiscated real estate. the law does not become obsolete. This position of the BiH Constitutional Court was later “elaborated” by other courts, primarily the Supreme Court of the Republika Srpska and the Supreme Court of the Federation of BiH, which defined this institute in more detail in their decisions and equalized the rights of owners whose property was illegally confiscated. goods, with the owners whose property was confiscated in the regular expropriation procedure..

In several of its decisions, the Constitutional Court of BiH pointed to the legal understanding harmonized on January 30, 2014 at the Panels for Unification of Judicial Practice in the Civil Field. The mentioned Panels discussed cases of construction of facilities of public interest or performance of other works of public interest, which result in complete or partial deprivation of property rights of natural or legal persons in real estate, although there is no decision on confiscation or decision on determining public interest and a decision on expropriation. Thus, the cases discussed by legal theory and case law under the notion of factual deposit, ie the so-called factual expropriations. The legal understanding that the request for financial compensation due to the factual expropriation is not obsolete has been harmonized. Namely, it was pointed out that in the case of factual expropriation, natural or legal persons were deprived of property rights, so the basis of the lawsuit is in fact a request for restitution. Since the return and restoration of the previous condition is not possible due to the conversion of the former property, the plaintiffs have the right to seek compensation for the confiscated real estate.

The Constitutional Court of BiH has pointed out these views in several of its decisions in which this issue is decisive, and here we will mention the mentioned

decisions no. Ap-2986/11, Ap-2988/11, Ap-1706/12, Ap-2919/11, Ap-4875/13, as well as many others. All these decisions can be found on the website of the Constitutional Court of BiH, <http://www.ustavisud.ba/>

At the session of the Civil Administrative Department of the Supreme Court of the Republika Srpska held on February 7, 2014, the same position was taken as at the Panels for Harmonization of Judicial Practice in Civil Field from January 30, 2014, ie in cases of factual expropriation in cases of actual expropriation, the right of the owner to demand payment of compensation for confiscated real estate not become obsolete, because it is not a right to compensation, so there is no place to apply the provisions of the Law on Obligations which define deadlines for expiration of this request.

So, one specificity has happened with the institute of “factual expropriation”, and that is that the positive legal legislation does not know this institute, but it obviously happens in practice, and not so infrequently. What is worse, it happens on the part of the public authorities, who should, in essence, suppress such behavior, or reduce it to the legal framework. This is where the disproportion in the ability of the individual to protect their guaranteed rights is reflected in relation to public authorities, who take it upon themselves to deny the guaranteed rights of individuals, justifying it in the public interest.

For this reason, in these proceedings, the courts reacted and took a stand, ie took on the role of interpreter of regulations, and established a kind of rules for acting in such cases, to protect the rights of individuals in relation to public authority. We can say that this is a very rare case that the courts have so actively involved in the consideration of obviously serious issues that have arisen in practice, and are not foreseen and defined by positive legal regulations. Not to exaggerate, but we can almost say that the courts of the highest instance have taken on the role of legislators and filled the legal gap in this field, which is commendable.

CONCLUSION

Several international conventions have protected one of the basic human rights, namely the right to property, but these same international acts prescribe cases when an individual's right may be restricted in the general interest, and at the same time prescribe conditions under which an individual may be restricted or deprive the right in the general interest, above all with adequate satisfaction for the same.

All states have more detailed conditions for restricting or depriving an individual of the right of general interest through systemic laws, specifically in our case through the Law on Expropriation, which is a very complex and detailed law that precisely defines the rules and ways to reduce one's rights or confiscated, and how compensation is made for that lost right.

However, in practice, the opposite happens, ie it happens that the state, through institutions entrusted with the exercise of public authority, without prior implementation of procedures prescribed by law and without providing fair compensation, limits or deprives an individual of property rights and builds or performs works in general. interest. Such conduct is called “factual expropriation” and as such is not defined by any positive legal regulations, but it is therefore defined in court practice, through decisions of the highest courts.

The reason for defining the term “factual expropriation” is to enable compensation of individuals from whom the state from the position of force, with the justification to act in the public interest, deprived of property without compensation, or equalization of individuals whose property rights are limited or taken away without expropriation procedure, with individuals whose same right has been restricted or revoked in the regular expropriation procedure.

The most important characteristic of the institute of factual expropriation is that the right to fair compensation of an individual does not become obsolete, because it is not about damages, but about property compensation, and that the individual against whom factual expropriation was made, puts in the same position and has the same rights to compensation as an individual whose right to property is limited or taken away in the regular expropriation procedure.

At the institute of “factual expropriation” we can praise the actions of the courts that defined it as such and enabled individuals to protect their rights, although the legislator failed to do so for this type of procedure.

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Corresponding author: larix.bm@gmail.com

STATISTICAL ANALYSIS OF THE VITICULTURE SECTOR OF BIH WITH REFERENCE TO FAMILY HOUSEHOLDS

Branka Marković

Nezavisni Univerzitet Banja Luka, Banja Luka, Bosnia and Herzegovina
e-mail: larix.bm@gmail.com

Ružica Đervida

Nezavisni Univerzitet Banja Luka, Banja Luka, Bosnia and Herzegovina
e-mail: ruzica.djervida@unbl.org

Abstract: *Observing the historical genesis of grapevine cultivation on the territory of Bosnia and Herzegovina, it is important to emphasise that the tradition of grapevine cultivation is over 2.000 years old. In whole area, the vine was brought by the ancient Greeks. Today's production of wine grapes, in 2021, is carried out on an area of approximately 3.700 ha, which is significantly less than in 1989, when production took place on an area of 5.722 ha. As a result of the war, the area has been reduced to today's figures. Approximately 10.200 agricultural households are engaged in grapevine cultivation and wine production, which represents 96,21% of the total area under vines, only 3,79% of the area is owned by registered companies.*

The main goal is to increase the area under vineyards, to modernize existing capacities, which ultimately results in increased wine production. In order to achieve all the stated goals, it is necessary to provide certain funds. Transition countries, to which Bosnia and Herzegovina also belongs, are based on further growth and development on the arrival of foreign investment. In countries in transition, foreign investment is the only possible factor in economic development. However, due to a number of factors that influenced poor organization and poor access, which is especially pronounced in family farms, a large number of foreign investment do not come to BiH.

The basis of the paper is related to the analysis of the actual state of the viticulture and wine production sector in BiH and the amount of wine exported to EU markets. Since the majority, which consists of agricultural households do not their own capital, i.e. they do not have their own sources of financing. By using certain statistical methods one can get an insight into the real situation that exists in the field of viticulture in BiH, with reference to family farms. According to the data obtained from the analysis, the place and position

of the viticulture sector, which is the most important part of the food and agricultural area in Herzegovina, can be predicted.

Due to its great diversification, this area is very interesting for foreign investments. By applying various statistical tools, the situation in the field of viticulture can be determined and in that way it is possible to attract all interested investors.

Keywords: *statistical analysis, investments, viticulture sector, statistical analysis, correlation, regression*

INTRODUCTION

The cultivation of vines in the territory of present-day Herzegovina has a tradition that is very long, even over 2000 years. Ottoman Empire, where the production of wine and the cultivation of vines is extinguished. When we look at the historical development of the cultivation of vines and the production of wine, it can be stated that there were terrible ups and downs. At that time, and even recent production, it is influenced by various factors. When we talk about recent production, we must look back at the last thirty years. At the beginning of the 90's of the last century, the area under vineyards was approximately 5,722 ha. Due to the war that was fought in the period 1992-1995, in the territory of Herzegovina, agricultural production was destroyed and vineyards were neglected. Today, according to the data, grape production takes place on an area of approximately 3700 ha, with grape production increasing from 5000 kg / ha at the beginning of the 21st century to 9000 kg / ha in the 1920s.

The largest part of the area under vineyards, about 96%, is owned by family farms, more precisely, about 10,200 agricultural farms are engaged in vine growing. Apart from the war, one of the reasons for the small production of grapes is the large fragmentation of the property. So the entire area under the vineyards is divided into 14,200 plots whose average area is about 0.25 ha.

Table 1. Overview of areas under vines and production (2016-2020)

Year of production	Area (ha)	Grape production (kg)	Wine production (l)	Grape quantity (kg/ha)
2016.	3.580	25.776.000	16.754.400	7.200
2017.	3.600	26.280.000	17.082.000	7.300
2018.	3.620	27.150.000	17.647.500	7.500
2019.	3.667	27.500.000	17.875.000	7.500
2020.	3,700	28.120.000	18.278.000	7,600

(Source: BHAS, FAZ Mostar)

It should be pointed out that in Herzegovina, as a region in BiH, grape growing, production and processing is one of the most important segments of the agri-food sector and that this sector cultivates approximately 62% of pre-war areas that were under vines, and that the viticulture sector employs approximately 11,000 people, which is a significant factor for the region of Herzegovina.

It is necessary to determine the current situation in the sector of cultivation, grape processing and wine production. New vineyards that are being raised are concentrated in a couple of municipalities in the region of Herzegovina, approx. € 10,000, while complete investments in order to achieve and develop competitive production are approx. € 25,000. According to the existing data, in general, the agricultural sector in BiH does not have its own financial resources for the development of the viticulture sector, they need some financial support. As for the support from the state, it is realized through the credit lines of the Development Bank of the Federation, where the structure is: own funds (participation) 25%, grant funds 25% and credit with a loan 50%. The main goal of this paper is to research, define and explain the situation in the viticulture sector, respecting that this sector is the most important part in the food and agricultural area of Herzegovina, and diversification of the sector must be taken into account, which is very important in attracting investment.

1. STATE OF THE VITICULTURAL SECTOR

When it comes to the viticulture sector in BiH, we must emphasize that it is a small sector that concentrates on a couple of municipalities in the Herzegovina region, 92.5% of Herzegovina-Neretva and West Herzegovina cantons, and about 7.5% in the municipality of Trebinje. Damage caused in that sector during the war and after thirty years is visible. According to the data of the FTC BiH in 2021, the area under which vineyards are planted is approximately 3,700 ha, which is about 62% of the area under vineyards compared to the pre-war period. The European Union controls the price and quality of wine through legislation. The regulation was revised in 2006, so that then it experienced major changes in terms of subsidies. was removed that year. So from that period the financial resources for viticulture increase, and this aims to increase competitiveness in the international market. Recovery of agriculture, and thus the vineyard It is very slow, in the post-war period it was bypassed when it comes to donations, and investments lasted less than four years until 2010. All this results in the status of the viticulture sector in relation to the same in the neighborhood, especially in Europe and the world level.

Table 2. Overview of European countries by area under vineyards (000 ha)

No.	Country	2006.	2010	Index
1.	Špain	1174	1113	-5,20%
2.	France	882	840	-4,76%
3.	Italy	835	818	-2,04%
4.	Turkey	570	505	-11,40%
5.	Portugal	246	243	-1,22%
6.	Romania	213	206	-3,29%

(Source: VTK BiH)

From the above table it can be concluded that the wine sector in BiH, with its plantations of 3,700 ha, is far below the European average. According to the Agency for Statistics of BiH, the total number of family farms in 2021 was about 10,200, with a larger number of small winegrowers who in most cases produce for their own needs and for the local market, only about 2% of farms are engaged in viticulture on areas greater than 2.0 ha.

Table 3. Areas under vines

Area in ha	Number of households in GU	Number of ha per GU	Estimated number of household	Percentage (%)	Total number of ha	Percentage (%)
0,001-0,50	529	66	10.216	92,97	1.268	36,56
0,51-1,00	19	10,9	367	3,34	211	6,08
1,10-2,0	11	10,5	212	1,93	203	5,85
2,01-5,00	7	17,5	135	1,23	338	9,75
5,10-10,00	1	5	19	0,17	97	2,80
> 10,10	2	70	39	0,35	1352	38,99
TOTAL	567	179,6	10.989	100,00	3.468	100,00

(Source: FAZ Mostar)

In order to better understand the values, we must mention that with 1,045,600 ha under vineyards, Spain ranks first in the world, which would mean that only 0.03% of this total area would belong to the wine sector in BiH.

As already mentioned in the introduction, the total area under vines of approximately 3700 ha is divided into 14,200 plots, which would mean that the average size of the plot under vines is 0.24 ha. It is from these indicators that it can be concluded that the viticulture sector is in a very unfavorable, non-functional position in relation to the entire agricultural production.

The strategy for the development of agriculture until 2025 sets a certain goal regarding the development of viticulture, which is to reach 10,000 ha under vineyards by 2025. However, the current situation and the current dynamics tell us the opposite, so the question can be asked that Is it possible to achieve the set goal under such conditions? The only solution to achieve the set goal is new investments. Certain combinations of state subsidies with certain favorable loans must be the key to a solution that can reach the target of 10,000 ha by 2025, which meant accelerating the dynamics of planting vines.

Investments are very important for the development of the entire agricultural sector. In order to reach new investments, it is necessary to determine the complete situation in the entire sector, emphasizing viticulture. It is necessary to determine the costs of the entire planting of vines, which includes the preparation of the planting area and the raising of plantations in the first three years.

Table 4. Costs (KM) of raising plantations in Herzegovina

Description	Material costs	Machine services	Manual labor	Total
Preparation	837	3.135	176	4.147
First year	10.926	2.302	1.221	14.448
Second year	1.054	910	1.325	3.289
Third year	827	853	1.586	3.266
Metal framework	16.288	2.356	1.178	19.821
UKUPNO	29.931	9.555	5.458	44.972

(Source: FAZ Mostar)

Since the beginning of this century, grape production has been constantly increasing, so the yield in 2005 was approximately 5,000 kg / ha¹, and in 2011 it was approximately 7,000 kg / ha. In 2016, the total production of grapes amounted to approximately 25 million kg, while in 2020 this amount amounted to approximately 28 million kg, and the average amount was approximately 7,600 kg / ha.

U posljednje vrijeme teži se proizvodnji što kvalitetnijih vina uz uvođenje ISO i HACCP standarda.

As already mentioned in the previous section, the production of grapes, and thus wine, is located in the area of Herzegovina, where approximately 4,200 are under vines. Of the total amount of grapes produced, 65% is processed into wine. If we look at the structure, it must be emphasized that 55% is white wine while 45% is the rest, of which domestic indigenous varieties are represented for red wine, namely Blatina, while for white wine we have Žilavka.

Produced grapes are processed in 23 registered wine producers, which represents 40% of the total area under vineyards, while 60% is with unregistered producers.

When analyzing the export of wine from BiH, it can be seen that in 2018, approximately 6.9 million KM were exported, in 2019 7 million KM, and due to the COVID 19 pandemic in 2020, the export of wine was reduced to approximately 5 million KM.

¹ Federal Agromediterranean Institute Mostar

Table 5. Export of wine from BiH (2016-2020)

Year	Wine export (quantity 000 l)	Export of wine per prices (KM)
2016	2.009,14	4.818.045
2017	1.709,47	5.362.345
2018	3.472,34	6.901.468
2019	3.575,05	7.167.583
2020	2.875,81	5.449.838

(Source: FAI Mostar)

The largest importers of wine from BiH are: R. Croatia; R. Republic of Serbia; Germany.

2. STATISTICAL ANALYSIS

Looking at the collected data on grape production in BiH and the amount of wine exported by BiH, it can be concluded that: in the last five years there has been a slight increase in grape production, while wine exports in that period vary significantly, especially in 2020, which can be explained by lower consumption of wine due to measures introduced due to the COVID 19 pandemic. financial support to the viticulture sector. When analyzing the collected data on wine exports to the EU, it can be concluded that these exports are small compared to other exporters from EU countries. This situation is not a consequence of the poor quality of wine produced, but mostly of fragmented production and poor promotion of wine from BiH.

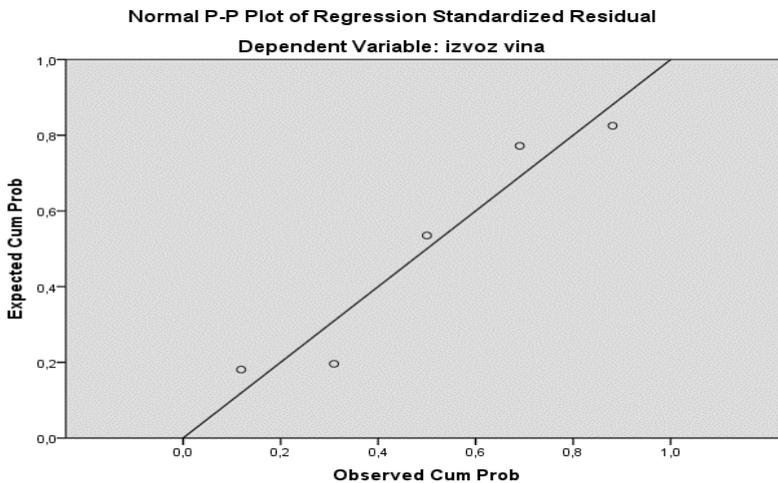
In the research part of this paper, data from FAI Mostar were used which present itself as a function with parameters on the basis of which it will be concluded about the influence of the independent variable on the dependent variable.

Table 6. Grape production and wine export (2016-2020)

Year	Grape production (000 kg)	Wine export (quantity 000 l)
2016	25.776.000	2.009,14
2017	26.280.000	1.709,47
2018	27.150.000	3.472,34
2019	27.500.000	3.575,05
2020	28.120.000	2.875,81

(Source: FAI Mostar)

Based on the collected data, we can determine and thus arrive at the answer to the question, what is the relationship between the amount of grapes produced and the amount of wine exported to the EU market. The relationship between the observed phenomena can be described using a statistical model: correlation and regression. Regression is an analytical expression that analyzes in detail the parameters that are in the correlation relationship. The strength of the connection between the analyzed phenomena is determined by correlation. Models of linear, curvilinear, multiple correlation can be used to investigate phenomena. The first step in the analysis is to determine, based on the scatter diagram, whether there is a relationship between the phenomena and what it is like.



Graph 1. Scattering diagram
(Source: author's calculation in SPSS)

From the scatter diagram it can be stated that there is a linear relationship between the variables, the points on the graph are grouped approximately linearly around the direction, so we can proceed to further analysis of the strength of the relationship between the observed phenomena

All collected data are processed using SPSS, where linear regression and correlation will be analyzed.

Table 7. Descriptive analysis

	Mean	Std. Deviation	N
Wine export	2728,3620	843,73366	5
Grape production	26965200,0000	940401,61633	5

(Source: author's calculation in SPSS)

Table 8. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,729a	0,532	0,375	666.79059

(Source: author's calculation in SPSS)

Table 8 Model Summary can be used to read the explanatory relations between the phenomena we analyze, so that, as we have already stated, this is a linear model, Pearson's correlation coefficient (R) determines the strength of the connection and it is $R = 0.729$, which can be stated that it is a solid correlation. In order to be able to determine the representativeness of the model we have chosen, the Determination Coefficient R Square is used. Based on it, the share of variability is determined, ie. how many variables Y can be explained with variable X. The coefficient of determination ranges from $0 \leq r^2 \leq 1$. The coefficient of determination is 0.532, so the variable grape production explains 0.532% variability in wine exports.

Table 9. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	1.513.716,863	1	1.513.716,863	3,405	0,162a
	Residual	1.333.829,076	3	444.609,692		
	Total	2.847.545,939	4			

(Source: author's calculation in SPSS)

Table 8 ANOVA shows the results obtained when testing the null hypothesis, if the coefficient of determination R square = 0, there can be no linearity. From the table it can be read that the F statistic is 3.405 at the significance level of 0.162

After the analysis, it is possible to start determining the parameters of the impact of wine exports and its dependence on grape production in BiH. The parameters will serve us to determine the model of simple linear regression, where the influence of the independent variable on the dependent variable is seen.

Table 9. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-14.910,989	9.564,470		-1,559	0,217	-45349,40	15.527,42
	proizvodnja grožđa	0,001	0,000	0,729	1,845	0,162	0,000	0,002

(Source: author's calculation in SPSS)

CONCLUSION

The application of certain statistical models significantly affects the uncertainty that prevails in decision-making in the business world. Based on the parameters that are calculated, certain indicators are obtained that enable, in addition to experience, information, for the company's management to make strategic decisions, which will significantly affect the functioning of the company.

In this case, we used a model that determines the relationship, ie. connection between the two observed phenomena. The analytical model by which this mutual influence is determined is the regression model, while the strength of this correlation is shown using the correlation coefficient-Pears coefficient. In the analyzed case, the Pearson coefficient is not the maximum, but according to the obtained data, it can be concluded that the connection is strong. In this case, and based on the current situation

in the viticulture sector, it is necessary to make a decision on whether and to what extent production capacities can be expanded in relation to wine exports and whether they can rely on revenues from exports. As it is already known, in the strategy of development of the viticulture sector until 2025, increasing the number of vineyards from the current 3,700 ha to 10,000 ha would require new investments that cannot be financed with own funds from wine sales on domestic and foreign markets. We must also mention that it is very difficult to achieve this goal, if it is known that in 2020 there was a big drop in wine exports which amounted to cca 24% compared to 2019 due to the COVID 19 pandemic. The consumption of wine on the domestic market per capita amounts to 5.4 liters, placing BiH is at the very bottom of wine consumption in Europe.

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Corresponding author: ljiljana.matavulj@fppsp.edu.rs

PUBLIC SECTOR VALUE CHAIN: IMPACT ON PRICES AND BUSINESS MANAGEMENT

Ljiljana Matavulj

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: ljiljana.matavulj@fppsp.edu.rs

Abstract: *The paper presents the interconnection of public sector and enterprise value chains in the field of price policy implementation, which can influence both changes in new value and the enterprise management model. The starting point was the hypothesis that the value chain system of a company is not only connected with the value chain of other companies, but also of public sector institutions. This hypothesis is tested on the examples of two public sector institutions in the Republic of Serbia - the Regulatory Agency for Electronic Communications and Postal Services and the Tax Administration, whose decisions directly affect the change in regulated sales prices of companies or adjust the profits of related parties based on transfer prices. A modified public sector value chain is also given for this example. In the case of price regulation, companies are also obliged to calculate costs based on activities (ABC - Activity Based Costing). ABC may later influence possible changes in the management of the company and application of the ABM (Activity Based Management) model. Due to the wide range of possible consequences for changes in companies, the public sector has a great responsibility in improving the design and modification of its own value chain. All together it should lead to greater efficiency and effectiveness of both the public and private sectors.*

Keywords: *public sector value chain, regulated service prices, transfer pricing, ABC cost model, ABM management model.*

INTRODUCTION

For the past few decades, there has been a well-known term from business management - value chain (Porter, 1998), which classifies all company activities as primary and secondary, to make as much profit as possible. Primary activities relate to the physical creation of products or services, sales, maintenance and service support, and secondary activities support those from the primary flow. The value chain does not end in one company, because there is an overlap with the value chains of customers and suppliers. Value chains exist in both the private and public sectors, except that in the public sector they necessarily adapt, because profit is not the primary goal, but the satisfaction of service users (Heintzman and Marson, 2003). These are mostly citizens, but depending on the type of public sector institution, they can also be other users of these services: users of budget funds - in the case of taxes; companies - in wholesale markets; all end consumers of regulated services at the retail level - both private and business users, etc.

The paper hypothesizes that the value chain of the public sector can directly affect changes in prices and management in the company. This hypothesis is tested on the examples of two public sector institutions in the Republic of Serbia. One is the regulatory body for two areas in which there is a natural monopoly - electronic communications and postal services, which define the selling prices of services (Official Gazette of RS, 53/21 and 126/20). The second is the Tax Administration, which, among other competencies, deals with checking the calculation of transfer prices between related parties, to determine the correction of profit and the amount of tax on this basis (Official Gazette of RS, 95/21). In both cases, public sector institutions influence the new value of the company, profit, through the selling prices of regulated services and profit as the tax base, through the correction due to deviations of transfer prices from market ones. After periodic measurements of the effects of these changes, corrective actions are taken, which further influence the changes in the company.

In the process of managing the value chains of these two sectors, the Activity Based Costing (ABC) method provides significant support. It is built into the methodology of regulating fair sales prices of monopoly operators in the Republic of Serbia and fits into the analysis of the value chain of companies, all with the aim of obtaining the most accurate calculation of cost prices and fair sales prices of services. The ABC method is an introduction to new business management models such as Activity Based

Management (ABM) which is very popular in developed countries. The paper confirms the hypothesis, because the value chain of the public sector can really influence changes in prices and company management. For this purpose, methods of description from the relevant literature, comparisons of examples in practice and analytical derivation of conclusions were used.

The paper is structured in five parts. After the introduction, the second part discusses value chain management in general, with the ABC costing method as a significant support in more accurate cost allocation. The third part presents the value chain in the public sector as a modification of the value chain in the private sector. This part practically tests the hypothesis of their mutual influence, on the example of two regulatory institutions in the Republic of Serbia. The hierarchy of activities and modification of the value chain of the two regulators is explained in more detail, whereby the Tax Administration is also conditionally called “regulator”, due to the influence on the “regulation” of the tax base. The fourth part presents the basic foundations for the ABM management model, which can be the starting point of the ABC model, all to find opportunities for faster growth of efficiency and effectiveness of business. The fifth part of the paper is the conclusion, followed by the references used.

1. VALUE CHAIN MANAGEMENT AND ABC CONCEPT

For a company to make a satisfactory profit, it is necessary to have a good competitive position in the market. It cannot be achieved if the primary and ancillary activities of the company are not adequately managed. The primary ones are: input logistics, production, output logistics, marketing and sales, and the ancillary ones are: infrastructure, human resources management, technology development and procurement (Porter, 1998: 37).

In addition to the importance of analyzing each activity in the value chain, in terms of whether it adds new value or not, value chain analysis is also important in terms of costs, in terms of various savings that can be achieved along the business process in each of its activities. These savings are significant both because of the precise calculations of prices of products and services and their more correct distribution to those carriers to whom they should belong, and because of the possible decision to move some of the secondary activities to another company. Savings are achieved in various ways, using

primarily the methodological tools of strategic management accounting, which include both financial and non-financial information. The ABC model (Langfield-Smith, 2008) and the Kaizen concept (Cooper and Slagmulder, 2014), which refers to small incremental but continuous internal improvements, are most widely used to create added value for the customer. The paper will pay more attention to the ABC concept of costing, because it is also used in the Republic of Republic of Serbia.

Numerous authors have argued that the ABC concept is one of the main techniques of strategic management accounting, even “one of the most important innovations of the twentieth century” (Gosselin, 2007: 641). This technique is becoming increasingly important due to the change in the cost structure, due to the accelerated development of information and communication technologies, which has led to an increase in the share of indirect costs in the total costs of the company. As the share of direct costs decreases, the problem of adequate allocation of total costs to appropriate products and services, also increases. In essence, the ABC concept of costing is the pursuit of a more correct allocation of indirect costs to the products and services to which they relate, but through activities as their main drivers and adequate keys for their further allocation. At the same time, the ABC concept serves as a more reliable basis for strategic decision-making. This costing can significantly reduce production costs, even in some cases by one third or more (Drucer, 1995: 55).

The use of the ABC concept has found great application in the service sectors, where information is provided on the costs of many activities and services provided, so that conclusions can be drawn about the profitability of each service, customer profitability, customer groups and markets. Modifications of this concept have been made for this purpose, and the Time Driven ABC (TDAB) version is especially popular, although not yet widely tested in practice. Here, time appears as the main driver of costs and measures of the duration of an activity, which makes it suitable for service sectors (Szychta, 2010).

2. VALUE CHAIN IN THE PUBLIC SECTOR IN THE REPUBLIC OF REPUBLIC OF SERBIA

In the public sector, such as the private sector, there is also a constant need to increase the efficiency of institutions within it, which is viewed in two ways:

1. within the public sector institution itself, whose control is performed both internally and externally: internally - through the system of financial management and control and the internal auditor; externally - through the state audit institution and independent auditors;
2. the impact that the institution has on the efficiency of the company under regulation or provided services to end users.

The further focus of this paper will be another aspect of public sector efficiency and the changes that occur in companies on this occasion.

The main difference between public sector and enterprise value chains is in focus. While in companies the focus is on profit, in the public sector it is on the user of services (Rapcevičienė, 2014). The public sector value chain model is a modified value chain in the private sector, which also has a primary and ancillary flow of activities, but they differ from those in enterprises (Figure 1). Given that the satisfaction of end users as new values is influenced primarily by people and resources that provide a service, the primary activities are concept and design of the service, procurement of physical resources, selection and personnel management, service delivery and customer care. Ancillary activities are strategic planning, financial management, ICT development, brand management, and accounting and management control (Heintzman and Marson, 2003). This general model can and should be adapted to the value chains of different public sector institutions, depending on their competencies and goals.

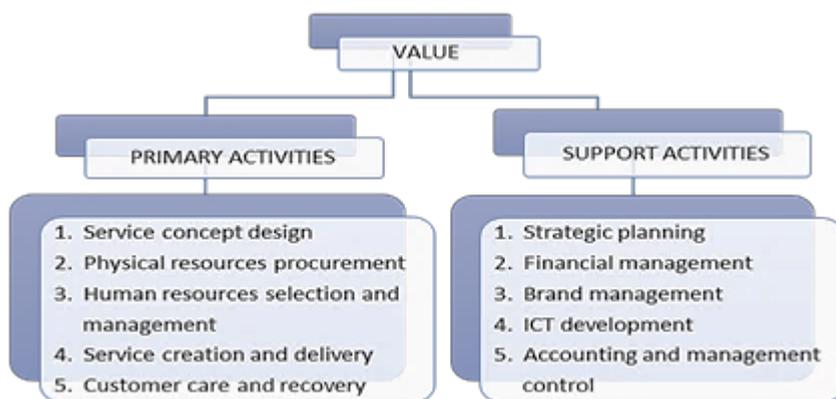


Figure 1. Activities in the public sector value chain (according to Heintzman and Marson, 2003), author's illustration

In the following, the modified value chain of two public institutions in the Republic of Serbia will be presented in more detail, on the example of which the hypothesis about their influence on the company price policy will be tested. In the first case, the Regulatory Agency for Electronic Communications and Postal Services (RATEL) after submitting regulatory reports of monopolist companies defines their fair sales prices of services, instead of prescribing them to the company's management (Mata vulj, 2021). In the second case, it is about transfer prices that companies charge in transactions between related parties, and their compliance with market prices is checked by the Tax Administration, according to the prescribed methodology (Official Gazette of RS, 95/21). If they deviate so that the income is underestimated and the expenditure is overestimated, the company's profit is corrected as the basis for additional tax payment. In practice, the company's pricing policy is being influenced again, as its managers will adjust business decisions on transfer pricing to the prescribed methodology, with the aim of paying lower taxes. It can be either a change in the system of related parties and a different choice of transactions within the group, through a change in the organizational structure of these companies, changes in the market in which they operate and the like.

2.1. Modified value chain of two regulators

Although RATEL and the Tax Administration are two different public institutions of the same public sector, they have a common link in the value chains with the companies they control. For companies, it is the impact on the primary activity that deals with price policy - marketing and sales, but also an ancillary activity - infrastructure (accounting and tax calculation). In the case of regulators, it is the impact through the primary activity - the concept and design of the service, with the strong support of the ancillary activity - strategic planning.

Table 1 shows a comparative overview of the hierarchy of activities of these two regulators for the areas within their competence.

Table 1. Hierarchy of activities of regulators, which influence the company's pricing policy

Key activities relevant to pricing policy	Regulation of electronic communications prices	Regulation of the price of universal postal service	Profit adjustment because of transfer pricing checks
Strategic documents	Rulebook on cost principle	Rules on accounting separation	Rules on the method of calculating transfer prices
Strategic goal 1: Satisfied users of company services	Competitive prices on the closed market	Cost-based selling price	Tax revenue control and prevention of tax evasion
Strategic goal 2: Changes in the realized values of the company	Better reporting and business decision making. Ability to analyze each activity and profitability by segment by the company's manager.		Better approach to the calculation of transfer pricing and corporate tax.
Development of professional competencies of employees	Continuous monitoring of European regulations and practices in the field of electronic communications, postal services and transfer pricing, training, seminars, learning from more developed countries.		
Design of methodology for price calculation and method of reporting to regulators	1. Cost accounting models: HCA, CCA, LRIC 2. ABC method	1. Cost accounting model – HCA 2. ABC method	Methods: 1. comparable uncontrolled prices, 2. resale prices, 3. cost prices, 4. profit sharing 5. transactional net margins
Decisions of the regulator, after the opinion of the auditor	Decision on the amount of the fair selling price of services	Decision on approval of proposed prices	Decision on correction of the tax base - profit.
Control of the effects of regulatory decisions	Market analysis and monitoring the implementation of decisions	Monitoring the implementation of decisions and suggestions	Measuring total tax base adjustments

(Source: Author, based on the application of the rulebook (Official Gazette of RS, 53/21, 126/20, 95/21))

It can be seen from Table 1 that the impact of the value chain of the two regulators on the value of the company is expressed in another strategic goal related to the new price or profit adjustment. From the aspect of the regulator, it is a higher quality of

reporting on all elements for the calculation of fair sales prices of electronic communications and postal services, with the help of the ABC concept of cost allocation. It is similar in transfer pricing, where under the methodological pressure of the tax regulator, the calculation of prices in transactions with related parties is approached in a more analytical and market way, although these prices are calculated internally in companies, outside the influence of market laws. This area also has a broader context, because in addition to increasing tax revenues, it prevents the outflow of taxes to other countries, but also avoids double taxation.

The first strategic goal is a higher priority for the regulator, because it refers to the satisfaction of end users of company services, including individuals (at the retail level) and other companies (at wholesale markets), but also users of state budget funds.

In both cases, transparency, methodological correctness, and the ability to verify the effects of regulatory activities are important. Above all, it is important to have competent staff who have the capacity to carry out all planned activities and monitor the effects of methodological procedures and regulatory decisions. In terms of measuring the effects, in practice there is space for improvement, which is mostly related to better education of employees in the Tax Administration and the existence of access to external databases of comparable companies, so that the burden of verification is not fully transferred to external audit firms (Matavulj, 2021a).

Based on the above, we arrive at a slightly modified common value chain of regulators (Figure 2) compared to the previously exposed public sector value chain. The main activities follow the hierarchy given in Table 1 and relate to both strategic objectives. Ancillary activities remained the same, with strategic planning, which was an ancillary activity, now becoming the main activity. It is concretized through documents and goals that are followed. This is because the main documents for the actions of both regulators are the rules on price calculation and reporting, the changes of which may be periodically influenced by the regulators.

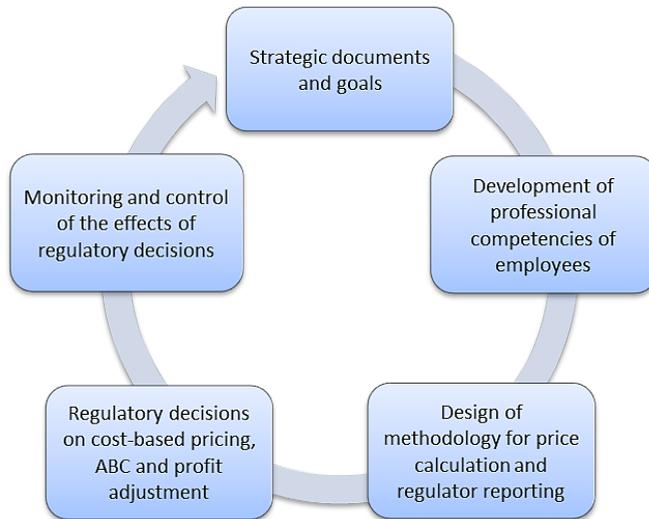


Figure 2. Modified value chain of two regulators - main activities, author's illustration

2.2. ABC in the regulation of service prices in the Republic of Republic of Serbia

The ABC concept was introduced into the regulations of the Republic of Republic of Serbia in 2008, through the first rulebook on the cost principle of regulated prices of monopoly operators in the field of electronic communications. This rulebook has been changed two more times to date, but the ABC concept has been retained. It is a “two-stage calculation” of costs, where in the first stage activities are identified as cost drivers, then direct costs are directly linked to services as their bearers, while general costs are first linked to certain activities, because their bearers cannot be directly identified. At the same time, similar activities are required that form a homogeneous group, which is joined by the same groups of overhead costs. Further, these costs, according to certain allocation keys, are allocated to products and services. (Official Gazette of RS, 53/21).

In regulatory reports, ABC was used first within the Historical Cost Accounting (HCA) model, from 2008-2011. year, and then within the Current Cost Accounting (CCA) model, which is valid to this day. Mandatory detailed breakdown of costs and effects by type has been introduced, with clearly visible business elements to determine their profitability, as well as the costs that are the subject of allocation (Stevanović, 2008). The aim is to see the cost structure of the service, which consists of variable and fixed

costs. In the short run, variable costs are like marginal costs, so information about them is important for calculating marginal profit. This also reflects the contribution of that whole to the total profit of the company (Milićević, 2000: 60-62). After the allocation of costs and effects, the target profit is allocated for each type of service, most often through the rate of return method, to obtain the selling price of each service. All the above has a deeper meaning and belongs to the domain of strategic planning of company profits (Malinić, 2007: 171-190 and 237-262).

During the previous thirteen years of regulatory reporting on the cost principle in the field of electronic communications, the result was a continuous reduction in prices of regulated services. The number of regulated markets has changed, first three retail and six wholesale markets and the last few years four wholesale markets. By using the cost of models that incorporate the ABC concept, wholesale prices of services have been reduced, as has been the trend in all European countries where they have been applied (Matavulj, 2021b). At the same time, the inspection of the public financial reports of regulated companies did not show that their profits decreased after the applied regulatory measures. This indicates the adjustment of the company's business policy and more efficient management. It remains to be seen how prices will move in the future under the new Long Run Incremental Cost (LRIC) model, which will take effect in 2022. This model has been dominant in other countries for several years because it includes monitoring of cost increments with the change in the scope of the service, which certainly provides greater opportunities for efficiency growth.

Like the concept of regulatory reporting on fair sales prices of regulated services of monopolist operators in the field of electronic communications, the same concept has been applied in another sector of public services - postal services. With the adoption of the Rulebook on the manner of keeping separate accounting and checking the reliability of regulatory reports of the public postal operator (JP PTT Republic of Serbia) (Official Gazette of RS, 216/20) in 2021, the first trial regulatory reporting began, with the aim of regulating the universal postal service. From 2022, this reporting will be mandatory. The basis of regulatory reporting in the field of postal services is the HCA cost model, with full allocation of costs and effects and the use of the ABC concept, all tailored to the nature of the business of this operator.

In this paper we will not deal in more detail with the methodology of price calculation, because our focus is on activities in the value chains of the two sectors, which are undoubtedly interacting when it comes to prices. This proves the initial

hypothesis that the value chain of the public sector affects the value chain of the company through price policy. It is certainly one of the important factors in the company's management philosophy, given that it is a basic element in making a profit. By the way, the advantages of the ABC model in the field of telecommunications have been noticed by other authors (Hopper and Major, 2007: 77) who expect that other companies will continue with this successful practice. The ABC model is just an introduction to more advanced management models in companies, which we hope will become a practice in the Republic of Republic of Serbia as well.

3. ABM MANAGEMENT MODEL - CONTINUATION OF THE ABC MODEL

One of the advanced starting points of the activity-based costing model, which can increase the efficiency and effectiveness of the company's overall business, is the Activity Based Management model. ABM model enables the achievement of both operational and strategic goals of companies with fewer invested resources (Kaplan and Cooper, 1998). It represents the whole philosophy of activity management, due to the realization of greater value for the customer and profit growth (CAM-I, 2001). It is equally applied in all sectors, but also in the public administration, i.e., its agencies. ABM includes the ABC model and its relationships with other managerial analysis tools, such as: cost driver analysis, activity analysis and performance measurement, and cost and value chain analysis (Figure 3).

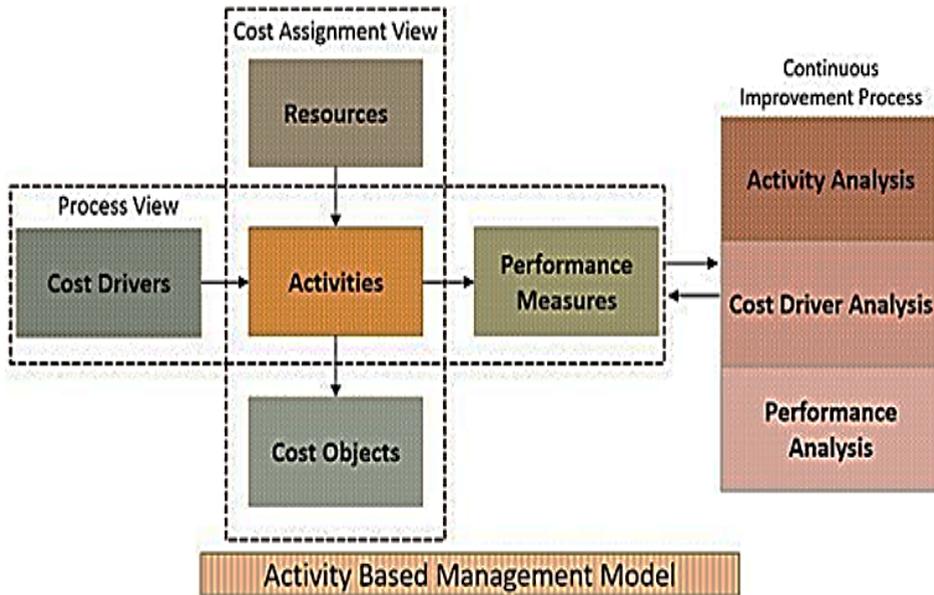


Figure 3. ABM model, Miller (1996:236)

On the left side in Figure 3, the ABC model is practically presented in the ABM model, and on the right side there are improvements in terms of the mentioned analyzes. The ABM model should be viewed as a tool for other improvement programs because the outputs of the ABM model are always inputs to another system.

Companies and institutions have started to adopt ABM for various reasons, and the most common are pressure to reduce costs; competitive pressure; regulatory obligation; transition from vertical management of business processes to horizontal - from orientation to functions to process orientation (CIMA-I, 2001). As we can see, the regulatory obligation is one of the most common reasons for the application of the ABM model, and it should be emphasized that this is an indirect consequence after the directly introduced obligation of ABC costing. Returning to the value chain of the regulatory body in the Republic of Republic of Serbia, one can notice the connection of the activities of regulators with the ABM model, although the effect of the ABM model in regulated companies is expected. At the same time, improvements are being made in the organization of regulators, precisely because of the need to measure the effects of the entire regulatory process and take corrective action. It would be inspiring to introduce

the ABC model in public sector institutions as well and to analyze possibilities for increasing efficiency, such as the real sector

CONCLUSION

The paper proves the hypothesis that the value chain of the public sector affects the value chain of the company, through the pricing policy that deals with one of the primary activities of the company. This is shown through the modified value chain of two public sector institutions in the Republic of Serbia - RATEL and the Tax Administration. The result of a series of activities in their value chain is new value, shown through competitive regulated monopolist price in the markets of electronic communications and postal services or additional corporate tax (higher profit), due to its correction based on transfer prices.

The methodological approach to the regulation of service prices incorporates the ABC concept of calculating costs by activities as their drivers, which further emphasizes the importance of analysis of activities along value chains. Regulated companies in the field of electronic communications in the Republic of Serbia have been forced to apply this concept for the last thirteen years, and from next year it will be an obligation in the postal sector as well. Companies also get their own benefits, because they will more efficiently manage the costs and effects of business segments and make better business decisions.

It is similar in transfer pricing, where, under the methodological pressure of the tax regulator, the calculation of prices in transactions with related parties is approached in a more analytical and market way, although these prices are calculated internally in companies, outside the influence of market laws. This area also has a broader context, because in addition to increasing tax revenues, it prevents the outflow of taxes to other countries, but also avoids double taxation.

The application of the ABC concept has opened the space for the introduction of a new model of management – ABM, based on activity. It contains the ABC concept in combination with other managerial analysis tools, such as: cost driver analysis, activity analysis and performance measurement, and cost and value chain analysis. Companies from all sectors have started to introduce the ABM model for various reasons, and

regulatory ones are one of them. Therefore, there are realistic expectations that these changes will occur in the Republic of Republic of Serbia, not only in companies, but also in the institutions that regulate them. This would certainly increase the opportunities for increasing the efficiency and effectiveness of business in the public sector, such as the real one.

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Corresponding author: goran.nikolic@fsp.edu.rs

SECURITY AND INTELLIGENCE SYSTEM OF THE REPUBLIC OF CROATIA

Goran Nikolić

Faculty of Business Studies and Law
“Union – Nikola Tesla” University Belgrade, Republic of Serbia
e-mail: goran.nikolic@fsp.edu.rs

Dalibor Milinković

Ministry of Defense of the Republic of Serbia, Belgrade, Republic of Serbia
e-mail: milinkod@yahoo.com

Abstract: *The authors of this article, in addition to reviewing the existing intelligence and security structure of the intelligence community of the Republic of Croatia, critically analyze its development, organization, strategic directions and structure of work. They highlight the complex political context in which Croatian intelligence and security services have emerged.*

They also highlight the fact that certain elements of the Croatian security and intelligence system were founded before the separation of Croatia from the SFRJ, as well as that its entire defense and security system was being created in a non-systemic and, in particular, non-institutional way.

The authors also note that serious reforms of the security sector, including secret services, were undertaken after the death of Franjo Tudjman and the victory of the opposition coalition in the 2000 parliamentary elections, when the initial and necessary prerequisites for the beginning of democratic consolidation were created.

It is concluded that the last significant changes in the organization of the security and intelligence system of the Republic of Croatia were made in 2006, when, in accordance with Croatia's strategic commitment to rapprochement and accession to the EU and NATO, the aforementioned legal decisions were consistent with EU and NATO standards.

Keywords: *Republic of Croatia, national security, intelligence and security community, intelligence activities, intelligence and security services.*

INTRODUCTION

The Republic of Croatia is a unitary state, and its political structure is a combination of a presidential system and parliamentary democracy. The capital is Zagreb. Its population is 4,188,853 people, and its area is 56,594 km², and the area of the coastal sea is 31,067 km.

We can trace the statehood of Croatia from the collapse of the puppet “Independent State of Croatia” to the end of World War II, when, in accordance with the decisions of the second session Anti-Fascist Council for the National Liberation of Yugoslavia (Antifašističko vijeće narodnog oslobođenja Jugoslavije- AVNOJ) in Jajce, the People's Republic of Croatia was created as one of the constitutional republics of the Federal People's Republic of Yugoslavia (Federalna Narodna Republika Jugoslavija- FNRJ). It gained independence from the Socialist Federal Republic of Yugoslavia (Socijalistička Federativna Rebulika Jugoslavija- SFRJ). However, in the mentioned republic there were constant aspirations towards independence, which had a kind of overture in the “Croatian Spring” of 1970-71. At the time of the declaration of independence, on June 25, 1991, a large number of citizens of Republic of Serbian origin lived on the territory of Croatia. Croatia did not have effective power over one part of the territory, so the Republic of Serbian population declared an autonomous region of the Republic of Republic of Serbian Krajina. Four years of armed conflict and military-police actions followed, first “Flash” (Bljesak) (May 1, 1995-May 3, 1995) and then “Storm” (Oluja) (August 4, 1995-August 7, 1995) with the aim of establishing sovereignty by military force. The Serb population, which was the majority in the Krajina area at the time, was expelled from these areas in these actions. ¹

Today, Croatia is a member of several international organizations, including the EU and NATO.

The political context in which Croatian intelligence and security services emerged was complex. It is important to point out that certain elements of the current security and intelligence system of the Republic of Croatia were founded before the secession of the Croatia from the SFRY, that is to say, before its international recognition and admission to the UN in 1992. The preconditions for the creation of this system arose

¹ Videti šire: Milošević, M., Srećković, Z. (2010). Bezbednosne službe sveta, Vojnoizdavački zavod, Beograd, crp- 308-309

with the adoption of the Law on Internal Affairs in 1989.² The creation of the security and intelligence system of the Republic of Croatia continued with the adoption of the new constitution, amendments to the existing ones and the adoption of new laws in 1990 and 1991.³ By the mentioned legal acts, the State Security Service of the Socialist Republic of Croatia was reorganized into the Service for the Protection of the Constitutional Order (SZUP).

Such cases were facilitated by the creation of a number of parastatal security and intelligence organizations. Some parties have organized their own intelligence activities. Thus, the Croatian Democratic Community (HDZ), through party activists on the ground, collected data that was transmitted to the party leadership. The quality and reliability of the data collected and processed in this way were low. The data were unverified, and because of the amateur manner, they were mostly sensational in nature and were aimed at the political disqualification of dissidents. In that period, a part of the members of the so-called political emigrants returned from abroad and joined the security services, although they did not have any professional qualifications.

The central problem in the creation of the Croatian secret services stemmed from the fact that its entire defense and security system was created unsystematically, and in part non-institutionally.

There was only a Civil Security Service, while there was no military security service, as well as a civilian and military intelligence component. Immediately after the “democratic changes” in 2000, actual reform steps have been taken, albeit on a rather limited scale. The decision of the new Government in 2000, National Security Commission was established.⁴ However, the beginning of a complete reform of the Croatian security and intelligence system was marked by the simultaneous adoption of

² Milan Milošević, *Reforme bezbednosno-obaveštajnog sistema Republike Hrvatske*, Vojno delo, vol.54, br.2-3, Beograd, str.93.

³ Videti: Zakon o unutarnjim poslovima (Narodne novine br.55/89), Zakon o dopunama Zakona o unutarnjim poslovima (Narodne novine br.18/90), Zakon o izmenama Zakona o unutarnjim poslovima (Narodne novine br.47/90), Zakon o preuzimanju saveznih zakona iz oblasti unutarnjih poslova koji se u Hrvatskoj primenjuju kao republički propisi (Narodne novine br.53/91).

⁴ Osnovano je Odlukom Vlade R.Hrvatske, a donošenjem Zakona o sigurnosnim službama njegove poslove preuzeo je Ured Vijeća za nacionalnu sigurnosti. Videti: Član 96. Zakona o sigurnosnim službama Republike Hrvatske, Narodne novine, br.32, Zagreb, 28.03.2002.

the National Security Strategy of the Republic of Croatia and the Law on the Security Services of the Republic of Croatia.

The last significant changes in the organization of the security and intelligence system of the Republic of Croatia were carried out in 2006, with the adoption of the Law on the security and intelligence system. According to this law, the security and intelligence system of the Republic of Croatia consists of the following institutions and agencies:

- National Security Council (Vijeće za nacionalnu sigurnost);
- Office of the National Security Council (Ured Vijeća za nacionalnu sigurnost-UVNS);
- Council for the Coordination of Security and Intelligence Services (Savjet za koordinaciju sigurnosno-obavještajnih agencija);
- Information Systems Security Bureau (Zavod za sigurnost informacijskih sustava-ZSIS);
- The Operational-Technical Centre for Telecommunications Surveillance (Operativno-tehnički centar za nadzor telekomunikacija -OTC);
- The Security and Intelligence Service (Sigurnosno-obavještajna agencija - SOA); and
- Military Security and Intelligence Agency (Vojna sigurnosno-obaavještajna agencija -VSOA).

1. MECHANISMS OF POLITICAL AND PROFESSIONAL CONTROL AND SUPERVISION

The Head of State is the President of the Republic, and he is elected in general elections every fifth year. In addition to representative functions, the President of the Republic has certain powers in the field of defense and security, and his competence includes appointing a prime minister-designate.

The internal and foreign policy of the country is carried out by the Government, whose members are proposed by the mandate and elected by the Parliament.

Legislative power is exercised by unicameral parliament - Sabor, whose members - representatives, are elected in general elections according to the proportional system

every four years. The implementation of legislative control over the secret services was entrusted to the Croatian Parliament through the mediation of its Committee on Internal Policy and National Security, and civilian control over the work of these institutions was entrusted to the Security Services Oversight Council.⁵

According to the current law on the security and intelligence system, the management of the intelligence and security system is carried out by the President of the Republic and the President of the Government. The collective body for managing the work of these agencies is the National Security Council. The Office of the National Security Council is responsible for the operational coordination of the work of these services.

1.2 National Security Council (Vijeće za nacionalnu sigurnost)

The National Security Council is responsible for: consideration and assessment of intelligence and security risks and threats, it considers issues within the scope of security and intelligence agencies, as well as ways of achieving cooperation between the President of the Republic and the Government in directing the work of security services and approving cooperation with security services of other countries; establishes annual guidelines for the work of security and intelligence agencies and other decisions by which the President of the Republic and the Government direct the work of the services and other bodies of the security and intelligence system; establishes measures taken by the President of the Republic and the Government with respect to the results of the control of security and intelligence agencies and other bodies of the security and intelligence system; establishes the offer of funds for the work of the security services and other parts of the security and intelligence system that should be implemented in the State Budget; and considers other issues related to the work and management of agencies and institutions of the security and intelligence system.⁶

The members of the National Security Council are: the President of the Republic, the President of the Government, the Member of the Government responsible for

⁵ Osnovano je Odlukom Vlade R.Hrvatske, a donošenjem Zakona o sigurnosnim službama njegove poslove preuzeo je Ured Vijeća za nacionalnu sigurnosti. Videti: Član 96. Zakona o sigurnosnim službama Republike Hrvatske, Narodne novine, br.32, Zagreb, 28.03.2002.

⁶ Videti u: Zakon o sigurnosno-obavještajnom sustavu R.Hrvatske, član. 3.

National Security, the Minister of Defense, the Minister of Internal Affairs, the Minister of Foreign Affairs, the Minister of Justice, the Adviser to the President of the Republic responsible for National Security, the Chief of the General Staff of the Armed Forces of the Republic of Croatia, the Directors of the SOA and the VSOA and the head of the UVNS. In addition to the permanent members, the President of the Croatian Parliament participates in the work of the National Security Council. The sessions are chaired by the President of the Republic, and decisions are signed jointly by the President of the Republic and the President of the Government. In case of war and imminent threat of war, the Chairman of the parliamentary committee responsible for national security, as well as the Ministers of Economy and Finance also participates in the work of this body.

The Office of the National Security Council (NSC) has a dual role in accordance with the law on the Security and Intelligence System. In addition to the professional and administrative work, they perform for the National Security Council and the Security Services Coordinating Council, they have the task of consolidating the submitted reports and information from security and intelligence agencies, compiling periodic reports on areas of security and intelligence activities, as well as analyzing and evaluating security information relevant to the national security of the Republic Croatia, necessary for the exercise of the constitutional and legal powers of the President of the Republic and the Government.⁷

At the request of the President of the Republic and the Government, the Office cooperates with security and intelligence agencies in developing strategic assessments and assessments of security phenomena relevant to the national security of the Republic of Croatia. The Office is responsible for the implementation of measures related to the application of measures and the adoption of information security standards by State bodies of the Republic of Croatia, as well as for the coordination of measures for the application of measures and standards of information security in the exchange of classification data between the Republic of Croatia and foreign countries and organizations.⁸

⁷ Mladen Bajagić, Špijunaža u XXI veku, Savremeni obaveštajno-bezbednosni sistemi, MARSO, Beograd 2010.godine, str.426.

⁸ Zakon o sigurnosno-obaveštajno sustavu Republike Hrvatske, Narodne novine, broj 73/2006, član 6 i 7.

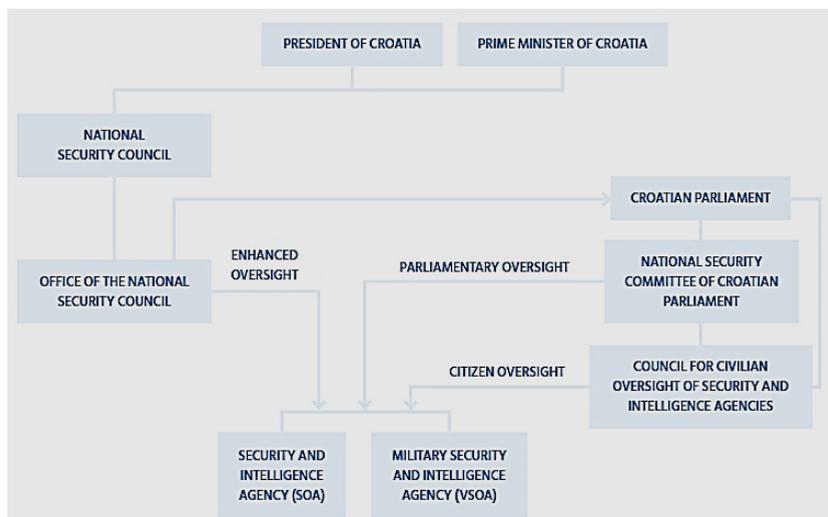


Figure 1. Scheme of supervision and control of the SIS of the Republic of Croatia ⁹

1.1. Council for the Coordination of Security and Intelligence Services (*Savjet za koordinaciju sigurnosno-obavještajnih agencija*)

Council for the Coordination of Security and Intelligence Services is authorized to: make decisions of the President of the Republic and the Government on the management of the work of security and intelligence agencies; put into effect decisions of the National Security Council on how security and intelligence agencies and other security and intelligence agencies work; coordinate the work of security agencies and other security and intelligence agencies; give conclusions and assessments on cooperation with the services of other countries and make proposals to the National Security Council on National security issues; and the adoption of other measures aimed at improving the efficiency of the work of the security and intelligence agencies.¹⁰ Civil control over the application of special measures is carried out by the Council for the Civil Supervision of Security and Intelligence Agencies.

⁹ <https://www.uvns.hr/hr/o-nama/shema-uvns-u-sigurnosno-obavjestajnom-sustavu-rh>.

¹⁰ Ibid. čl. 5.

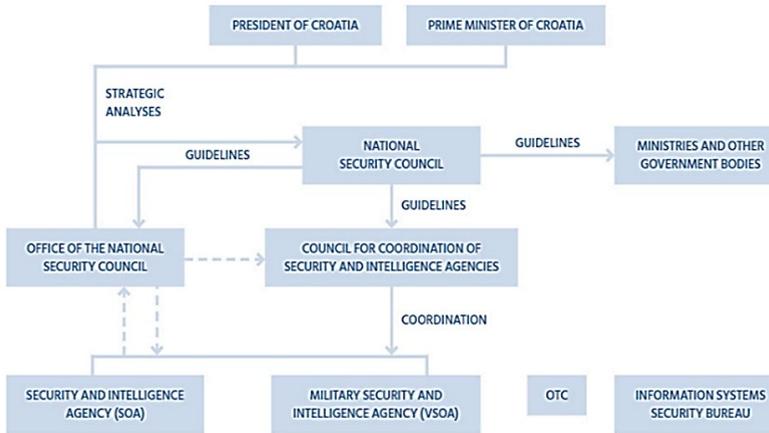


Figure 2. Scheme of intelligence and security system of the Republic of Croatia ¹¹

2. THE CROATIAN INTELLIGENCE AND SECURITY COMMUNITY

The Croatian Intelligence and Security consists of: the Security Intelligence Agency (SOA), the Military Security and Intelligence Agency (VSOA), the Operational and Technical Center for Communications Supervision (OTC), the Institute for Information Systems Security.

2.1. Security and Intelligence Agency -SOA (*Sigurnosno obaveštajna agencija*)

Croatian Security and Intelligence Agency (SOA) was formed during the long-term reform of the public sector and its roots go back to The State Security Service- SDB of Croatia. The security services of the Republic of Croatia played a significant role during the violent disintegration of Yugoslavia, and during the war of independence (1991-1995). Their role was especially important in the formation of paramilitary units, illegal procurement and smuggling of weapons, etc.

After several rounds of reforms, the SOA was finally established by merging the Counterintelligence Agency (POA) and the Intelligence Agency (OA) in 2006.

¹¹ <https://www.soa.hr/hr/o-nama/sigurnosno-obavjestajni-sustav-rh/>,

The scope of work of the Security Intelligence Agency is regulated by the Defense Strategy and the National Security Strategy, as well as other laws.

It is authorized to collect intelligence in the country and abroad, as well as to deal with counter-intelligence and security affairs. The mission of SOA is to detect, investigate and threaten security threats and challenges, by collecting and analyzing information relevant to national security, thus providing reliable information support to state leadership and other state bodies in decision-making and action to protect Croatian national security, interests and well-being of its citizens.¹²

Its main priorities are the fight against terrorism and violent extremism, counterintelligence, the fight against organized crime and corruption, cyber security, protection of confidential data, security checks and intelligence gathering abroad.

The Agency is managed by a director who is appointed and dismissed by the President of the Republic of Croatia and the Prime Minister of the Republic of Croatia. The agency consists of a headquarters and ten regional centers. At the very center, there are units for: analytics; operative; technique; internal control; and human resources, legal and material-financial affairs. In addition to regional centers in the country, there are also organizational units abroad.¹³

According to media reports, it is estimated that it has between 900 and 1,000 employees, and the SOA budget for 2020 was around 55 million euros. The headquarters of the service is in Zagreb.¹⁴

According to its status, the Agency is an autonomous intelligence and security system, a central service that protects the constitutional order, national interests and the general security of citizens and state bodies.¹⁵

This primarily refers to the following activities: terrorism and other forms of organized violence;

¹² Videti šire u Dragan Lozančić „Uvidi i pouke naučene iz reformi obaveštajnih službi u Hrvatskoj“:2020, <https://dcf.ch/sites/default/files/publications/documents/>

¹³ <https://www.soa.hr/hr/o-nama/ustroj/>.

¹⁴ https://www.dcf.ch/sites/default/files/publications/documents/ECA_Paper_Intelligence_Reform_SRB_Latin.pdf

¹⁵ Mladen Bajagić, Špijunaža u XXI veku, Savremeni obaveštajno-bezbednosni sistemi, Marso, Beograd 2010. godine, str 429.

intelligence activity of foreign intelligence services, organizations and individuals; organizing and operating extremist organizations and individuals; endangering the security of the highest state officials and protected facilities; organized and economic crime; unauthorized entry into the protected information and communication systems of state bodies; disclosure of protected data from state bodies of importance for national security and national interests; other activities aimed at endangering national security. To this end, the SOA organizes, collects, analyzes, processes and evaluates data of a political, economic, scientific-technological and security nature, relating to foreign states, organizations, political and economic alliances and individuals, especially data revealing intentions, opportunities, covert plans and activities aimed at endangering the national security of the Republic of Croatia.

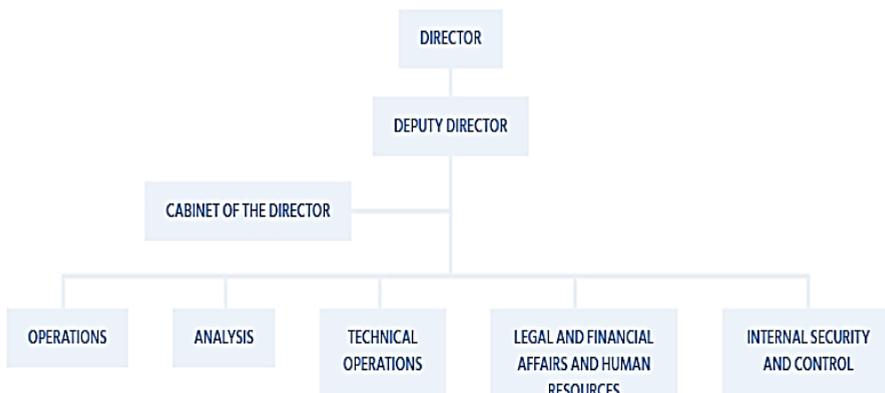


Figure 3. Display of the organization of SOA.¹⁶

It also performs security checks and counter-intelligence protection of persons, facilities, institutions.

SOA is authorized to collect intelligence in several ways: in direct communication with citizens, seeking access to official data, using secret measures and procedures, using public sources and international exchange. The special measures it uses are mainly related to secret surveillance, recording of all types of communication, location, interior of buildings and others. Permission to apply such methods, the head of the agency requires written approval from the Supreme Court of Croatia. For its work, the SOA is

¹⁶ <https://www.soa.hr/hr/o-nama/ustroj/>.

accountable to the Croatian Parliament, the President of the Republic, the Government, the Office of the National Security Council and the Council for Civil Oversight of Security and Intelligence Agencies.¹⁷

2.2. Military Security and Intelligence Agency -VSOA **(*Vojna sigurnosno-obavještajna agencija*)**

Military Security and Intelligence Agency (VSOA) - is a Croatian military security and intelligence service established in 2006 with the adoption of the Law on the Security and Intelligence System of the Republic of Croatia. VSOA is a unit of the Ministry of Defense intended to provide planned and practical support to the Ministry of Defense and the Armed Forces in performing duties in the field of protection of sustainability, sovereignty, independence and territorial integrity of the Republic of Croatia.

It is the successor to the Military Security Agency (VSA). VSOA is a military departmental intelligence and security institution, in charge of providing professional assistance to the Ministry of Defense and the Armed Forces in the protection of the sovereignty, independence and territorial integrity of the Republic of Croatia. As a specialized intelligence and security agency, VSOA collects, analyzes, processes and evaluates all information on the armed forces and defense systems of foreign countries, all external pressures that may affect the defense and security of Croatia, as well as other activities abroad against the defense capabilities of the Republic of Croatia. Also, VSOA researches and collects data on possibilities, intentions and plans of certain organizations, groups and persons on the territory of Croatia, whose goal is to endanger the defense power of the state, organizes and takes measures to detect, monitor and counteract these activities that endanger the constitutional defense capability and security as a whole.

In the implementation of counter-intelligence protection, the VSOA performs security checks of members of the Ministry of Defense and the Armed Forces and persons employed or to be employed in the Ministry of Defense and the Armed Forces, in charge of making security assessments and applying certain measures of eavesdropping protection. "VSOA counter-intelligence protects and takes care of the security of members, facilities and premises of the Ministry of Defense and the Armed

¹⁷ Bosanac G., (2014); Unaprjeđenje transparentnosti sigurnosno-obavještajnog sustava u RH, analiza javne politike Centar za mirovne studije, str.67-68

Forces, and counter-intelligence provides military production potentials (weapons and military equipment) for the needs of the armed forces.”

Also, the counter-intelligence service protects employees and facilities of the Ministry of Defense and the Armed Forces Abroad, through cooperation with the relevant organizational units of the Ministry of Foreign Affairs in charge of security.¹⁸

2.3. The Information Systems Security Bureau -ZSIS

(Zavod za sigurnost informacijskih sustava)

This body is in charge of performing technical work in the field of information security of all state bodies of the Republic of Croatia, that is to say, to issue accreditations for information systems and networks of state bodies, manage crypto currencies exchanged between state bodies of the Republic of Croatia and other countries and coordinate work on prevention and solving problems related to the security of computer networks in state bodies. In addition, this body researches, develops and tests technologies intended for the protection of classified secret information and issues certificates for their use. The Institute for Security of Information Systems is headed by a head appointed by the Government on the proposal of the Council for the Coordination of Security and Intelligence Agencies. The said person has a legal obligation to report on his work to the President of the Office of the National Security Council.¹⁹

2.4. The Operational-Technical Centre for Telecommunications

surveillance- OTC

(Operativno-tehnički centar za nadzor komunikacija)

The Operational-Technical Centre for Telecommunications Surveillance (OTC) is a body in charge of implementing measures of covert surveillance of telecommunications and their flow, and achieving operational and technical coordination between legal and natural persons using public telecommunications

¹⁸ <https://www.soa.hr/en/about-us/security-intelligence-system-of-the-republic-of-croatia/>

¹⁹ Šire videti u: Zakon o sigurnosno-obavještajnom sustavu R.Hrvatske, član 13. i član 14.

networks and providing services in this field in Croatia authorized to apply secret surveillance measures. 20

The OTC also develops modern technical systems which, if necessary and in accordance with the law, are used for the needs of intelligence and security agencies and other state bodies authorized to apply secret surveillance. OTC secret surveillance is achieved by installing appropriate technical equipment and providing software support in the use of telecommunications systems by legally authorized legal entities and individuals. Accordingly, the OTC is authorized to independently and directly use the communication systems of civilian individuals and legal entities, as well as systems belonging to the Ministry of Defense and the Armed Forces.

By collecting, analyzing, processing and evaluating data on threats to the national security of the Republic of Croatia, including terrorism, SOA and VSOA play a very important role in preventing and combating threatening phenomena. SOA and VSOA cooperate with foreign security services through joint education, exchange of data, equipment and cooperation in the implementation of tasks within their scope of work.

In addition to OTC, information and technical protection activities are performed by SOA and VSOA in cooperation with other bodies authorized to apply secret telecommunications surveillance measures, and with the prior consent of the Security Intelligence Agency Coordination Council adopt rules related to technical requirements, that is to say, development of appropriate technical equipment, software, technical devices and other issues related to the application of this measure in accordance with the Criminal Procedure Code of the Republic of Croatia.

CONCLUSION:

After the collapse of the USSR, the countries of Southeast Europe were in a much more difficult position than other countries of the former Soviet camp. Namely, in addition to the current processes of globalization and transition, which in themselves were difficult and demanding, they were also burdened by conflicts on the territory of the former SFRY. However, despite all the difficulties, this region managed not to remain a “black hole” of European security. But although the likelihood of any interstate

²⁰ Zakon o sigurnosno-obavještajnom sustavu Republike Hrvatske čl 6.

conflict at the local or regional level has been almost eliminated, it remains argued that not all challenges that could threaten peace in the region have been overcome. This is mostly about the tensions in Bosnia and Herzegovina and the frozen conflict on the so-called Kosovo. However, all this should be viewed through the prism of the current conflict in Ukraine.

Serious reforms of the security sector, including the secret services in the Republic of Croatia, were undertaken after the death of Franjo Tudjman and the victory of the opposition coalition in the 2000 parliamentary elections. At that time, the initial and necessary preconditions were created for the beginning of democratic consolidation, but also the reforms of the security sector, including the reform of the secret services.

The second decade of Croatian independence was marked by numerous challenges, the most significant of which was the peaceful transfer of political power through elections, from the first post-communist government to another political force in the country. This challenge was successfully overcome by the Republic of Croatia, and the next changes of government did not slow down or stop the started reform, but on the contrary accelerated it, which significantly helped the process of democratic consolidation.

The adjustment of the security sector to political changes and democratic standards was accompanied by the determination and definition of the national interests of the Republic of Croatia, the National Security Strategy, as well as the manner of managing the security services and the armed forces.

The beginning of the complete reform of the Croatian security and intelligence system was marked by the simultaneous adoption of the National Security Strategy and the Law on Security Services in 2002. With the enactment of the mentioned law, the secret services have been adjusted to modern postulates, especially in the field of introducing standards on the protection of human rights in the field of application of secret data collection methods. Thus, for the first time, the Supreme Court was introduced by law into the procedure of approving measures that temporarily restrict human rights and freedoms guaranteed by the constitution. In addition, democratic control over the work of the security services has been institutionalized. In July 2017, the Croatian Parliament adopted a new National Security Strategy. In the text of the strategy, it is important to note that in the part related to security policy, although it is

not explicitly called so, new trends in defining strategic goals, instruments and mechanisms for their achievement are certainly noticed.

In accordance with the strategic commitment of the Republic of Croatia on approaching and joining the EU and NATO, the legal solutions from 2006, which regulate the security and intelligence system, are harmonized with the standards of EU countries and NATO members

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Corresponding author: ljupka.petrevska@fppsp.edu.rs

PRESIDENTIAL SYSTEM OF STATE GOVERNMENT AND ITS CHARACTERISTICS

Ljupka Petrevska

Faculty of Business Studies and Law Belgrade,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: ljupka.petrevska@fppsp.edu.rs

***Abstract:** This paper analyzes the characteristics of the presidential system. The subject of the analysis of the paper is the various features of the system such as the constitutional structure, the constitutional powers of the executive branch, the electoral system, the party system, the advantages and disadvantages of this system. We will look at the development of the very concept and key features of the presidential system as a form of state power that is typical of the United States. The basic feature of this system is the constitutional guarantee of the independence of the presidential government. In both the presidential and parliamentary systems, there is a fundamental difference that is reflected in the institution of government itself. There is no government in the presidential system as a collective body, because the bearer of government activity is the president himself, who is also the head of state and represents a set of powers. In order for this to exist, three conditions must be met: the head of state comes from the people, there cannot be a vote of no confidence in parliament and he runs a government of his own choosing.*

***Key words:** state power, presidential system, constitution, executive power, mandate*

INTRODUCTION

The presidential system is one of the most characteristic principles of the separation of powers, which is based on the separate functioning of three branches of government: the executive, the legislative and the judiciary powers. All three branches of government are equal, but there is also no possibility of these three branches of government overcoming each other.

The first and most typical presidential system originated in the United States and was created by the Constitution of 1787. As a form of state power, it was created by the American founding fathers, led by George Washington, and was based on the idea of the fullest division of power into executive, legislative and judicial power. This idea originated from the written Constitution, according to which the monarch loses legitimacy and the executive power is strengthened. The essential feature of this system is reflected in the position and organization of the executive power. According to the founders, each government should perform exclusively the tasks that belong to it by nature and should be independent from the other two authorities, in order to achieve freedom and democracy. More precisely, this form of state power is said to lead to an efficient and strong government. The executive power cannot be stable if there is no stable state and society. The presidential system is mostly exposed to upheavals and poor functioning because it is often subject to coups and revolutions. The only one that stands out is the presidential system that exists in the United States, because it is a system of strict separation of powers where the executive power is separated from the parliament. It is based on negotiations and compromises, which distinguishes it from the parliamentary system because it separates the public decision-making process. The founding fathers advocated the dispersion of power and they established an executive branch that would be separate and independent from the legislative branch.

1. THE STRUCTURE OF THE PRESIDENTIAL SYSTEM

The structure of the US presidential system consists of three branches of government: the executive branch headed by the president, then the legislature headed by Congress, and the judiciary embodied in the Supreme Court. All three branches of government are separate structures and each with its own constitutional functions and control mechanisms.

The beginning of the presidential system appears in the United States of America, with the Constitution of 1787. Contrary to European absolute monarchies in which all power was in the hands of one state body, the creators of the American constitution wanted to suppress such a way of governing, and the realization of their idea required a new system that would deconcentrate state power. This new system aspired to the realization of democracy and freedom, and for that it was necessary for each body to perform its function in the state and to be as independent as possible. In contrast to

other systems of separation of powers in which the legislature was the strongest, in the presidential system the judiciary and the executive branches were extremely strong.

Thus, the starting point is that the the legislature and the executive branch must be separated. The president usually has special privileges in passing laws, that is, he has the power of veto. However, it is rare for the president to have the power to directly propose laws or vote on a law. Legislature and the president are generally expected to serve as a confirmation of other powers. In the U.S., many appointments must be confirmed by the Senate. The president is always an active participant in the political process, although the extent of his power may be influenced by the political composition of the legislature and the extent to which his supporters or opponents are dominant in it. In this system, the president is the head of state and the head of government, and he performs two important functions at the same time. With the function of the head of government, he leads the state from within, while the position of head of state gives him the right to lead the country from the outside and to represent his state.

The American president is the head of state and the prime minister in one person, because the American constitution does not know “cabinet” and “ministers”. The president helps himself by building a circle of his associates around him, to whom he can place his trust due to their loyalty. These are personal advisers and state secretaries. The president is irreplaceable and can only be replaced by the court for violating certain laws. There is no government in the United States as a collective body, and the bearer of government activity is the president himself, who is also the head of state. He is the only nationally elected politician and can therefore claim to speak on behalf of the entire nation. When he meets with a foreign president, he speaks on behalf of the people. However, the president is not omnipotent. He is strong in some areas and weak in others. The role of the president in this regard is similar to the role of the British monarch.

The president, if he wants to rule, must present his proposals to both houses of Congress. His proposals are valid only if he gets the majority. The Congress, that is, the Senate, in which 100 senators with very great influence sit, represents the interests of individual states, and there is the House of Representatives, in which 435 deputies represent local interests; they are independent of the president. The president cannot dissolve the Senate or the House of Representatives, nor can he block laws created by Congress or passed by Congress, and he cannot do so in any case if both houses overwhelm his veto by a two-thirds majority. Congress is much more in a position to

put pressure on the president, because only Congress can approve the budget proposed by the president. What is expected of the president can be expressed through several items:

- As the head of state, he must represent the United States at receptions and public visits, he must appoint all high-ranking officials, ambassadors, officers, judges...
- As the head of the government, he has to make a draft of the entire policy, so as laws he has to implement it through a complicated system of both houses of Congress.
- As the head of the administration, he must ensure the implementation of the adopted laws through the ministries.
- As the commander of the military forces, he is responsible for the complex of material and personnel equipment of the infantry, navy and air force, as well as for their strategic concept.
- As the strongest leader of the West, he and his Minister of Foreign Affairs must pursue a responsible foreign and economic policy, which today has an impact in almost all countries.
- As the president who performs the presidential function, he must spend some time leading his party.

Today, the question arises as to whether such a concentration of power and tasks concentrated in the hands of only one person, which was viewed from a completely different angle at the end of the 18th century and could be justified only at the end of the 20th and the beginning of the 21st century, can be fair.

Since the United States was an English colony, and is now the richest and strongest state, the president's word has a great impact on the freedom and stability of many other countries.

Election Process - Elections for President of the United States are held every four years on Election Day, which is held on the first Tuesday after the first Monday in November.

Requirements that a presidential candidate must meet under the US Constitution:

- To be a born citizen of the United States of America
- To be at least 35 years old
- Has resided in the United States for the past 14 years.

executive branch. Presidential proposals of judges, ambassadors and other high-ranking state officials require Senate approval.

“The principle of independence of government is the basis for regulating mutual relations and when considering the relationship of the judiciary with the legislature.” The US Supreme Court is the top third branch of government. Judges are appointed (with the consent of the Senate) by the president, although they are then guaranteed full independence. Neither the President nor Congress can relieve them of their duties. The greatest power of the Supreme Court is that it can declare an already adopted law unconstitutional, which according to the American legal system means the factual annulment of the law (Uvod u pravo, M. Simic, S. Djordjevic, D. Matic, Pravni fakultet Univerziteta u Kragujevcu, 2009.)

One of the features of government control over the president is the power of recall or impeachment. Revocation is a pronounced power of legislation. It is the first step in removing the president, vice president, or other government officials, based on the penalty of bribery, treason, or other major crimes and misdemeanors. The U.S. Senate is the only body than can perform all the recalls. The verdict requires two thirds of the votes, and when the president is tried, the head of the US state presides. A person convicted in a revocation is subject to further trial, where the verdict and sentence will be rendered in accordance with the law.

3. VARIATIONS OF PRESIDENTIAL SYSTEMS

Presidential systems can be found in other forms in democratic and non-democratic states. The presidential system in the United States is the clearest example of such a division of power, but there are also semi-presidential systems that have many similar characteristics as well as differences. An example of such a division of power is France. The President of France has a long list of powers but does not bear any responsibility. The president appoints the parliament that may or may not be the leader of the majority of parties in the lower house of parliament. The president, not the prime minister, chairs the cabinet and appoints high-ranking state officials, and also serves as the military commander-in-chief. The French president can call new elections and dissolve parliament. This combination of systems represents a strong entrenched power of political parties in parliament but also a strengthened power of the president. The

president bears no political responsibility. If there are any political omissions, the prime minister is responsible. The president can choose to transfer major responsibilities to the prime minister and the cabinet.

4. THE ADVANTAGES OF THE PRESIDENTIAL SYSTEM

Proponents of this system generally cite four advantages:

The first advantage is the fact that the direct election of the president is more democratic and that voters can accurately indicate their political priorities. A direct mandate is also considered to make the president more accountable. Separation of the executive branch of power and the legislature is considered an advantage, because if there is no brake and balance principle, the Prime Minister's illicit actions may not be detected. Many parliamentary states, while facing numerous problems in the country, also noticed the problem of maintaining stability. Due to the way power is divided, the presidential system is able to survive many emergencies.

The presidential system can establish a better way to combat opportunism and establish the impossibility of political superiority of one type of body over another and prevent the interference of any body in the appointment or removal of others.

We can conclude that the presidential system is stable because the government does not depend on the parliament and its trust. In the presidential system, it often happens that the president cannot count on the votes of his parliamentarians. In the United States, the congressman's first interest is his or her constituency. That is why party loyalty is much less important in the presidential system, and the president never knows what kind of support he will receive.

5. THE DISADVANTAGES OF THE PRESIDENTIAL SYSTEM

Critics mainly point out three shortcomings of the presidential system:

- Propensity for authoritarianism - there are political scientists who believe that the presidential system is not constitutionally stable.

- Separation of powers - many believe that this division only contributes to enabling the transfer of responsibilities from the legislature to the executive branch and vice versa.
- Obstacles to change the leadership - the impossibility of removing the undesirable person from the office of the President, before the expiration of their mandate is a really big problem. The constitutionally mandated length of office prevents a change in the head of the executive branch before the end of this period, even if political circumstances call for the removal of an unsuccessful, unpopular or weak president. On the other hand, an extremely successful and popular president must leave his post after his term expires. This creates an artificial need to create a successful political leader every few years, which is unrealistic to expect under normal circumstances.

The next disadvantage is double democratic legitimacy. Both the president and MPs are given seats in direct elections, so there is a lack of institutional impetus for their cooperation. Cooperation of these two branches of government is a condition for effective legislative work, given their limited powers. Since the presidential position and the parliamentary majority are often controlled by individuals from opposing political groups, the president will often not be able to translate his political program into law, but will probably succeed in preventing the legislative program of the parliamentary majority. The result is most often a blockade of the political process and unnecessary delays in resolving current problems. Even today, this system can create political instability.

CONCLUSION

The presidential system organized in this has survived almost unchanged for 200 years in America. It has influenced many states in the creation of their political systems of government, if not in the complete takeover of the system, then in some characteristics that will mix with the parliamentary system and influence the creation of a combined system. Both presidential and parliamentary systems have numerous disadvantages, but also advantages that can be viewed differently.

Whether the division of power is better than the principle of unity of power is a very ungrateful question because both principles can contribute to both positive and negative

reactions in the state. In fact, whether the presidential or parliamentary system will function better in certain countries depends primarily on the dominant political, economic and general social influence.

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Corresponding author: iwan.petrovic@gmail.com

THE IMPACT OF NEW TECHNOLOGIES ON WORLD SECURITY

Ivan Petrović

Faculty of International Politics and Security,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: iwan.petrovic@gmail.com

Abstract: *The future of the security sphere at the global level is, among other things, closely linked to new technologies. These are security dilemmas, which on the one hand cover the fields of differences between civilizations, and on the other hand the theoretical parts of numerous sciences.*

Global interdependence is a reality. The new environment is created both by the free flow of technologies or / and the gap between different cultures.

Resistance to globalization and the rapid spread of scientific and technological achievements are one of the reasons for endangering security at the global level. Today's security threats require transformation and adaptation to new security causes and risks. One of the focuses has always been in the new technologies of the West.

Low- and medium-intensity conflicts are not a thing of the past. They can also be created by the rapid spread of technology. Then, at its core, they will have a causal relationship between the world economy and poverty.

The first question is whether new technologies, which undoubtedly contribute to progress, also have consequences for global security? Another question arises; is it precisely the west that is forced to defend its traditional values as a way of survival, against the dissatisfaction of various groups and individuals? In this paper, we will analyze this on the example of fuel production, without the need for crude oil.

Keywords: *New technologies, low and medium intensity conflicts, global security.*

INTRODUCTION

Prestige in the world is directly related to the prosperity of a country or civilization. New technologies, almost without obstacles, penetrate into all the pores of differently developed civilizations, the result of which is their increasing connection.

The last decade of the twentieth century was marked by radical and various changes in the global security environment. During this decade, profound changes were conceived, which are already crucially determining the economic, social, political and security configuration of the world community. The first consequences of these changes began to arrive. Among other things, the list of security challenges, risks and threats has been changed and expanded. At the same time, their nature, content, appearance and range are changing. New carriers of threats to individual, regional and global security have also entered the scene (Zirojević, 2008:345-367).

In recent years, we have witnessed an increasing number of low-intensity conflicts on the borders of civilizations that Huntington assumed. The duration of Huntington's theory coincides with estimates of the duration of the world's oil resources, through the disappearance of which the world is facing a global crisis (Bakić, 2007:1).

History has shown that the "borders" between civilizations were marked by wars and conflicts, and today the influence of civilizations on each other is more intense, thanks to new technologies.

The dominant accumulated problems of oil-exporting countries are at their base economic, political, demographic and environmental in character; also they are often religious and civilizational in nature..

Middle Eastern countries recognize the positive effects of global civilization, so the expansion and imposition of new technologies can be interpreted as an activity focused on conservative foundations.

Energy anti-Americanism refers to the US needs for cheap crude oil and the role they played in the Middle East (Samardžić, 2000.:5-15).

The development of information and communication technology has contributed to the intensification of changes and the acceleration of the process of globalization of almost all aspects of international relations. In such an environment, cooperation

becomes an essential precondition for strengthening peace, stability and democratic development (Gaćinović 2007.:3-26).

The rapid spread of the world order and new technologies is creating a sense of pressure for some civilization groups. This speed encourages a feeling of less importance, which causes a feeling of injury and threat on a collective and personal level. Feelings of hurt and vulnerability are directly proportional to disregard for the reasons for the offense. It is an attack on the emphasized need for uniqueness. The feeling of injury has its reasons in the fact that powerful states take side of those who really or potentially endanger the injured, because they are not ready to stand up in order to protect civilizational legitimacy and the need to defend themselves.

The defense of the currents of civilization also includes an attack on those who want to turn them into second-class citizens. In that case certain civilizational groups feel threatened in the changed historical, geostrategic, geopolitical and socio-political circumstances, among visible and invisible enemies, afraid of increasing globalization, because it changes cultural characteristics together with the threat of their disappearance. Defense against the feeling of being threatened requires an increasing emphasis on one's own importance, as well as emphasis on their values (Petrović, 2010:23).

On the other hand, defense against endangerment is based on the means that characterize the latest scientific achievements.

There is pressure on the scene to change patterns of political, religious and economic behavior. It also represents the creation of awareness among different groups and individuals that individuals, without relying on the state, can inflict great and irreparable damage to organized societies and states with their ideological or religious convictions. The question is how much such thinking was influenced by the imposition of Western values, ie insisting on respect for human rights and the existence of individual awareness of their own autonomy and independence, and whether the West is forced to defend the state and its traditional values in order to survive before dissatisfied individuals and groups. (Popović 2004:11-29).

However, the modern world has a trend in the rise of some and the fall of other civilizations. The rise of some civilizations in a global environment creates an uncertain world. Less developed civilizations are marked by frustration, so they seek refuge in identity, since, if they do not act according to the model of mega-nations, they can be

exposed to various sanctions. The process of globalization produces a mega-nation, as the optimal option of identity. The reason for this is the space for progress and expansion of power and influence.

It often happens that there is a gap between changes in the environment and the inertia of civilizational characteristics. In this case, the collective part of the individual loses the function of mediator between the environment and himself. Then the “old patterns” are recognized as real, “ours” and “only ours”, as the only ones to be trusted. Collective civilizational answers to the influence of other civilizations can be found in the fact that civilization and its culture create the identity of society, as an answer to the question: “How does society understand itself and what is important to it?” (Kecmanović, Petrović, 2010: 22).

It is the beginning of resistance to the feeling of pressure or frustration, from which the instinctive part of the personality in which aggression lies is exposed. It is basically a fear of change and uncertainty. Individuals perceive this reaction as consistency, fidelity to “ourselves”, with respect for ancestors and “our” obligations to them. Where there is a satisfactory agreement between the demands of society and the psychological characteristics of its members, at the same time the functional demands of individuals and society are met. Historically, such an agreement has never happened. But a path to that agreement would certainly reduce the aggressive response in the form of security breaches (Kecmanović, 2004: 27-33.).

For these and similar causes, asymmetric conflicts are becoming a practice.

Today, many call these conflicts an oil war, such as Iraq, Libya, Syria and other Middle Eastern countries.

We are witnessing new revolutionary technologies. It remains to be seen how much and what impact they will have on world security.

In this paper, we will analyze this on the example of fuel production, without the need for crude oil.

3. THE IMPACT OF NEW TECHNOLOGIES

Electric vehicles are no longer out of reach due to the efficiency and heavy weight of the batteries they use. However, hybrid vehicles almost did not live up to their expectations, except in terms of reducing emissions.

District heating systems, industry, and other economic sectors continue to use natural gas or oil.

The technology of converting water into fuel, with the help of electricity, which was launched by the German company Sunfire GmbH from Dresden, uses renewable sources of electricity, which with the help of water and CO₂ produce gasoline, diesel, kerosene, without any harmful substances such as sulfur.

If this proves to be an efficient, albeit expensive, fuel production system, the price of producing these fuels will fall quickly due to the massive need for them, and the benefits are diverse: from reducing pollution to ending dependence on other oil-rich countries. In this case, oil will remain only a resource needed for the production of plastic, asphalt, etc.

There are also alternative sources of oil in which new technologies will undoubtedly dominate. The world's coal reserves can be used for another 150 years, natural gas reserves will last longer than oil reserves, hydrogen cells can renew clean energy, and there are biofuels, which are popular today. All oil-dependent countries today are turning to renewable energy sources, and ultimately to the nuclear fuel that is evolving today.

The downside of new technologies does not apply to the people who will use it, but to those countries whose economy is based in whole or in part on the export of crude oil.

Let us just imagine that oil ceases to be a priority on the stock exchanges. The countries that are the largest exporters are mostly stable or at least present themselves that way. However, there are countries that are far from stable political systems, in which poverty still reigns, while the top of the country is more than well-situated, because their entire economy is based on the sale of crude oil.

According to data presented in 2010 by the company “BP”, one of the largest and leading energy companies in the world, it is considered that the stock of “black gold”

remains sufficient, for another 40 years if consumption continues at this pace (Svetski energetski savet 1998. 9-11).

Similar results were obtained by experts from the “Oil Deployment Analysis Center (ODAC)” in London, the same year. They pointed out that the exploitation of oil will reach its maximum in four years, and that after that a steep decline will begin, which will strongly affect the world economy and the way we live today.

Recent months have been marked by a drop in oil prices. It turned out that this decline was artificially caused, in order to put pressure on Russia and its economy, because the sanctions of the EU and the USA did not give the desired results. The results began to show only when the price of oil fell to a lower limit of about \$ 70 per barrel.

The IEA warned in 2014 that with the further fall of oil prices, the risk of social instability in the countries that produce that energy increases.

The International Energy Agency predicted that global oil demand in 2015 would grow at a slower pace than expected, despite falling oil prices.

In recent years, the gap between oil production and consumption has deepened a lot, and nothing better awaits us in the coming years. If consumption exceeds production by even one barrel, the price of oil could reach \$ 100 per barrel. After that, there would be a new, global recession.

Even a small reduction in oil, from ten to 15 percent, for example, could endanger the economy.

For example, during 1970, a decrease of only five percent caused prices to jump by more than 400 percent.

Jeremy Leget, a geologist and author of the book “Almost Gone: Oil, Gas, Warm Air and the Global Energy Crisis”, presented the so-called “peak oil” theory to a wider audience.

About two-thirds of the oil reserves are located in the Middle East, and the largest reserves are in Iraq, Iran, Kuwait and Saudi Arabia. As Middle Eastern countries mostly base their economies on crude oil exports, this could cause security problems in the future.

In case oil becomes a by-product and the need for it falls, unrest can be expected primarily in countries where the people are poor and the top is rich, because then the top starts to run out of money and buying social peace becomes a problem.

The next problem is drinking water and food. Large amounts of money from oil went for the import of drinking water, food and other products necessary for life, for the production of which the states, due to their geographical position, have no conditions or possibilities. At the same time, the other part of the earnings went / goes for the production and import of weapons.

Namely, these countries are very well situated and armed for now. From this we can conclude that in this case the first conflicts on the borders of these civilizations / states will be fought for food and water. Thus, low-intensity conflicts cannot be expected, due to the quantity and strength of weapons that these countries possess. The spread of the conflict from the Middle East, we can expect in the direction of Europe and Asia, as well as in some parts of Africa, where food could be produced en masse.

Poor education of staff of all kinds, little university-educated population, great influence of religion on the lives of people in these climates, the people who are becoming even poorer, all this opens the door to security risks.

Because, if that happens, people become easy prey for indoctrination with radical and extreme interpretations of religion and faith, which can easily lead to an increase in terrorism and later to regional conflicts.

States that support this technology must be aware of the consequences of its use. As much as it was necessary for the current civilization, it is a double-edged sword. Namely, the world's leading countries must take care of the countries whose economies will be damaged, when the mass nature of this technology becomes worrying, and the need for oil is reduced to a minimum.

Changed circumstances require practical solutions.

A high level of technical equipment is a prerequisite for the organization of security prevention at the global level. This level is possessed by Western civilization and needs to be engaged domestically and internationally.

Education in the field of geostrategic and geopolitical events should be constant. Demonstrating understanding and respect for the norms of civilization would contribute to the possibility of greater endurance of modernization, would annul the

height of aggressive responses and these responses would open new paths, beyond aggression. In these educational efforts, it would be necessary to set clear boundaries to what extent the technical equipment is positive.

The use of the media should be used mainly through television, as long as there is data on enormous illiteracy and illiteracy of the written media. In the use of the media, it would be necessary to continuously explain the advantages of modernization, which acts as a parallel path with the existing norms of civilization. In this use, it is imperative to determine the target groups of future generations, which over time could psychologically accept both parallel paths, without compromising the basicity of the belonging civilization.

Because, by forcibly imposing new technologies, we cause the danger of terrorism, but it is not possible to leave other civilizations intact.

The bearers of progress and tolerance are few in these civilizations. Therefore, there is a fact that due to the small number of bearers of progress, the help of others is needed.

It would be necessary to form groups that help change the climate of civilization and that would be in competition with those who exploit human fears and prejudices.

In any case, the West's response to possible, extreme resistance should satisfy two demands. First, it should be acceptable, consistent with the demands of democracy, be successful in minimizing or eradicating problems, and second, it should rely on peaceful means.

All of the above would affect the protection of the world's population and material achievements.

CONCLUSION

The last century and the first decade of this century have been marked by new technologies, which can affect global security by causing economic and political changes at the global level.

The projections speak in favor of the fact that in the future, Western countries will continue to be the bearers of global growth. Such trends represent significant progress, however, there are factors that will negatively affect this expansion.

On the other hand, the projection of future events in underdeveloped countries, oil exporters, speaks in favor of reducing oil resources, which could pose a threat to world security.

As the border between internal and external security is difficult to find, so one of the goals of globalization is to strive for the absence of threats.

The security situation in the Middle East is still the dominant global topic, which has gained importance since the outbreak of the global financial crisis.

In addition, there is control over oil sources, the most important energy resource, which are mostly located in the Middle East. Despite having the mentioned resource, most of these countries fail to achieve the expected economic and social development.

Long-term control of oil resources makes a profit that is disproportionately large compared to that which remains with the states, the nominal owners of oil resources. That is why the countries on whose territories the oil sources are located are under constant political, economic and, often, military pressure.

This creates additional resistance in their poor young population towards the achievements of Western countries, and a number of the most extremists are opting to join the networks of the new global terrorism.

Falling oil prices and new technologies for different energy sources can give the same results. Therefore, it is necessary to act preventively.

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Corresponding author: radivojevic841@gmail.com

BUDGET FINANCING OF THE DEFENSE SYSTEM AND OPPORTUNITIES FOR IMPROVEMENT

Miodrag Radivojević

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: radivojevic841@gmail.com

Branko Tešanović

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: branko.tesanovic@fp.sp.edu.rs

Marija Majstorović

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: majstorovic.m@live.com

***Abstract:** Today, defense structures in the defense system of the Republic of Serbia face the need to operate according to economic principles in conditions of limited financial resources in order to realize priority tasks and preserve vitality, which refutes the old notion that defense is too important from a political, sociological and human point of view, to function economically. Management of financial resources was reduced to the distribution of available financial resources, with no interrelationships between tasks and financial plans. Also, the problem of translating strategic goals into financial plans that can be linked to budget funds was identified. This problem has been partially overcome by introducing program budgeting instead of line budgeting. Program budgeting implies that on the basis of certain plans, programs are made on the implementation of certain tasks that are set before the army, and then these programs are allocated funds, and budgeting is performed. In addition to all these improvements, budget financing is still unregulated because there is no financial-accounting system that will monitor the implementation of plans and programs*

in a modern way through budgeting and execution. In order to solve this problem, the introduction of the financial-accounting system is currently underway.

Keywords: *Defense system; budgeting; financial-accounting system;*

INTRODUCTION

In the previous period, there were no plans for the realization of funds, but the funds were spent in a line, to be spent before the end of the calendar year. Financial planning, mechanisms for the preparation of financial plans and rules for their execution, until recently, did not provide enough information on whether the defined goals were successfully implemented in practice. Therefore, it was very important to improve the links between financial plans and strategies, in order to provide appropriate mechanisms for monitoring the success of their implementation and consideration of future needs. The introduction of a functional program dimension into the existing budget classification was one of these mechanisms.

In order to ensure continuous growth of the level of quality of defense capabilities, increase the efficiency of defense tasks, rational use of available resources, ensure adaptability and flexibility of the defense process and harmonize the development of defense system components with the overall development of the state, the Ministry of Defense and the Republic of Serbian Army introduced a planning system, programming, budgeting and execution (PPBI), as one of the models of program budgeting and as a new system of management of defense resources and ultimately financing of programs and projects of defense system development.

However, the introduction of the planning, programming, budgeting and execution system (PPBI) is only the first step towards improving the budget financing system in the Ministry of Defense and the Republic of Serbian Army. In addition to all these improvements, budget financing is still unregulated because there is no financial-accounting system that will monitor the implementation of plans and programs in a modern way through budgeting and execution. The management structures of the defense system, as an integral part of society and the problems in it, are faced on the one hand, the problem of transferring obligations from year to year, increasing debts to suppliers, court costs for late payments, fines and interest for late payments, and on the other hand, limited and insufficiently available financial resources, which inevitably

required innovations and changes in the way of managing financial and other defense resources.

The introduction of a financial and accounting program for the entire defense system would ensure that the financial and accounting records on the property of the Ministry of Defense are kept in a sophisticated, faster and unique way, without errors inherent in human manual work. Problems should be solved at the source of their occurrence and not eliminate the consequences. The main source of problems in the budgeting of the defense system is in the material and financial bodies of the IV level (independent battalion, division, squadron). The introduction of a new financial and accounting system starting from these lowest levels of the organization will contribute to the fact that the commanders of these formations (management) can receive information on a daily basis about the value of the assets at their disposal.

Currently, there is a program for material accounting (POMAK) in the defense system, which is outdated because it was created in the Yugoslav People's army (JNA) in the early 90's of the 20th century. This program monitors the condition and movement of movables by value and quantity within the material operations of the unit but is not related to financial operations to combine in one program the financial assets of the unit (financial assets, cash and securities) with the value of tangible movables and together in one program they are stated as assets of the unit according to the accounts of economic classification and in monetary (value) amount. In addition, in accordance with the current regulations in the defense system, the process of financial and material operations functions in an outdated way that urgently needs to be changed through changes in regulations and through the modernization of financial and accounting systems.

When movables are sent from one unit to another, the operator creates a material-accounting document in the electronic computer in the status of zero. This document is then translated into the status of one, the press signs it, submits it to the ordering party for signature and to the registry for filing. It is printed in several copies. Then, a document in the status of two is created, which means that the stock reservation has been made, and the status of one and two together with the movables is sent to the recipient of the movables. The recipient must sign that he has received movables and enter the ID number. Such material-accounting document is considered illiquid until the recipient receives a material sheet for admission in status one and status three as proof that the recipient is in charge of movables.

This way of functioning of material accounting is inadmissible and leads to great inefficiency in business. A large number of uncertified material sheets are being created at the level of organizational units and at the level of the entire defense system. A large number of uncertified material sheets means that there are many movables whose status has not been resolved and which are not indebted. Which means that the commanders in the units do not know what they have at their disposal, and even less do they know the value of the property entrusted to them.

With the introduction of new financial and accounting software, the budget operations of the defense system will gain a new quality through raising the level of digitalization and process automation.

In addition, it is a big problem that public procurements whose realization is necessary for the units and institutions of the defense system to function normally, are not realized according to the planned dynamics, which has a direct negative impact on the realization of the financial plan and budget financing of the defense system. The proposal of the procurement plan is prepared by the beneficiary of financial resources of the IV level body, then it is submitted for unification at higher levels, which after the unification submit these proposals to the Directorate for Procurement and Sales of the Ministry of Defense. Here, a unique procurement plan is developed for the entire defense system, according to the number from the procurement plan, economic classification accounts, deadlines for procurement and all users. However, the procurement plan is not included in the financial and accounting program, so there is no warning that some units have not initiated public procurement, or that it is not implemented as planned.

Such financial indiscipline in the defense system leads to inefficiencies in defense budgeting. Every year, the units violate the dynamics of the realization of public procurements and the financial plan, so that everything is realized and spent at the end of the year in November and December. However, then at the end of the year, it often happens that the treasury of the National Bank of Republic of Serbia is illiquid because it was not even planned that the defense system spends so much at the end of the year. As a result, liabilities were transferred to the next year, the growth of debts to suppliers, the growth of the costs of court judgments for late payments, penalties and interest for late payments of due obligations, the occurrence and recording of open items.

1. EXPOSITION SECTION

In this way, through digitalization, modernization and automation of the financial-accounting program in the defense system, it would be ensured that (PPBI) planning, programming, budgeting and execution make sense. Budget financing of the defense system would be improved because the entire cycle would be closed, from the development of plans for the defense system, through programs for the realization of goals defined in the plans to legal and efficient budgeting and execution. At the lowest levels in the units and institutions of the Ministry of Defense and the Republic of Serbian Army, financial discipline would increase because the new financial and accounting program that will be installed at the financial service bodies would oblige commanders to implement public procurement, financial plan and other obligations in accordance with defined dynamics. Budget financing of the defense system would be efficient because there would be no payment of interest and default interest, delays in obligations to suppliers, recording of open items, would ensure that the defense system is economical and that the funds allocated for defense are used to the maximum.

It is necessary to change the regulations that regulate material and financial operations in accordance with the new changes and current opportunities. It is necessary to raise awareness among members of the defense system about the need for economic thinking, cost reduction and savings wherever possible. All organizations must think economically whether they are privately or socially owned. Modern trends are moving towards the automation of business processes, the elimination of manual (human work), where possible, and the introduction of robotics, digitalization and automation. All this is done to avoid mistakes in work and to increase productivity. There is no such organization that has unlimited resources (human, material, financial, energy resources) to be able to afford non-economic behavior. The defense system of the Republic of Republic of Serbia must be operational, functional and its budget operations must be based on strict bases of economic behavior.

As there is a need in other large organizations for the introduction of more modern accounting information systems, this need also exists in the defense system. This requires a modern and modern accounting information system that provides answers to modern requirements of financial and material operations and which would be installed in the accounting center of the budget and finance sector of the Ministry of Defense, as the main holder of financial function, calculation of salaries, taxes and

payments treasury of the National Bank of Republic of Serbia. Observing the structure of tasks that the financial and accounting information system must fulfill, in order for the defense system to function without downtime, it is clear that only by introducing the most modern information tools can quickly get information about the desired project and perform timely and rational implementation of the above tasks. However, today's reality is such that the contradiction of the accounting financial-information system to provide timely, reliable and complete information to the command bodies is becoming more and more pronounced.

In other words, the current organization of the accounting financial information system has numerous shortcomings. The accounting and financial information system that is currently installed is not an integrated system, and it does not cover all areas. This means that there are numerous components that develop completely independently and do not fit into a single system. Today, we have the accounting center of the sector for budget and finance of the Ministry of Defense (hereinafter RC SBiF MO), which represents the executive body of the financial service and performs tasks related to the entire defense system. Thus, for example, we can say that for financial and material operations and financial accounting (operational records, statistics, calculation and payment of salaries and benefits, personnel records) it is easily possible to establish the principle of uniqueness. In other words, information on each member of the Ministry of Defense and the Republic of Serbian Army can be collected, arranged, updated daily in the body for calculation and payment of salaries, as well as in the body for personnel records. It is necessary that these two bodies have access to the same database, which will be provided by a single information system.

Financial operations in the Ministry of Defense and the Republic of Serbian Army are performed in combination: Decentralized through organizational units of the financial service in units and institutions at different levels of organization of material and financial operations (hereinafter: Beneficiaries) and centralized through the information subsystem in RC SBiF MO¹.

¹Miodrag Radivojević, "Application of new accounting information software in the defense system", in: Prof. Dr. Maja Andjelković (ed.), Seventh International Conference - Application of new technologies in management and economics ANTIM 2020, Union University - "Nikola Tesla" , Belgrade, 2020, p. 601-602.

In the organizational units of the users of funds to which the funds for direct spending have been approved by the decision of the Ministry of Defense, documentation is prepared and submitted for realization in the RC SBiF MO and in some cases, cash payments. Payment orders for non-cash payments with invoices, contracts, etc., documents justifying the use of cash, cash reports and temporary receipts are sent to the RC SBiF MO which enters data and performs payment transactions electronically, through the payment information system (budget execution) for the Treasury of the Ministry of Finance (hereinafter: ISIB). Through the information subsystem of RC SBiF MO, the annual financing plan is kept centrally, salaries and other cash incomes of employees and engaged persons are calculated, financial accounting is kept for the needs of all organizational units of the Ministry of Defense and the Republic of Serbian Army.

Business (payment and revenue) RC SBiF MO performs through the Treasury Directorate of the Ministry of Finance with suppliers and customers where they control and check debt-creditor relations, other legal entities and individuals, including other state institutions and organizations in cooperation with organizational units of the Ministry of Defense and Republic of Serbian Army. Requests for non-standard reports and notifications are often received, and changes in laws and regulations are often made to change the way business is conducted.

Units and institutions of the Ministry of Defense and the Republic of Serbian Army submit in paper form orders for payment and other documentation to the RC SBiF MO. Documentation in paper form flows from the entire defense system, so we have a case that some units of the Ministry of Defense and the Republic of Serbian Army are far from Belgrade (where the RC SBiF MO is located), so the documentation travels for several days. In case of mass processing of salaries and benefits (there are special processing for advance payment of salary and final calculation of salary) data entry into the salary system takes 3-5 working days because it is done manually, data processing takes 2-3 working days, processing and review of control sheets, control retro difference, calculation, trial payrolls, payrolls, salaries, fees, gross payrolls and reports, preparation and submission of individual tax returns, files for posting to banks and creditors takes 4 working days. So, one process of processing salaries and allowances takes about 10 working days (in case of error or technical problems the activity is extended). Also, units and institutions of the Ministry of Defense and the Republic of Serbian Army submit in paper form orders for payment and other documentation and for other payments to the RC SBiF MO. After receiving these payment orders, they are registered, controlled and

forwarded to the payment system where the data are entered into the information system (hereinafter IS) where they are verified, and then separated-sorted for payment depending on the defining elements, time and date of payment. An electronic payment order is formed and uploaded to ISIB (for salaries and benefits, electronic data are sent to the Treasury Department of the Ministry of Finance) and after payment, the treasury report on the executed transaction is posted and archived.

It can be concluded that the procurement of new accounting information software for the defense system is much needed. This would make the existing business processes more efficient, with the aim of replacing the business with accounting documents and reports in paper form to the greatest extent by automating business processes. It is necessary to introduce electronic data exchange and electronic document management. The development of the accounting information system should take place in a direction that will ensure the establishment of a single information system, which is why it will no longer be necessary to manually compare the situation between the salary and allowances department, payment department and accounting department within RC SBiF MO. It is necessary to ensure that the units and institutions of the Ministry of Defense and the Republic of Serbian Army submit the documentation for control to the RC SBiF MO in electronic form and not in paper form. This will reduce the time required to process, control and forward the data to the Treasury Department of the Ministry of Finance where the payment is made. In this way, it will be ensured that the control of documentation is easier to implement, and it is necessary to ensure that the software itself reports errors and illogicalities that would otherwise have to be detected manually by the person. Also, in this way, the entry and calculation of salaries, allowances and other incomes would be automated.

Daily and automatic insight into the state of realization of the financial plan in RC SBiF MO would be provided. Also, the users of funds could have at their level a daily insight into the degree of realization of the financial plan for their plan codes. Any overrun of the approved financial plan would be automatically impossible because the software would logically recognize it as an impossible event and there would be records of it. The software would recognize debtors and automatically send them reminders for outstanding debts. It would provide automatic linking between departments within the RC SBiF MO and ensure that certain forms that are now being created manually are automatically generated and printed. It would be ensured that the users of funds have daily data on open items in financial accounting and have up-to-date data on the

condition and movement of movables and their values. In addition, the Department for calculation of salaries and allowances would automatically generate data on persons, their personal data (unique personal identification number, current account, level of education, coefficient for calculation of salary and other data) on the basis of which the software would automatically calculate salaries and fees. When making certain payments, there is a need in accordance with the Law to calculate and pay value added tax and other taxes, in this case it would no longer be done manually but automatically and the possibility of an error would be zero.

By applying the new accounting software in the defense system, a large part of the obligations would be transferred to the financial and legal service of the beneficiaries (units and institutions of the Ministry of Defense and the Republic of Serbian Army), which would give importance to these services and would require institutions of the Ministry of Defense and the Republic of Serbian Army must be very professional and follow the regulations. The presence of a person from the IT service would also be required to maintain the accounting information system. In this way, resources would be managed more efficiently and provide management with timely and valid information necessary for successful resource management and timely decision making. At the same time, it would be possible to monitor the value of business changes in financial accounting and material accounting, according to the appropriate accounts of economic classification (procurement, disposal, receipt, sending, issuing, re-categorization and renaming). Posting business changes in the internal and general ledger would be realized on the basis of electronic documents prepared by users of funds and electronically submitted to the RC SBiF MO for realization. The new accounting information system would be intended to automate the business processes of the financial service of the Ministry of Defense and the Republic of Serbian Army in peacetime and wartime, and to establish a single record of the state of funds, use and payment of funds. The accounting information system should automate the business processes of the financial service and connect material and financial operations in the Ministry of Defense and the Republic of Serbian Army. The full application of modern electronic business is necessary in order to reduce staff engagement and significant savings in administrative consumables, as well as more efficient business operations.

Within the framework of accession negotiations with the EU, it is necessary to harmonize the operations of budget users of the Republic of Republic of Serbia in accordance with international accounting standards and EU principles. Therefore, the

new accounting information system must be developed and conceived modularly, in order to be able to effectively monitor the necessary adjustments with subsequently imposed obligations. Material and financial operations in the Ministry of Defense and the Republic of Serbian Army are conducted according to a unique information system that has been purposefully developed. Reporting is done according to dedicated software and the owner of this software is the Ministry of Defense. However, the existing information system was developed in the 90s of the last century, and later maintained and upgraded in accordance with the functional requirements related to material and financial operations. The platform and tools in which the existing information system was developed are “technologically outdated”, and the limits of the possibility of further development and application of modern IT solutions have been reached. Dozens of software companies that offer ready-made accounting and bookkeeping programs or advertise that they can create a bookkeeping information system tailored to a specific client can be easily found on the Internet. However, despite the large offer of business software, primarily financial and accounting in the domestic software market and in the region (Montenegro, Croatia and Bosnia and Herzegovina), there is no offer of a ready-made software solution that would meet the functional requirements in the defense system.

It is important to emphasize the fact that ready-made business software covers all aspects of business (financial accounting, commodity accounting, payment transactions, payroll, calculation of travel and other expenses, interest calculation, personnel records and supplier records).

Accounting information system in the Ministry of Defense and the Republic of Serbian Army, according to its structure and organization, number of participants and business processes of all levels of competence, volume of debt and nature and number of business changes, dislocation of beneficiaries throughout the country, business changes between beneficiaries is a unique solution in the Republic of Republic of Serbia. This means, among other things, that it is not possible to use relevant comparative data with other users of public funds, nor is it possible to directly use the experiences of potential business software producers. In terms of the size of the system and the number of business changes, the largest system at the level of bodies and organizations of the Republic of Republic of Serbia is on average always smaller than the system that needs to be installed in the Ministry of Defense due to the number and specific business changes. In addition, the specificity of the Ministry of Defense is that all systems,

including the accounting information system, are put in the function of providing adequate information in real time in order to take decisions and steps on which the fate of the entire system will depend in full capacity.

CONCLUSION

The development of the modern world and the armies of modern countries shows that information and information technologies are increasingly important for the command system and that the success of command depends on timeliness and their validity. Of course, in such development trends, opportunities should be sought for the information system of the Ministry of Defense of the Republic of Serbia to be so organizationally set up and technically and technologically capable of enabling all functions of the defense system to take place. Among other conditions, the scope and type of information used by the command bodies in the decision-making process is very important for command. It should be added that modern conditions impose requirements for ensuring timeliness, security and credibility, security and speed of obtaining and using information. Most often, the information security of the command system is realized by the introduction of command information systems and automated information systems.

Since things are like this, the concept of information warfare has already been introduced in the modern world. Namely, there are no more wars with the engagement of bulky armed forces, poorly mobile and well-buried, but it is about fast-moving, modernly armed and richly provided with all the necessary information about the enemy in real time. The strikes take place suddenly, at high speed and in unexpected places. This leads us to the conclusion that the information system of the Ministry of Defense must be conceived and set up so that its application in the digital exchange of information becomes an inevitable part in the collection, processing and distribution of information and a new method of work of officers. It is necessary to improve the plans for the development of information systems from which other subsystems would be developed according to the levels of command for branches, services, units and institutions. It is necessary to use the experience gained so far by experts from the defense system.

In addition to the above aspects in the development of information systems, special attention should be paid to the development of organizational and formation structure and on that basis the development of staffing, because the introduction of a new modern information system based on outdated principles of organization and technological obsolescence would lead to low-cost technologies.

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Corresponding author: jovan.sarac@fjsp.edu.rs

THE ROLE OF TRADE SECRET IN THE INVENTION PROTECTION SYSTEM

Jovan Šarac

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: jovan.sarac@fjsp.edu.rs

Vladan Stanković

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: vladan.stankovic@fjsp.edu.rs

Abstract: *The authors deal with trade secret (know-how) in a narrower, technical sense that includes various types of secret technical knowledge, skills and experience and which as such is suitable for the protection of the invention. The legislator generally regulates this institute in the context of some other issues such as technology transfer, although some states have special laws. According to the author, it is essential that the legislator recognizes this form of protection of inventions and to sanction disloyal actions, and everything else is a matter of the holder of know-how. In relation to a patent, know-how can have a completely independent status, but it can also complement it. It most often protects inventions that cannot fully satisfy the conditions of patentability, especially the invention level. In general, the level of protection that know-how provides is weaker than patent protection. There is also a risk that third parties may obtain information that is the subject of trade secret through “reversible engineering”. Based on a de facto monopoly, know-how gives an exclusive position in the market compared to competitors who do not have that knowledge. This position on the market is sometimes stronger than the patent itself. However, the author's view is that know-how as such is not a serious alternative to the patent system. The question is whether it is realistic in the conditions of rapid development of modern technologies to preserve secrecy to the extent that it was once possible.*

Keywords: *know-how; patent; invention; technology transfer*

INTRODUCTION

From the early periods of human society, there were people such as: tribal elders, priests, sorcerers and healers, who had secret knowledge related to the treatment of humans and animals, some crafts, but also other needs of primitive cultures. Knowledge and skills were jealously guarded and passed down for generations within the same families. Certain persons and organizations within the church also had knowledge of this type, especially certain monasteries and monastic orders. This type of intellectual property of primitive peoples has often been the subject of exchange between different communities. Even today, not only in primitive cultures, there are cases when certain people have this knowledge and that it is passed on, most often within certain families. A special type of secret knowledge referred to military skills such as: preparation of gunpowder, production of explosive devices, various devices (such as catapults, Greek fire), etc. This was the privilege of rulers who had trusted persons who possessed this knowledge and who were engaged in this activity. Having in mind the above, although know-how was just recently officially recognized as an intellectual property right, we can freely say that it is the oldest form of intellectual property protection.

The term know-how itself has been taken from English language and has become common in other languages, without translation and transcription. In the business world, a trade secret, in the broadest sense, is any confidential information that is not readily available and that provides a company with a competitive advantage over other companies. For the purposes of this analysis, only trade secret in the narrower, technical sense is relevant, which includes various types of secret technical knowledge, skills and experience, which is most often referred to as know-how. Initially, know-how was used as a trade term, and gradually, with the development of case law, it became a common legal institute in the Anglo-Saxon states. With the development of international trade, this institute was practically taken over by all civilized countries. Interestingly, as early as 1916, the Committee for the Protection of Industrial Property of the International Chamber of Commerce concluded that: secret know-how is property that has economic value and must be legally protected (International Chamber of Commerce, 2014). In economic terms, know-how, like other intellectual property rights, is part of company's assets. Manufacturers and service providers, in order to gain a competitive advantage in the market, are forced to improve the production process daily and to improve the quality of their products and services. The result of these daily improvements are

sometimes inventions, and more often their small improvements, and skills and experience in the application of certain technologies.

Inventions as such are most often protected by a patent. Exceptionally, inventions in some fields of technology may be protected by other intellectual property rights, in particular by integrated circuit topography, useful model or plant variety rights. Regarding the possibility of legal protection of these intellectual achievements by a patent, two situations are possible: that it is an invention that their inventor does not want to protect with a patent or that it is a knowledge and experience that, most often due to lack of invention level, cannot be protected by a patent. The most common reason why an inventor does not accept patent protection is that he does not want his invention to be published. As a reminder, all patent applications are published eighteen months after the filing, and the know-how aims to preserve the invention as secret knowledge and to use it as such. The protection of inventions by trade secrets is not in itself in conflict with the patent system. This was confirmed by the US Supreme Court, which interpreted that the US Congress, by adopting patent laws, had the exclusive intention of offering inventors a limited monopoly in exchange for making their findings public, and not to put pressure on inventors to enter this exchange excluding any other alternative to protect their inventions (*Kewanee Oil Co. v. Bicron*, 1974). In many technical fields, the inventor may choose to keep his invention a trade secret or to protect it with a patent. Some manufacturers, especially small and medium enterprises, due to the high costs required to obtain patent protection, especially international, are not able to protect their products with a patent. In the past decade, it is evident that the producers of some products, such as e.g., mobile phones, some do not report their findings at all. These companies, given the slow patent recognition procedure, which can take several years depending on the field of technology, and the fact that their products quickly “go out of fashion”, opted for alternative forms of protection, such as know-how. According to some estimates, especially in some areas of technology such as e.g., information technology, only a small part of the inventions is protected by a patent, while most are kept as secret knowledge or de facto monopoly of those who own and use it. According to Jorda: “more than 90% of all new technologies are protected by trade secrets, and over 80% of all technology license and transfer agreements cover know-how, i.e., trade secrets or are mixed agreements related to patents and know-how.” (Jorda, 2014). This carries a great risk because the right holder does not have the opportunity to demand protection against persons who come to the same technology through reversible technology, i.e., their own research. Therefore, inventors need to

think carefully about how to protect their invention. However, some technologies manage to preserve certain knowledge as a trade secret for a long period of time. A typical example is one of the components of the recipe for the preparation of Coca-Cola, which has been stored for more than a century. In the same way, one of the newer technologies is preserved, the source code of Windows, as well as the source code of any computer program. However, in this case, a complete analogy is not possible because computer programs are usually protected as literary works in the sense of the Berne Convention for the Protection of Literary and Artistic Works, so a possible violation of the source code would be a violation of the author's work as such

1. DEFINITION OF A TRADE SECRET

In theory, there is no consensus on the definition of know-how. According to Parivodic, the definitions went from the narrowest understanding that know-how belongs to the use of patents and is not independent of it, to modern definitions that include not only technical and practical knowledge and experience but also any commercial knowledge and experience that can be used while performing business. (Parivodic, 2003). The notion of know-how, despite many attempts at precise and exhaustive definition, remains controversial and undefined in theory for now. Most authors believe that trade secrets and know-how are synonymous, although there are other understandings. In our theory, the prevailing understanding is that only know-how that includes knowledge and experience of a technical nature is considered know-how in terms of industrial property rights (Markovic, 2018). There are also different understandings that start from a completely different classification of know-how and similar phenomena. According to the definition from a study by the World Intellectual Property Organization, know-how is part of a broader concept of a trade secret. According to this understanding, trade secret is a broad term and can refer to: product composition and design, production methods or know-how, production processes, market research results, consumer profiles, lists of suppliers and customers, price lists, financial data, business plans, business strategies, promotional strategies, marketing plans, sales plans and methods, distribution methods, design, drawings, architectural plans, technical plans and drawings, maps, etc. (WIPO, 2006).

The comprehensive definition of know-how in the technical sense is given by the Uniform Law on Trade Secrets of the USA, which was adopted by most American states.

Under this law, know-how is information, including formula, pattern, compilation, program, device, method, technique, or process, that creates independent actual or potential economic value from what is not generally known, or not easily determined by permitted means by other persons who may derive economic benefit from its disclosure and who have made reasonable efforts under the circumstances of the case to keep it secret (US Uniform Trade Secrets Act, 1985). According to the Law on Protection of Trade Secrets of the Republic of Serbia, trade secrets are considered to be secret because they are not, in whole or when it comes to their structure and the sum of all of its components, generally known or easily accessible to persons who normally come into contact with this type of information in the course of their activities; which have commercial value because they constitute a secret and when the person lawfully controlling them has taken reasonable steps under the circumstances to preserve their secrecy. (Law on the Protection of Trade Secrets, 2021) It follows from the above definition that our legislator opted for the broader concept of trade secrets and does not distinguish between know-how that includes knowledge and experience of a technical nature from other types of trade secrets. However, this definition is also applicable to trade secrets as knowledge and experience of a technical nature.

2. CONDITIONS FOR THE PROTECTION OF A TRADE SECRET

Traditionally, know-how is, as a rule, only partially regulated, by regulations governing technology transfer and unfair competition. Today, under the influence of TRIPS, many countries pass special laws regulating trade secrets. Legally speaking, know-how is a de facto market monopoly that produces certain legal consequences and enjoys legal protection under certain conditions. Given that a trade secret may contain the invention and other technical information regarding the conditions of protection to a certain extent, an analogy with the protection of the invention by a patent is possible. However, the conditions for the protection of an invention by a trade secret are “milder” than the conditions for the protection of an invention by a patent. The key condition for the existence of this right is secrecy. Know-how actually exists as long as there is secrecy. According to most theorists, second element that is necessary for the existence of know-how is its transferability in terms of the possibility of its transfer to other persons, most often by a technology transfer agreement. The third element required by some theorists is the technical nature of know-how. As is well known, the main

condition for the protection of a patent invention is novelty. When it comes to trade secrets in terms of novelty, the prevailing opinion is that this element is covered by the concept of secrecy. By its nature, know-how is no secret to a wider circle of people who have this information based on employment contracts, company capital ownership and management functions. Therefore, in order to protect, it is most common practice to conclude a non-disclosure agreement with these persons. All these persons, as well as all other persons who obtain the know-how in a lawful manner, have an obligation to keep this information. In case of violation of the right to keep the information in their possession, contractual liability applies to these persons.

It should be emphasized that the subject of protection of know-how, as with other intellectual property rights, is an intangible good, in this case an invention, which should be distinguished from its fixation on a material carrier. Mentioning the content of know-how in the text of the license agreement is rarely practiced, because it would unnecessarily burden the text of the agreement, so as a rule, know-how is submitted as a separate document. A special document most often is represented as: business manuals, projects, models, and technical documentation on paper, which are increasingly fixed on modern text media, sound and images, such as DVD, CD and USB, etc., and which after conclusion of the contract is handed over to the acquirer. Measures to protect trade secrets in each case are determined in accordance with the risk assessment of illegal disclosure, acquisition and use of information that is a trade secret. The protection of trade secrets lasts as long as the information that represents that secret is kept confidential.

3. CIVIL LAW PROTECTION

There are three types of protection of know-how: criminal law, civil law protection and protection under unfair competition regulations. It is up to the holder of the right, and the specific circumstances for which the form of protection will be determined, although cumulative protection is also possible. Criminal protection should be something that is by its nature an exception and limited only to organized crime, because, as emphasized in TRIPS, intellectual property rights are by their nature private rights (Sarac, 2015). On this occasion, we will give a brief overview of protection according to the regulations on unfair competition and civil protection. According to the Law on Trade, the act of unfair competition, among other things, includes the

acquisition, use and disclosure of trade secrets without the consent of its owner in order to aggravate its position on the market (Law on Trade 2019). Violation of good business practices means all actions taken in order to obstruct free competition in the market, which causes or may cause damage to a competitor or other natural or legal person, and in particular:

- breach of contractual provisions on professional secrecy;
- abuse of business trust;
- industrial or commercial espionage, fraud, and such.

Civil law protection of a trade secret is regulated in detail by the Law on Protection of Trade Secrets. In the event of a breach of a trade secret, the holder of the trade secret may file a lawsuit to request the following: determination of the breach; cessation of the violation, prohibition of the use or disclosure of trade secret; prohibition of production and placing on the market, import and export of infringing goods, withdrawal or destruction of infringing goods, destruction in whole or in part of documents containing trade secrets. Against a person who has violated a trade secret, the holder or licensee may file a lawsuit to claim damages according to the general rules on damages (Law on Protection of Trade Secrets, 2021). Having in mind that these are economic disputes, the plaintiff can also request the public announcement of the verdict. Trade secrets are also regulated by the Law on Obligations. It is envisaged that the agent is obliged to keep the trade secret of his client, which he learned about, in connection with confidential work during the contract and after its termination. It is also possible to apply the provisions of the Law on Obligations, which refers to tortious liability for unauthorized disclosure and abuse of trade secrets. The Labor Law stipulates that one of the reasons for termination of employment is the disclosure of trade, official or other secrets determined by law, collective agreement or general act.

4. INTERNATIONAL TREATIES AND REGULATIONS OF THE EUROPEAN UNION

Several initiatives related to the legal protection of know-how have emerged within the International Association for the Protection of Intellectual Property (AIPPI). The Melbourne Resolution of 1974 provided a definition of know-how, as well as the basic principles of legal protection, with a proposal to add appropriate provisions to the Paris

Convention for the Protection of Industrial Property, and the Copenhagen Resolution of 1994 provided that confidential commercial and industrial information should be protected as a trade secret. This resolution also stipulates that any breach of professional secrecy should constitute an act of unfair competition, in particular: industrial and commercial espionage; use or disclosure of a trade secret obtained in an unauthorized manner from the owner; unauthorized use or disclosure of a trade secret by a person to whom the owner has entrusted a trade secret; unauthorized use or disclosure of a trade secret without the consent of the owner received from the person entrusted to it or which occurred in an unauthorized manner, if the user knew or should have been aware of this fact (AIPPI Resolution, 1994). The resolutions adopted by this association have had a great impact on many international documents, including TRIPS.

The first legally binding international agreement which stipulates the obligation to protect undisclosed information, and which corresponds in terms of content to know-how, is the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which is an annex to the Agreement establishing the World Trade Organization. Article 39 (2) of TRIPS provides that natural and legal persons shall be able to: prevent information lawfully under their control from being disclosed, acquired, or used by others without their consent in a manner contrary to fair trade practices with the condition that such information is secret, in the sense that it is not generally known within the circle of persons who normally operate with that type of information; that it has commercial value as a secret and that the person legally controlling it has taken reasonable steps under specific conditions to keep the information secret (TRIPS 1995). All member states have an obligation to harmonize their legislation with the provisions of TRIPS, otherwise they risk a launch of an effective system of sanctions against them within the World Trade Organization.

In the European Union, know-how is regulated within the framework of regulations governing technology transfer, namely EC Regulation No. 772/2004 on the application of Article 81 (3) of the Treaty to certain categories of technology transfer agreements dated April 27, 2004. This directive governs the know-how for the needs of agreements law, namely technology transfer agreements. Although this seems rather confusing at first glance, the European legislator adheres to the traditional definition of know-how as it was built by legal science. According to Article 1 of this Regulation, “know-how” means a body of unpatented technical information that is the result of experience and testing and that is secret, significant and identified. With regard to the

definition of “secrecy”, given that it is debatable whether absolute secrecy exists at all, the European legislator has accepted the concept of relative secrecy, so it is sufficient that the information in question is not generally known, easily accessible and cannot be obtained outside the licensor's business. This information is considered “relevant” if it is useful for the production of certain products. With regard to the third condition, it is envisaged that the practical information is described in a sufficiently comprehensible manner to verify that the conditions of secrecy and relevance are met. According to the directive, a pure know-how agreement is the licensing of unpatented technical information, which are descriptions of production processes, recipes, formulas, three-dimensional and two-dimensional design, in order to encourage the dissemination of technical knowledge, to encourage the production of technically sophisticated products. (Commission Regulation on the application of Article 85 (3) of the Treaty to certain categories of technology transfer agreements, 2004).

5. TRADING SECRET AND INVENTION

The know-how is as such, suitable for the protection of the invention. It most often protects inventions that cannot fully satisfy the conditions of patentability, especially the inventive level. In principle, know-how is suitable for the protection of all inventions in all fields of technology. Know-how as well as patent provides a monopoly position in the market. Having in mind the development of modern technologies, this form of protection of inventions is the most suitable for process inventions, although its application for protection of product inventions is not excluded. In relation to the patent, it has certain advantages. First of all, the protection of know-how is not limited in time, no formalities are required in terms of submitting an application for entry in the appropriate registers and the protection is completely free. Know-how also has certain shortcomings in relation to the patent. First of all, the level of protection that know-how provides is, in general, weaker than patent protection. There is also a danger that third parties will obtain trade secrets through “reversible engineering”. Namely, the know-how does not provide exclusive rights in relation to third parties who came to the same invention through independent work. According to some research, information on new products and processes is made available to competitors within an average of one year. Moreover, there is a danger that these individuals will protect the technology in question with a patent. Therefore, it would be useful for companies that opt for this

protection system to adopt an appropriate document regulating the protection of a trade secret, to limit the number of persons who have access to this information, as well as to conclude appropriate custody agreements regarding the keeping of a trade secret with employees and business partners.

It is known in business circles that the one who developed a certain idea and who first appeared on the market with a certain product has a competitive advantage over others. In order to preserve this advantage, one sometimes does not need patent protection. Persons who acquire patent rights, know-how and other transferring rights under technology transfer agreements also gain a competitive advantage. However, it is impossible for everyone to develop all the technologies and companies must cooperate. Knowledge transfer is a key to developing competitive advantage, and companies are increasingly dependent on partnerships with external partners (Milagres, Burcharth 2018). Therefore, many companies use different systems of cross-licensing patents and know-how in a way that both appear as both a transferor and an acquirer of technologies. This often leads to antitrust violations (OECD, 19). In relation to a patent, know-how can have a completely independent status, and can complement it. Although the inventor is in principle obliged to describe the invention in the application in a sufficiently clear manner that the average skilled person can perform it, know-how often appears as a supplement to the invention without which knowledge the economic exploitation of the invention is not possible. Companies that have organized access to the intellectual property protection system break down new technologies into inventions that are protected by patents and supporting technical knowledge that they keep as know-how. Practice has shown that in some technical fields, especially in the chemical industry, a patent license without the transfer of associated technical knowledge is often not sufficient for the commercial use of patented technology (Damnjanovic 2011). The use of this technology often requires the services of experts, the use of adequate laboratories, product control and such. Therefore, the whole package of rights is most often transferred by the Technology Transfer Agreement, namely patent and know-how, but also some other rights such as trademarks, industrial designs and copyrights. In situations where it is not possible to use a patent without supporting knowledge, know-how can multiply the value of the patent license agreement itself. Due to the great economic value of know-how, some authors view the patent as a younger right that gives only additional protection to technical and trade secrets. Therefore, powerful multinational companies protect their most important technological achievements with a patent. However, they are practically inapplicable

without the additional knowledge and experience contained in the know-how. When transferring technologies, they sell this package in its entirety. Interestingly, many technology transfer agreements contain restrictive clauses in the sense that ownership of all subsequent patent and know-how improvements belongs to the transferor.

CONCLUSION

Know-how is by its nature a de facto monopoly on the market that produces certain legal consequences and enjoys legal protection under certain conditions. Although there are different definitions, only know-how that encompasses knowledge and experience of a technical nature is considered know-how in terms of industrial property rights. In most countries know-how is regulated only in part, by the way, within the framework of laws that regulate some other issues, primarily technology transfer and trade. However, some countries, including the Republic of Serbia, have regulated the issue of legal protection of trade secrets by a special law. In theory, and not without reason, there is an opinion that a detailed codification of this area as a whole would mean a negation of what know-how actually is. It is essential that the legislator recognizes this form of protection of inventions and to sanction disloyal actions, and everything else is a matter for the holder of know-how. Unlike a patent, know-how is not an exclusive right, and it does not give its holder any legal monopoly. However, bearing in mind that it gives a monopoly position, it resembles a patent and other exclusive intellectual property rights. Based on a de facto monopoly, i.e., the actual possession of certain knowledge, know-how gives an exclusive position in the market in relation to competitors who do not have that knowledge. This de facto monopoly can often, however, be stronger than a legal monopoly. That is why it is actually a factual law whose exclusive character derives from its position on the market, and not from the monopoly provided by the state. Therefore, a trade secret cannot be considered an intellectual property right in the classical sense. Nevertheless, trade secrets are traditionally studied within the framework of intellectual property rights. Due to the same subject of protection, its connection with the patent is so strong that in terms of some technologies it is difficult to determine what is protected by a patent and what is a trade secret. In times of crisis in the patent system, know-how is often seen as the intellectual property right to which the future belongs. The question is whether it is at all possible, in the conditions of rapid development of digital technologies and

nanotechnologies, to preserve secrecy to the extent that it was once possible. Take the example of inventions in the field of pharmacy. The question is, is it possible for this type of invention to be kept as secret knowledge at a time when the human genome has been deciphered. Nowadays, it has almost become a routine matter to determine the structure of a certain chemical substance or composition. Disclosure of secret knowledge according to this methodology does not constitute a violation of rights. Unlike a patent, know-how does not provide protection in relation to reversible technology, i.e., the one who later came up with the invention through independent work. The development of these technologies is becoming a challenge to know-how to a greater extent than the development of digital technologies is a challenge to copyright. In this context, the question arises, whether know-how is a thing of the past or an intellectual property right to which the future belongs. A common place in the science of patent law is that the system of patent protection is irreplaceable. Faced with such challenges in the upcoming decades, trade secrets will have to be radically redefined..

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Corresponding author: slobodan.segrt@fsp.edu.rs

SIGNIFICANCE AND NECESSITY OF UPDATING THE MATRIX OF TECHNICAL COEFFICIENTS IN INPUT-OUTPUT ANALYSIS

Slobodan Šegrt

Faculty of Business Studies and Law

“Union - Nikola Tesla” University, Belgrade, Republic of Serbia

e-mail: slobodan.segrt@fsp.edu.rs

Marija Sekulić

Faculty of Information Technologies and Engineering

“Union - Nikola Tesla” University, Belgrade, Republic of Serbia

e-mail: marija.sekulic@fiti.edu.rs

Andreja Arsić

Faculty of Information Technologies and Engineering

“Union - Nikola Tesla” University, Belgrade, Republic of Serbia

e-mail: andreja.arsic@fiti.edu.rs

Abstract: *Technical coefficients as products, or rather as derived categories derived from empirical data woven into cross-sectoral tables, are conditioned primarily by technical progress as well as substitutions among inputs in the process of reproduction in the national economy.*

The dynamics of technical progress in the production structure of the national economy is very complex and uneven. Depending on the observed period, large differences between production sectors are possible in terms of the size of their technical progress. It depends primarily on the trend in the expansion and application of new production processes, the introduction of new raw materials and finally the substitution of a certain part of the input in production processes.

We can see that recently there has been a trend of increasing specific consumption of electricity and natural gas as a result of intensifying the mechanization of production processes and insisting on cheaper and renewable energy sources.

The demand of economic policy makers, especially Western countries, to replace the use of fossil energy sources with solar and atomic energy, as well as greater use of biogas, energy from wind farms and electricity production using tidal energy is becoming more frequent. At the same time, there is a rationalization of the consumption of certain raw materials and reproductive material as a result of the use of robotics in industry, and there are also many forms of substitution of natural materials with artificial ones.

The general trend of technical progress in the national economy must be understood as the sublimation of all individual or individual efforts and investments in changing and improving technology and production functions in the relevant segments of the national economy. Therefore, technical progress depends exclusively on the dynamics and size of investments.

Since technical coefficients show direct dependence between production sectors of a national economy, their size depends on the technological equipment of the production system and they change depending on the dynamics and size of technical progress, there is a need to constantly update the matrix of technical coefficients and the inevitable use of intersectoral models as tools for predicting their changes.

Having in mind that the priority is the use of technical coefficients in predicting the future structure of mutual relations of production sectors in the national economy, the measure by which the matrix of technical coefficients realistically reflects the macro production structure of the economy will also be a measure of objectivity in their economic analysis as well as in the prediction of further cause-consequence relationship among the sectors of production.

Keywords: *fabrication effects, substitution effects, input-output analysis, interphase consumption, intersectoral tables, RAS method, production sectors, structural proportion, technical coefficient, technical progress, cause-and-effect relationships, vector.*

1. CROSS-SECTORAL TABLES AND TECHNICAL COEFFICIENTS

The cross-sectoral tables show the actual production links between the sectors of production and represent the basis for calculating the matrix of technical coefficients.

The links between the production sectors of a national economy are woven into the reproductive consumption matrix located in the central part of the cross-cutting table.

In that part of the cross-sector table, there are elements x_{ij} which represent a part of the sector's production and which is spent in the reproductive consumption of sector j . The question now is why sector j spent x_{ij} products of sector i .

Sector j spent that value of the sector's production in its reproductive consumption to produce the value of its production X_j . From this follows a logical conclusion: if the

sector j consumed x_{ij} of the products of the sector and in order to realize X_j of its production, it means that for each unit of its production it spent on average x_{ij} of the products of the i -th sector.

In order to perform a complex analysis, the absolute values in the above table are insufficient, so stable parameters are introduced into the analysis, and these are the coefficients.

The matrix of technical coefficients is the basis of all intersectoral models.

Technical coefficients are obtained from intersectoral tables as follows:

$$a_{ij} = \frac{x_{ij}}{X_j}$$

It shows the average consumption of i -th sector products per unit of production of the j -th sector. Therefore, the notion of technical coefficient corresponds to some extent to the notion of consumption norms from the jargon of technicians. The technical coefficient also shows how much the value of production of the i -th sector is directly dependent on each unit of production of the j -th sector.

Thus, the technical coefficient shows us the direct dependence of the i -th sector and sector j .

It shows, further, which part of the production of the sector i directly depends on the size of the total production of the sector j .

Furthermore, the technical coefficient shows the maximum possible production of the sector, given the available quantity of reproductive products of the sector and which are available to meet its reproductive needs.

$$X_j \leq \frac{x_i}{a_{ij}} \quad \text{gde } j \in (i, j=1, 2, \dots, n)$$

This means that for a certain size of the production of sector j , the appropriate size of the products of sector i must be spent. Therefore, the available quantity of intermediate products of the sector directly affects the size of the production of sector j .

It is also quite logical that the value of each technical coefficient is non-negative:

$$a_{ij} > 0; (i, j = 1, 2, \dots, n)$$

Finally, it is quite clear that the value of production of each sector is greater than the value not only of any of its inputs but of all inputs combined.

When we say that the technical coefficient a_{ij} shows the size of the production of the sector and for each unit of production of the j -th sector, we assume complete proportionality of the technical coefficients. This assumption means ignoring the operation of the law of rising and falling revenues. Therefore, it is assumed that the consumption of products of sector i in the reproductive consumption of sector j is directly proportional to the size of production of sector j . The factor of this proportionality is the technical coefficient a_{ij} .

Many empirical studies have shown, due to changes in technical coefficients during economic development, that projections based on a cross-sectoral model are more uncertain if the matrix of technical coefficients of that model is older in time.

When conducting macroeconomic policy, as a rule, we have an intersectoral table and a matrix of technical coefficients that refer to an earlier year, because the original statistical intersectoral tables, due to the complexity of their production and high costs, are compiled only in intervals of two to five years or more.

2. SIGNIFICANCE AND NEEDS OF UPDATING THE MATRIX OF TECHNICAL COEFFICIENTS

Intersectoral input-output tables that represent the basis for calculating technical coefficients are made, as a rule, every two and sometimes every five years. The reasons for such a long period of development and innovation of intersectoral tables lie in the fact that it is a very complex and expensive process.

Namely, the data on the basis of which they are made are drawn from the data of each individual production sector, and even in certain situations they are taken from an individual company. We can see a similar example that is even more complicated and complex when it comes to the census. Unlike the preparation of intersectoral tables, the census is conducted every eleven years.

Having in mind the stated fact as well as the knowledge that the value of each individual technical coefficient is subject to constant change, the need for their continuous updating automatically arises. If this were not done, technical coefficients would not realistically reflect sectoral relations in the national economy over time, and thus would be an unreliable toolkit for the analysis of intersectoral relations as well as for input-output analysis.

There are several problems that arise when using a cross-sectoral model in the design and alignment of structural proportions.

The first problem is the need to update and evaluate the cross-sectoral table for the base year from which we start in all planning calculations. However, during the planning period, there are certain changes in certain technical coefficients.

In order for the matrix of technical coefficients to show the real cross-sectoral production links that will be established during the planning period, it is necessary to estimate the expected changes in technical coefficients.

The second problem is the adequate adjustment of the matrix of technical coefficients for the purposes of specific forecasting and design of economic structure.

Changes in technical coefficients are conditioned primarily by technical progress and substitutions among individual inputs in the production process.

The process of spreading technical progress in the production structure of the economy is very complex. On the one hand, it manifests itself in the form of a certain trend of gradual spread of new production methods, introduction of new inputs and in the form of substitutions in the structure of inputs in the entire production system.

Technical progress in the production structure of the national economy is very complex and uneven. It varies from sector to sector and is even different for companies that produce the same or similar products and services within one sector. It depends primarily on the trend in the expansion and application of new production processes, the introduction of new raw materials and finally the substitution of a certain part of the input in production processes.

We can see that recently there has been a trend of increasing specific consumption of electricity and natural gas as a result of intensifying the mechanization of production processes and insisting on cheaper and renewable energy sources.

The demand of economic policy makers, especially Western countries, to replace the use of fossil energy sources with solar and atomic energy, as well as greater use of biogas, energy from wind farms and electricity production using tidal energy is becoming more frequent. At the same time, there is a rationalization of the consumption of certain raw materials and reproductive material as a result of the use of robotics in industry, and there are also many forms of substitution of natural materials with artificial ones.

Technical progress is mostly incorporated into the production structure through investments in modernization, reconstruction, replacement and new construction.

Therefore, technological transformations, expressed in corresponding changes in the matrix of technical coefficients, are closely related to the structure of investments, so the effects of technical progress are manifested in changing the matrix of capital coefficients, which is an important part of dynamic intersectoral models.

This nature of the dissemination of technical progress must be matched by methods of updating cross-sectoral tables and anticipating changes in technical coefficients for the purposes of designing and harmonizing structural proportions.

3. METHODS OF UPDATING THE MATRIX OF TECHNICAL COEFFICIENTS

Different methods are used to update cross-sectoral tables, which are based on simplified assumptions about the simplified process of spreading technical progress in the production structure, i.e. that the dynamics of technical progress is the same in all production sectors of the national economy.

A group of Canadian authors, examining prediction errors based on the Canadian matrix of technical coefficients, proposed and empirically tested a fairly simple procedure for updating them, which assumes that all technical coefficients in one row of the matrix change in the same proportion as a result of the same dynamics of technical progress and substitution in all production sectors.

“By applying this procedure, the errors in predicting the values of technical coefficients have been significantly reduced, i.e the updated matrix of technical

coefficients thus updated showed real production links much more accurately than the matrix of technical coefficients from the previous period.”¹

However, although prediction errors were significantly reduced by this method, it was never introduced into operational and practical application.

The designers of the economic growth model for the United Kingdom have developed a special method of updating the matrix of technical coefficients, known as the Biproportional or RAS method. This method in a more complex and accurate way reflects the processes and dynamics of technical progress in the production structure of the national economy.

This method also has the advantage that it enables the use of possibly available analytical information on the specifics and dynamics of technical progress in certain segments of the economic structure, and that in this way a more objective update of the matrix of technical coefficients is performed.

This method of updating the matrix of technical coefficients enables the prediction of changes in technical coefficients by entering assumptions about the type and dynamics of technical progress in a certain period - continuation of dynamics from the previous period or its acceleration or deceleration. However, we must note that this method cannot include specific individual breakthroughs of technical progress in individual sectors and individual enterprises in the national economy.

For the purpose of designing the economic structure by economic policy makers, it is necessary to separately anticipate and plan specific development of technical progress and huge changes in the application of technology in certain sectors and on that basis register such specific changes in appropriate values of technical coefficients. The bi-proportional (RAS) method of updating the matrix of technical coefficients provides great opportunities for this.

With adequate organized and coordinated activity of the highest governing bodies of the national economy and the participation of the bearers of the main economic activities, such a procedure is relatively easy to achieve. Numerous information can be used which is collected and analyzed in the preparation of certain aspects of economic

¹ Manne A. - "Applications of Input-Output Analysis", Amsterdam, 2013. year.

policy, as well as information on planned development plans, as well as on the plans of individual economic operators.

The practical feasibility of this procedure is so much easier because not all technical coefficients are needed for the formation of structural proportions of the national economy, but only their limited number of the most important ones.

Special attention is paid to these coefficients in the preparation of the matrix of technical coefficients for design purposes. It should be taken into account that changes in technical coefficients occur due to changes in the composition of individual sectors during economic development, and that changes can be predicted and assessed on the basis of individual development programs.

Therefore, combining methods that reflect the general trend of technical progress with individual analysis and planning changes in the leading technical coefficients can build an appropriate procedure for updating and adjusting the matrix of technical coefficients for designing structural proportions and planning economic policy. It should be borne in mind that in the complex process of preparing an economic policy strategy of particular interest may be the development of conditional structural projections based on the assumption that the updated matrix of technical coefficients from the base period remains unchanged.

Such a conditional projection provides a framework for systematic research and planning of expected changes in technology and the composition of individual sectors in the appropriate period.

"Also, empirical research by the group of Soviet authors is interesting; based on formulating a specific statistical model ('Model of cross-sectoral mutual influences') they researched the factors of the production structure which during the economic development causes certain changes in technical coefficients, as well as changes in the structure of final consumption. They came to the conclusion that such a model can be applied in predicting the future economic structure."²

In the analysis of the production structure of the economic system, there are a large number of technical coefficients that show production links of very low intensity and

² Granbeg A. - "Matematičeskije modeli socijalističkej ekonomiki", Ekonomika, Moskva, 2019. godine.

which, therefore, have an insignificant impact on the formation of structural proportions.

On the other hand, only a relatively limited number of coefficients show high-intensity production links, so first-class attention must be paid to these coefficients when designing structural proportions.

If these coefficients, which have a higher rank of importance for the formation of structural proportions, are grouped in a matrix of technical coefficients into separate blocks, then the construction of the model for design purposes can be significantly simplified.

Such an arrangement of higher-ranking coefficients would mean that production interdependencies within blocks are very intense and between blocks very weak. By neglecting the connections between the blocks, the entire production system could be treated as a set of approximately independent systems that could, therefore, be designed separately.

However, completely ignoring the links between the blocks would lead to errors in displaying structural proportions. Therefore, these connections can be integrated into the intersectoral model in an adequate and simplified way. In doing so, one can, for example, assume that deliveries of reproductive products from one block represent a certain empirically estimated proportion of the total production of the supplier sector or that they depend on the total production of the sector from the consumer block.

“The biproportional RAS method of updating the matrix of technical coefficients was developed in the early 1960s in Great Britain, which was used in the construction of the economic development model of this country.” The method is based on the assumption that the change of each technical coefficient in a certain time interval is a consequence of two simultaneous influences: substitution effects and fabrication effects”³

The substitution effect shows the extent to which an intermediate (reproductive) product, due to technical progress and other factors, is replaced by other products in the production system of the economy, ie the extent to which it replaces other intermediate products.

³ Bacharach M. - "Biproportional Matrices and Input-Output Change", Cambridge 2010. year

The effect of fabrication shows the extent to which in a sector due to changes in technology and other factors changes the proportional share of material and primary inputs, that is, the value structure of its production.

The following example can be given to illustrate these effects. If, as a result of technical progress, plastic materials (sector i) replace wood in the intermediate consumption of individual sectors, and at the same time motor vehicles (sector j) become more complex requiring proportionally higher labor and capital expenditures, then we can expect that the technical coefficient a^*_{ij} from the earlier period, due to the effects of substitution, will increase, and due to the effects of fabrication will reduce.

It is the task of the method to estimate the magnitude of both effects in the form of substitution effect factors r_i and fabrication effect factors s_j with which to multiply the technical coefficient a^*_{ij} from the previous period to obtain an estimate of the new technical coefficient a_{ij} , resulting from the simultaneous influence of these effects.

$$a_{ij} = a^*_{ij} r_i s_j$$

Let for the entire matrix of the technical coefficients:

$$A = A^* \acute{r} \acute{s}$$

where \acute{r} and \acute{s} are diagonal matrixes with the elements r_i s_j on the main diagonal.

The method is designed to require a minimum of basic information, namely:

- matrix of technical coefficients A^* for an earlier (base) period, which we want to update to the current period and thus assess the new matrix of technical coefficients A , which we assume realistically reflects cross-sectoral relations formed in the current period,
- vector of total production of intermediate products “in” in the current period, which we can get if we subtract the vector of final consumption from the vector of total production X ,
- the vector of total consumption of intermediate products “v” in the current period, which can be obtained if we subtract the vector of social product or value added from the vector of total production X .

Therefore, starting from the available matrix of technical coefficients A^* for some earlier period, we have only the sums of rows of the matrix of intermediate (reproduction) consumption in the form of a vector - column “u”

$$u = \sum_{i=1}^n AX$$

and with the sums of the columns of intermediate (reproduction) consumption in the form of vector - order v

$$u = \sum_{i=1}^n AX$$

where X is a diagonal matrix with elements of the total production column X on the main diagonal.

In order to be able to estimate $2n$ technical coefficients on the basis of this $2n$ information (n = number of sectors), we must enter additional simplified assumptions about a certain uniformity of action of both effects.

These assumptions are:

- the substitution effect for an intermediate product and is the same for all consumers of that product, that is, all technical coefficients in the type and multiplied by the same substitution effect factor r_i ,
- also, the effect of the change in the degree of fabrication of sector j is the same in all material inputs of that sector, that is, all technical coefficients in column j are multiplied by the same factor of the effects of fabrication s_j ,

Thus, the estimation of the matrix of technical coefficients A consists in determining n substitution effect factors (r_1, r_2, \dots, r_n) and fabrication effect factors (s_1, s_2, \dots, s_n). From the above, it can be concluded that the assessment of each technical coefficient is influenced by a different combination of factors r and s .

The main advantage of the RAS method is that it requires a minimum amount of information for the period for which the update and assessment of the matrix of technical coefficients is performed. Contrary to this advantage, its disadvantage is conditioned by the simplified assumptions on which it is based.

The reality of the results obtained by applying this method depends on the extent to which the effects of substitution and the effects of fabrication spread in a uniform way in the production structure of the economy, as well as whether they are the only or most significant cause of changes in technical coefficients.

“The first test of this method on the Belgian cross-sectoral table has already pointed out its shortcomings. The test was conducted in such a way that, using this method on the basis of the intersectoral table for 2010, the coefficients for 2016 were estimated.

After that, the obtained results were compared with the coefficients obtained from the originally made table for that year. Although most of the estimated coefficients did not show significant deviations from the actual ones, several more important coefficients showed significant deviations.”⁴

The analysis identified three main causes of these deviations:

- The first cause was identified in the high degree of aggregation and generality of intersectoral tables, which is one of the known problems in some areas of application of input-output analysis, and can not be specifically attributed to the RAS method. Namely, if the processes of substitution and fabrication were uniform for certain already defined homogeneous production groups, by aggregating these groups into wider sectors, these processes can manifest themselves differently in individual consumer sectors.
- The second reason is in the assumption of uniformity of the process of substitution of a product in all sectors to consumers. If, for example, coal as an energy source is gradually replaced by oil, then this effect will not be reflected in the coke production sector as a consumer where coal serves as a raw material. Likewise, institutional and other factors can speed up or slow down the use of an input only in certain sectors, so these sectors will behave differently than average.
- The third cause arises from the very mechanism of the RAS method. If, namely, one element in the matrix of technical coefficients is evaluated too high, then all other elements in the same type or column must be evaluated too low, due to the given restrictions by rows and columns.

⁴ Tilanus C. - "Input-Output Experiments", Rotterdam, Univ. Press, 2016. year.

It is obvious that the causes of possible deviations estimated from the real technical coefficients are specific for each economy and for each development period, so that the experiences from one case cannot be generalized.

However, we should point out the flexibility of the RAS method, because it can incorporate additional information that we have and thus improve the results we get from its application.

If, in addition to the minimum information required for the application of the RAS method for the year for which we perform the assessment, we have additional information or reliable estimates of individual cross-sectoral flows, then these flows can be exempted from restrictions and appropriate technical coefficients removed from the base matrix. remaining coefficients.

We then apply this modified RAS method only to estimate those coefficients for which we do not have any source information or reliable estimates. Ultimately, if we have source information or reliable estimates for a large number of cross-sectoral flows, especially important in the reproductive structure of the economy, then the modified RAS method provides a suitable instrument for adjusting all other coefficients for which we have no other adjustment options.

“From a practical point of view, two important points should be pointed out:

First, in the structure of the production system, as a rule, there is only a limited number of intersectoral flows that have a decisive influence on the formation of structural proportions and which, therefore, should be given special attention.

Secondly, additional source information or as reliable as possible independent assessments should be sought primarily for those cross-sectoral flows for which the knowledge of technological development in a given economy and a given period of time can be expected that the RAS method mechanism will not allow realistic assessment.”⁵

When the mentioned RAS method test performed such a procedure on the Belgian input-output table for several typical coefficients, a significant improvement of the general results and reduction of deviations (variances) estimated from the actual (real) coefficients was achieved.

⁵ Tilanus C. - "Input-Output Experiments", Rotterdam, Univ. Press, 2015. year.

In this particular case, it was possible to include the actual intersectoral flows from the intersectoral table for those intersectoral flows for which the RAS method could not give satisfactory results.

Such a procedure is, of course, not possible to apply in practice, because we use the RAS method precisely because we do not have a cross-sectoral table made on the basis of real current data.

The modified RAS method is applied in the practice of updating and designing intersectoral tables. However, if a large number of intersectoral flows are presented on the basis of estimated parameters, as a rule, the problem of different degrees of reliability of individual estimates arises.

Changes in technical coefficients between the base year and the year for which the cross-sectoral table is being updated or designed are also due to changes in relative prices.

For the assessment of technical coefficients at the regional level, the RAS method is applied in two ways:

- to update the available matrix of technical coefficients from an earlier base period to the current period,
- to design the available matrix of technical coefficients of the entire national economy to the regional dimension, so that the matrix is brought in line with the limitations of regional production of intermediate (reproduction) products of each sector and the sum of consumption of intermediate products in each sector.

For the first method of application, the basic remarks that have already been made regarding the application of the RAS method at the level of the entire national economy are worth mentioning.

Previous tests of the second method of application have not shown particularly satisfactory results. The method could be successfully applied only in the case of a high degree of similarity of the production structure of the region with the production structure of the entire national economy.

In any case, the formation of intersectoral flows is specific to the economic structure of each particular region, so the results of individual tests cannot be generalized. The application of the modified RAS method in updating the matrix of technical coefficients

certainly guarantees better results of estimating their value compared to other procedures.

CONCLUSION

To update cross-sectoral tables and matrices of technical coefficients, various methods are applied that are based on simplified assumptions about a simple and uniform and simplified process of technical progress in the production structure of the national economy.

The objectivity of the results obtained by applying these methods depends on the extent to which the effects of substitution and the effects of fabrication spread in a uniform way in the production structure of the economy, as well as whether they are the only cause of changes in technical coefficients in the observed period.

We can conclude that the objectivity of predicting the macroeconomic implications of investment decisions and thus the formation of a certain economic structure of the national economy using the intersectoral model of analysis depends on its ability to adequately determine the causes leading to changes in technical coefficients.

The practical feasibility of applying the Biproportional RAS method in updating the matrix of technical coefficients is easier compared to other methods because its application in the formation of structural proportions takes into account only a limited number of significant technical coefficients.

Special attention should be paid to these coefficients in the preparation of the matrix of technical coefficients for design purposes. It should be taken into account that changes in technical coefficients also occur due to changes in the production structure of individual market participants during the projection period.

Regardless of certain limitations assumed by the input-output analysis, it, with the use of appropriate and updated technical coefficients, represents a solid basis for realistic predictions of future economic flows of the national economy as well as predictions of its future economic structure.

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Corresponding author: tijana.soja@fjsp.edu.rs

WHAT MOVES SOVEREIGN BOND MARKETS? THE EFFECT OF MACROECONOMIC INDICATORS AND BUSINESS SENTIMENT ON GERMANY BOND YIELDS

Tijana Šoja

Faculty of Business Studies and Law,
„Union - Nikola Tesla“ University in Belgrade
tijana.soja@fjsp.edu.rs

Branka Topić – Pavković

Faculty of Economics University of Banja Luka, Banja Luka, Bosnia and Herzegovina

Abstract: Numerous economic information and economic indicators influence the movement of the financial market and are certainly sustained by the movement of government bond yields. Previous research has confirmed the impact of economic indices on yield trends and examines whether and to what extent economic indicators such as monetary policy measures, inflation, unemployment, oil prices, confidence indicators and stock markets affect the movement of yields on government German bonds. The focus was on two-year, five-year and ten-year German bonds. The research tests several hypotheses that claim that certain economic indicators: inflation in the EMU, oil prices, Sentix confidence index, stock market affect the movement of German yields. The results show that the observed factors have a more or less pronounced impact on the observed yields and that, as such, they should be used and analyzed when monitoring yield trends in the EMU market. Yields on government bonds are strongly influenced by numerous macro data, but also trust data, which is also shown in this research. It is clear that the factors analyzed in this research (inflation, monetary policy measures, stock market, oil and confidence) have a greater or lesser impact on yield trends and should certainly always be monitored when analyzing yields. However, it is noted that the observed factors will not always have the same impact. Macroeconomic factors, especially inflation, have different effects on longer and shorter yields. Statistically significant impact on all yields, regardless of whether they are biennial, five-year or ten-year, has monetary policy measures observed through the deposit facility, confidence index and stock market.

Keywords: *investment, fixed income, yield, government bonds, economic indicators, confidence, Germany.*

INTRODUCTION

A government bond is a debt instrument issued by the government. When the government issues the debt instruments it is obligatory to pay an interest rate to the bond holder, for all periods that bonds exist. That is mean, government has to pay coupon payments and nominal value at bond maturity. Bonds are also linked to a rating that indicates the quality and safety of the bonds. The focus of this research is German government bonds, which have high credit ratings and are considered the safest investments in the eurozone bond market.

Considering the investor position, one of the most important factors in the bond markets are yields or interest rates. The interest rate is the best indicator of actual earnings on investing in a concrete bond. The most commonly used measure is the yield to maturity, which is interest that shows the present value of all future payments or cash inflows that the investor expects based on a particular bond. The interest rate or yield defined in this way is a measure that is mainly monitored on the financial market and on which investment decisions most often depend.

When analyzing government bonds, the focus shifts to the yield curve that is formed from the relationship of interest rates with different maturities. Interest rates of different maturities can move in parallel, but the movement can be different in the sense that there is a greater increase or decrease in the front or back of the yield curve or, the yield curve can be inverted (Simu, 2017; Utama & Agesy, 2016).

Changes in the yield curve come, logically, under the influence of changes in yield at different periods. These changes in yield are influenced by numerous macroeconomic factors, but also by other factors that are not primarily macroeconomic (consumer behaviour, economic expectations, etc.). Changes in monetary and fiscal policy may also be factors influencing the movement of government bond yields (Sihombing et al., 2013).

The subject of this paper is to examine which factors affect the bond market and the debt instruments market. The focus is on the German government bond market,

which is, in fact, the best representative of the EMU market. It is examined which factors and to what extent influence the movement of yields on the two-year, five-year and six-year yields of Germany.

This paper aims to examine the extent to which indicators of investor confidence and the extent to which economic indicators affect the movement of German government bond yields. It is known that macroeconomic indicators have an impact on these trends, but the impact of factors of a behavioural nature should certainly not be ruled out.

The paper is structured through several thematic units. In addition to the introduction which indicates based on the research, the subject and goal of the paper and the short structure of the research, the focus shifts to the review of the literature. Previous research is being investigated, based on which the hypotheses being tested are derived. After that, an overview of the research results is given, ie a statistical analysis of the results, followed by a discussion of the obtained research results. At the end of the paper, a list of used literature, a list of illustrations and an appendix are given.

1. LITERATURE REVIEW AND HYPOTHESIS

Monitoring trends in government bond yields is the most common indicator identifying changes in economic conditions. Considering that government bond yields are influenced by macroeconomic indicators but also confidence indicators, many authors have shifted the focus of their analysis to examine these effects.

1.1. Influence of reference interest rate on yields

The reference interest rate is a monetary policy instrument by which the central bank influences the amount of money in circulation and consequently the yields on government securities. Government bond yields are significantly influenced by monetary policy. These policies are policies implemented by each central bank such as the Fed, the ECB or any other regulatory body responsible for monetary policy management activities (Catalno, T., 2021: How Are Bond Yields Affected by Monetary Policy?). Monetary policy is reduced to determining the interest rate. Also, determining

the interest rate defines a risk-free interest rate. The risk-free interest rate has a significant impact on the demand for all types of financial instruments and certainly for government bonds. The link between interest rates and changes in central bank monetary policy and the impact on bond yields was also confirmed by Kurniasih and Restika (2015) and Sundoro (2018), who showed that restrictive monetary policy means lowering the reference interest rate which further leads to lower yields on government bonds. Likewise, Yuliawati and Suarjaya (2017) and Tjandrasa (2017) conclude that interest rates have a positive and statistically significant impact on government bond yields. Likewise, Pramana and Nachrowi (2016) as well as Santosa & Sihombing (2015) conclude that the central bank interest rate has a positive and statistically significant impact on government bond yields, with this relationship being examined in the Indonesian market. Gagnon and Jeanne (2020) also showed that changes in monetary policy, ie a reduction in the reference interest rate, affected the decline in government bond yields. Based on the above, the following hypothesis arises:

H1: The ECB reference interest rate has a positive effect on German government bond yields

1.2. Inflation on government bond yields

The bond market is generally influenced by economic conditions and changes in economic conditions, ie changes in macroeconomic variables, and they are certainly influenced by changes in inflation. In the event of rising inflation, interest rates also tend to rise. Therefore, when investors estimate inflation growth, they will ask for or demand such interest rates that will compensate them for inflation growth (Fabozzi, 2016). Hsing and Hsieh (2012) concluded in their research that inflation is one of the fundamental factors affecting bond yields. This claim was also supported by Tjandras (2017), who confirms that inflation has a positive and statistically significant impact on ten-year yields. Yusuf and Prasetyo (2019) conducted a study to examine the impact of USD bond yields, exchange rates and inflation on Indonesian government bond yields. Monthly data from January 2009 to December 2018 were used, and the results showed, among other things, the impact of inflation on yield trends. Hsing (2015) investigated the factors that influence the movement of Spanish government bond yields. He developed a model that measures various macroeconomic factors in the period from 1999 to 2014.

The results showed that Spain's government bond yields are positively related to debt / GDP ratio, short-term interest rates on treasury bills, and expected inflation.

Based on the above, the following hypothesis arises:

H2: Inflation has a positive effect on government bond yields

1.3. Oil price and bond yield

The impact of oil prices on bond yields has also been examined in previous research. Sihombing et al. (2014) and Arshada et al. (2018) conducted a study in which they showed that world oil prices have a significant impact on government bond yield movements. Paramita and Pangestuti (2016) also showed that world oil prices are positively related to government bond yields in the countries analyzed: Indonesia, Malaysia, Thailand, and the Philippines. Moreover, Siklos (2011) and Sundoro (2018) in their research develop a model of government bond yields and conclude that world oil prices have a significant impact on government bond yields. The link between oil prices and stock returns in China relies on policy uncertainty. Policymakers must organize such strategies to reduce the harmfulness of oil shocks in the financial market (Khan et al., 2019).

Based on the above, the following hypothesis arises:

H3: The oil price has a positive effect on the movement of bond yields

1.4. Investor's confidence and bond yield

Brown and Cliff (2004) show that investor confidence represents investor expectations of market conditions. According to these authors, sentiment indicates the level of irrational beliefs in the projection of future cash flows and risks of a particular security. When investors feel or expect the economy to deteriorate, they become anxious and afraid of losing money. In such circumstances, they will start selling their securities, bonds, which can be an additional incentive for the market to decline. Today, investors are bombarded with numerous financial news that affects their investment decisions. With a continuous and uninterrupted source of information that relies mainly on the

Internet, together with data from the media, mass media, this information directs investors to various investments according to the perception of investors

Previous research has shown that there is often incorrect pricing in the financial market (Shiller, 1981; Daniel and Titman, 1997; Wang 2006) and which is maintained at asset prices. Wrong prices are corrected when the basis of the economy emerges while confidence fades.

Therefore, the price correction leads to a negative relationship between investor mood and future returns. As a consequence, investor sentiment shows the power to predict returns (Chung, Hung, & Yeh, 2012).

Based on the above, the following hypothesis arises:

H4: Investor confidence has a statistically significant impact on bond yield movements

1.5. Stock market and bond yield

There is a close link between the stock market and the bond market, as previous research shows. Bonds affect the stock market because when bonds fall, stock prices tend to rise. The opposite happens: when bond prices rise, stock prices tend to fall. There is often some competition between bonds and stocks. Bonds are safer instruments than stocks but generally carry lower returns. Stocks tend to grow as their value increases when the economy is in a phase of expansion. When consumers buy more, companies make more money thanks to higher demand, and investors feel confident. One of the best ways to beat inflation is to sell bonds and buy stocks when the economy is growing. When the economy slows, consumers buy less, corporate profits fall, and stock prices fall. Then investors prefer regular interest payments guaranteed by bonds (Amadeo and Estevez, 2022).

Connolly, et al (2005) examine whether the time variation in changes in daily stock and bond yields can be related to measures of uncertainty in the stock market, particularly the implied volatility of stock index options and stock trading. From a forward-looking perspective, we find a negative link between uncertainty measures and the future correlation of stock and bond yields. At the same time, the authors show that bond yields tend to be high (low) relative to stock returns during the day when implied

volatility increases significantly (decreases) and during the day when stock turnover is unexpectedly high (low). The findings suggest that stock market uncertainty has an important impact on multi-market pricing and that the benefits of stock and bond diversification increase with stock market uncertainty.

Based on the above, the following hypothesis arises:

H5: The stock market has a statistically significant impact on bond yield movements

2. METHODOLOGY AND ANALYSIS

To examine what drives the bond market and what affects yields, a multiple linear regression model was developed that included several variables. Yields on German government bonds for 2, 5 and 10 years appear as dependent variables. The independent variables included in the model are confidence indices: ZEW index, Sentiyx index, Economics confidence. Then, data on inflation in the EMU, unemployment in the EMU, data on the ECB's monetary policy (Deposit facility and ECB balance sheet), the price of oil expressed in EUR and the movement of the EURO STOXX50 stock index are also included. In the first step, a descriptive analysis was performed, as shown in Table 1.

Table 1: Descriptive statistics from January 2015 until January 2022 (monthly data)

	N	Min.	Max.	Mean	Std. Deviation
10g Germany	85	-.70	.80	.05	.4071
5y	85	-.92	.13	-.40	.2567
2g	85	-.93	-.18	-.60	.1647
ZEW EMU	85	-49.50	84.00	23.59	29.7302
Inflation EMU	85	-.60	5.10	1.15	1.1553
Unemployment EMU	85	7.00	11.40	8.79	1.2566
Sentix EMU	85	-42.87	33.97	8.83	15.5094
Economic confidence	85	67.90	117.60	104.22	9.2964
Deposit facility	85	-.50	-.20	-.40	.0950
ECB balance sheet	85	2155.84	8622.58	4761.85	1751.7559

Oil in EUR	85	17.23	78.57	47.22	10.5326
EUR stock 50	85	2786.90	4298.41	3441.05	340.1951
Valid N (listwise)	85				

As can be seen, yields on German bonds had negative and positive territories, with yields at two and five years falling by as much as -0.93% while yields at ten years fell by -0.70%. The maximum yields during the observed period were 0.80% for 10 years and 0.13% and -0.18% for five and two years, respectively.

Also, data for other variables included in the analysis are presented. Based on the given data, three regression models were developed, which examined the effects on all three yields of the observed bonds (ten, five and three). In the first step, all data were included in the model, however, the results showed that there is a high degree of multicollinearity among beginners and the following variables were excluded from the analysis: ECB balance sheet, ZEW index, Economics confidence and unemployment in EMU. Other elements are retained in the analysis, ie in the model, and the following tables show the results of the research, ie regression models for examining the impact on yields of 10, 5 and 2 years in Germany. The model evaluation parameters are given in the appendix.

Table 2 shows regression analysis for 10y government bonds.

Table 2: Regression model, 10y German bond

	Parameters	Sig.	VIF
Constant (10y German)	2.299	.000	3.135
EMU Inflation	.072	.025	1.771
Sentix	.014	.000	1.725
Deposit Facility	2.280	.000	3.176
Oil	.004	.307	2.402
EUR stock 50	-.000	.000	

Dependent Variable: 10g GermanyR2 = 79,50%

ANOVA F=61,394; Sig.= 0,00

The regression model shows that the observed variables, namely: EMU inflation, Sentix index, deposit facility, oil price and Stoxx50 explain with 79.50% the change in

the movement of yields on ten-year German bonds. All observed regression parameters have a statistically significant effect on changes in the movement of yields of ten-year German bonds, except for oil, which has a positive effect on the movement of yield, but this effect is not statistically significant. The interest rate of the ECB deposit facility has the most pronounced positive impact. The stock index also has a statistically significant impact on the movement of ten-year bond yields. Projected 10y government German bond and realised yield is given in Figure 1.

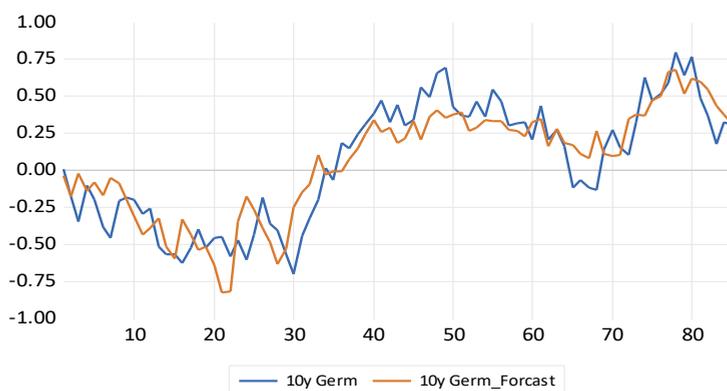


Figure 1: Projected and realised 10y German yield

The forecast of 10y German yields based on multiple linear regression that we developed in this study, shows that the model explains some trends in 10y yields movements. The results show that the analysed indicator (independent variables) explain in a quite significant level of 10y Germany yields movements.

In the next stage, we develop a linear regression model to examine the effect of observed factors on 5y Germany bonds movements. The results of the regression are given in Table 3.

Table 3: Regression model, 5y German bond

	Parameters	Sig.	VIF
Constant (5y German)	.596	.006	
EMU Inflation	.032	.186	3.135
Sentix	.005	.000	1.771
Deposit Facility	1.843	.000	1.725
Oil	.004	.161	3.176
EUR stock 50	-.000	.040	2.402

Dependent Variable: 5g Germany R² = 71,30%
ANOVA F= 39,177; Sig.= 0,00

As we can see, the observed variables: EMU inflation, Sentix index, deposit facility, oil price and Stoxx 50 explain 71.30% of the changes that occur on the yield side of five-year German bonds. The results of the regression indicate that inflation in the EMU, deposit facility, confidence index and oil prices have a positive impact on the movement of yields on five-year German bonds but stock markets have a negative but statistically significant effect on 5y German bond yield. Inflation in EMU and oils price during the observed period has a positive impact on 5y bond yields but this effect is not statistically significant. Projected 5y government German bond and realised yield is given in Figure 2.

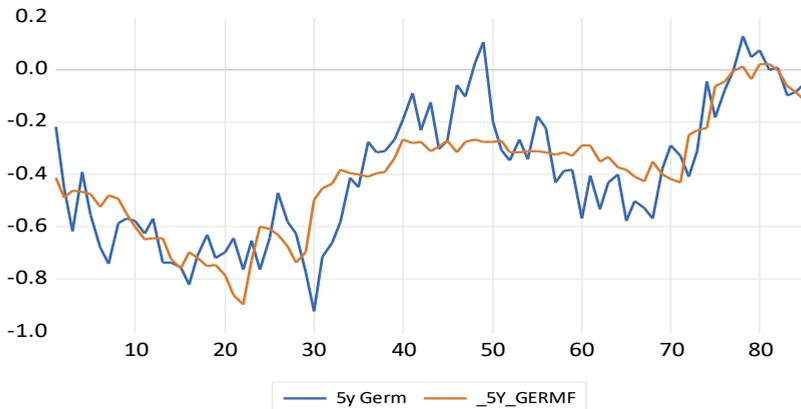


Figure 2: Projected and realised 5y German yield

The results show that the model of linear regression that forecast 5y bond yield has some value since the trend of projected yield is quite correct. We can see that the regression model, in some way, can be a good approximation for forecast 5y bond yield.

In the final step, we develop a regression model that explore the impact of observed variables ie EMU inflation, Sentix index, deposit facility, oil price and Stoxx 50 to 2y German bond yield. The regression model is given in Table 4.

Table 4: Regression model, 2y German bond

	Parameters	Sig.	VIF
Constant (2y German)	-.437	.002	
EMU Inflation	-.015	.323	3.135
Sentix	-.002	.037	1.771
Deposit Facility	1.543	.000	1.725
Oil	.001	.615	3.176
EUR stock 50	.000	.006	2.402

Dependent Variable: 5g Germany R2 = 70,0%

ANOVA F=36,812; Sig.= 0,00

The results of the regression model show that the observed variables explain 70% of the 2y yield movements. It is interesting to note that inflation in the EMU and the Sentix confidence index hurt the movement of two-year bond yields. The impact of inflation is negative but not statistically significant while the impact of the Sentix confidence index is negative and statistically significant. In this case, the ECB's monetary policy measure, the deposit facility, had a positive and statistically significant impact on the movement of German two-year bond yields.

Projected 2y government German bond and realised yield is given in Figure 3.

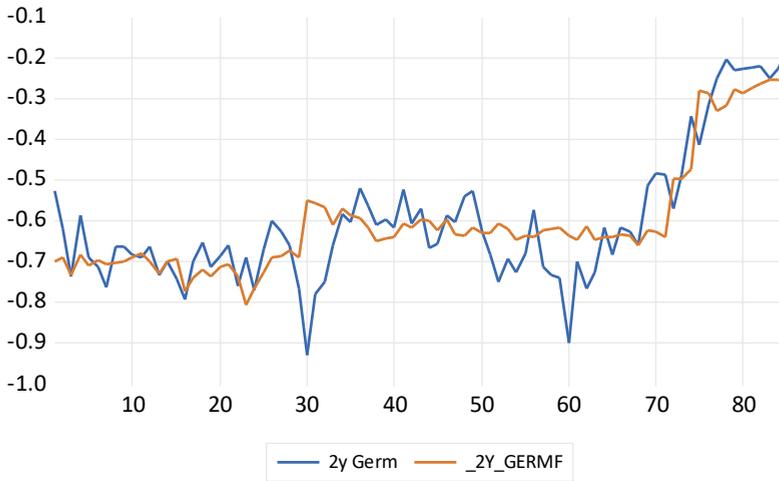


Figure 3: Projected and realised 2y German yield

DISCUSSION AND CONCLUSION

Economics indicators but also confidence indicators affect bond yields. Previous research shows that bond yields are affected by economic indicators, economic news but also credit spread and confidence indicators. In this research we tested five hypotheses and came to a conclusion as follows:

The ECB reference interest rate has a positive effect on German government bond yields. This effect is positive and statistically significant to all observed yields ie 10y, 5y and 2y German bond. In this sense the first hypothesis is correct.

The regression results show that inflation has a positive impact on 10y bond yield but on 5y and 2y yields, the effect is not significant. Inflation has a positive but statistically insignificant effect on 5y yield, but a negative and statistically insignificant effect on 2y yield. In this sense, we can confirm that inflation has a positive effect on long term yields but in the medium and shorter-term this effect is not significant. So we rejected the hypothesis that inflation always has a positive effect on bond yield. The inflation impact depends on bond duration.

Previous research has shown that oil price has a significant and positive impact on bond yield. The results of this research show that oil price has a positive but statistically insignificant effect on bond yield. The results are quite the same for all observed yields ie 2y, 5y and 10y. In this sense, we reject the hypothesis and conclude that oil prices during the observed period (from January 2015 until January od 2022) did not have a significant effect on bond yield.

During the last 20y investor confidence become more interesting in the financial market and also the bond market. The results of this research show that confidence which was measured by the Sentix index has a positive and statistically significant effect of 5y and 10y yield, but a negative and statistically significant effect on 2y bond yields. We can conclude that confidence is an important factor in driving bond yield, but its effect is not always positive. So, we conclude that confidence has an effect ie a statistically significant effect on bond yiled and we accept the given hypothesis.

Stock market and bond market are probably the main parts of financial markets. We tested is there a significant effect stock market on bond yields during the observed period.

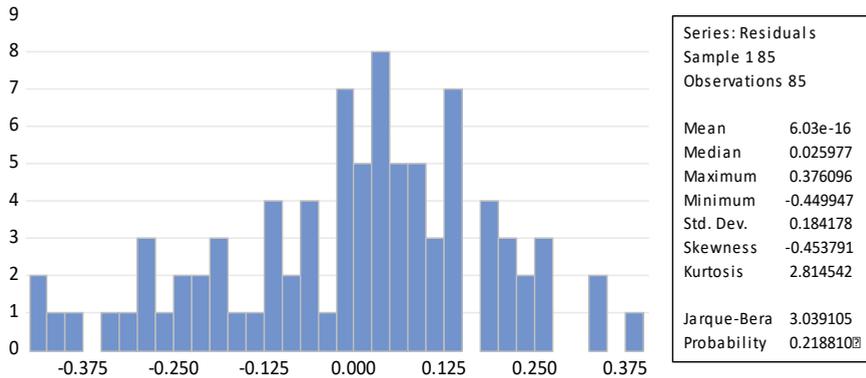
Considering the regression results we can conclude that the stock market has a statistically significant effect on bond yield for all periods (2y,5y and 10y) and we accept the given hypothesis.

Yields on government bonds are strongly influenced by numerous macro data, but also trust data, which is also shown in this research. It is clear that the factors analyzed in this research (inflation, monetary policy measures, stock market, oil and confidence) have a greater or lesser impact on yield trends and should certainly always be monitored when analyzing yields. However, it is noted that the observed factors will not always have the same impact. Macroeconomic factors, especially inflation, have different effects on longer and shorter yields. Statistically significant impact on all yields, regardless of whether they are biennial, five-year or ten-year, has monetary policy measures observed through the deposit facility, confidence index and stock market.

APPENDIX

Regression model, tested (10y yields)

Data normality: Jarque-Bera measurements:



Since we have p-value= 0,218810 >0,05, we conclude that data are normally distributed.

The issue of serial correlation was eliminated by applying a VIF index is not higher than 5 considering any variables (See Table 2)

Heteroscedasticity was measured by the Harvey test, as shown by the following result. The result shows that there is no homoskedasticity, and this assumption of regression is fulfilled.

Heteroskedasticity Test: Harvey
Null hypothesis: Homoskedasticity

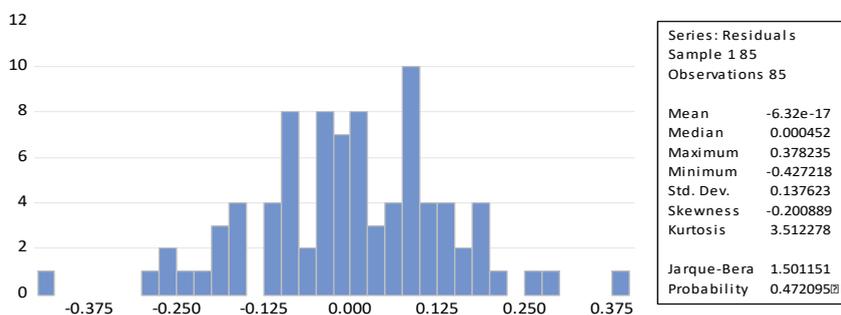
F-statistic	0.690977	Prob. F(5,79)	0.6317
Obs*R-squared	3.561525	Prob. Chi-Square(5)	0.6141
Scaled explained SS	4.289536	Prob. Chi-Square(5)	0.5085

Test Equation:
Dependent Variable: LRESID2
Method: Least Squares
Date: 02/26/22 Time: 09:11
Sample: 1 85
Included observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.693559	3.687135	-1.544169	0.1265
DEPOSIT FACILITY	-5.571642	3.734245	-1.492040	0.1397
EMU INFLATION	-0.358078	0.413873	-0.865187	0.3896
EUR STOCK 50	-0.000677	0.001230	-0.550281	0.5837
OIL IN EUR	0.028447	0.045695	0.622535	0.5354
SENTIX EMU	1.67E-05	0.023176	0.000723	0.9994
R-squared	0.041900	Mean dependent var	-4.838014	
Adjusted R-squared	-0.018739	S.D. dependent var	2.452403	
S.E. of regression	2.475274	Akaike info criterion	4.718553	
Sum squared resid	484.0316	Schwarz criterion	4.890975	
Log likelihood	-194.5385	Hannan-Quinn criter.	4.787906	
F-statistic	0.690977	Durbin-Watson stat	1.923762	
Prob(F-statistic)	0.631728			

Regression model, tested (5y yields)

Data normality: Jarque-Bera measurements:



Since we have $p\text{-value} = 0,472095 > 0,05$, we conclude that data are normally distributed.

The issue of serial correlation was eliminated by applying a VIF index that is not higher than in any of the variables 5 (See Table 3)

Heteroscedesity was measured by the Harvey test, as shown by the following result. The result shows that there is no homoskedasticity, and this assumption of regression is fulfilled.

Heteroskedasticity Test: Harvey
Null hypothesis: Homoskedasticity

F-statistic	1.477130	Prob. F(5,79)	0.2067
Obs*R-squared	7.267180	Prob. Chi-Square(5)	0.2015
Scaled explained SS	9.693688	Prob. Chi-Square(5)	0.0844

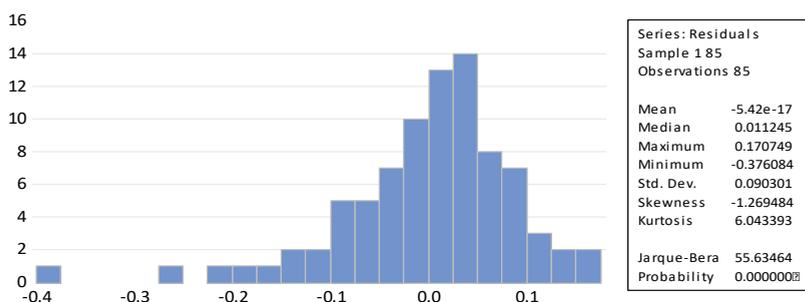
Test Equation:
Dependent Variable: LRESID2
Method: Least Squares
Date: 02/26/22 Time: 09:34
Sample: 1 85
Included observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.974476	3.790974	-0.257052	0.7978
DEPOSIT FACILITY	-5.066372	3.839411	-1.319570	0.1908
EMU INFLATION	0.544428	0.425529	1.279415	0.2045
EUR_STOCK_50	-0.002085	0.001265	-1.648443	0.1032
OIL_IN_EUR	-0.000857	0.046982	-0.018237	0.9855
SENTIX_EMU	0.006475	0.023828	0.271751	0.7865

R-squared	0.085496	Mean dependent var	-5.454211
Adjusted R-squared	0.027616	S.D. dependent var	2.580871
S.E. of regression	2.544984	Akaike info criterion	4.774099
Sum squared resid	511.6786	Schwarz criterion	4.946521
Log likelihood	-196.8992	Hannan-Quinn criter.	4.843452
F-statistic	1.477130	Durbin-Watson stat	1.854853
Prob(F-statistic)	0.206705		

Regression model, tested (2y yields)

Data normality: Jarque-Bera measurements:



Since we have p-value= 0,0000 <0,05, we conclude that data are not normally distributed.

The issue of serial correlation was eliminated by applying a VIF index that is not higher than in any of the variables 5 (See Table 4)

Heteroskedasticity was measured by the Harvey test, as shown by the following result. The result shows that there is no homoskedasticity, and this assumption of regression is fulfilled.

Heteroskedasticity Test: Harvey				
Null hypothesis: Homoskedasticity				
F-statistic	0.727755	Prob. F(5,79)	0.6047	
Obs*R-squared	3.742747	Prob. Chi-Square(5)	0.5870	
Scaled explained SS	4.084549	Prob. Chi-Square(5)	0.5373	
Test Equation:				
Dependent Variable: LRESID2				
Method: Least Squares				
Date: 02/26/22 Time: 09:36				
Sample: 1 85				
Included observations: 85				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.008453	3.505863	-0.572884	0.5684
DEPOSIT_FACILITY	5.292894	3.550657	1.490680	0.1400
EMU_INFLATION	0.407969	0.393526	1.036702	0.3030
EUR_STOCK_50	-0.000920	0.001170	-0.786181	0.4341
OIL_IN_EUR	0.010412	0.043449	0.239645	0.8112
SENTIX_EMU	-0.011480	0.022036	-0.520957	0.6039
R-squared	0.044032	Mean dependent var	-6.453997	
Adjusted R-squared	-0.016472	S.D. dependent var	2.334433	
S.E. of regression	2.353581	Akaike info criterion	4.617726	
Sum squared resid	437.6082	Schwarz criterion	4.790149	
Log likelihood	-190.2534	Hannan-Quinn criter.	4.687079	
F-statistic	0.727755	Durbin-Watson stat	1.715645	
Prob(F-statistic)	0.604674			

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Corresponding author: balsa.kascelan@fppsp.edu.rs

LIFE INSURANCE FOR BENEFIT OF A THIRD PARTY -Testamentary effects-

Nataša Petrović Tomić

Faculty of Law University of Belgrade, Belgrade, Republic of Serbia
e-mail: nataly@ius.bg.ac.rs

Balša Kaščelan

Faculty of Business Studies and Law,
“Union – Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: balsa.kascelan@fppsp.edu.rs

***Abstract:** Popularity of life insurance contract is associated with a number of functions that this oldest modality of insurance of persons performs. In addition to the protective and saving function, life insurance is a valued product due to its testamentary effects. The authors deal with the analysis of the life insurance contract in favor of the third party as a form that allows policyholder to appoint a certain person as a beneficiary of the sum insured and thus achieve the effect of testamentary disposition. In the first part of the paper, the authors explain the elements of the validity of the beneficiary naming clause. The second part of the paper is devoted to accepting benefits, while the third part opens legal issues on the border of inheritance and insurance law. The authors conclude that life insurance in favor of a third party is an original and effective mechanism for achieving testamentary goals.*

***Keywords:** Insurance, Life Insurance, Contract for the Benefit of a Third Party, Testamentary disposition*

1. ON LIFE INSURANCE

1.1. Definition

One of the most popular contracts in the field of insurance is certainly the life insurance contract. A life insurance contract is defined as a contract based on which the policyholder or the insured undertakes to pay a certain premium to the insurer, and the

insurer undertakes to pay a pre-agreed sum insured or annuity to the insured or beneficiary if the insured event occurs (Petrović Tomić, 2019: 634; Beckmann, Matusche-Beckmann, 2009: 2530; Bonnard, 2012: 325; Bigot, 2011: 31). This event is the death of the insured or another person, the experience of certain years of age, the death or experience of certain years (so-called mixed insurance).¹ The insured event is, therefore, related to the life of a certain person. Life insurance is fundamentally different from property insurance. For his understanding, it is crucial that it is capital insurance, the amount of which is determined in advance by the contract and which is concluded for the payment of money to the insurance contractor or the user (Lambert-Faivre, Leveneur, 2011: 737-738; Teslau, Prang, 2009: 1621). The insured case depends on how long a person's life will last, and the insurer has the obligation to pay the agreed amount of insurance regardless of the material losses of the insurance beneficiary (Pak, 2011: 297).² The obligation of the insurer is a lump sum. It depends exclusively on what is agreed (ie primarily on the amount of insurance). The obligation of the insurer is not affected by any damage that the user has suffered due to the occurrence of the insured event, or his material circumstances.

1.2. Target function

Life insurance is one of the most important types of insurance from the point of view of achieving multiple goals of potential insurance contractors (Lambert-Faivre, Leveneur, 2017: 754-756). Namely, in addition to the elements of insurance protection, the element of savings is traditionally associated with this insurance. As life insurance

¹ These are the so-called classic life insurances, which are the oldest and need not be explained in particular (one French author jokingly says that life insurances are like mobile phones: everyone knows how to handle them, and almost no one knows anything about how they really work). However, the term life insurance also includes a number of other insurances, such as: insurance with refund of premiums, insurance in case of marriage, insurance in case of childbirth, as well as annuity insurance and supplementary insurance with life insurance.

² There is no doubt that life insurance serves to meet the financial needs of insurance beneficiaries in specific situations. But, unlike property insurance, the principle of indemnity does not apply to life insurance and the insurer's obligation cannot be affected by changes in the financial situation of the insurance beneficiary, as well as whether the insurance beneficiary has actually incurred direct or indirect costs and losses.

does not prohibit the accumulation of insurance rights and rights of the person responsible for the occurrence of the insured event, this regulation sends a clear message to potential life insurance consumers that those who have been saving through life insurance cannot be in the same situation as those who have not been saving.³ The possibility to also achieve by purchasing life insurance - in addition to insurance protection, which is taken for granted - relatively secure savings, makes this insurance a very important segment of the capital market. An insured person who can demand redemption, full or partial, before the maturity of the contract, in fact has the possibility to return the invested capital if he needs liquid assets at some point (Elhabbouli, 2015: 21-22).

An equally important function of life insurance is to provide material security in old age.⁴ In developed countries, the correction and supplementation of the classic pension system is achieved through life and pension insurance. Therefore, it should not be surprising that in the countries with a high standard of living more than 60% of the population has some form of life insurance.⁵ In this way, the social function of life insurance is manifested. Namely, the importance of life insurance is especially great in countries where benefits based on compulsory social insurance do not provide material security for the family and the individual. Furthermore, its social component is manifested in the form of family care in the event of the death of a dependent, as well as

³ "There are no legal restrictions to conclude several life insurance contracts." Life has no price and a person who wants to get a higher insured sum can conclude more contracts. The only obstacle is the inability to pay the premium on the basis of several concluded contracts. "J. Pak, 2011, 297.

⁴ Therefore, developed countries adopt programs and measures to encourage the purchase of life insurance, which provides a supplementary pension (eg by adopting tax breaks). See.: J. Pak, „Značaj životnih osiguranja za materijalnu sigurnost u starosti“, *Promene u pravu osiguranja Srbije u okviru evropskog (EU) razvoja prava osiguranja* (zbornik radova), Palić 2011, 126–127.

⁵ Since the insurance policy enables long-term savings, it can serve as collateral for obtaining various types of loans. In developed countries, it is understood when it comes to obtaining loans either from the sphere of personal investments or from the sphere of private business. Today, there are modern forms of life insurance, which are based on a combination of elements of life insurance and investment funds. See more in: B. Preložnjak, "Pravna priroda ugovora o osiguranju života vezanog uz investicijske fondove", *Zbornik Pravnog fakulteta u Zagrebu*, br. 3, 2011, 967.

in cases where there is an increased need for material resources (children's education, marriage, etc.). Life insurance that contains a clause on the beneficiary is a mechanism by which part of the property is transferred, within the family or outside the family circle, without applying the rules of inheritance law (Elhabbouli, 2015: 23). Finally, life insurance is increasingly being used to secure consumer and housing loans. Usually, life insurance contracts are concluded for the amount corresponding to the obtained loan. With the repayment of the loan, it decreases. If the insured dies before repaying the loan, the insurer pays the insured amount to cover the remaining debt.

One of the extremely important functions of life insurance, to which not enough attention has been paid, is related to the testamentary-legal actions of appointing a life insurance beneficiary. One of the most important questions is how suitable such a statement of will is for achieving goals that coincide with inheritance law issues. In particular, is it “worthwhile” for the insurance contractor to activate the will mechanism? Or can a valid user naming clause achieve the same effect? And how burdensome are the formalities that accompany this clause compared to the formalism of inheritance law?!

1.3. Insured person

The originality of life insurance is reflected in the existence of the insured person. This is the person in whose life the insured event should occur (Bonnard, 2012: 326; Šulejić, 2005: 468). The insured person (eng.: insured; fran.: l'assuré; nem.: versicherte Person) is the person whose life is linked to the realization of a certain event (insured event) and the payment of the sum insured. In many cases, the policyholder is also the insured.

The Law on Obligations specifies that life insurance and accident insurance can refer to the life of the insurance contractor or to the life of a third party. Due to the protection of this person and the preservation of public order in the field of personal insurance, the consent of that person is required, otherwise the contract is void. The consent of the insured person, which obviously must be obtained beforehand (ie until the conclusion of the contract!), aims to ensure that the insured person is aware of all the circumstances of the contractual relationship of which he is an actor, and in particular who the policyholder is, who the potential user is, what is the insured amount,

etc. This consent must be given in the policy or in a separate written document when signing the policy, indicating the sum insured.⁶ It is then considered that the insured person has given his / her consent both in terms of concluding the contract and in terms of the amount of the insurance amount. A third party's life insurance contract is void without that person's consent.⁷ Anyone can invoke nullity (absolute nullity). The contract is also null and void if it is concluded for the life of a person under the age of 14 or a person deprived of legal capacity.⁸ A minor over the age of 14 may be designated as an insured person in death insurance with his or her written consent and the written consent of the legal representative.

1.4. Beneficiary

Beneficiary (eng.: beneficiary; fran.: le beneficiaire; nem.: Bezugberechtigter) is a natural or legal person specified in the contract and to whom the sum insured is paid (Elhabbouli, 2015: 101). The provision on determining the beneficiary of life insurance in comparative law is given the greatest attention. This provision seeks to eliminate the possibility of abuse of life insurance contracts, especially those concluded in the event of death. In the case of a life insurance contract, the beneficiary is usually the policyholder or the insured. In the case of a life insurance contract in the event of death,

⁶ *"The condition for concluding a valid insurance contract in the event of the death of a third party is the written consent of that person with regard to the conclusion itself, but also the amount insured."* (Judgment of the Supreme Court of Republic of Serbia Rev. No. 5661/95 of 17 January 1996)

⁷ In theory, the question arose as to whether the insured person could give consent later (after the conclusion of the contract) and thus strengthen it. In German theory, such a possibility is denied (because it is an absolute nullity), while Italian theorists do not rule out this possibility. In.: M. Ćurković, *Ugovor o osiguranju osoba, Život – nezgoda – zdravstveno*, 86.

⁸ In our law, as in most continental rights, the existence of an interest in life insurance is not required. In Anglo-Saxon law, personal insurance cannot be taken out if there is no interest. At the same time, the interest in securing one's own life is implied (everyone has an interest in preserving their life and bodily integrity). As far as insuring the life of another person is concerned, the interest is that there is an interest in the insured person being alive. It is assumed that this interest exists if the policyholder and the insured are related.

the beneficiary is a third party.⁹ When concluding the contract and determining the beneficiary, the insurer must point out the possible consequences of the manner of determining the beneficiary of life insurance. This is very important, so that it does not happen that the policyholder had in mind one person, and that the sum insured is paid to another person.

2. THE CLAUSE ON APPOINTMENT OF LIFE INSURANCE BENEFICIARY

2.1. Personal right of the policyholder

It is indisputable that the policyholder can dispose of his rights from the life insurance contract: to pledge them, transfer them to third parties, etc. One of the most controversial issues in life insurance is the appointment of beneficiaries. Namely, the appointment of the beneficiary requires answering numerous questions concerning the status of the beneficiary himself, but also the status of the amount of insurance that will be paid to him. Before we turn to the conditions of validity and the manner of appointment, the question arises as to whether the rules on the beneficiary of life insurance are *lex specialis* rules in relation to the contract in favor of third parties. Since the contractual insurance laws usually contain at least one (or several) articles on the designation of beneficiaries, it can be concluded that the intention of the legislator is to create a special legal regime for this issue.¹⁰ Despite this intention, the current application of other branches of law remains, especially family and inheritance law¹¹, and in some cases bankruptcy and executive law.¹²

⁹ The theory points out that life insurance is the "most important area" in which a contract appears in favor of a third party. See more in.: V. Sokal, *Ugovor u korist trećeg*, Savremena administracija, Beograd 1976, 74.

¹⁰ In Republic of Serbian law, all issues related to life insurance for the benefit of a third party are found in the Law on Obligations, Art. 957-965.

¹¹ Is the position of the beneficiary adequate to that of the successor of the policyholder? What is his position in relation to other heirs of insurance policyholders, whether legal or testamentary? Does the insured amount intended for the user enter into the legacy?

¹² What is the position of the creditors of the insurance contractor towards the beneficiary?

In many cases, the beneficiary of life insurance is the insurance contractor himself. However, if the insurance in case of death of the insurance contractor is concluded, it is necessary for him to determine the beneficiary of the insurance rights. The appointment of beneficiaries of insurance rights is not limited to life insurance in the event of death, but may also apply to life insurance in the event of survival, as well as to combined insurance in the event of death and survival. In combined insurance covering death and survivorship, the policyholder may choose to link the appointment of the beneficiary to the event of his death, while retaining the right to claim payment of the sum insured if he reaches the agreed age¹³

The beneficiary of life insurance is therefore determined by the policyholder. That is his exclusive right, that is a unilateral declaration of will, regardless of whether he is also an insured person (Elhabbouli, 2015: 148-149; Bigot et. all, 2011: 235-236). The same applies to the recall of life insurance beneficiaries.¹⁴ Translated into the language of the contract for the benefit of a third party, the policyholder is the stipulator, the insurer is the promitter, and the beneficiary is the beneficiary who acquires his own and direct right towards the insurer (Čolović, 2021: 318). In French law, following the 2005 reform of the Insurance Code, a life insurance contract should contain information relating to the consequences of appointing a person as a beneficiary of insurance rights (Abravanel-Jolly, 2017: 385). Although this is a personal act of the policyholder, which achieves the effect of testamentary distribution of property without formal drawing up a will, the consequences it produces require the policyholder to be thoroughly acquainted with them before submitting a legally binding statement appointing the beneficiary. The consent of the insurer is not required for the appointment of the beneficiary, but it is useful for him to be informed.¹⁵ As far as the modality of

¹³ The beneficiary can also be named in case of accident insurance, which unequivocally arises from the insurance conditions of our insurers.

¹⁴ Only the policyholder, and not his representatives, heirs or creditors, can appoint and recall the life insurance beneficiary. From the point of view of the insurance contractor, the appointment of the beneficiary is an alternative institute which *de facto* expresses the testamentary will. That is another way to make a will. See more in: L. Mayaux, „L'attribution du bénéfice“, 236.

¹⁵ Here, a distinction should be made between the formal-legal situation (the insurer does not give consent for the appointment of the beneficiary, nor is the condition of a valid appointment that he be informed about it!) And pragmatism (it is opportune for the insurer to be informed

appointment is concerned, the two common ways are the life insurance contract clause and the testamentary clause.¹⁶

The beneficiary of the insurance is determined at the time of concluding the contract or later, until the moment when the insured amount matures. The beneficiary can be named at the time of concluding the contract and listed in the policy (beneficiary appointment clause) or later in the policy appendix (Elhabbouli, 2015: 149-150). With regard to the appointment of beneficiaries of life insurance rights, this can be done by some other legal business, including the will.¹⁷ The appointment of the beneficiary by the will indicates the serious intention and awareness of the policyholder to provide a certain person with funds that have been set aside from the rest of the estate. It follows from the rules of insurance law, therefore, that the beneficiary does not have to be appointed solely and exclusively in the insurance policy.

A particular beneficiary can be revoked and another one can be designated. The life insurance beneficiary may be appointed until the moment of the insured person's death, but the insurer should be informed, although the validity of the statement on the appointment of the life insurance beneficiary does not require his consent.¹⁸ And so on until the acceptance of the appointment by the beneficiary, when his appointment

about the appointment or change of beneficiaries). This is because it can happen that an insurer, who is not informed about the appointment of the beneficiary in time, pays the amount of insurance to another person (eg: former beneficiary of the insurance). The beneficiary would then have to claim a refund of the sum insured from the person who received it.

¹⁶ It should be noted that in practice, the appointment of beneficiaries based on the clause of the life insurance contract is much more common. It is precisely this way of naming - which indisputably achieves hereditary effects - that attracts attention and can be the subject of controversy. It is also possible to appoint a user by will, but the testator usually does so with legal assistance, which is why he is considered to be more protected from making hasty statements compared to the case of appointing a user on the basis of a life insurance contract.

¹⁷ The appointment of a life insurance beneficiary by will does not have the significance of a *mortis causa* job. It follows that the beneficiary determined by the will can renounce the inherited part, while retaining the rights from the life insurance contract. In.: S. Abravanel-Jolly, *Droit des assurances*, 377; Y. Lambert-Faivre, L. Laveneur, *Droit des assurances*, 2011, 825.

¹⁸ The insurer does not have to be aware of the age and health condition of the beneficiary, as in many cases he will not be aware of his identity until the request for payment of the insurance amount is submitted.

becomes irrevocable. However, the acceptance of the benefit by the beneficiary does not mean that another person cannot be appointed as a subsidiary beneficiary.¹⁹

Who can be declared a beneficiary

In principle, any person with legal capacity can be appointed as a beneficiary.²⁰ It can be someone from the circle of heirs of the insurance contractor, but also any other person. The contractor is not obliged to state the reasons for appointing a person as a user. The heirs cannot prevent the appointment of any person as a beneficiary. Animals cannot be a beneficiary (Ćurković, 2009: 133). When a third party is designated as the beneficiary, and not the insurance contractor himself, it can be charity (when naming a certain person as a beneficiary makes the insurance contractor a gift)²¹ or encumbrance (when the contractor receives a certain consideration, an example is the appointment of a creditor as a beneficiary). It is not necessary to inform the beneficiary himself for the legal effect of the appointment clause.

For the validity of the clause on naming the beneficiary, it is not necessary for the beneficiary to be determined by name, although in that case it is possible to determine his identity with the greatest certainty (Greko, 2014: 312-313). It is enough for a beneficiary to be definable that is as the Law on Obligations states, that the act of appointment contains the necessary information for his determination. The goal is to determine the identity of the beneficiary at the time of the contractual obligation based on the data from the contract. In practice, there were problems with identifying users

¹⁹ A subsidiary beneficiary acquires the right if for any reason the first named beneficiary is deprived of the right. See: L. Mayaux, "L'attribution du bénéfice", 267.

²⁰ Thus, the contractor can designate a creditor as the beneficiary of the right to life insurance (then insurance is a type of claim insurance!) or a relative (in which case the appointment of the beneficiary is a charity).

²¹ It is assumed that the appointment of the beneficiary is a benevolence, until it is proven that it was done with appropriate counter-performance of the beneficiary. As the French theory points out, life insurance for the benefit of a third party is a modality of indirect gift (French: *libéralité indirecte*), by avoiding the formalities related to the gift contract. More in.: H. Elhabbouli, 2015: 148.

with the terms “children, descendants, spouse”.²² The Law on Obligations tried to prevent lengthy court proceedings between relatives after the death of a life insurance policyholder by determining that the benefit intended for the spouse belongs to the person who was married to the insured at the time of his death.²³ What happens if there is a divorce between the policyholder and the person identified as the beneficiary? In the absence of a post-marital revocation of the beneficiary appointment clause, it could be considered, strictly formally, that the appointment is still valid.²⁴ However, in essence, the appointment of a spouse as a beneficiary loses its meaning if a divorce occurs later. If, for example, the death of an insurance policyholder occurred shortly after the divorce, it could be reasoned that the policyholder did not have time to possibly revoke the appointment clause.²⁵

As for “children or descendants”, existing children, as well as the fetus, will be covered by the appointment. In addition, children who are not conceived are also considered to be covered by the clause on the appointment of the beneficiary, because it is rebuttably assumed that the policyholder does not intend to separate a certain descendant. The Law on Obligations specifies, therefore, that the benefit also belongs to those descendants who were born later. This is an important provision, which reduces disputes on the border between insurance law and inheritance law.²⁶ An exception would only exist if a specific child, by name and surname, is identified as the (sole) beneficiary of insurance.²⁷

²² The basic dilemma was whether to determine these persons according to the characteristics they had at the time of appointment or at the time of the insured's death.

²³ Naming in the form of “Mrs. A, born B” would be valid even if the policyholder dies before the wedding.

²⁴ If an agreement has been concluded on the financial consequences of the divorce, unless otherwise agreed, that agreement per se does not mean the revocation of the appointment of the life insurance beneficiary.

²⁵ For the sake of comparison, divorce leads to the loss of the inheritance right of the divorced spouse, and it is not excluded that the collection of the insurance amount as a beneficiary of life insurance would lead to unjust enrichment?

²⁶ As a reminder, the beneficiary's right arises independently of his consent, and the validity of the contract in favor of a third party does not require the beneficiary to be legally capable.

²⁷ In that case, the interpretation of the insurance contractor's intention to take care of all children, those born at the time of the appointment of the beneficiary and those who were born

It is not uncommon for an insurance policyholder to designate his or her heirs as beneficiaries of life insurance. This appointment means that all heirs are considered beneficiaries at the time of the death of the policyholder. If the policyholder states that the beneficiaries are the legal heirs, he automatically excludes the testamentary heirs from the inheritance.²⁸ If, on the other hand, the policyholder has designated the beneficiaries as “heirs listed in the will”, only those persons will be beneficiaries, regardless of whether the will was drawn up after the appointment of the beneficiary.

If several life insurance beneficiaries with predetermined shares are determined, the sum insured is divided between them according to those shares. If the contractor designates several beneficiaries without specifying their shares, the insured amount is divided into equal parts. If the policyholder has appointed his heirs as beneficiaries of the sum insured, it shall be divided in proportion to their hereditary shares in the estate of the policyholder. In our law, the insured amount is included in the amount of the inheritance. Namely, there is a provision in the Law on Inheritance that regulates the inclusion in the inheritance part.²⁹ According to that provision, the legal heir is credited with the gift that he received from the testator in any way³⁰ Although that provision does not explicitly mention the amount of insurance, it should not be concluded that a gift made in the form of insurance is not included. Namely, there is a special article entitled If the gift consists of insurance (Article 73). When the gift consists of insurance in favor of the recipient, the value of the gift is the sum of paid premiums if that sum is less than the insured amount (paragraph 1 of Article 73). If the sum of paid premiums is higher than the insured amount, the insured amount is taken as the value of the gift (paragraph 2 of Article 73). According to the letter of the law, life insurance is included, therefore, only in the case of legal heirs. What about testamentary heirs? Does the waiver

later, cannot be applied. By naming a specific child, he stands out as the only beneficiary of insurance. The same goes for the spouse. The same in: M. Ćurković, *Ugovor o osiguranju osoba, Život-nezgoda-zdravstveno*, 134-135.

²⁸ An exception would exist only if it is established that the policyholder has misused the term legal heirs, without intending to exclude testamentary heirs.

²⁹ Law on Inheritance, *Official Gazette of RS*, no. 46/95, 101/2003 - USRS decision and 6/2015, art. 66

³⁰ LoI, Art. 66 para. 1.

of the inheritance right mean ipso jure also the loss of the right to the insured amount?! From what is written in the Law on Inheritance, it is not so.

And does the rule on inclusion in the inheritance part imply that the life insurance regime is different when it comes to donations through insurance of persons outside the circle of heirs? Linguistically interpreting the Law of Inheritance, it should be so. In that case, the rules from the section Law on Obligations dedicated to the insurance contract have priority. This further leads to the conclusion that there are two regimes that apply to the appointment of life insurance beneficiaries. One is the regime that applies to legal heirs. They include the amount of insurance premiums paid or the amount of insurance, depending on which amount is higher, in the inheritance part. The situation is completely different when the insurance contractor has designated a person outside the circle of heirs as the beneficiary. His fate is determined by the Law on Obligations, which means that the amount of the insured amount will be inaccessible to third parties, including heirs. The sum provided is quite safe from the beneficiary's point of view, within the limits of revocation of benefits dictated by reasons of public order.

If there are several beneficiaries, and one of them dies or refuses to accept the benefit, his part is shared with the other beneficiaries of the benefit. If none of the named beneficiaries accepts the sum insured, it enters the property of the policyholder. The issue of appointing a person outside the circle of heirs as a beneficiary is especially problematic, if this calls into question the realization of the right to inherit guaranteed by law.

For the legal effect of the clause on naming the user, the most important thing is that it must be precisely redacted, so that it is possible to determine with certainty who the beneficiary is. It is crucial that this clause implies a clear and unambiguous intention of the policyholder to appoint a person as a beneficiary. The beneficiary appointment clause should contain all the information necessary to identify the insurance beneficiary. If the life insurance contract does not specify who the beneficiary is, the sum insured enters into the estate of the policyholder and is divided between his heirs. The same is the case when the user appointment clause is imprecise or void. Thus, the key difference between the case when an insurance beneficiary is appointed and when he is not appointed is reflected in whether the sum insured belongs to the property of the insurance contractor. If the clause on the appointment of the beneficiary is valid, the insured amount belongs to the beneficiary, who directly addresses the insurer. The sum

insured is inaccessible to the heirs of the insurance contractor, as well as to his creditors. This does not mean that no successor can be appointed as the beneficiary of the insurance.

Due to the separation of the sum insured and other assets of the insurance policyholder, the heir who is appointed as the beneficiary of the insurance is entitled to the sum insured, even if he has waived the inheritance right.³¹ If the beneficiary has not been appointed or the clause is invalid or for some reason cannot produce legal effect, the sum insured enters the property of the policyholder, belongs to his heirs and generally shares the fate of his assets (Šulejić, 2005: 486). If more than one beneficiary has been determined, but it is not specified which part of the sum insured belongs to which beneficiary, the sum insured is divided into equal parts if the beneficiaries are not the heirs of the policyholder.³² If the beneficiaries are the heirs of the insurance contractor, the sum insured is divided according to their inheritance shares.

Restrictions dictated by public order

If the life insurance is concluded for the life of another person (ie when the policyholder is not also the insured person!), his consent is required for the appointment of the beneficiary. In this way, the public order in the field of insurance is manifested. A distinction should be made here between the consent given by each insured person for concluding a life insurance contract (consent to be an insured person, because the insured case relates to his life) and the consent for appointing an insurance beneficiary. Consent to the conclusion of a life insurance contract in the event of the death of the insured person is a *conditio sine qua non*. If there is no written consent of the insured person to have his life insured, the contract is invalid. If, on the other hand, the consent of the insured person for the appointment of a certain beneficiary is missing, the contract is valid, but the appointment of that beneficiary is not valid. The insured person can, therefore, veto the appointment of a certain insurance beneficiary (Sokal, 1976).

³¹ Otherwise, in our law, the insured amount and the rights related to the insured amount are treated independently of inheritance relations. See.: V. Kapor, S. Carić, 311-312.

³² "By filing a lawsuit by one insurance beneficiary from a life insurance contract, the statute of limitations of claims of other beneficiaries from the same contract is not terminated." (Judgment of the District Court in Valjevo, Gž. 1688/2005 as of 3.11.2005)

The same applies to any change in insurance beneficiaries. This is an attempt to prevent speculation on other people's lives. If the insurer does not appoint another beneficiary, with the written consent of the insured person, the rule applies that the insured amount belongs to the property of the insurance contractor. The second type of consent, consent for the appointment of the beneficiary, aims to protect the interests of the insured person in relation to the policyholder and the beneficiary.³³

3. ACCEPTING THE BENEFIT

3.1. Beneficiary's personal right

A person who is intended to benefit from life insurance can accept it (which will usually be the case) or reject it. Although the appointment does not require the consent of the user *stricto iuris*, it is possible that he will refuse this transfer of rights for reasons known to him.

A statement of acceptance of life insurance benefits is also a unilateral statement of intent, which can only be made by the beneficiary, at any time after the appointment (Elhabbouli, 2015: 154). This can happen already at the time of appointment or later, even after the death of the insured person. Acceptance of the appointment may be explicit or tacit, which ultimately means that no special form is required. Explicit acceptance is when the user expresses his will by sending the appropriate contractual document to the insurer: thus the policy can provide that the user is considered to have accepted the appointment if he signed the policy, an addendum to the policy or sent a letter to the insurer. The benefit is tacitly accepted by making a statement to the insurer about the occurrence of the insured event. Acceptance can be made at any time before revocation, even after the death of the insured person. After accepting the benefit, the policyholder cannot exercise the rights from the mathematical reserve: to request the

³³ He must be acquainted with the person to whom the sum insured will be due in the event of his death. If there is no trust in that person, ie. if he suspects the existence of a *votum mortis* in respect of him, he shall refuse consent to his appointment as a beneficiary of life insurance. By denying consent to the appointment of a beneficiary, the insured person protects his or her life. French theory points out that otherwise the insured person would give "permission to be killed" (fran.: *permis d'être tué*). Detaljnije: L. Mayaux, „L'attribution du bénéfice“, 235-238.

redemption or advance payment of the sum insured.³⁴ Heirs may require the beneficiary to state whether he accepts the stipulation within one month. If, however, the user refuses the benefit, such a statement has retroactive effect, it will be considered that the appointment of the user has not been made.³⁵ The benefit from the contract will belong to the property of the insurance policyholder. The death of the beneficiary before or at the same time as the death of the policyholder has the same effect. Since the user has not acquired the right to the stipulated benefit, his heirs do not have the right to claim it either.

3.2. The aleatory character of the right to the insured sum

Two principles are relevant for understanding the legal position of life insurance beneficiaries (Belanić, 2018, 146-166). First, the beneficiary acquires his own and direct right to the sum insured at the time of concluding the contract, with the proviso that it may be revoked by the policyholder (Picard, Besson, 1964: 513). His statement on accepting the appointment has no constitutive, but declarative effect.³⁶ He has the right to contact the insurer directly.³⁷ However, the right of the life insurance beneficiary is not direct in the same way as with other contracts in favor of a third party. The aleatory

³⁴ Redemption, complete or partial, has the effect of complete or partial termination of the insurance contract. Therefore, it can no longer be performed for the benefit of the user. For this reason, there is a difference between the legal regime of redemption before and after the acceptance of life insurance benefits. In.: L. Mayaux, „L'attribution du bénéfice“, 286.

³⁵ The silence of the beneficiary also has the significance of accepting the benefits.

³⁶ Contracting in favor of a third party was in principle prohibited in Roman law (*alteri stipulari nemo potest*), although there were exceptions to this rule. Only pandect law allows contracting in favor of a third party, but even then the understanding that the user acquires a direct right from the contract did not prevail. With the development of insurance contracts during the 19th and 20th centuries, this characteristic of contracts in favor of the third party came to the fore. More in: S. Perović, *Obligaciono pravo*, 439-440.

³⁷ In this regard, the amount of the insured amount belongs to the beneficiary from the beginning, it does not enter the inheritance of the insurance contractor. The French Court of Cassation ruled on this at the end of the nineteenth century. See in.: L. Mayaux, „Les droits des personnes intéressées au contrat“, u: Jean Bigot, Philippe Baillet, Jérôme Kullmann, Luc Mayaux (ed.), *Les assurances de personnes*, Tome 4, L. G. D. J, Paris 2011, 314.

character of the insurance contract contributes to the aleatory character and the rights of the insurance beneficiary. Namely, he will be able to receive the sum insured only if the risk covered by the insurance contract is realized within the agreed period. Second, the scope and content of the user's rights are determined by the policyholder in the insurance contract in his favor. Therefore, the insurer can point out to the beneficiary all the objections that he can point out to the insurance policyholder, which have a basis in the insurance contract: risk exclusion, non-payment of the premium, etc. The policyholder has the right to dispose of all rights under the insurance contract, including the revocation of the beneficiary, until the occurrence of the insured event. However, if he has accepted the benefit, the beneficiary has the right to cede the sum insured before the occurrence of the insured event, with the written consent of the policyholder and the insured person.

3.3. Autonomy of the right to the insured sum in relation to the heirs and creditors of the insurance contractor

If the contract is concluded in favor of a third party, the beneficiary acquires a direct right towards the insurer. A statement of acceptance is therefore not relevant to the creation of his right. It is enough that he does not refuse the stipulation in his favor.³⁸

Insurers' creditors have no rights to the sum insured. They cannot collect from the insured amount, nor can they seize it. This guarantees that the insured amount will actually be paid to the beneficiary for whom the insurer intended it. Identical provisions are contained in all laws in comparative law. However, under certain conditions, creditors are granted the right to demand a refund of part of the premiums paid in the name of life insurance. Namely, if the paid insurance premiums are disproportionately high in relation to the property possibilities of the insurance contractor at the time of payment, the creditors can demand that the part of the premium that exceeds those possibilities be returned to them. Since this is a modality of *actio pauliana*, other conditions must be met to refute the debtor's legal actions. Therefore, creditors can get

³⁸ The beneficiary is the creditor of the promitter, and has the right to request the execution of the due prestation in accordance with the contractual provisions.

a certain part of the paid premiums, but not a part of the insured amount, based on the refutation of the legal actions of the life insurance contractor.

One of the controversial issues related to the life insurance contract in favor of a third party concerns the situation that arises when the beneficiary dies before the maturity of the insured amount or annuity. Our Law on Obligations regulates only the case when the beneficiary is determined free of charge. Then the insurance benefit belongs to other beneficiaries, and if there are none to the insurance contractor. The question is what will happen if the beneficiary determined for a fee dies before maturity. The only logical interpretation would be that the benefit from the contract then belongs to the policyholder, by analogy with the rules that apply to insurance without specifying the beneficiary (Ćurković, 140-141).

4. BENEFICIARY REVOCATION

4.1. Revocation before the acceptance of benefits

When it comes to the legal regime of revocation of insurance beneficiary, there are differences according to when the revocation takes place.³⁹ Revocation of the beneficiary before his acceptance of the benefit is the right of the policyholder *ad nutum*, which he can do at the latest until the acceptance of the benefit by the beneficiary, ie until the occurrence of the insured event.⁴⁰ No formality is required for revocation, it is important that the intention of the insurance contractor to revoke the beneficiary is unequivocally expressed (Reglero Campos, 1995: 47-48). Revocation can also be made tacitly. Thus, it is considered that the beneficiary is tacitly revoked if the insurance contractor requests the purchase of insurance from the insurer. But, the mere verbal statement of the contractor that he would like to replace the beneficiary, without changing the beneficiary clause, explicitly or tacitly, is not enough to recall the beneficiary. Likewise, the silence of the insurance contractor on the question of whether he retains the appointment of the beneficiary is not considered a revocation of the

³⁹ It may be debatable whether, in the event of the insolvency of the policyholder, the trustee has the duty to revoke the appointment of the beneficiary and demand payment of the sum insured from the insurer in order to distribute it to the creditors.

⁴⁰ The beneficiary cannot be recalled by the creditors of the insurance contractor, nor by his heirs.

appointment. The validity of the revocation of the beneficiary does not require the consent of the insurer or the previously named beneficiary. But it is useful that the information about the recall reaches the insurer. The revocation of one beneficiary does not have to be accompanied by the designation of another beneficiary.

The termination of life insurance also has the legal effect of recalling the beneficiary. Namely, if the policyholder cancels without a notice period and demands payment of the redemption value, it can be considered that the appointment of the life insurance beneficiary has been tacitly revoked.

4.2. Revocation after the acceptance of benefits

When it comes to recalling the beneficiary after accepting the benefit, the rule is that the acceptance of the beneficiary results in the termination of the right to recall. However, there are deviations from this rule, introduced for the protection of public order in the field of insurance. We have already explained that by accepting the benefit, the user acquires his own right. Nevertheless, taking into account the fact that life insurance is usually a long-term contract and that after the appointment of the beneficiary, the circumstances that motivated the contractor to appoint a certain person as a beneficiary may change significantly, the laws recognize exceptions to the impossibility of recalling the beneficiary. In most rights, two situations are regulated. First, if the beneficiary attempted to kill the insured person.⁴¹ The aim of recalling the beneficiary in this case is to protect the insured person from the risk of re-attempted murder by the beneficiary.⁴² Second, if the benefit from the insurance contract is granted without compensation, the revocation may be made on the basis of the rules on revocation of gifts. The second case is particularly suitable for an insurance policyholder who, after the appointment of a life insurance beneficiary, is faced with a change in the economic circumstances in which he has lived until then. According to the Law on Obligations, if the donor becomes so impoverished after giving the gift that he has no

⁴¹ Although this is not explicitly stated in the Law on Obligations, the same should apply if the user tried to kill the insurance contractor.

⁴² Who can guarantee the insured person that a beneficiary who once tried to kill him will not do the same in the future? The beneficiary must be recalled so that there is no financial motivation to commit the crime. By attempting to kill the insured person, the beneficiary proved himself unworthy.

means of subsistence, and there is no person who is obliged to support him, he can revoke the gift. Also, the gift can be revoked due to the rudeness and ungratefulness of the recipient. By applying this provision, the beneficiary could be recalled if he has committed a criminal offense against the insurance contractor or a member of his immediate family or has committed a serious offense about the legally established duty towards the same persons. As for the deadline for recalling the beneficiary according to the rules that apply to the recall of gifts, it is not determined by law. We believe that the contractor has the right to recall the beneficiary until his death. If the policyholder recalls the beneficiary and does not specify another, the sum insured is from that moment part of his property.

The promiser may be released from the obligation to the beneficiary only if he has refused the benefit from the contract or if the insurance beneficiary has been recalled. In all other cases, the insurer is obligated. Therefore, even if the obligation to the beneficiary has been fulfilled by the stipulator, it does not release the promitter from the same. Although he has the position of a creditor from the contract in favor of a third party, the beneficiary does not have the position of the other contracting party. For the validity of the determination of the beneficiary, his consent is not necessary, even if he is familiar with the contracting of benefits. Also, it follows from the general rules of the law of obligations that the beneficiary has no obligation to accept the agreed benefit. The key moment for his position from the contract in favor of the third party is precisely the acceptance / rejection of the benefit. If he accepts the agreed benefit, the beneficiary acquires his own and irrevocable right. The moment of acceptance of the stipulation (which is usually related to the occurrence of the insured event, but may be sooner or later) makes the determination of the user irrevocable and definitive. From that moment on, the contractor can no longer make changes or terminate the contract. Modification or revocation of rights by the stipulator is possible only if they are explicitly agreed and with the consent of the beneficiary.

The situation is completely different if the naming of the beneficiary is “irrevocable”. In this case, the policyholder has no right to recall the beneficiary or cancel his appointment. Waiver of the right to recall the beneficiary may be agreed at the time of conclusion of the contract or during its duration. An irrevocable appointment creates a right on the part of the beneficiary to demand payment of the sum insured from the insurer at the time of appointment. The policyholder may not

revoke or limit the rights of the beneficiary without his consent. Therefore, the policyholder has no right to pledge or transfer the sum insured, just as he cannot replace the beneficiary or appoint additional beneficiaries. The beneficiary has the independent right to transfer or pledge the right to the insured amount. If the beneficiary dies before the insured person in case of irrevocable appointment, his right is transferred to the heirs.

CONCLUSION

Life insurance for the benefit of a third party is an institution with a dual target function. On the one hand, it provides protection to the insurance contractor, who is the central figure, and on the other hand, it enables him, with all formalities, to appoint a certain person as the beneficiary of the sum insured, thus providing him with immunity from inheritance procedure. The appointment of a beneficiary is especially valuable when it wants to provide a person outside the circle of legal heirs. Although the clause on the appointment of the beneficiary is subject to certain formalities, they are incomparably easier to achieve compared to the appointment of the same person as the successor. The same effect can be achieved with a testamentary clause. But, if the policyholder wants a surprise factor in terms of separating part of the property from the estate, a contractual clause is a better option.

What are the advantages of naming a beneficiary over testamentary assignment of assets? First, a person who can be designated as a beneficiary is any person who has legal capacity. A wider circle of potential beneficiaries makes it easier for an insurance contractor who cares to provide a person outside the circle of legal heirs with the transfer of part of his property or at least a secure income. The circle of beneficiaries is, therefore, wider than the circle of heirs. Secondly, the beneficiary can be determined both in the case of life insurance in case of death, in life insurance in case of survival, as well as in the case of mixed insurance. This further means that testament-like effects can be achieved during the life of the policyholder, and not just in the event of death. Third, if the contractor wants complete freedom with regard to the appointment of the beneficiary, he will have it only if he is also the insured person. If, on the other hand, he

has designated another person as insured, he will need the consent of that person to appoint the beneficiary.

Following the example of French law, a life insurance contract should contain information relating to the consequences of appointing a person as a beneficiary of insurance rights.⁴³ Such a change in the regulatory framework is necessary. Since the appointment of a life insurance beneficiary is a personal act of the policyholder, which achieves the effect of testamentary disposition of property without formally drawing up a will, the consequences of the product require the policyholder to familiarize themselves with them in detail before making a legally binding statement.

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Corresponding author: milan.vemic@fppsp.edu.rs

ON THE POTENTIALITIES OF AN INNOVATION COUNCIL CONCEPT IN THE BELARUSIAN RESEARCH AND TECHNOLOGICAL DEVELOPMENT

Milan Vemić

Faculty of Business Studies and Law,
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: milan.vemic@fppsp.edu.rs

Olena Hrechishkina

Faculty of Economics and Finance, Polesky State University, Pinsk, Republic of Belarus
e-mail: l_grechishkina@mail.ru

Maryia Samakhavets

Faculty of Economics and Finance, Polesky State University, Pinsk, Republic of Belarus
e-mail: samkhvec@rambler.ru

***Abstract:** A major problem for institutional actors is ensuring that the current status and prospects of the Belarusian innovation policy are upgraded. An assessment of the environment for research and technological development is carried out on the basis of Belarusian official statistical indicators and State program documents. Research results indicate the need to further modernize the environment for conversion of research results into innovative and improved services and products for Belarus to become more competitive in the world market place which would elevate the country's development level. This implies modernizing the institutional framework for stimulating innovations. The authors particularly take into consideration the accomplishment of an EU approach towards innovations and the suggested concept for the Belarusian innovation coordination model is based on introducing an “innovation council”. After analyzing and discussing innovation performance in Europe a simple correlation model demonstrates that countries with an innovation council achieved superior innovation performance. This institution could be responsible for the successful innovation performance. It coordinates policy, which is then in a better position. Findings also*

suggest that substantial benefits for SMEs could be ensured by developing an open innovative development and by introducing competitiveness changes at enterprise level.

Key words: *innovation policy; research and technological development; SMEs; innovation council; EU; Belarus.*

INTRODUCTION

Dynamizing development of innovations is one of the most promising directions in modern economic and business development. For example, in the disk drive industry rapid basis of competition involved factors of capacity, size, reliability, (Christensen, 2011, pp. 212-216), innovation, price and collective investments in education and access (Day, Schoemaker & Gunther, 2000, pp. 133-134). Innovatively active organizations also become more competitive by turning weaknesses into strengths (Christensen, 2011, pp. 219-220) and by using alliances to build competitive advantage (Porter, 1985) in emerging technologies (Day, Schoemaker & Gunther, 2000, pp. 358-375). They create new needs, services, jobs, ensure investment flows, reduce the cost of goods, improve the company and national image, etc. Manufacturing of high-tech products not only enables but also strengthens the external sector of the economy thus improving the trade balance and finally, it leads to an increase in living standards and protection of the environment.

The authors consider an innovative environment as a part of a changing business environment that potentially facilitates an innovative activity of enterprises (Hrechyshkina, Samakhavets, 2019; Vemić, 2017a; Vemić, 2017b). Innovations of Belarusian enterprises are determined by both internal enterprise level innovation capability and external environment fostered by innovation policy at the national level. In fact, the external environment can both create restrictions and promote innovative business development. Our study leads us to conclude that successful innovative development of Belarusian businesses requires an enhancement of an environment for development and dissemination of innovations.

The need to introduce innovative technologies derives from the scientific and technological changes arising globally and the competitive struggle between countries in the high-tech marketplace (Gusakov, 2015). As noted earlier (Hrechyshkina, Samakhavets, 2018), human potential of Belarus seems sufficient for the development

of innovative intellectual services. However, it is important to use it for the development of the IT sector, innovative clusters, as well as to expand SMEs' potential. Therefore, the aim of this paper is to examine the current situation and development perspectives of an innovative policy environment in the Republic of Belarus which could potentially foster a competitive and diversified economic base.

Research of the authors will indicate that currently there exist policy and practical limitations for improving an innovative environment in Belarus. Improvements require intensified interaction of the business and science sectors through further development of innovation policy management in order to create more comfortable enabling conditions for R&D partnerships of public and private sectors involved in innovation developing activity.

This article is divided into seven sections. Section I presents the introduction describing the approach. Section II shows the theoretical background and methodology. The main characteristics of the innovative environment in the Republic of Belarus are discussed in section III by illustrating its current situation and main development perspectives. In section IV authors use correlation as a statistical technique that can show whether, to what extent and how strongly the pairs of innovation variables are interconnected. In section V authors integrate the results of their analysis with their innovation coordination mechanisms and competitiveness models. The last section provides some concluding remarks and proposals.

1. THEORETICAL BACKGROUND AND METHODOLOGY

The innovation system in Belarus has common roots and expresses joint problems with the Russian national innovation system, such as low financing potential, poor efficiency in many business sectors, significant state involvement, poor marketing of research and development results, as well as low capacity networking institutions and partnerships (Gupta et al., 2013). Russian authors also actively researched the national innovation system (NIS) to identify different areas of its development (Eremina, Demina, 2015; Golichenko, 2006; Suglobov, Smirnova, 2015, etc.). Having in mind the nature and purpose of this paper the authors would like to single out the following

Belarusian scientists who are actively engaged in the area of innovation research: Babosov (2012), Myasnikovich (2004), Nikitenko (2006), Sechko (2008).

For example, Eremina and Demina (2015) pointed out the problem of weak interaction between science and production and emphasized the contradictory goals and objectives of scientists and investors as some of the main difficulties of Russian innovation system. This may have spilled over into Belarus. They saw the State as the leading link in the complex innovation system of interrelations and argued that it should necessarily participate more actively and perhaps differently in the development of innovations. Furthermore, scientists offered various directions for the development of innovation systems. For example, Suglobov and Smirnova (2015) proposed a network model of scientific, educational, industrial, and business organizations. Similarly, Moulaert and Sekia (2003) examined the territorial innovation models. Leydesdorff and Etzkowitz (1998, 2000) offered the model of effective interaction of university, education, industrial production and government sectors.

Important new approaches also include the so-called open innovation model, still not observed in the Belarusian innovation system. Originally it was Chesbrough (2003) who defined the term “open innovation”. He discovered that with broad-based dissemination of knowledge and technology companies should not exclusively rely on their internally developed knowledge, ideas, experiences and that they should reap the benefits of applications developed and disseminated within other business enterprises, among their customers, clients and other external stakeholders. Therefore, this concept suggests restructuring or even reengineering companies in order to transition from a closed towards an open strategic model (Chesbrough, Vanhaverbeke, West, 2006). Consequently, it derives from this approach that open innovation can be defined as business model that combines internal and external business processes benefiting from innovation, research and development. Following his discovery, Chesbrough (2011) further developed his theory of an expanded open innovation model suggesting then broader use of “open service innovation” including both product and service innovations in order to practically apply R&D as a way of doing business and achieving competitive advantage of companies (Porter, 1985).

The study of the innovative environment in the Republic of Belarus is based on the investigation of the modern innovation system, the assessment of scientific and

innovative development (based on the official statistical indicators for the years 2011-2019).

In the study and treatment of the presented material, the authors used scientific methods such as systematization, classification, comparison, scientific abstraction, analytical method, statistical analysis, correlation and modeling. Correlation as a statistical technique is used to analyze whether and how strongly the pairs of innovation variables (ranks) are interconnected. Determining rank correlation is one way to use this technique. The presence of correlation is not a confirmation of the existence of a causal relationship between statistical phenomena. Authors don't imply correlation is caused by an innovation council but it can serve as a signal to signify achievements similar among countries that introduced it. The correlation coefficient of the English psychologist Charles Spearman (ρ) is calculated according to the formula (Spearman, 1904):

$$r = 1 - \frac{6\sum d^2}{n(n^2 - 1)} \quad (1)$$

In the second instance, the correlation coefficient of the English statistician Maurice Kendall (τ) is calculated according to the formula (Kendall, 1943):

$$\tau = \frac{S}{\frac{n(n-1)}{2}} \quad (2)$$

In the current research Kendall's rank correlation coefficient, which generally shows lower values than Spearman's coefficient, is an alternative and supporting evidence.

With both coefficients it shall be assumed that pairs of innovation ranks are independent, that they are measured on the ordinal scale and that there is a monotonic relationship between the two variables. Modeling as a technique will be used to integrate correlation and analysis with innovation coordination mechanisms and competitiveness factors at enterprise level.

2. THE CURRENT STATE AND TRENDS OF BELARUSIAN ENVIRONMENT FOR DEVELOPMENT OF INNOVATIONS

The policy environment for development of innovations in Belarus includes a combination of public authorities, business entities and individuals which are related to innovations. The currently existing Belarusian model of relations between entities in the innovation sector is represented by the authors organizationally as follows (see Figure 1).

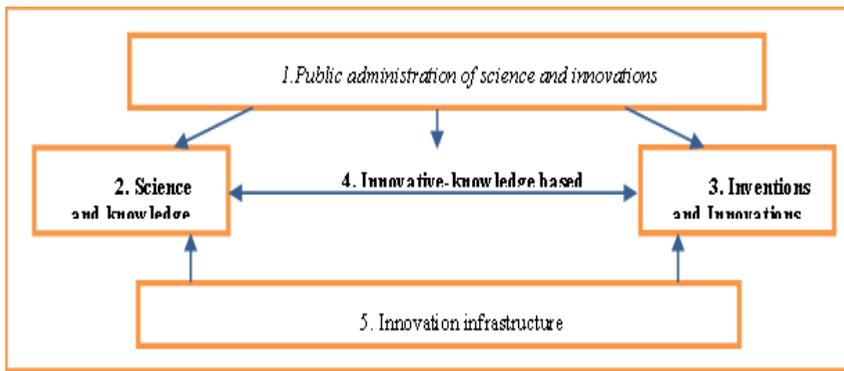


Figure 1. Existing interaction between various participants of the Belarusian national innovation system (NIS) (Source: own study and presentation of the authors)

Authors discuss the existing potential of Figure 1 in more detail. The public administration system (1) includes State administration bodies of science and innovations. The Science and Innovations Policy of Belarusian government is being implemented in order to create more favorable conditions for innovative development of all economic entities. Specifically, the public administration of science and innovations in Belarus is implemented by the President, the Council of Ministers and the National Academy of Sciences. As such innovation performance is mainly achieved through forecasting organization of technological development, implementation of technical regulations and standardization.

Science and innovations (conversion of acquired knowledge into practice) are the basis of the NIS. Also, from Figure 1, the system of knowledge production (2) is based

on interaction of education and science sectors. The knowledge application system (3) includes commercial and non-commercial organizations and incorporates education (including clusters). This block is represented by a large number of organizations and individuals engaged in the implementation and (or) ensuring the interaction of science and innovations in the Republic of Belarus. The interaction of science (2) and innovations (3) occurs through activities involving knowledge based dissemination of innovations (4).

Innovative organizations are prominent in the innovative development of any country, since they finance, create and establish up-to-date products and technologies. Consequently, R&D organizations in the Republic of Belarus operate in various sectors: public, commercial, non-profit sectors, and in the higher education system. Their performance and dynamics is presented by our findings in Table 1.

Table 1. Measured dynamics of the R&D organisations in Belarus

Indicators	2011	2012	2013	2014	2015	2016	2017	2018	2019	$\Delta 2019/11$
Total R&D units & organisations	501	530	482	457	439	431	454	455	460	0.92
Year to year growth rates, %	-	105.8	90.9	94.8	96.1	98.2	105.3	100.2	101.1	-
Including										
No. units of public organisations	96	104	98	94	87	90	93	90	89	0.93
Year to year growth rates, %	-	108.3	94.2	95.9	92.6	103.4	103.3	96.8	98.9	-
No. commercial organisations	331	352	317	294	286	277	286	287	296	0.89
Year to year growth rates, %	-	106.3	90.1	92.7	97.3	96.9	103.2	100.3	103.1	-
No. high education organisations	70	70	64	66	64	61	72	76	74	1.06
Year to year growth rates, %	-	100.0	91.4	103.1	97.0	95.3	118.0	105.6	97.4	-
No. of non-profit organisations	4	4	3	3	2	3	3	2	1	0.25
Year to year growth rates, %	-	100.0	75.0	100.0	66.7	150.0	100.0	66.7	50.0	-

(Source: Own calculation based on National Statistical Committee of the Republic of Belarus, 2020.)

Table 1 shows that quality wise the structure of the scientific complex in the Republic of Belarus did not change significantly and that indicators were clearly volatile with many ups and downs in the observed period 2011-2019. Year to year growth rates for several indicators were negative in the period 2014-2016. The total number of R & D units and organizations in the Republic of Belarus actually decreased by 41 units (8.2%), 2011-2019. Similarly, between 2019 and 2011 the number of public organizations decreased by 7 units (7.3%) and commercial organizations by 35 units (10.6%). The number of higher education organizations increased by 4 units (5.7%) which represents a positive but insufficient development. The number of non-profit organizations remained very small and ranged from 2 to 4 units throughout the studied period. The share of public organizations in R&D accounted for 19.3%, commercial organizations 64.3%, higher education organizations 16.1%, and non-profit organizations 0.2% in 2019. It should be noted that innovation activity in Belarus is still dominated by large enterprises and practically does not involve SMEs (United Nations Economic Commission for Europe, 2017). However, this problem is typical for the entire modern business environment of the Republic of Belarus and increase in the role of SMEs in the total GDP is one of the major identified tasks for the period until 2030 (Hrechyshkina, Samakhavets, 2019).

By cross-referencing results of table 1 with the model from figure 1 suggested is that Innovation infrastructure enabling mechanisms (item 5 from figure 1) should include a set of entities engaged in the material, technical, financial, organizational, methodological, informational, and consulting activities. Presently the actors of Belarusian innovative infrastructure involve innovation and engineering centers, innovation funds, venture capital organizations, science parks, and technology platforms. In addition, other institutions (legal, financial, and social) ensure the functioning of the innovation system as a whole (e.g. legal regulation of this sphere and the innovative culture of society).

According to the current Science and Technology Strategy of Belarus, development of innovative co-operation by including all participants of development processes in a single chain of the innovation cycle and strengthening interaction of science (item 2 from figure 1) and innovations (item 3 from figure 1) seem to be promising areas for improving the innovative environment of the Republic of Belarus (Strategiia Nauka i

tekhnologii: 2018-2040, 2017). As a result, State support system for cluster projects in the high-tech sector will be created with international technical assistance to stimulate this process. Modernization of public administration of the innovation system (item 1 from figure 1) is aimed at the State support for the formation of innovative and industrial clusters in the high-tech sector. Improvement of planning and evaluation of the innovative development is also in strategy.

Advancement of Innovation infrastructure enabling mechanisms (item 5 from figure 1) should be carried out through the creation of collective technological use centers, with unique scientific equipment, and industry laboratories for testing and disseminating the scientific results into industry. It is also envisaged to further use the potential of cooperation with the private sector and its deeper involvement in development and dissemination of innovation. It is recommended to create an effective organizational and economic mechanism for the commercialization of innovations, including through the entry of the Belarusian Innovation Fund into the founding capital of business entities created in this manner.

One of the significant problems is that the relevant policies in the field of innovations, science, training, SMEs and entrepreneurship, regional development of different business entities are usually managed only by government ministries and their departments handling separate portfolios, objectives and components of an innovation support infrastructure.

This presently fragmented institutional approach is inappropriate to manage major innovation issues within the NIS. The discussion on innovation management has become very dynamic and has intensified in recent years due to the increased complexity of national innovation policies which foster the development of a multi-actor innovative environment. Innovation policies have become more and more concerned with handling not only the elements of the innovative environment but also the relationships and collaboration between them that should lead to integrated national innovation policy. Hence, it is clear from this finding of the authors that interrelated and cross-departmental innovation issues demand cross-departmental concepts and solutions discussed through open innovation and competitiveness models discussed in next sections.

3. MAJOR COORDINATION MODELS AND ANALYSIS OF SME INVOLVEMENT TRENDS IN INNOVATION PROCESSES

In the past two decades there have been worldwide fundamental advances in our theoretical understanding of the working of innovation coordination.

In the EU, the European Commission produced a communication on a data-driven economy (European Parliament, 2001) followed by a second communication titled “Innovation in a knowledge-driven economy” (European Commission, 2004). Noticed EU approach was based on five main objectives (European Commission, 2009), focused on enhancing potentiality of member countries to resolve barriers hampering a more innovation-fostering environment.

At present these are the most significant innovation coordination mechanisms which can be distinguished in the EU:

High-level advisory committees, or councils, for managing a strategic framework (i.e. Finland, Ireland, Portugal). Efficient and simplified functioning decision making in consultative mechanisms at higher hierarchical levels lower than government ministries have been developed in these countries.

Responsibility for coordination assigned to one Minister or Department, which results in enhancing coordination mechanisms at interdepartmental level (i.e. UK, Sweden).

Formation of one Ministry with managing the entire knowledge production and implementation chain (i.e. Denmark).

It should be noted that an innovation council is not entirely an EU innovation policy development. This article focuses on EU and Belarus because of their proximity and presently it is beyond its scope to analyze innovation policies of other countries and territories. However, authors must emphasize that in United States many federal states such as Iowa (IIC, 2022) use innovation councils for policy or industry development. Japan established an open innovation council in 2017 (JOIC, 2022) which is led by private businesses and in which The New Energy and Industrial Technology Development Organization (NEDO) serves as the secretariat for the JOIC.

Both Russia and Kazakhstan have innovation councils in a variety of fields related to education and economy. In the Community of Independent States there exists an Interstate Council for Cooperation in Scientific, Technical and Innovation Spheres (CIS, 2022). Therefore, the existence of similarities and correlation with these and other countries using innovation councils strengthens the results of this analysis and recommendations for Belarus arising from research in this article.

Based on available empirical data, it can be observed that the EU approach to form a more innovation-fostering environment for business shows its effectiveness in practice.

Table 2 demonstrates a high level of development of SMEs involvement in the innovation processes, especially for product innovation in Finland, Netherlands, Portugal and Ireland for process innovation. Germany, France and Lithuania were also high performers while new EU entrants seem to be lagging behind.

Innovation performance ranking of the EU and Belarus is herewith analyzed on the basis of data provided in Table 2, followed by the correlation analysis of authors.

Table 2. Development of SMEs Involvement in Innovation Processes (Comparison of EIS indicators of Belarus and selected EU member countries)

Country	SMEs introducing product innovations (Regional)				SMEs introducing business process innovations (Regional)				Innovative SMEs collaborating with others (Regional)			
	Rank 2019	Value 2019	Rank 2014	Value 2014	Rank 2019	Value 2019	Rank 2014	Value 2014	Rank 2019	Value 2019	Rank 2014	Value 2014
Finland	1	227,38	5	144,71	4	168,62	11	112,57	5	265,49	7	172,57
Portugal	2	212,61	9	115,52	1	210,41	2	165,03	16	112,50	18	73,75
Netherlands	3	184,92	2	160,58	13	127,08	16	92,64	7	174,83	6	174,90
Italy	6	154,42	7	139,94	10	135,80	3	157,59	22	59,99	23	47,58
Germany	7	151,59	1	180,18	12	130,54	13	110,86	18	96,93	13	136,38
Ireland	11	134,49	8	126,64	5	154,45	6	137,88	13	137,31	11	142,49
France	12	124,87	14	101,36	6	154,23	9	133,02	8	160,60	14	135,45
Lithuania	13	120,15	21	20,37	8	143,31	21	58,69	6	204,64	16	83,29
Estonia	16	81,08	17	81,39	14	115,00	17	90,49	1	308,42	2	192,28
Latvia	23	31,59	23	13,23	22	42,74	24	42,29	23	58,01	24	43,75
Bulgaria	24	28,56	22	16,12	24	14,03	25	21,63	25	32,25	26	14,71
Spain	25	17,63	25	13,03	20	70,45	22	51,38	20	68,97	20	63,88
Poland	26	6,83	26	2,86	26	5,15	27	8,02	24	43,19	25	34,97
Belarus	27	3.86*	27	3.07*	27	0.82**	28	0.87**	28	0,39	27	0,4
Romania	28	0,00	28	0,00	28	0,00	26	18,18	27	6,76	28	0,00

Note:

*This indicator for Belarus includes product or process innovation;

**This indicator for Belarus includes marketing or organizational innovations

(Source: Own calculation based on (National Statistical Committee of the Republic of Belarus, 2020; European and Regional Innovation Scoreboards, 2019))

Table 2 reveals that for all three criteria and for both observed years (2019 and 2014) Belarus maintained the rank of 27 or 28 together with Romania and Poland. Poland has an innovation council since 2016 and in Romania it existed 2011/2012. It also derives from Table 2, that the success of a sustainable “innovation council” management model implemented in several researched EU countries (i.e. Ireland, the Netherlands, Portugal, and Finland) clearly contributes to their superior performance. Although innovation council is not the only factor, it seems to be an optimal approach to further upgrade the Belarusian innovation policy management at this stage, for these main reasons identified in our paper:

The character of innovations (e.g. fast developing, dynamic and cross-functional) currently demands the participation of a broad group of stakeholders, both from the public and the private sector. There are a growing number of different actors involved in innovation management. Therefore, it seems logical that a coordination mechanism at a high enough level could prove to be successful in fostering innovation and competitiveness.

Trends and statistics from recent years reveal that there is a growing portfolio of innovation measures and instruments at the disposal of innovation mechanisms. This development imposes the need for systematic approach, transparency, and high level of public responsibility.

With the availability of several unequal support models for the innovative development using State budget or government financial resources, there seems to be a growing necessity for recording that spending of funds is performed rationally and effectively.

The increasing autonomy of development regions imposes growing necessity of coordination with these entities to achieve optimum innovation effects. Without this

approach, nations risk lack of developmental synergy, and poor performance with implementation of national priorities.

The current development of national innovation policies is characterized by the fact that it interplays either directly or indirectly with practically all other economic and development policies of the country.

It should be noted that there isn't one single department able to manage and coordinate the whole set of measures with which innovation policy should be consistent with. Therefore, several EU member countries streamlined their innovation and/or research councils to interact with the Enhanced European Innovation Council (EIC), (European Commission, 2019), whose mission is to support scientists, innovators, entrepreneurs, and SMEs with fresh ideas and ambition to grow competitively and internationally.

Correlation analysis of empirical evidence on innovation ranks among selected countries which introduced an innovation council

Table 2 indicated the innovation values and ranks. We shall now show whether and to what extent pairs of observed years (2019 and 2014) of innovation ranks on SMEs introducing product innovations, SMEs introducing business process innovations and innovative SMEs collaborating with others correlate with each other in terms of performance achieved by Finland, Portugal and the Netherlands. These are the countries, which were top performers on product innovations in 2019 and have previously introduced an innovation council currently missing in the Belarus policy environment.

Table 3. Correlation of ranks on SMEs introducing product innovations

	Overall rank in 2019	Overall rank in 2014	Rank against each other in 2019	Rank against each other in 2014	d	d ²
Finland	1	5	1	2	1	1
Portugal	2	9	2	3	1	1
Netherlands	3	2	3	1	-2	4
					Σ d ²	6

(Source: Own calculation based on (National Statistical Committee of the Republic of Belarus, 2020), (European and Regional Innovation Scoreboards, 2019))

We calculate Spearman’s coefficient of correlation:

$$r = 1 - (6 \times 6) / 3(3 \times 3 - 1) \rightarrow r = 1 - (0 / 3 \times 8) \rightarrow r = 1 - 1.5 \rightarrow \text{Therefore } r = -0.5$$

We calculate Kendall’s coefficient of correlation:

1	2	3		
2	3	1		
1	0	-		
-1	0	-		
0	0	-	Total 0	Therefore $\tau = 0/0 = 0$

Table 4. Correlation of ranks on SMEs introducing business process innovations

	Overall rank in 2019	Overall rank in 2014	Rank against each other in 2019	Rank against each other in 2014	d	d2
Finland	4	11	2	2	1	1
Portugal	1	2	1	1	0	0
Netherlands	13	16	3	3	0	0
					$\Sigma d2$	1

(Source: Own calculation based on (National Statistical Committee of the Republic of Belarus, 2020), (European and Regional Innovation Scoreboards, 2019))

We calculate Spearman’s coefficient of correlation:

$$r = 1 - (6 \times 1) / 3(3 \times 3 - 1) \rightarrow r = 1 - (6 / 3 \times 8) \rightarrow r = 1 - 0.25 \rightarrow \text{Therefore } r = 0.75$$

We calculate Kendall's coefficient of correlation:

2 1 3
 2 1 3
 1 0 -
 -1 0 -
 0 0 - Total 0 Therefore $\tau = 0/0 = 0$

Table 5. Correlation of ranks on innovative SMEs cooperating with others

	Overall rank in 2019	Overall rank in 2014	Rank against each other in 2019	Rank against each other in 2014	d	d2
Finland	5	7	1	2	1	1
Portugal	16	18	3	3	0	0
Netherlands	7	6	2	1	1	1
					$\Sigma d2$	2

(Source: Own calculation based on (National Statistical Committee of the Republic of Belarus, 2020), (European and Regional Innovation Scoreboards, 2019))

We calculate Spearman's coefficient of correlation:

$$r = 1 - (6 \times 2) / 3(3 \times 3 - 1) \rightarrow r = 1 - (12 / 3 \times 8) \rightarrow r = 1 - 0.5 \rightarrow \text{Therefore } r = 0.5$$

We calculate Kendall's coefficient of correlation:

1 3 2
 2 3 1
 1 0 -
 -1 0 -
 0 0 - Total 0 Therefore $\tau = 0/0 = 0$

Table 6. Interpretation of correlation coefficients

Criteria for interpretation of correlation	Interpretation of correlation values	Description
Value for r and τ is always between -1 and 1	$0,00 - 0,19$	Very weak correlation
$r=0$ and/or $\tau=0$ means no connectedness	$0,20 - 0,39$	Weak correlation
$r>0$ and/or $\tau>0$ positive correlation	$0,40 - 0,69$	Moderate correlation
$r<0$ and/or $\tau<0$ negative korrelation	$0,70 - 0,89$	Strong correlation
Greater $ r $ and/or $ \tau $ higher connectedness	$0,90 - 1,00$	Very strong correlation

Source: own presentation of authors

On all criteria Kendall's coefficient showed very weak correlation. On SMEs introducing product innovations Spearman's coefficient of correlation was moderately negative, on SMEs introducing business process innovations Spearman's coefficient of correlation was strong, and on Innovative SMEs collaborating with others Spearman's coefficient of correlation was moderate. We conclude then in our interpretation that Finland, Portugal and the Netherlands as innovation leaders that introduced an innovation council were not correlated in terms of product innovation performance while in terms of business process innovations and SMEs collaborating with others their ranks were moderately to strongly correlated. This finding is lesson learned for Belarus. If it potentially decides to introduce an innovation council, it might help in terms of business process innovations and SMEs collaborating with others. Factor product innovation requires further research.

4. ELABORATION OF FURTHER DEVELOPMENT OF NEW INNOVATION COORDINATION MECHANISMS IN BELARUS

From a government point of view an effective science and technology policy logically demands coordination mechanisms. Similarly, there is the need for coordination between the ministries responsible for economic-regional economic development, education, and science sectors as well. An effective coordination and accomplishment of national innovation policy calls for efficient practical measures to remove obstacles, foster partnerships and R&D.

Countries are increasingly evolving towards innovations, effective technology and science seeking a competitive approach globally. In fact, all countries are trying to improve coordination and integration. Overall the innovation models in the benchmarked EU countries (i.e. the Netherlands, Portugal, and Finland) from table 2 can be characterized as a constant national and enterprise learning process in adapting organizations and practices in order to meet both external and internal challenges. Senge et al. (1999) effectively discuss it.

However, it should be noted that good practices cannot be simply copied from one country to another as the circumstances are different. It seems that Belarus could adapt the innovation approaches in order to improve performance from table 2 where the country is clearly lagging behind most competitors. The mentioned benchmark countries of the analysis do provide initial information which can serve initially to improve the efficiency and the effectiveness of the innovation management system in Belarus.

One of the main objectives of Belarusian innovative development for the future is “Development and improvement of the NIS”. Before presenting proposals the authors herewith discuss and analyze some aspects of Belarusian NIS and point out observed priority questions:

1. It is recommended to intensify the transfer of technologies between State and business (especially emerging SMEs) for both innovations and research. Industry involvement ought to be generated in advance for long-term public sector research programs. Financing is clearly seen as one of the main obstacles to the provision of business and research services to enterprises and more intensive science-industry co-operation.
2. Significant aspects of innovation policy should be optimized with horizontal support of business innovations and by developing targeted support for attraction of risk capital in specific technology areas.
3. It is recommended to increase the amount of research of commercial organizations and finance a share of total R&D and innovations. There are two aspects of this question: increase the knowledge capability in view of industry’s added value capacity as well as its potentiality to borrowing knowledge from outside offered by the elaborated model of open innovation.

The authors already proposed earlier a re-engineered model of Belarus NIS (see Figure 2), which suggests that external and internal innovations are integrated in coordination with available innovation infrastructure involving an innovation council.

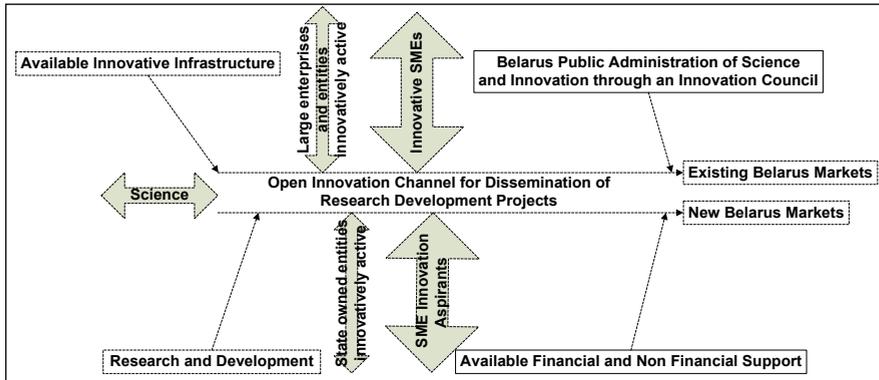


Figure 2. Proposed re-engineered model of Belarus NIS allowing dissemination of open innovation. (Source: Vemić, Hrechyshkina, Samakhavets, 2021, p. 92.)

In the proposed concept, enterprises share the innovation road map, align their business model with those of stakeholders and incorporate the support of the policy makers which already exist in Belarus, while focusing on new business opportunities as well as current business operations. Enterprise business models and approaches of the stakeholders are interconnected in the suggested open model and, therefore, innovations become a much more significant criterion in their development. Furthermore, innovations management does become the responsibility of every unit in an enterprise while intellectual property is considered as a “strategic business asset”. The authors are led to think that a re-engineered model is able to share substantial advantages for a wide variety of Belarus stakeholders. The authors identified the main advantages of the model which could especially benefit SMEs:

- Opportunity to cooperate with large enterprises, value chains and major innovators.
- Insight into best practice in Research & Development & Innovation Management.

- Benchmarking own performance in innovation management with relevant qualitative tools.
- Business interventions are identified to fill innovation gaps as compared to the best industry benchmarks.
- Opportunity to establish links with R&D institutions.
- Testing Belarus own innovation management performance with relevant quantitative tools.

Fundamental functions and coordination activities of the proposed Innovation Council could include IBNLT: awareness creation, shaping an innovation agenda, establishment and adjustment of innovation priorities in the national system. In principle, based on discussed best practices from EU and other parts of the world it is proposed that the Prime Minister could chair the Innovation Council while Cabinet members in charge of the economy, science and education could be functional members. In addition, a number of chief executive officers from Belarusian innovatively active organizations as well as a number of top scientists active in research and development could be valuable members. A small number of members could be invited from other circles such as business associations, major universities and academia. Finally, a small select committee from the Government of the Republic of Belarus could conceive and propose to Parliament the Charter of an appropriate national Innovation Council including membership and responsibilities.

Integrating the factor of competitiveness in an improved innovation model

At the time of preparing this study, Belarus is still not present in the Global Competitiveness Index ranking (GCI 4.0, 2022) which makes comparative analyses more difficult. However, the potential place of Belarus in GCI ranking could have been between 55th and 61st place according to the last CASE Belarus analytical papers (Akulich et al., 2015). That particular analysis further confirms a relatively low innovative activity of organizations in Belarus, and their technological backwardness, which is the reason for the poor competitiveness of Belarusian products in foreign markets. These findings (Akulich et al., 2015) coincide with the EIS indicators of Belarus from table 2. Absence from GCI is a weakness requiring attention and alliances to build

competitive advantage (Porter, 1985) in emerging technologies (Day, Schoemaker & Gunther, 2000, pp. 358-375). In addition, the re-engineered Belarus NIS on the innovation policy side from figure 2 also requires a supplemental enterprise development model which can serve to improve competitiveness through organizational innovation and learning (Senge et al.,1999), as shown in Figure 3.

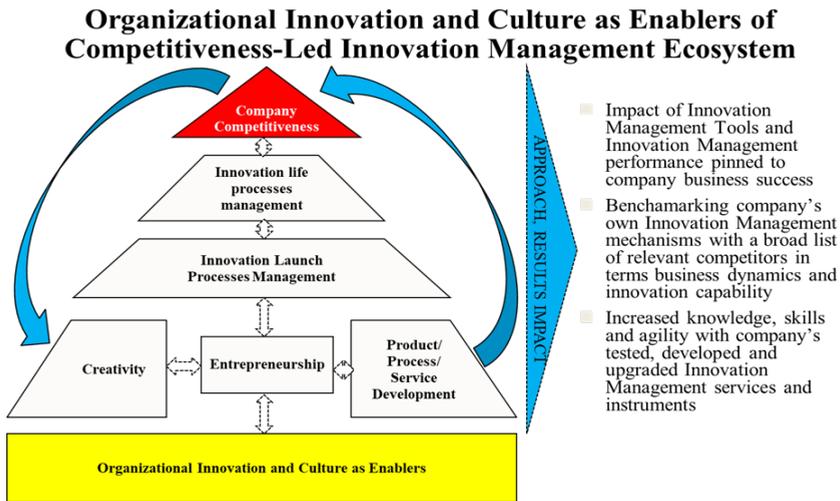


Figure 3. Enterprise level organizational innovation and culture as enablers of competitiveness-led innovation management ecosystem.
(Source: model of the authors)

Figures 2 and 3 show that we relate national systems and policies with organizational innovation and culture as enablers of the competitiveness-led innovation management ecosystem. The division between the two no longer arises in our description. In subsequent papers we are going to expand this type of description so as to include additional factors. In doing this, we shall go into more detail as to how policy levels and enterprises levels come together into a distinct whole.

CONCLUSION

It derives from the author's findings that it is necessary to further develop an innovative policy environment in Belarus by using existing infrastructure in combination with new models, possibly related to an innovation council. Improvements are also needed at enterprise level, particularly in areas from figure 3. The authors outlined the EU performance towards innovations and EU's innovation management system by means of introducing an innovation council. The key reasons for establishing such systems are discussed and recommendations for the most appropriate coordination model in Belarus innovative environment were suggested.

The new NIS could consist of traditional elements for all countries and those which are tailored and improved specifically for Belarus. The promising direction in advancement of the NIS lies in the improvement cooperation in development and dissemination of innovations, i.e. strengthening partnerships for interaction between science and innovations which are areas in which innovation leaders such as Finland, Portugal and the Netherlands performed well after introducing an innovation council. This opens a new hypothesis, which requires future additional research, that in countries which recently introduced innovation councils such as Poland and Romania business process innovations and innovative collaboration can also advance as table 2 suggests.

It should be noted that presently the development level of science and innovations in Belarus doesn't facilitate monitoring active innovations, which could also be an area for involvement of an innovation council. In fact, in the period 2011-2019 the total number of R&D organisations in Belarus decreased by 8.2%, the total number of employees engaged in R&D – by 11.2%, the total number of organisations engaged in innovations – by 0.9%. In the structure of the scientific complex, 64.3% were commercial organisations and 90.5% of the total volume of scientific and technical work in 2019 was performed in-house which proves the thesis of authors that an open innovation model is not used. This conclusion coincides with the correlation analysis which reveals that there is potential for SMEs to introduce business process innovations by innovatively collaborating with others.

The above analysis highlights the prospects of the NIS in Belarus through strengthened horizontal coordination mechanisms, strengthened transfer of

technologies between public institutions and the private sector, restructuring the fragmented and weakly supportive innovation infrastructure, improving the innovation support sub-system including financing. Second, this would provide qualitative conditions for organizational learning modelled in figure 3, and using culture as enabler of economic competitiveness and growth, leading to elevation of the development level of the Republic of Belarus which is a long-term vision.

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Corresponding author: kaca_zivanovic@yahoo.com

“RELATIVIZATION” OF THE PRINCIPLES OF MUTUAL RECOGNITION AND MUTUAL TRUST BETWEEN EU MEMBER STATES: THE CASE LAW OF THE EU COURT OF JUSTICE

Katarina Živanović

Ministry of Interior of Republic of Serbia, Belgrade, Republic of Serbia
e-mail: kaca_zivanovic@yahoo.com

Siniša Dostić

Faculty of Business Studies and Law,
”Union – Nikola Tesla” University, Belgrade, Republic of Serbia
e-mail: sinisa.dostic@fpp.edu.rs

Abstract: *The principles of mutual recognition and mutual trust between EU member states, are an irrefutable precondition for efficient and facilitated cooperation of competent judicial bodies in the field of criminal law, which is a condition for successful fight against cross-border crime. Despite the indicated importance, the realization of the stated principles cannot be done at the expense of the protection and respect of basic human rights, since the EU law is based on their proclamation, respect and protection. Achieving efficiency and facilitating judicial cooperation while respecting basic human rights was ensured by the first measure adopted in the light of the principles of mutual recognition and mutual trust. It’s about the European Arrest Warrant (EAW) established by the Framework Decision on the European Arrest Warrant (FDEAW). The FDEAW prescribes the conditions of execution, as well as the grounds for mandatory or possible non-execution of the EAW. However, in the practice of applying the EAW, the question arose of the possibility of non-execution or delaying the execution of the EAW in cases not provided for in the FDEAW. The Court of Justice of the European Union (CJEU) has found that the execution of the EAW in exceptional cases may be postponed out of the FDEAW. The stated opinion of CJEU is justified from the aspect of protection of absolute rights of individuals regulated by both EU law and the The Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR), bearing in mind that their protection, ie prohibition of inhuman and degrading treatment cannot be subordinated to efficiency and facilitation of judicial cooperation.*

Keyword: *Mutual Recognition and Mutual Trust, European Arrest Warrant, Prohibition on Inhuman and Degrading Treatment, The EU’s Court of Justice Case Law*

INTRODUCTION:

The need for faster and easier cooperation based on mutual recognition of decisions (in the field of criminal law) was recognized and emphasized in mid-June 1998 in Cardiff by the United Kingdom. Recognition of this need is the result of finding the best way to apply the provisions of Treaty of Amsterdam signed in early October 1997. After recognizing the importance of the principle of mutual recognition by the European Council, there was a reconsideration of this principle in 1999 at the Tampere summit, during which the Conclusions of the European Council (Tampere European Council 15-16 October 1999 Presidency conclusions) established that mutual recognition should be the “cornerstone” of judicial cooperation in civil and criminal matters (see also Mitsilegas, 2009; Bugarski, 2014). Subsequently, in 2001, the European Commission adopted the Program of Measures for the Implementation of the Principle of Mutual Recognition of Decisions in Criminal Matters (Official Journal of the the European Communities 2001/C 12/02). The principle of mutual recognition is proclaimed by the Treaty of Lisbon in Art. 68 A (Official Journal of the European Union 2007/C 306/01), which provides that “judicial cooperation in criminal matters in the Union shall be based on the principle of mutual recognition of judgments and judicial decisions and shall include the approximation of the laws and regulations of the Member States in the areas referred to in paragraph 2 and in Article 69 B”.

EAW is envisaged as the first measure of mutual recognition. It is an informal form of international legal cooperation in criminal matters, which has replaced all previous instruments that prescribed extradition. The EAW is regulated by the FDEAW (2002/584/JHA: C: Council Framework Decision of 13 June 2002 on the European arrest warrant and the surrender procedures between Member States - Statements made by certain Member States on the adoption of the Framework Decision). Established to facilitate and expedite judicial cooperation, the FDEAW protects the fundamental rights and principles set forth in Art. 6 of the Treaty on European Union (TEU) (Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union 2012/C 326/01), which form an integral part of the Charter of Fundamental Rights of the European Union (the Charter) to Chapter VI – *Justice* (Official Journal of the European Union, 2012/C 326/02). The importance of protecting and respecting proclaimed rights under EU law and the ECHR is pointed out by the CJEU, which in its decisions “relativized” the principle of mutual trust between EU

Member States, providing that the execution of an EAW may be postponed and in cases not provided for in the FDEAW in order to prohibition inhuman and degrading treatment of the individual to whom the EAW applies.

1. PRINCIPLE OF MUTUAL RECOGNITION AND MUTUAL TRUST BETWEEN EU MEMBER STATES IN THE LIGHT OF PROVIDING INTERNATIONAL LEGAL ASSISTANCE IN CRIMINAL MATTERS

Recognition of the principles of mutual recognition and mutual trust between EU Member States, as a cornerstone of judicial cooperation in criminal matters, is a result of the need to overcome obstacles and shortcomings in providing formal, traditional international legal assistance in criminal matters. The main shortcomings of formal forms of international legal assistance in criminal matters (see also Mitsilegas, 2009) were reflected in the complex and slow procedure that was realized between the the judicial authority of the Member State.

The principle of mutual recognition of decisions is based on the principle of trust between states and is reflected in the mutual acceptance of decisions as their own, even though they were made by the competent authorities of another EU Member State, which is why there is no need to verify the legality of the decision in question. As established in the Communication from the Commission to the Council and the European Parliament (Mutual Recognition of Final Decisions in Criminal Matters, Brussels, 26.7.2000, 4: COM (2000) 495 final), mutual trust to achievement the principle of mutual recognition is enormous important element, and refers not only to trust in the legal system of a state, but also to the trust that normative provisions will be applied in a proper, lawful manner. CJEU found that “EU law is based on the premise that each Member State shares these values with the other Member States, and so each Member State can trust these values to be recognised and EU law that implements them to be respected” (Slovakia v Achmea), similarly, the court found in the decision Commission v Poland, para. 42-43. In this sense, the realization of the principle of mutual trust is based on the assumption that each EU Member State respects EU law, ie all specific rights, especially in the field of freedom, security and justice (see judgments N. S. and Others, para. 78 to 80 and Melloni, para. 37 and 63). Also, the CJEU found that the “Member States have mutual trust in their criminal justice systems and that each of them

recognises the criminal law in force in the other Member States even when the outcome would be different if its own national law were applied” (joined cases Gözütok and Brügge).

As a principle of mutual trust between Member States, which is also based on respect for and protection of fundamental human rights, it is extremely important in EU law, bearing in mind that it enables the realization and maintenance of areas without internal borders (Opinion 2/13 of the Court) in order to achieve it, the European Commission adopted in Brussels 2003. Green Paper (Green Paper from the Commission - Procedural Safeguards for Suspects and Defendants in Criminal Proceedings throughout the European Union (COM/2003/0075 final).

Cooperation built on this principle of mutual recognition, which is also regulated by the Lisbon Treaty, takes a very important place in the fight against cross-border crime as well as in achieving efficient and effective judicial cooperation. The most important forms of informal cooperation are achieved through the European Arrest Warrant as the first measures taken in the light of the principles of mutual recognition, the European Evidence Warrant, the European Investigation Warrant.

1.1. Significance of the European arrest warrant in the light of international legal assistance in criminal matters

The European Arrest Warrant¹ is the first measure adopted in the light of the principle of mutual recognition, and represents one of the most important informal form of cooperation in providing international legal assistance in criminal matters. FDEAW, adopted June 13, 2002. The FDEAW entered into force on 13 January 2003

¹ FDEAW in article 1 gives a definition EAW: „the European arrest warrant is a judicial decision issued by a Member State with a view to the arrest and surrender by another Member State of a requested person, for the purposes of conducting a criminal prosecution or executing a custodial sentence or detention order”. FDEAW, further in the same article, paragraph 2 provides that „Member States shall execute any European arrest warrant on the basis of the principle of mutual recognition and in accordance with the provisions of this Framework Decision”, also that „this Framework Decision shall not have the effect of modifying the obligation to respect fundamental rights and fundamental legal principles as enshrined in Article 6 of the Treaty on European Union (par. 3)“.

and has been in force in the EU since 1 January 2004. The traditional system of extradition, which had numerous weaknesses such as ineffectiveness, inefficiency, slowness, could not survive as an adequate and effective way of providing international assistance in criminal matters in an era of rising cross-border crime rates. With the adoption of the EAW, the judiciary organized by the Member State has been deprived of numerous restrictions and obstacles in terms of achieving effective cooperation and effective combating against cross-border crime.

Having in mind the prescribed grounds for execution, ie grounds for non-execution EAW, its creators sought to ensure both efficient and facilitated judicial cooperation (Ciprian Vasile Radu, para. 34; West, para. 53) and effective combating against cross-border crime, as well as protection of human rights of persons in relation to whom the EAW was issued. The benefits of implementing EAW were established soon after its implementation, as indicated by the Report of the European Commission (Report from the Commission on the implementation since 2005 of the Council Framework Decision of 13 June 2002 on the European arrest warrant and the surrender procedures between Member States [SEC(2007) 979], COM/2007/0407 final), in which it is stated that the EAW is performed in less than five weeks and in frequent cases in 11 days. Contrary to the above, it took an average of about a year to execute the request under the old extradition procedure. Also, in the mentioned Report, the European Commission concluded that “its positive impact is borne out daily in terms of judicial control, efficiency and speed, always with full respect for fundamental rights”. In this sense, the EAW is an example of how the efficiency of the justice system is achieved only if individual rights are respected and protected (Marguery, 2016)².

The importance of the EAW, in addition to achieving the efficiency of the justice system, facilitating judicial cooperation (Melloni, para. 37; F., para. 35 and Lanigan, para. 28) and the protection of human rights is reflected in the fact that, as stated by the European Commission “the free movement of persons within the EU by providing a

² When it comes to the protection of human rights in EU law, it is important to note that the original treaties of the European Communities did not contain provisions on respect for human rights. However, the CJEU recognized the need for respect for human rights to be a general principle of EU law, which is today proclaimed by the Treaty of European Union, the Lisbon Treaty and the Charter of Fundamental Rights of the European Union (see also Dadomo and Quénivet, 2020).

more efficient mechanism to ensure that open borders are not exploited by those seeking to evade justice” (Report from the Commission to the European Parliament and the Council On the implementation since 2007 of the Council Framework Decision of 13 June 2002 on the European arrest warrant and the surrender procedures between Member States, SEC (2011) 430 final). From the above, it can be concluded that the primary importance of the EAW is reflected in the efficiency, ie speeding up the provision of international legal assistance in criminal matters, respect and protection of human rights of individuals, as well as preventing and suppressing abuse of open borders for cross-border criminal activities.

2. “RELATIVIZATION” OF THE PRINCIPLE OF MUTUAL RECOGNITION IN THE PRACTICE OF THE COURT OF JUSTICE OF THE EUROPEAN UNION IN THE CASE OF THE EUROPEAN ARREST WARRANT

The FDEAW shall prescribe the grounds for execution as well as the grounds for non-execution of the EAW. The scope of the EAW is determined by the gravity of the crime, ie by prescribing the amount of imprisonment threatened or imposed. For certain criminal offenses, the FDEAW (Art. 2) has departed from the principle of the prohibition of double criminality. These are criminal offenses listed in the FDEAW, for which a maximum sentence of imprisonment of at least three years is threatened or detention has been ordered. Apart from the above, the list of criminal offenses for which the principle of double criminality is excluded is not final. The provisions of Art. 2 the FDEAW, the Council of Europe, is empowered by unanimous decision, after consulting the European Parliament, to extend the list to other categories of criminal offenses.

In addition to determining the scope of application of the EAW, the FDEAW also prescribes obstacles, ie the grounds for mandatory or possible refusal to execute the EAW. Articles 3 and 4 of the FDEAW, prescribes the grounds of mandatory and optional non-execution EAW. The mentioned interference can be divided into absolute and relative. In case of existence of absolute interference from Art. 3 FDEAW, executing judicial authority, must refuse to execute the EAW: “the judicial authority of the Member State of execution shall refuse to execute the European arrest warrant in the following cases: 1. if the offence on which the arrest warrant is based is covered by

amnesty in the executing Member State, where that State had jurisdiction to prosecute the offence under its own criminal law; 2. if the executing judicial authority is informed that the requested person has been finally judged by a Member State in respect of the same acts provided that, where there has been sentence, the sentence has been served or is currently being served or may no longer be executed under the law of the sentencing Member State; 3. if the person who is the subject of the European arrest warrant may not, owing to his age, be held criminally responsible for the acts on which the arrest warrant is based under the law of the executing State. When it comes to obstacles of a relative nature, due to which the executing state may refuse to execute the EAW, FDEAW Art. 4 prescribes that “the executing judicial authority may refuse to execute the European arrest warrant: 1. if, in one of the cases referred to in Article 2(4), the act on which the European arrest warrant is based does not constitute an offence under the law of the executing Member State; however, in relation to taxes or duties, customs and exchange, execution of the European arrest warrant shall not be refused on the ground that the law of the executing Member State does not impose the same kind of tax or duty or does not contain the same type of rules as regards taxes, duties and customs and exchange regulations as the law of the issuing Member State; 2. where the person who is the subject of the European arrest warrant is being prosecuted in the executing Member State for the same act as that on which the European arrest warrant is based; 3. where the judicial authorities of the executing Member State have decided either not to prosecute for the offence on which the European arrest warrant is based or to halt proceedings, or where a final judgment has been passed upon the requested person in a Member State, in respect of the same acts, which prevents further proceedings; 4. where the criminal prosecution or punishment of the requested person is statute-barred according to the law of the executing Member State and the acts fall within the jurisdiction of that Member State under its own criminal law; 5. if the executing judicial authority is informed that the requested person has been finally judged by a third State in respect of the same acts provided that, where there has been sentence, the sentence has been served or is currently being served or may no longer be executed under the law of the sentencing country; 6. if the European arrest warrant has been issued for the purposes of execution of a custodial sentence or detention order, where the requested person is staying in, or is a national or a resident of the executing Member State and that State undertakes to execute the sentence or detention order in accordance with its domestic law; 7. where the European arrest warrant relates to offences which: (a) are

regarded by the law of the executing Member State as having been committed in whole or in part in the territory of the executing Member State or in a place treated as such; or (b) have been committed outside the territory of the issuing Member State and the law of the executing Member State does not allow prosecution for the same offences when committed outside its territory.”

It is important to note that the FDEAW in Art. 5 prescribes the guarantees that must, in some cases, be provided by the issuing Member State, which ensures the protection of the fundamental procedural rights of the individual as well as the principle of due process, which is the basis of modern criminal procedure legislation. In Art. 5 the FDEAW prescribes that “the execution of the European arrest warrant by the executing judicial authority may, by the law of the executing Member State, be subject to the following conditions: 1. where the European arrest warrant has been issued for the purposes of executing a sentence or a detention order imposed by a decision rendered in absentia and if the person concerned has not been summoned in person or otherwise informed of the date and place of the hearing which led to the decision rendered in absentia, surrender may be subject to the condition that the issuing judicial authority gives an assurance deemed adequate to guarantee the person who is the subject of the European arrest warrant that he or she will have an opportunity to apply for a retrial of the case in the issuing Member State and to be present at the judgment; 2. if the offence on the basis of which the European arrest warrant has been issued is punishable by custodial life sentence or life-time detention order, the execution of the said arrest warrant may be subject to the condition that the issuing Member State has provisions in its legal system for a review of the penalty or measure imposed, on request or at the latest after 20 years, or for the application of measures of clemency to which the person is entitled to apply for under the law or practice of the issuing Member State, aiming at a non-execution of such penalty or measure; 3. where a person who is the subject of a European arrest warrant for the purposes of prosecution is a national or resident of the executing Member State, surrender may be subject to the condition that the person, after being heard, is returned to the executing Member State in order to serve there the custodial sentence or detention order passed against him in the issuing Member State”

Having in mind the strictly prescribed grounds for the obligatory or optional non-execution the EAW, the CJEU in the decision of Melloni, para. 61-64, found that the execution of the EAW beyond the stated grounds cannot be refused. The stated opinion

of the CJEU is based on the argument that the principle of mutual trust implies the assumption that the executing Member State believe that the issuing Member State fully respects the rights of the individual. As the principle of mutual recognition is a cornerstone of judicial cooperation, the CJEU points out that Member States, according to thr FDEAW, are obligated to execute the EAW (Lanigan, para. 36; Aranyosi and Căldăraru, para. 79). In Radu's case, para. 36-42, the CJEU found that “that a breach of a fundamental right (in case, the right to be heard) that is recognized by EU law but not included in the FDEAW, cannot justify non-execution” (about cited above see also Pieter van der Mei, 2017).

It is important to note here that the FDEAW provides for the possibility of suspending the application of the EAW mechanism only in the case of “a serious and persistent breach by one of the Member States. Article 6 (1) of the Treaty on European Union, determined by the Council pursuant to Article 7 (1) of the said Treaty with the consequences set out in Article 7 (2) thereof“. Also, the FDEAW provides that “nothing in this Framework Decision may be interpreted as prohibiting refusal to surrender a person for whom a European arrest warrant has been issued when there are reasons to believe, on the basis of objective elements, that the said arrest warrant has been issued for the purpose of prosecuting or punishing a person on the grounds of his or her sex, race, religion, ethnic origin, nationality, language, political opinions or sexual orientation, or that that person's position may be prejudiced for any of these reasons”, also that “no person should be removed, expelled or extradited to a State where there is a serious risk that he or she would be subjected to the death penalty, torture or other inhuman or degrading treatment or punishment”.

However, the CJEU has identified the possibility of limiting the principles of mutual recognition and trust in “exceptional situations“. These are cases of prohibition of inhuman or degrading treatment or punishment prescribed in Art. 4 of the Charter, which has an absolute prohibition because it is closely related to respect for human dignity from Art. 1 of the Charter. Namely, the fundamental values of the Union and its Member States are reflected in the protection of the inviolability of human dignity proclaimed in Art. 1 of the Charter, then in the prohibition of torture and inhuman or degrading treatment or punishment (Art. 4), as in Art. 3 of the ECHR, which regulates the prohibition of torture (Aranyosi and Căldăraru, para. 87). In view of the above, in the case of knowledge that there is a real danger of inhuman and degrading treatment

of persons deprived of their liberty in the issuing Member State, the judicial authority of the Member State to execute the EAW is obliged to assess the existence of such danger (Aranyosi and Căldăraru, para. 88).

In order for the executing judicial authority of the Member State to be able to postpone the enforcement of the EAW, certain conditions must be fulfilled. The first, objective condition, is that the executing Member needs to have certain, but not any, but qualified information on certain deficiencies related to the detention (deprivation of liberty) of the issuing Member State. The above information could serve as a basis for postponing the execution of the EAW (with cumulative fulfillment and other conditions), this information should be “objective, reliable, specific and properly updated” relating to the conditions of detention in the issuing Member State and which indicate the existence of deficiencies which may be characterized as systemic or general, or in relation to which there is a possibility of influencing certain groups of people, or which may affect certain places of detention. As noted, the fulfillment of this condition is not sufficient for the executing Member State to postpone the execution of the EAW. In order to delay the execution of the EAW, it is necessary that it is cumulatively fulfilled, in addition to the objective and personal condition. The personal condition implies the possibility of the existence of a real danger that the person to whom the EAW applies will be subjected to inhuman and degrading treatment or punishment in accordance with Art. 4 Charter (Aranyosi and Căldăraru, para. 91, 92, 104). In order for the executing Member State to assess the existence of the said personal condition for postponing the execution of the EAW, it is necessary to request the provision of additional information from the issuing Member State. The issuing Member State must provide the requested information within the time limit specified in the request. In this regard, the Member State of enforcement will postpone its decision on the enforcement of the EAW until the issuing State of the EAW has provided the requested information. If the risk of inhuman and degrading treatment or punishment of the person to whom the EAW relates cannot be remedied within a reasonable time, the executing State of EAW must decide whether the surrender procedure should be brought to an end (Aranyosi and Căldăraru, para. 104).

Bearing in mind the above practice of the ECJU, it is clear that the ECJU has enabled the relativization of the principles of mutual recognition and mutual trust, in relation to the FDEAW, as the executing Member State may postpone the above

conditions. In this regard, the CJEU has additionally provided protection of basic human rights that have an absolute character, and provided protection to the individual from inhuman and degrading treatment or punishment in the issuing Member. This is justified bearing in mind that EU law is based on respect for human rights on the one hand, while on the other hand, it would not be justified to assume the efficiency and facilitation of judicial cooperation in criminal matters to protect the absolute rights of individuals.

CONCLUSION

Efficiency and facilitation of judicial cooperation in criminal matters is a condition for successfully combating cross-border crime and criminal acts with elements of foreignness. Having in mind the above, at the end of the last and the beginning of the present century, the European Community began to take measures to ensure the efficiency of judicial cooperation in order to overcome the difficulties, shortcomings and obstacles encountered by Member States by providing formal forms of cooperation in criminal matters. These shortcomings in the implementation of formal forms of cooperation were reflected in the slowness, inefficiency and politicization between EU Member States. By recognizing and proclaiming the principles of mutual recognition of decisions and mutual trust, a step was taken towards replacing formal forms with informal forms of providing international legal assistance in criminal matters. Of great importance for this are the Conclusions of the Council of Europe from Tampere (1999), the Program of measures to implement the principle of mutual recognition of decisions in criminal matters (2001), the Framework Decision on the European arrest warrant and the surrender procedures between Member States (2002), Treaty of Lisbon amending the Treaty on European Union and the Treaty Establishing the European Community (2007). The first measure adopted in the light of the principles of mutual recognition and mutual trust is the FDEAW. With this measure, the creators of FDEAW ensured the simultaneous realization of the principles of efficiency of judicial cooperation in criminal matters and its facilitation, effective combating against cross-border crime as well as respect and protection of basic human rights that form the basis of EU law. Although the FDEAW clearly prescribes the conditions for the execution of the EAW, as well as for the refusal to execute the EAW, in practice, disputable issues

have arisen regarding the postponement to execute the EAW out of FDEAW. These are situations where there is a danger that a person for whom an EAW is issued in the country that issued the EAW will be subjected to inhuman and degrading treatment or punishment, and whose prohibition is prescribed by Treaty of European Union and the Charter and the ECHR. If the conditions cumulatively fulfilled, which are a standard established in the decisions of the CJEU, the state executed the EAW and in exceptional cases may postpone the execution of the EAW, out of the conditions prescribed by the FDEAW. In this way, the ECJU justifiably “relativized” the principle of mutual recognition and trust, giving priority to the protection of the absolute rights of the individual over the execution of the EAW under the conditions regulated by the FDEAW. Namely, it cannot be considered that the principles of EU law are realized if it violates the absolute rights of the individual, which represent the pillar of the principle of fair procedure, as well as the realization of the principles of democracy and humanity.

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