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## PART VI

# PROJECT PORTFOLIO MANAGEMENT IN A GLOBALIZED ENVIRONMENT: A FACTOR ANALYSIS FOR BULGARIAN ORGANIZATIONS

Matilda Alexandrova[1,a,*]

[1]University of National and World Economy, Sofia, Bulgaria

[a]matildaa@unwe.bg

*Corresponding author

**Abstract.** In a globalised socio-economic environment, business organizations are exposed both, to new opportunities and various risks, the latter including market, governmental, and financial hazards. Globalization induces a highly competitive business environment where the optimal utilization of resources emerges as a critical aspect of project management. In this respect, project portfolio solutions can facilitate the balance between effectiveness and efficiency by means of portfolio management. In the recent decades project portfolio management has developed as a contemporary approach supporting the realization of the organizational strategy through enhancement of the effectiveness and efficiency of its implementation. The goal of the paper is to provide an overview of the major factors that favourably affect project portfolio management practices using survey data from Bulgarian project-oriented organizations. Using an original research instrument, data about this implementation were collected through purposive sampling of organizations that apply project portfolio management approach in their operations. A selection of empirical results from a questionnaire survey of the factors of effective project portfolio management is presented concerning the implementation of portfolio management approach in the studied organizations. The set of specific implementation items are grouped into five major factors by application of principal component analysis. Each of these latent factors reflects a particular cluster of internal capabilities of the organization to implement successfully the project portfolio management practices in conditions of globalized economy.

**Keywords:** project-oriented organizations, project portfolio management, principal components, Bulgaria.

**JEL Classification:** M10, O22

## 1. Introduction

In a world facing global challenges project-oriented organizations nowadays encounter new problems but also new opportunities. This way the key role of globalization emerged as an issue in both research literature and project management practices. Globalization processes are considered as particularly essential in the case of Central and Eastern European (CEE) countries which has drawn attention in the last decades (Gurgul & Lach, 2014). Project-oriented organizations operating in this region are especially affected by these processes as far as they predominantly work in an international multi-project environment. In order to survive and develop in this sector any such organization must continuously introduce new managerial approaches, structures, and processes in order to maintain its competitiveness.

Having in mind that globalization induces not only economic but also regional, social, and cultural integration, it leads to the development of global networks in communication, logistics, investment flows, and outsourcing links. Moreover, globalization processes brought in life global project networks in which the so called global project is a “temporary collaboration between organizations across nations and cultures with the intention to jointly deliver a unique product or service in a complex external context requiring relationship management” (Aarseth et al., 2013). This ultimately concerns individual professionals, project teams, and project-oriented companies in a variety of contexts related to the acquisition and implementation of specific knowledge, culture, skills, competences, and contemporary organizational practices in project management.

The topic of globalization is a relatively new one for project management theory and practices that requires research efforts to focus on contemporary aspects, challenges and factors induced by the globalized environment. In many economic sectors, especially services, even a new phenomenon is noticed – named “*projectification*” – that reflects a tendency of substitution of the conventional organizational structures by project-based ones. The goal of the current study is to contribute to this emerging issue by providing new knowledge about the major factors that favourably affect project portfolio management (PPM) practices on the basis of empirical data from project-oriented organizations in a CEE country.

## 2. Literature review

The review hereafter is based on selected titles from the specialized literature on PPM implementation, the factors of its effectiveness along with the challenges of the complex and turbulent global environment and internationalization of the project-based economy. At first, attentions should be paid to the nature of globalization and its most important features. Many contemporary authors emphasize on the globalization “as a process of unification of goods and capital markets across the world in which barriers to international trade and foreign investment are reduced” (Gurgul & Lach, 2014). The roots of globalization are traced into the development of information and communication technologies (ICT) and technological progress as a whole which enhances information exchange, organizational know-how, and access to resources. In turn, globalization induces substantial economic, social, and public policy shifts that lead to intensified mobility of resources, goods and services – especially financial and human capital. These issues are of considerable importance regarding the operation of project-oriented organizations in global international networks which requires application of modern approaches such as project portfolio management (Alexandrova, 2017).

Globalization definitely affects the modern processes of PPM implementation. No doubt that PPM practices have to meet the contemporary needs in the context of the global business environment through appropriate strategy. Killen et al. (2008) show that PPM and organizational learning can be determined as “dynamic capabilities” that boost the organization’s potential to attain and preserve competitive advantages in a vigorous environment. Unlike single projects –which success can be linked to criteria like budget, time schedule, and quality of deliverables– the project portfolio assumes management of a set of interrelated projects affiliated to organizational strategy (Rank et al., 2015). The goals of PPM comprise maximization of the portfolio’s value, aligning the portfolio with organizational strategy, and balancing the portfolio in order to achieve synergy (Cooper et al., 1999).

According to the specialized literature, several aspects of PPM can be outlined as internal capability factors facilitating the effectiveness of PPM, e.g. organizational knowledge (Martinsuo, 2013), targeted risk management (Teller, 2013), integrated information system for PPM (Jeffery & Leliveld, 2003), structural alignment with strategy (Kaiser et al., 2015), project portfolio management office (Unger et al., 2012), HR competences and skills (Huemann, 2010), PPM international standards (Saynisch, 2010), etc. For the goals of the current study –along with those PPM aspects identified in the scholarly literature– additional potential factors (internal capabilities) have been obtained as a result from a pilot study conducted by the author. In reality, a complex of diverse factors positively relate to PPM effectiveness through appropriate organizational structuring, portfolio balancing, and quality assurance. This way portfolio management can be aligned with the organizational strategy reflecting the dynamic nature in which projects are selected, prioritized, executed or discarded.

## 3. Methodological approach

According to the main goal of this paper, the empirical analysis attempts to identify the general factors of “internal capacity” of Bulgarian project-oriented organizations operating in a global environment and implementing a methodology for PPM. In practice, most of them realise international projects and/or projects commissioned by foreign contractors which provides opportunities and access to global resources and know-how.

The information basis for the analysis hereafter is data collected by a sample survey of 184 project-oriented organizations operating in Bulgaria in year 2017 conducted in the period 2016-2017. As far as there is no register or other statistical frame to facilitate a random drawing, the respondents have been selected by a purposive sampling scheme. A specifically designed questionnare has been developed and used for the goals of the survey. It was send to 200 respondents – project team members, project management experts, project managers, project portfolio managers, and representatives of the top management boards. The method of individual self-interview has been applied by participation in online survey or by submitting a filled questionnaire by email. Appropriate respondents have been reached using professional networks – LinkedIn, and Bulgarian Association for Project Management. All respondents have professional duties and competences in the area of project management performed in a multi-project global environment. Moreover, some of them have a key role in the management of a project portfolio operated by the respective organizations. Due to substantial non-response 16 questionnaires are excluded from data processing and analysis. The primary data collected by the survey instrument has been analysed by descriptive statistical methods, correlation analysis, and principal components analysis.

In order to evaluate the importance of the factors that favourably affect project portfolio management practices, a 15 questions are asked in the following form: „*According to your experience, please evaluate each potential factor regarding the degree of its importance for PPM effectiveness in your organization when operating in a global environment*“. These potential factors have been derived as a result from a pilot study conducted in 2016 – mainly, indicators reflecting the „internal capacity“ of a project-oriented organization for implementing a PPM approach in a global environment. The interview method that records the individual opinions about the issue of interest seems to be highly appropriate having in mind the research goals set for the study. Each question is of a close-end type and utilizes a 5-

rank scale about the degree of importance ranging from 1 (very low) to 5 (very high) with a midpoint of 3 (moderate). These evaluation ranks reflect the professional experience of the respondents from their work in a multi-project global environment.

Regarding the research goal of this study, the set of factors of PPM effectiveness are allocated into major clusters by application of a principal component analysis. As a traditional technique for multivariate analysis, it achieves a reduction of data dimensionality by extracting a small number of „principal component" variables while preserving, in largest possible extent, the degree of variation of the primary measured variables. On the other hand, the principal components should be less correlated between each other. Besides, they are extracted in a way that the first few components should represent a large share of the total variation observed in all primary variables. The reliability of implementation of this method is assessed by the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity (Hoffmann, 2016).

# 4. Research results

## 4.1 Profile of respondents

The sample consists of respondents with different seniority and levels of professional and work experience in project-oriented organizations executing international projects. For each respondent a range of individual characteristics have been recorded (demographic and professional). A substantial share of them (over one third) indicated a long period of general work experience (over twenty years) whereas about 11% declared just a recent experience (up to five years). The professional experience in project management has been identified by the number of years working in project management (project team member, project office expert, project manager, project portfolio manager). The major share (about 60%) is held by respondents with 6-15 years of specific experience. The correlation measured between the length of general and specific experience is quite high (+0.84) which shows that relatively high share of the general work experience of respondents is actualy specialized in project management area. One third of the respondents act as project managers in their organization – a position which holds the largest share in the sample. About a quarter of the interviewed have project expert position followed by members of project teams (21%), project office experts (9%), and project portfolio managers (8%). Albeit rarely, representatives of top management of project-oriented organisations (3%) have also participated in the survey.

## 4.2 Factor analysis

In order to justify the utilization of principal component analysis as a tool for extracting latent factors, two methods are applied. According to the result obtained for Kaiser-Meyer-Olkin measure of sampling adequacy (KMO=0.592) its value is greater than 0.5 so the sample size is adequate to implement the chosen method. The null hypothesis of the Bartlett's test of sphericity assumes that the correlation matrix of the 15 primary variables is an identity matrix. However, in order to use a factor analysis there must be significant correlations between two or more variables in the list; if this matrix is a unity one, then all correlations between any two variables would be zero. In our case, the level of significance of the Bartlett's test is less than 0.001 so the null hypothesis can be strongly rejected, i.e. the correlation matrix is significantly different from the identity matrix. In light of these results we assume that the application of principal component analysis is justified. As a first step of the principal component analysis the communalities of the primary variables are estimated (table 1). Each communality explains the amount of the variance of the respective primary variable that can be explained by the extracted five latent factors. It should be noted that after the extraction a residual share of the total variance has stayed unexplained (in our case, about 30%) and thus some latent factors are lost. Most of the communalities have values between 0.67 and 0.80 which shows a good intrinsic interrelations between the primary variables and the underlying factors.

*Table 1: Communalities*

| **Factors of the „internal capacity“ of the organization for implementing a PPM approach** | **Initial** | **Extraction** |
|---|---|---|
| Project-oriented organizational culture (V1) | 1.000 | 0.783 |
| Clearly defined rules/processes for PPM (V2) | 1.000 | 0.679 |
| Clearly defined roles and responsibilities in PPM (V3) | 1.000 | 0.825 |
| Integrated information system for PPM (V4) | 1.000 | 0.687 |
| Organizational knowledge about business / market (V5) | 1.000 | 0.674 |
| Organizational knowledge about PPM International Standards (V6) | 1.000 | 0.762 |
| Education / professional qualification of HR (V7) | 1.000 | 0.383 |
| Specific PPM professional qualification of HR (V8) | 1.000 | 0.709 |
| Specific PPM experience of HR (V9) | 1.000 | 0.665 |
| Implementation of targeted risk management (V10) | 1.000 | 0.639 |
| Fully functional Project Management Office (V11) | 1.000 | 0.779 |
| Effective communications between stakeholders (V12) | 1.000 | 0.739 |
| Setting priorities for projects selection (V13) | 1.000 | 0.701 |
| Organizational structure reflecting PPM processes (V14) | 1.000 | 0.713 |
| Subordination of PPM processes to the organizational strategy (V15) | 1.000 | 0.729 |

*Source: Author's calculations.*

Table 2 presents the rotated component matrix obtained by applying the latent root criterion for extracting principal components. Five such components have been extracted from the original data set that explain 69.8% of the total variation of the primary variables V1-V15 which can be assumed as sufficient, with a balanced distribution of the variance explained (PC1 accounted for 19.5%, PC2- 14%, PC3- 12.6%, PC4- 11.9%, PC5- 11.8%). The composition of each component is determined by applying the traditional threshold of 0.5 for the factor loading of any variable. The interpretation of the results should generally be cautious since a combination of primary variables in a component (obtained just due to high loadings) sometimes might be challenging to decipher. After a critical assessment of the nature of the primary variables within each component, a plausible interpretation is derived in respect of the latent factors of interest. The names reflect the consistency of the interrelation between the respective characteristics of project portfolio management aspects:

- PC1 could be labeled as “Organizational Culture and Knowledge”;
- PC2 could be labeled as “Organizational Strategy, Structure, and Processes”;
- PC3 could be labeled as “Communications, Formalization, and Standardization”;
- PC4 could be labeled as “Prioritization and Professional Competences”;
- PC5 could be labeled as “HR and IT Infrastructures”.

*Table 2: Principle components extracted*

| Factors of the „internal capacity“ of the organization for implementing a PPM approach | PC1 | PC2 | PC3 | PC4 | PC5 |
|---|---|---|---|---|---|
| Project-oriented organizational culture (V1) | **0.872** | 0.111 | 0.044 | 0.088 | -0.022 |
| Organizational knowledge about PPM International Standards (V6) | **0.769** | 0.175 | 0.160 | 0.144 | 0.305 |
| Organizational knowledge about business / market (V5) | **0.704** | 0.140 | -0.073 | 0.371 | -0.129 |
| Implementation of targeted risk management (V10) | **0.586** | 0.483 | 0.149 | 0.142 | 0.138 |
| Subordination of PPM processes to the organizational strategy (V15) | 0.085 | **0.821** | 0.203 | 0.050 | 0.062 |
| Organizational structure reflecting PPM processes (V14) | 0.447 | **0.687** | -0.161 | -0.025 | -0.118 |
| Fully functional Project Management Office (V11) | 0.461 | **0.564** | 0.260 | 0.305 | 0.297 |
| Effective communications between stakeholders (V12) | -0.199 | 0.166 | **0.782** | 0.167 | -0.183 |
| Clearly defined roles and responsibilities in PPM (V3) | 0.287 | -0.305 | **0.751** | -0.263 | 0.128 |
| Clearly defined rules/processes for PPM (V2) | 0.185 | 0.340 | **0.708** | 0.165 | 0.012 |
| Specific PPM professional qualification of HR (V8) | 0.096 | 0.114 | 0.073 | **0.822** | 0.069 |
| Setting priorities for projects selection (V13) | 0.317 | -0.015 | 0.022 | **0.768** | 0.102 |
| Specific PPM experience of HR (V9) | 0.158 | -0.168 | -0.065 | -0.017 | **0.780** |
| Integrated information system for PPM (V4) | -0.133 | 0.236 | -0.085 | 0.019 | **0.779** |
| Education / professional qualification of HR (V7) | 0.096 | 0.042 | 0.103 | 0.334 | **0.500** |

*Source: Author’s calculations. Conditions: eigenvalue of 1.0; Varimax rotation with Kaiser Normalization.*

Principal component 1 is themed as “Organizational Culture and Knowledge” due to the incorporation of four variables: Project-oriented organizational culture (V1), Organizational knowledge about PPM International Standards (V6), Organizational knowledge about business / market (V5), and Implementation of targeted risk management (V10). This result shows that the importance of cultural and knowledge factors of successful PPM implementation plays a leading role in a globalized economy. Moreover, in conditions of growing complexity and dynamics, targeted risk mitigation is crucial for the survival and development of the project-oriented organizations.

Principal component 2 is named as “Organizational Strategy, Structure, and Processes” as far as the integrated variables are: Subordination of PPM processes to the organizational strategy (V15), Organizational structure reflecting PPM processes (V14), and Fully functional Project Management Office (V11). It is notable that the variables with high loadings to this factor relate to the degree of alignment of the structure of the project oriented organization to its strategy. In this respect, the appropriately design organizational structure facilitates the effective execution of the PPM processes. This is especially valid for the modern organizational forms like the establishment of a Project Management Office.

Principal component 3 is called “Communications, Formalization, and Standardization” because of the high loadings of the following variables: Effective communications between stakeholders (V12), Clearly defined roles and responsibilities in PPM (V3), and Clearly defined rules/processes for PPM (V2). Here several formal aspects of PPM implementation, namely communications aligned with the structure and hierarchy of PPM rules and procedures. The established by formal rules interrelations and communications between stakeholders provide opportunities for standardization of PPM processes, economies of time, costs, and other resources.

Principal component 4 can be entitled “Prioritization and Professional Competences” due to the involvement of the following two variables: Specific PPM professional qualification of

HR (V8) and Setting priorities for projects selection (V13). This component mixes a human factor associated to PPM professional competences with one of the most important functions of PPM, namely, project prioritization. These two aspects are considered as crucial for the successful implementation of PPM in a project-oriented organization having in mind that proper selection of priority projects is hardly possible without high professional qualifications of the PPM personnel.

Principal component 5 deals with aspects under the heading “HR and IT Infrastructures” since the incorporated variables are: Specific PPM experience of HR (V9), Integrated information system for PPM (V4), and Education / professional qualification of HR (V7). People are the predominant resource in a project-oriented organization, and there is a positive association between favorable HR management and successful PPM implementation. Moreover, in conditions of globalization effective utilization of HR potential is impossible without the usage of an integrated information system for PPM. This definitely relates to improving the performance of the human capital that needs to operate in real time, forming virtual teams, and rapidly communicating when executing projects in the digital era.

## 5. Conclusion

In light of contemporary globalization processes a range of factors determine the effective implementation of PPM practices in modern project-oriented organizations. These factors are expected to play a core role in the further development of PPM worldwide. Still, there is a shortage of comprehensive knowledge as well as unexplored challenges concerning the execution of international projects in the global environment by such organizations. Thus, the current study provides new insights and understandings of the impact of a set of factors reflecting the internal capabilities of project-oriented organizations. The identified fifteen variables have been clustered into five common factors facilitating the success of PPM practices. So, a key contribution of the paper is revealed by the application of principal component analysis accompanied by carefully derived conception about the nature of the extracted factors and their role for the PPM implementation in a global competitive environment. The study also provides certain implications about the current stage of project portfolio management research in Bulgaria. The emerging practices of introduction and enhancement of PPM in Bulgarian project-oriented organizations require further investigation of various aspects of its performance, effectiveness, and overall success. The presented survey results provide ground to the statement that the spread of PPM practices in the country is related to the acquisition of organizational knowledge, implementation of international standards, effective communications, and utilization of human resources with professional competences.

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# EVOLUTION OF RELATIONSHIP BETWEEN V4 AND GERMAN STOCK MARKETS

Peter Arendas[1,a,*]

[1]University of Economics in Bratislava, Faculty of National Economy, Department of Banking and International Finance

[a]p.arendas@centrum.sk

*Corresponding author

**Abstract.** As the globalisation of the global financial markets progresses, the financial markets tend to converge. This claim is valid also for the stock markets. Especially the development on the smaller, less important stock markets is often affected by the events that occur on the bigger ones. The relations between the individual stock markets tend to grow in strength over time. The stock markets of the V4 countries (Slovakia, Czech Republic, Poland and Hungary) are small and relatively young and their direction is usually set by the bigger and more developed foreign stock markets. One of such markets is the German one. Germany is in a close geographical proximity to the V4 countries, it has the biggest economy and also one of the biggest stock markets in whole Europe. It is also one of the most important business partners of the V4 countries. This is why there are strong connections between the V4 and German economies as well as financial markets. This article focuses on the investigation of relations between the Slovak, Czech, Polish and Hungarian benchmark stock market indices (SAX, PX, WIG 20, BUX) and the German stock market index (DAX). The results show that the Czech, Hungarian and Polish stock market returns are Granger-caused by the German stock market returns. However, over the investigated time period, the long-term moving correlations do not show any meaningful tendency to stabilize.

**Keywords:** stock market, globalisation, V4, Germany, Granger causality.

**JEL Classification:** F65, G10, G15

## 1. Introduction

Various authors paid attention to the Central and Eastern European (CEE) stock markets, the V4 (Czech Republic, Hungary, Poland, Slovakia) share markets included. Hegerty (2015) investigated the impacts of oil price volatility on stock markets of 8 CEE countries, concluding, that the impacts differ quite notably, based on the level of economic transition and integration of particular countries.

Vodova and Stavarek (2017) investigated the stability of banking sector in the V4 countries. Bota and Ormos (2014) focused on evolution of weak-form market efficiency of the CEE stock markets. Pochea et al. (2017) investigated herding behaviour on the CEE stock markets and Botoc (2017) paid attention to the volatility of CEE stock markets in relation to external shocks. Ison and Hudson (2017) focused on the reactions of several CEE stock markets to large preceding price movements.

Reboredo et al. (2015) analysed dependence between the Czech, Hungarian, Polish and Romanian share markets. They came to a conclusion that although there is a positive dependence between the four stock markets, it is much stronger between the Hungarian, Polish and Czech one. The dependence between these three stock markets and the Romanian stock market is weaker. The dependence between particular CEE stock markets was investigated also by Cevik et al. (2017) and Pietrzak et al. (2017).

Arendas and Chovancova (2016) investigated presence of the Halloween effect on the CEE stock markets. The results show that all of the V4 stock markets, with an exception of the Slovak stock market, tend to record much higher returns during the winter half of a year. In the case of Slovakia, the difference between the summer period and winter period returns tends to be relatively negligible.

Carausu et al. (2018) used wavelet analysis to study impacts of the Western European and U.S. stock markets on the CEE stock markets. They discovered a contagion of the majority of the CEE stock markets during the 2005-2009 period, and de-contagion during the 2010-2016 period. Horvath et al. (2018) discovered the financial contagion on the Croatian, Czech, Estonian, Hungarian, Polish and Romanian stock markets. The impacts of the global financial crisis on 8 CEE stock markets were investigated also by Olbrys and Majewska (2016). Syllignakis and Kouretas (2011) concluded that the conditional correlations between the U.S. and German stock markets and seven CEE stock markets experienced a statistically significant growth during the crisis period. Vychytilova (2018) focused on the post-crisis development of the V4 stock markets.

Due to the globalization and integration of global financial markets, the V4 stock markets should behave similarly to the main developed stock markets. Given the close geographical proximity as well as strong economic connections, a very strong influence of the German stock market can be expected. This paper investigates the relations between the returns and volatilities of the V4 stock markets and the German stock market.

## 2. Data and Methodology

To evaluate the relations between returns and volatilities of the V4 stock markets and the German stock market, the main stock indices representing each of the countries are used (Germany – DAX, Czech Republic – PX, Hungary – BUX, Poland – WIG20, Slovakia – SAX). The analysed time period spans from January 1998 to December 2017. To evaluate the causality relations between the German and V4 stock markets, granger causality is investigated. To evaluate the long-term evolution of relations between returns and volatility of particular indices, 120-day (approximately 6 calendar months) moving correlations of returns as well as volatilities are calculated.

The Granger causality tests are performed using the Toda-Yamamoto (1995) approach that avoids some of the issues of the classical Granger causality testing procedures related to different orders of data series integration. While the classical Granger causality procedure is typically used for analysing the short-run causality, the Toda-Yamamoto approach helps to analyse the long-term causality. According to Lyocsa et al. (2011), the Toda-Yamamoto approach is robust to the nature of variables, as it works for integrated and cointegrated variables of different orders well.

The Toda-Yamamoto approach is based on modelling a VAR system with $k+d_{max}$ lags, where $d_{max}$ is the maximum order of variables integration. At first, the number of lags (k) is determined using the Schwarz Information Criterion, Akaike Information Criterion and Hannan-Quinn Information Criterion. The $d_{max}$ value is determined using the Augmented Dickey Fuller test. Subsequently, a $(k+d_{max})$-order VAR is estimated. The coefficient matrices of the last $d_{max}$ lagged vectors can be ignored according to Toda and Yamamoto (1995). A study conducted by Zapata and Rambaldi (1997) shows that the Toda-Yamamoto approach performs well especially for large data samples. Therefore, the approach is suitable for this paper, as each of the data series consists of more than 4,660 observations.

The daily returns are calculated using the following formula, where $r_x$ is the return recorded on day x, $P_x$ is the closing price recorded on day x and $P_{x-1}$ is the closing price recorded on day x-1:

$$r_x = \frac{P_x - P_{x-1}}{P_{x-1}} \tag{1}$$

The daily volatility for day x ($v_x$) is calculated as an absolute value of the difference between the highest index value recorded on day x ($H_x$) and the lowest index value recorded on day x ($L_x$), divided by the closing value of the stock index on day x ($C_x$):

$$v_x = \frac{|H_x - L_x|}{C_x} \tag{2}$$

The following hypotheses are evaluated:

Hypothesis H1: There is a Granger causality between the returns of the German stock market returns and returns of stock markets of the V4 countries, when the BUX, PX, SAX and WIG20 returns are driven by the DAX returns.

Hypothesis H2: With progressing integration of the V4 countries into the EU structures, their stock market returns should be more and more correlated with the German stock market returns, due to its leading role in the EU and its geographical proximity.

Hypothesis H3: With progressing integration of the V4 countries into the EU structures, their stock market volatilities should be more and more correlated with the German stock market volatility, due to its leading role in the EU and its geographical proximity.

## 3. Results and Discussion

The results of the Granger causality analysis are presented in Table 1. As can be seen, DAX returns Granger-cause BUX returns, PX returns and also WIG20 returns. In all of the three cases, the results are significant at $\alpha=0.01$. However, DAX returns don’t Granger-cause SAX returns. A reverse causality, i.e. returns of one of the V4 stock index returns granger-causing DAX returns isn’t recorded at $\alpha=0.01$ or $\alpha=0.05$. On the other hand, the data show that at $\alpha=0.1$, PX returns Granger-cause DAX returns. However, such a relation is hard to explain economically.

Based on the results of the Toda-Yamamoto causality tests, it is possible to accept Hypothesis H1, however, only for the Czech, Hungarian and Polish stock markets. The Slovak stock market represented by the SAX stock index seems to behave independently on German DAX.

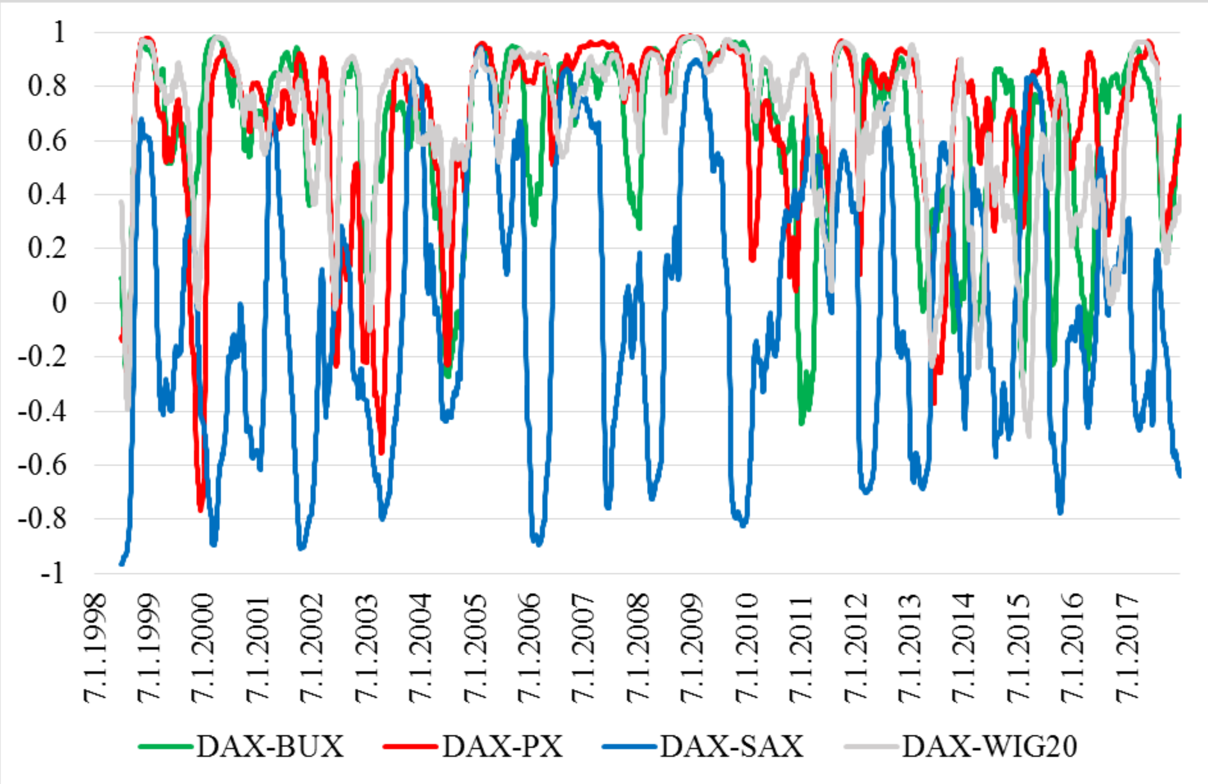
*Table 1: Granger causality (Toda-Yamamoto approach)*

| influence | observations | $\chi^2$ | p-value |
|---|---|---|---|
| **DAX → BUX** | **4666** | **21.12476** | **0.0000** |
| BUX → DAX | 4666 | 0.465136 | 0.7925 |
| **DAX → PX** | **4666** | **43.57876** | **0.0000** |
| PX → DAX | 4666 | 5.814755 | 0.0546 |
| DAX → SAX | 4666 | 3.243598 | 0.1975 |
| SAX →DAX | 4666 | 0.450477 | 0.7983 |
| **DAX → WIG20** | **4661** | **24.93446** | **0.0008** |
| WIG20 → DAX | 4661 | 2.999254 | 0.8851 |

*Source: own calculations*

Figure 1 shows the development of 120-day moving correlations between returns of DAX and particular V4 stock indices. As can be seen, although the periods of strong positive correlation are followed by periods of weak positive or even weak negative correlation, for a better part of the analysed time period, the Czech, Hungarian and Polish stock markets were positively correlated with the German stock market. However, the Slovak stock market behaved a little differently. As can be seen, the moving 120-day correlation between the SAX and DAX tends to dip to values below -0.7 which means a strong negative correlation. Moreover, the very low values occur quite regularly.

*Figure 1: 120-day moving correlations of stock index returns*



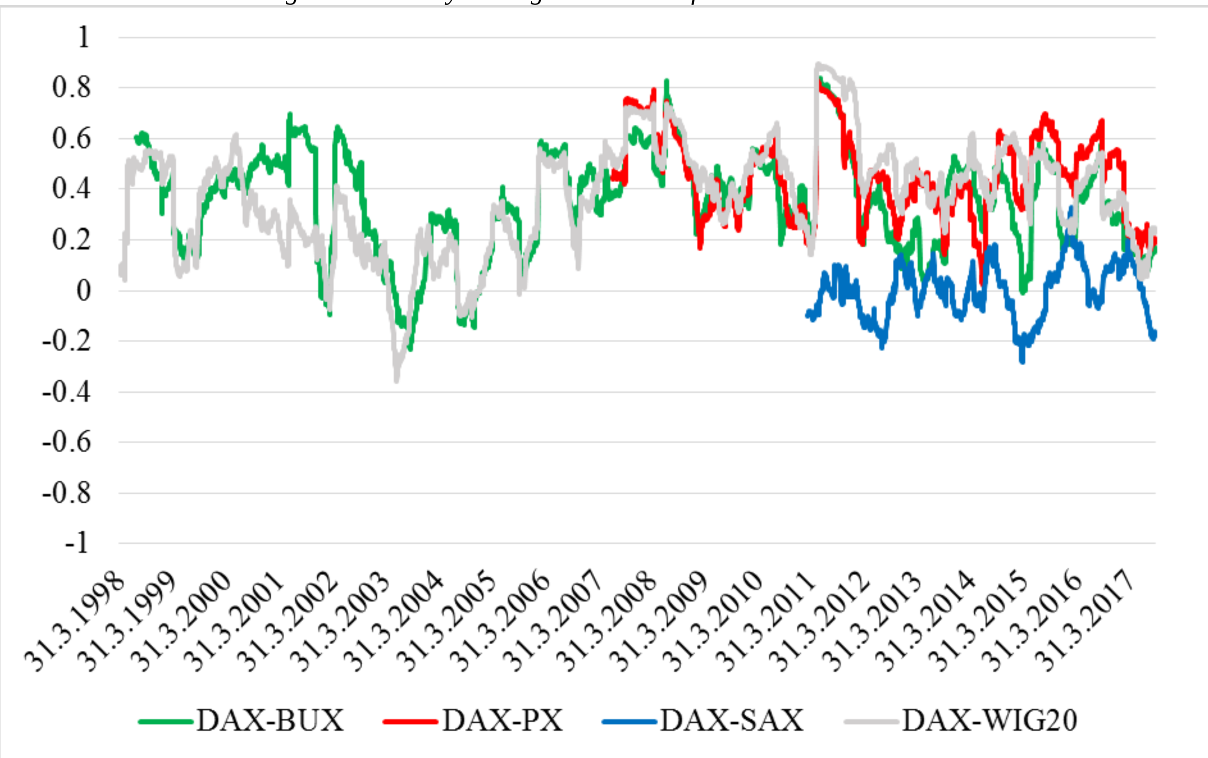

*Source: own processing, using data of Stooq*

What is interesting, the longest periods of high positive correlations (with an exception of the Slovak SAX index) were recorded during the 2000-2002 and 2004-2010 periods. However, after 2010, the moving correlations started to be more volatile. This finding is quite counterintuitive as it is possible to expect that with progressing globalisation and integration of the V4 countries into the EU structures, also the stock markets should be more influenced by the German stock market. As a result, hypothesis H2 cannot be confirmed.

Figure 2 shows the development of 120-day moving correlations between volatilities of DAX and particular V4 stock indices. Due to the lack of data used for the calculation of volatility, only the DAX-WIG 20 and DAX-BUX relations are investigated over the 1998-2017 period. In the case of PX, the investigated time period starts in 2007 and in the case of SAX it starts only in 2011. As can be seen, also the correlations between the volatilities of BUX, PX, WIG20 and DAX were positive almost during the whole investigated time periods. However, the values exceed the 0.7 level only rarely. It is also possible to see that the SAX index behaves differently once again. The 120-day moving correlation between the DAX and SAX volatilities moved only in the -0.2-0.2 range almost during the whole investigated time period. It means that the volatility of the Slovak stock market behaves highly independently on the volatility of the German stock market.

A simple empirical evaluation of Figure 2 shows that it is hard to spot any meaningful tendency of any of the curves to stabilize at higher positive values with progressing time. It means that Hypothesis H3 cannot be confirmed.

*Figure 2: 120-day moving correlation of stock index volatilities*




*Source: own processing, using data of Stooq*

The findings presented in this paper are in line with findings of some of the previous authors. Reboredo et al. (2015) found a positive dependence between the Czech, Hungarian and Polish stock markets. On the other hand, the studies of Carausu et al. (2018), Vychytilova (2018), Olbrys and Majewska (2016) or Arendas and Chovancova (2016) show that the Slovak stock market behaves differently when compared to the other V4 stock markets. Also the results presented in this paper show that the Slovak stock markets behaves differently. Moreover, during the investigated time period, the German stock market returns granger-caused the Czech, Hungarian and Polish stock market returns, however, the tests haven't shown any statistically significant causal relationship between the Slovak and German stock market.

It is also important to note that the results presented in this paper are in a contradiction to results of Cevik et al. (2017) who concluded that the presence of causality relation between the German and CEE equity markets cannot be determined. However, their study used a different methodology, they analysed only monthly data and they didn't use the local benchmark stock indices but USD denominated all share indices from MSCI.

## 4. Conclusion

The results presented in this paper show that the V4 countries' stock market returns, with an exception of the Slovak stock market, are driven by the German stock market returns. The returns of the Hungarian (BUX), Czech (PX) and Polish (WIG20) stock indices are Granger-caused by the German (DAX) stock index. What is interesting, the results show that at $\alpha$=0.1 the PX returns Granger-cause DAX returns.

Relatively surprising is also the development of the moving correlations between the V4 stock market returns and the German stock market returns that doesn't show any tendency of the correlations to stabilise at higher levels over time. The same can be concluded also about the moving correlations between the stock market volatilities.

It is also important to note that the Slovak stock market behaves differently in comparison to the other V4 stock markets. Not only aren't the SAX returns Granger-caused by the DAX returns, moreover, the moving correlations show that the SAX returns are often strongly negatively correlated with the DAX returns. On the other hand, the moving correlation between the SAX and DAX volatility usually remains in the -0.2-0.2 range. This behaviour of the Slovak stock market can be explained especially by its low levels of development, market capitalization and liquidity. As a result, trading on the Slovak stock market is less related to the actual economic developments and more related to some particular specific features of individual stock companies.

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# CLIMATE CHANGE AND ENERGY OBJECTIVES IN EUROPE. CLUSTER ANALYSIS FOR THE EU-15

Adam P. Balcerzak[1,a,*]

[1]Nicolaus Copernicus University in Toruń, Department of Economics, Poland

[a]adam.balcerzak@umk.pl

*Corresponding author

**Abstract.** Climate change and a need for sustainable energy security have been considered as problems that have global character, and which can be only solved under cooperation of the most important global economic players. The European Union has been a global leader in the field that implements environmental restrictions and supports environmental friendly sustainable growth objectives. The example of these actions are climate change and energy objectives included in the Europe 2020 plan, which must be implemented by all the European economies. The disparities between the "old" and "new" EU countries can be considered as a natural result of differences in development level and consequence of different historical path. However, an interesting question relates to the problem of differences and similarities in this field concerning the developed "old" EU countries. As a result, the main aim of the article is to analyse similarities and differences between the EU-15 economies in regard to reaching climate change and energy objectives declared in the Europe 2020 plan. In order to monitor the result of the European countries the European Commission suggested five benchmark criteria. Therefore, the scientific problem should be considered as a multiple-criteria analysis task. As a result, to obtain the objectives of the article the Ward's clustering method was applied. The method allowed grouping the countries into homogeneous clusters for the years 2005, 2010 and 2015. The analysis was based on data from Eurostat. The conducted research confirmed disparities between the EU-15 countries, which are stable in time.

**Keywords:** cluster analysis, climate change and energy objectives, Europe 2020, EU-15, Ward's method.

**JEL Classification:** C38, F64

## 1. Introduction

Creating sustainable energy systems that do not increase the problem of emissions of gasses resulting in climate change has been the objective of the European Union for last two decades (Nichifor, 2015; Păunescu & Blid, 2016). The formal consequence of this approach are climate change and energy objectives included in the Europe 2020 plan, which should be implemented by all European Union countries. In the case of the European Union economies the disparities between the "old" and "new" countries can be treated as a historical result of differences in development level. However, this article concentrates on a problem of differences and similarities in this field in regard to the developed "old" EU economies. Therefore, the main aim of the research is to analyse similarities and differences between the EU-15 countries in regard to reaching climate change and energy objectives declared in the

Europe 2020 plan. Based on the proposals of the European Commission there are five benchmark criteria that should be applied in order to analyse the results of the EU economies. Thus, in order to reach the objectives of the research Ward's clustering method was used. The method allowed to group the countries into homogeneous clusters for the years 2005, 2010 and 2015.

## 2. Application of Ward's clustering method and diagnostic variables

The European Commission formed five benchmark criteria, which should be applied for assessment of the result of the EU countries in regard to implementing energy objectives supporting sustainable growth. The criteria have been accepted in the Europe 2020 plan (Balcerzak, 2015; Stanickova, 2017). Therefore, the issue of comparing the EU countries can be considered as a standard taxonomic problem. For last few decades taxonomic and multiple-criteria decision making and classification tools have been commonly applied in economics, as they enable to quantify and describe complex and often difficult to measure phenomena (Müller-Frączek &, Pietrzak, 2011; Sekuła and Śmiechowicz, 2016; Pietrzak, 2016; 2017a; 2017b; 2018; Walczak & Pietrzak, 2016; Zavadskas et al., 2016; Mardani et al., 2016; Krylovas et al., 2016; Chrupała-Pniak et al., 2017; Pietrzak et al., 2017; Stankeviciene et al., 2017; Keshavarz Ghorabaee et al. 2017; Cano et al., 2017, Skvarciany et al., 2018). In regard to classification methods cluster analysis has become one of the most commonly applied methodologies in comparative empirical research in economics. The application of cluster analysis enables classification of objects into homogeneous groups, which is assessed on a basis of designated similarity between objects. For determining the similarity, chosen metrics are used, where the most commonly applied distance measure is the Euclidean metric (Trąpczyński et al., 2016; Mačerinskienė & Aleknavičiūtė, 2017; Zygmunt, 2017; Pietrzak & Ziemkiewicz, 2017; 2018a, 2018b). The classification of objects is carried out with application of agglomeration methods. Ward's method is one of the most commonly used agglomeration method in social sciences, due to its property of generating many clusters with small number of objects (Ward, 1963; Małkowska and Głuszak, 2016; Miłek, 2018; Nowak, 2018). Ward's method is based on the analysis of variance, where clusters are determined on the basis of the criterion of minimizing the sum of squares of distances between objects. In the case of current paper the similarities between the EU-15 economics were analysed in regard to reaching climate change and energy objectives. The research was based on five criteria, which were given by European Commission. The criteria are presented in T1. Four of the variables were considered as de-stimulants and one as stimulant $x_2$. In the case of stimulants the higher value of diagnostic variable is preferred and for de-stimulants the situation is opposite.

*Table 1: Diagnostic variables suggested by European Commission*

| Variable | Description | Unit |
|---|---|---|
| x1 | Greenhouse gas emissions, base year 1990 | Index (1990 = 100) |
| x2 | Share of renewable energy in gross final energy consumption | Percentage |
| x3 | Primary energy consumption per capita | Million tonnes of oil equivalent (TOE) per capita |
| x4 | Final energy consumption per capita | Million tonnes of oil equivalent (TOE) per capita |
| x5 | Greenhouse gas emissions in ESD sectors per capita | million tonnes CO2 equivalent per capita |

*Source: own work based on Eurostat data.*

## 3. Results

The Ward's cluster analysis was done for three years 2005, 2010 and 2015 and was based on data provided by Eurostat for Euro 2020 headline indicators: http://ec.europa.eu/eurostat/data/database). In the first stage the data was standardised with application of formula:

$$x_{ij} := \frac{x_{ij} - \overline{x_j}}{s_j} \qquad i = 1,2,...n,\ j = 1,2,...,p, \tag{1}$$

where $\overline{x_j}$ and $s_j$ are average value and standard deviation for a given variable.

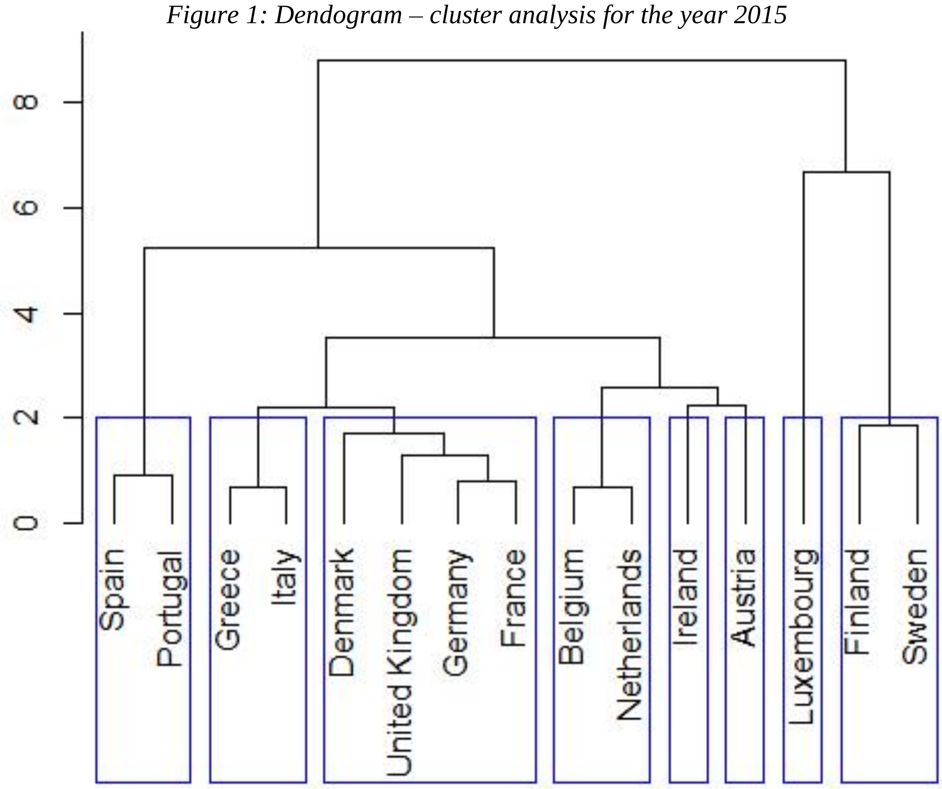
Ward's method enabled to establish a hierarchical structure for the countries, which is presented on an obtained dendograms for the year 2005, 2010 and 2015 (Figures 1-3) and summarised in table 2. In spite of relatively low number of objects under evaluation (15 EU counties), it was possible to group the countries into 8 clusters. The relatively big number of obtained clusters can indicate an existence of significant differences between countries in regard to analysed phenomenon. The obtained results confirm that the similarities between countries can be related both with development level and geographical location of the economies. In the year 2015 in the first cluster Spain and Portugal were found. Then, in the second cluster three were Greece and Italy. Denmark, United Kingdom, Germany and France have formed the third cluster. Such Benelux countries as Belgium and Netherlands were grouped in fourth cluster. Ireland, Austria and Luxemburg formed single clusters. Finally, in eighth cluster one could find two remaining Scandinavian countries: Finland and Sweden. In the years 2010 and 2005 quite a similar picture was obtained, which can confirm quite high stability of obtained results in time.

*Table 2: Results of Ward's clustering for the year 2015, 2010, 2005*

| **Country** | **2015** | **Country** | **2010** | **Country** | **2005** |
|---|---|---|---|---|---|
| Spain | 1 | Spain | 1 | Spain | 1 |
| Portugal | 1 | Portugal | 1 | Portugal | 1 |
| Greece | 2 | Greece | 1 | Greece | 1 |
| Italy | 2 | Italy | 2 | Italy | 2 |
| Denmark | 3 | Denmark | 2 | Denmark | 2 |
| United Kingdom | 3 | United Kingdom | 3 | United Kingdom | 3 |
| Germany | 3 | Germany | 3 | Germany | 3 |
| France | 3 | France | 2 | France | 2 |
| Belgium | 4 | Belgium | 4 | Belgium | 4 |
| Netherlands | 4 | Netherlands | 4 | Netherlands | 4 |
| Ireland | 5 | Ireland | 5 | Ireland | 5 |
| Austria | 6 | Austria | 7 | Austria | 6 |
| Luxembourg | 7 | Luxembourg | 6 | Luxembourg | 7 |
| Finland | 8 | Finland | 7 | Finland | 8 |
| Sweden | 8 | Sweden | 7 | Sweden | 8 |

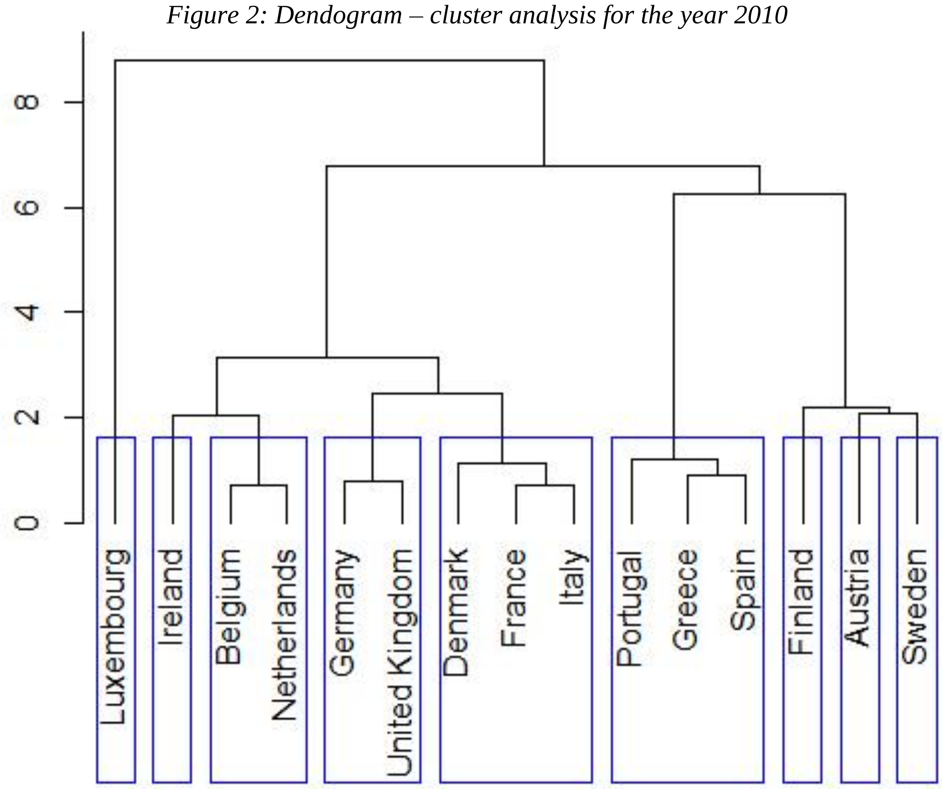
*Source: own estimation based on Eurostat data with application of R-Cran package.*

*Figure 1: Dendogram – cluster analysis for the year 2015*



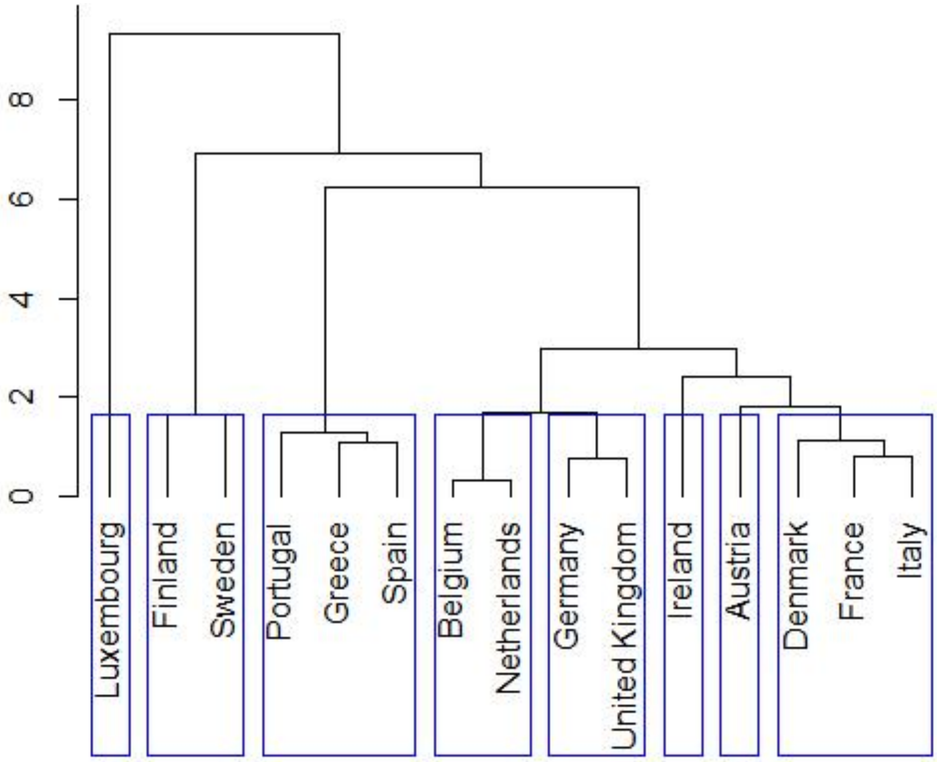

*Source: own estimation based on Eurostat data with application of R-Cran package.*

*Figure 2: Dendogram – cluster analysis for the year 2010*




*Source: own estimation based on Eurostat data with application of R-Cran package.*

*Figure 3: Dendogram – cluster analysis for the year 2005*




*Source: own estimation based on Eurostat data with application of R-Cran package.*

## 4. Conclusion

The current article was devoted to the problem reaching climate change and energy objectives proposed by the European Commission in the Europe 2020 plan. The research was done for old EU-15 economies, which on the one hand form relatively homogenous group of developed economies, and on the other hand due to its development level should implement the benchmark criteria relatively easily. The main aim of the article was to analyse similarities and differences between the EU-15 economies in regard to reaching climate change and energy objectives declared in the Europe 2020 plan. The conducted research confirmed significant disparities between the EU-15 countries. The disparities are stable in time, which indicate that building energy systems that fulfil requirements of sustainable development is relatively long term process also in the case of developed economies. Form the policy perspective, this factor should be taken into consideration in regard to political declarations, which affect the European Union as a whole and national energy security strategies of separate countries.

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# CIRCULAR ECONOMY AS A PREREQUISITE OF SUSTAINABLE DEVELOPMENT IN THE GLOBAL ENVIRONMENT

Jaroslav Bednárik[1,a,*]

[1]University of SS Cyril and Methodius in Trnava, Faculty of Mass Media Communication, Department of Marketing Communication, Námestie J.Herdu 2, 917 01 Trnava, Slovakia

[a]jaroslav.bednarik@ucm.sk

*Corresponding author

**Abstract.** Enterprises, which have sustainable development included in their philosophy and strategy, are keeping in mind how they are influencing the environment. Their perception of this issue is in the spirit of creating global social values and a positive effect on their business area. A sustainable business is based on a mutual connection of global issues of environment, the economy and the functioning of society. A circular economy offers certain practical solutions, which are focused on using natural resources, which are limited, streamlining production and decreasing the amount of the waste and its recycling. These attributes are becoming essential parts of the global market, while there is a change of orientation from the traditional perception of economy, connected with a one way linear process, to a circular economy. The goal of a circular economy is to make a stable economic growth of a country and a healthy environment. To reach trust in this system, the society and the individual need enough information about it and a change of their mind-set. Based on some practical examples, we can say that a circular economy has a huge ecological and economical potential for Europe, which will appear in sustainable profit, creating new job opportunities and of course a much higher quality of the environment. This article is dealing with the issues of a circular economy as a prediction of sustainable development in global environment and it gives examples of situations in real-life, about how to deal with these issues.

**Keywords:** circular economy, sustainable development, global environment.

**JEL Classification:** Q01, Q5

## 1 Introduction

The aim of the paper is to point out the circular economy as one of the ways to ensure the company's economic growth. We can talk about the scientific concept of the model of sustainable development of the economic economy, which we can also call a certain kind of ecological economy. It is therefore an economic model where some of the unused natural resources in the form of recycling are returned to the production process. Since natural resources are not permanent and inexhaustible, they become a global issue for EU member states. Individual countries are preparing measures to make their most effective use possible. In strategic documents prepared by the European Commission, we can find circular approaches starting with raw materials, production, consumption, waste prevention and waste management. And in the area of secondary raw materials, i.e. waste management and their subsequent recycling, the emphasis is placed on the contribution. In order to achieve the stated goal of this document, we processed the published knowledge and the origins of domestic and foreign authors regarding the subject under review, using the synthetic-analytical method and the inductively-deductive method.

## 2 Sustainable development and circular economy

Sustainable development means a targeted, long-term (continuous), comprehensive and synergic process that affects the conditions and all aspects of life (cultural, social, economic, environmental and institutional) at all levels (local, regional, global) the model of a particular community (local and regional community, country, international community) that satisfies the biological, material, spiritual and social needs and interests of people, eliminating or severely restricting interventions threatening, damaging or destroying conditions and forms of life; rational use of its resources and protection of the cultural and natural heritage. According to the authors (Šálková, Regnerová and Hes, 2015), sustainable development represents the balance of economic, social (including ethical) and ecological aspects of a prosperous society that will use its resources gently. Sustainability is not only a goal, but it is a permanent process in which the most pressing and topical issues need to be tackled. It must be remembered that companies must adapt to a new and constantly changing technological and knowledge environment, in particular through innovation of technology and knowledge and innovation. (Blazlak, 2017). This view is also supported by the authors Kadłubek, Dziuba and Ingaldi, 2017) who argue that the concept of sustainable development specifies the determinants of enterprise activities and their development based on the synergy of social, economic and ecological aspects. Blisak a Šalgovičova state (2016) following: The development of such values can be considered as means of innovation, investment, and further development. “Innovations significantly affect our life and they have potential to become the driving force for future opportunities of a company. Their visibility is present in almost every human activity. In local and global market context they can be introduced as a tool for sustaining proper development of economy and ensure competitiveness of the company.” Ceniga a Šukalová (2017) claim in this context, that: ”More organizations are making an effort to implement sustainable business practices as they recognize that in doing so they can make their products more attractive to consumers and also reduce expenses, including packaging, transportation, energy/water usage, etc.” From the perspective of the European Union, sustainable development is an essential and universal goal of constant improvement of the quality of life and well-being of present and future generations by linking economic development, environmental protection and social justice. Also the Europe 2020 sustainable development strategy and the targets set out in the strategy are the example of the life quality measures monitored both in the particular EU member states and the entire European Union. (Stefko et al., 2016; Czech, 2016) and it is supported by the EU structural funds. Slovakia has already signed up for this program, while in 2001 the National Sustainable Development Strategy was approved. The environmental, social, economic and institutional pillar can be considered the main pillars of sustainable development. The National Strategy for Sustainable Development contains orientations and priorities, strategic objectives, paths and means to support priorities and achievement of strategic goals of sustainable development of the SR. Following the strategy's definition, the next step was the adoption of the Sustainable Development Action Plan, which set out individual sub-objectives in the area (Stefko et al., 2015; Kanianska, 2017).

In this context, it is important to point out that a large number of environmental problems associated with business operations and resource use have a global character that goes beyond the regions or borders of the countries in which the company operates. On the other hand, organizations can try to push through their approaches in their foreign affiliates to ensure global development in sustainability and environmental performance. One of the tools for achieving sustainable development while ensuring a better quality of life on the planet is a circular economy. Circular economy is a concept that began in the nineties. Its basis is the change of cycle source -product -pass to source -product -recycled source.

*Figure 1: Circular economy*


*Source: own processed according* to *http://www.incien.sk/cirkularna-ekonomika/.*
*Mining of natural sources, Production, Distribution, Consumption, Waste*
*Raw materials, Recycling, Design, Production – Reprocessing, Distribution, Consumption, Use, Re-use, Use, Repair, Collection,*

The goal of a circular economy is to save and efficiently use limited natural resources, streamline production of high efficiency products and low resource consumption and low emissions. It includes prevention and reduction of waste production and consequently pollution sources up to recycling when resources are returned back to the economic cycle, which is increasingly urgent in practical terms. In this way, the waste and the costs of material inputs and energy necessary for the production of new products are minimized (Stefko et al., 2014; Jurišová, 2017).

A circular economy is a sustainable development strategy that creates functional and healthy relationships between nature and human society. Circular economy is based on three principles of "3R" (Reduce - Reuse - Recycle), which are an economic code of conduct.

The Reduce Principle - represents the orientation of the economy to scientific and technological progress and innovation in order to make the most efficient use of resources with the least use of raw materials and energy consumption.

The Reuse Principle - means to require the production of reusable products and packaging materials. Manufacturers and designers should focus primarily on the construction of durable and reusable products, thereby lengthening their lifecycle.

The Recycle Principle - means, once the product and product life has ended, to reuse them as available resources. Need to build and support the development of the recycling industry that brings waste and scrap (generated intermediates, raw materials and other materials) into the production process or other uses. (https://www.odpady-portal.sk/).

We may agree with the claim that the circular economy means providing opportunities for all. It is necessary to refute the myth that there is a contradiction between the economic and ecological state of society. With intelligent policies and well-targeted investments, countries can protect the environment with their economies growing, creating adequate employment opportunities and accelerating progress in society. (Simo-Svrcek, Palus, Parobek and Supin, 2017).

The European Commission has published the report of the H2020 Expert Group "From Niche to Norm: A systemic approach to Eco-Innvation to achieve a low-carbon, Circular Ecoomy". The report states that: "It is necessary for the EU to start using its financial capacities and its impact on starting a circular model of the economy that treats all resources as valuable and productive." (http://slord.sk/sk/).

# 3 Circular economy and Slovakia

The European Environment Agency, which, in cooperation with the NGO Friends of the Earth and Zero Waste Europe, has worked out a questionnaire for the Member States of the European Union to examine the readiness and attitudes of the countries to the circular economy with a focus on a new waste legislation. On the basis of the results of the questionnaire survey, it can be said that Slovakia is located in the middle of the member countries. The share of recycled municipal waste is the lowest in the European Union, EEB has appreciated Slovak plans. "Slovakia fully supports minimum requirements for producer responsibility as legally binding by 2030," the analysis states. "Slovakia is pushing for stronger eco-design," he adds to the question of the properties of products that facilitate their reuse or recycling. Supporting the circular economy in Slovakia and the world in general is a necessity that will contribute to such economic growth that will minimize environmental impacts (EEB, 2017).

Based on the results of analyses aimed at investigating this serious issue, which was dealt with by the Circular Economics Institute, it can be argued that Slovakia is one of the few countries in the EU which, as part of a gradual transition to the circulating economy, must still focus on addressing the high share of landfilled waste, focus on waste prevention and sorting and higher recycling rates relative to landfilling and waste recovery. Also Slovakia wants to be among the developed countries that invest in innovative technological solutions with the aim to accelerate economic growth and ensure long-term sustainable development.

# 4 PSA Peugeot Citroën Slovakia and waste management

PSA Peugeot Citroën Slovakia committed itself to a sustainable development strategy to minimize its environmental impact and reduce energy consumption. The automotive plant wants to improve its environmental behaviour and improve energy management by constantly improving its compliance with legal and other requirements by introducing best practices.

The principles of environmental protection and energy management are mainly focused on:

- Respecting legal and other requirements.
- Prevention of pollution of all components of the environment:
    - Air emission control.
    - Managing the total amount of waste generated, especially respecting the obligation not to waste the waste from the production process by landfilling and increasing the share of waste recovery.
- Managing electricity, natural gas, compressed air and water to reduce their consumption to just the right amount.
- Utilization of all options to protect the environment and reduce energy consumption, especially during the launch of new industrial projects.
- Involving and raising awareness of all people, including employees of external companies, respecting the race rules and in line with the goal of constantly improving our environmental behaviour and energy management.

The basic principles of waste management applied in the production centre are prevention of waste generation, rigorous sorting of waste directly at the place of its generation and respecting the internal rules for waste sorting. The annual amount of waste generated is directly related to the number of cars produced. The indicator of the environmental behaviour of the plant is the amount of waste per car produced (kg / car). This indicator also makes it possible to compare the environmental behaviour of other vehicle manufacturers.

Established waste prevention measures and clear rules for their classification have resulted in reduced waste generation and an increase in the share of waste being recovered. Over the last five years, waste production has fallen by 30%. When dealing with waste the priority in waste management is the material or energetic evaluation. Almost all packaging waste are valued in material matter, contaminated oils and solvents, sludge from the biological waste water treatment plant and biodegradable waste. All wastes with sufficient calorific value such as paint sludge, contaminated absorbents, mixed packaging, and the like are being evaluated energetically.

The PSA cooperates with Sloveo company. Sloveo company provides its services to the PSA company in Trnava as a subsidiary of Veolia. It provides comprehensive services for the Trnava plant related to the operation of industrial park and management in the field of water, waste management, power engineering and other services. The management model of the waste management process is based on the DEMING CYCLE "PDCA", which is based on the principle of continuous improvement.

## 4.1. "Plan - Do - Check - Act"

### Collection of waste

Waste collection is carried out in accordance with the Waste Act in order to maximize the recovery of waste in the form of recycling and energy utilization and to maximize the reduction of its negative impact on the environment. Collection sites are designated in the halls and outside the halls where marked containers are placed on individual types of waste.

Waste is collected selectively and each employee of PCA and employees of other companies operating in the PCA plant are responsible for sorting waste.

**Designation of collection vessels**

Collector vessels are marked with a label corresponding to each type of waste in accordance with the PCA waste labelling catalogue.

**Method of waste collection**

From the collection points waste is transferred by designated PCA employees or by handlers of waste to small collection waste. From small collection waste, waste is handled by waste handlers to a central waste disposal facility where waste is stored prior to further disposal (recycling, energy recovery, landfilling ...). In small waste collections, containers are located for each type of waste that is produced at a given location.

**Inspection of waste collection**

The effectiveness of the activities carried out in the field of waste collection shall be verified in the form of:

- self-audits performed by Slovak employees,
- audits by PCA staff.

The employee performing the audit shall process the record of the audited audit, indicating the deficiencies identified and the deadlines for their removal. The company has decided to focus on waste management strictly according to the hierarchy advocated by the European Union. As a result, since the beginning of production in 2006, Slovak PSA has achieved a reduction of up to 70% in waste production. When converted to a manufactured car, this is a reduction from 69 to 17kg per vehicle, except for metallic waste that does not count towards this balance. At the same time the PSA has increased the share of recovered waste with material assessment of 60% and energy of 30% last year. The company also does not forget to educate employees in this area. Employees of the car have regular training on environmental policy. According to PSA, waste classification is important especially for their subsequent energy or material recovery.

## 5 Conclusion

Currently there is a trend where we can use new, more efficient technologies, and our customers are increasingly focusing on the impact of industrial production on the environment. From this perspective the ring economy has a significantly better position to succeed. We have to realize and we can see in PSA Peugeot Citroën Slovakia that thanks to the circular economy we can keep the resources in the production process as long as possible to maximize their value during use and to recycle them at the end of their life cycle. The transition to a circular economy in a global environment will contribute to mitigating the environmental and health problems caused by the current, linear economy based on the "make-use-discard" principle. However, it will require extensive changes in production and consumption systems that go far beyond the efficient use of resources and waste recycling. At the same time it is a challenge for both present and future generations to ensure the sustainable development of the whole society.

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# SLOVAKIA AND TAX EVASION OF VALUE ADDED TAX IN THE GLOBAL ECONOMY

Alžbeta Bieliková[1,a], Hana Bartková[2,b,*]

[1]VŠB - Technical University of Ostrava, Faculty of Economics, Department of Accounting and Taxes, Czech Republic,

[2]VŠB - Technical University of Ostrava, Faculty of Economics, Department of Accounting and Taxes, Czech Republic,

[a]alzbeta.bielikova@vsb.cz, [b] hana.bartkova@vsb.cz

*Corresponding author

**Abstract.** This article deals with the issue of VAT evasion in the Slovak Republic and the policy of reducing tax evasion in the global economy. The effective VAT collection is a very important part of the implementation of state budget in term of revenue structure for each state. The importance of tax collection is also confirmed by the European Union. A substantial part of the revenue structure in the Slovak state budget includes VAT. From the point of view of public finances, VAT contributes to the state budget more than all direct taxes; it means that this tax is extremely important. VAT is also a dominant tax for households for two reasons. Firstly, if VAT is the main source of public revenue, it means that it most contributes to the tax burden on households by reducing disposable income. Secondly, VAT is characterized by generality; it means that VAT is applied without exception to all households. The tax system of the Slovak Republic and the European Union is not perfect. Many tax fraudsters abuse and rob the state in the form of excessive VAT deductions. In the past, the Slovak Republic was one of the worst countries in the European Union in terms of tax collection efficiency, but we have seen some progress in recent years.

**Keywords:** tax, global economy, VAT, tax evasion, state budget.

**JEL Classification:** H 2, H 21, H 26

## 1. Introduction

Since the beginning, European Union tax policy has been very closely connected with an idea of single internal market, creation of which has been mainly based on removing the barriers of the business. Those barriers have represented different systems of indirect taxing as well as different taxation rates. The most important directive as it comes to harmonization of indirect taxes, so called sixth Directive No. 77/388/EEC is, the aim of which was to harmonize different national systems. In connection with the fight against tax evasions linked to intra-communitarian fulfillment, the Directive No. 2008/117/EC was adopted in the frame of the European Union. This directive specifies conditions of summarized reports submission of the tax payers and extends this duty also to the services. Above that, Regulation No. 143/2008 has been issued directing a cooperation in the field of tax administration as well as information exchange regarding the rules connected with the place of service provision, special regimes and the way of VAT refund. Together with continuing liberalization of the business and services, trade transactions increase and small enterprises become regional and worldwide operating. (Hakalová, 2016). International tax environment enable them to use different structures and forms of tax planning, thank to which they limit their tax duties or avoid them completely. The gap in a VAT collection thus represents the difference between expected revenues from VAT (so called revenues from theoretical bases of VAT) and factually collected yields form VAT. This indicator enables to measure an efficiency of tax collections or tax losses. The gap´s size as for VAT is currently a serious problem for the EU and that is the reason why we pay attention to it in our paper.

## 2. Characteristic of tax evasion

Burák defines the tax evasion as the result of the entire economic behaviour of tax subjects focused on decrease of tax duty against the state based on legal or illegal principle. (Burák, 2002). In English professional literature, there are the terms „tax avoidance“ and „tax evasion“ being distinguishing. The difference is in their legality. Tax avoidance (avoiding the taxpaying) represents basically legal activities leading towards minimization of paid tax (we could call it "effective tax optimization"). The mean being used during this act, the usage of all accessible legal regulations including exceptions and tax concessions is. The gaps in tax law and amended regulations are using very often, too. Tax evasion is considered an illegal activity, for which the tax subject becomes the subject of prosecution. To assess a seriousness of tax fraud, an individual approach is needed as well as many other criteria. Based on tax criterion, tax evasions can be divided into those being not cleaned out from tax base and those being made during deductions and concessions. (Bielikova, 2015). It is interesting to watch why the tax subject chooses a particular area of tax system to cheat the state institutions thinking his information is very well masked. The reason why the states are recently very interested in tax evasion is that they make effort to fulfill the public budgets as well as they want to strengthen a tax justice.

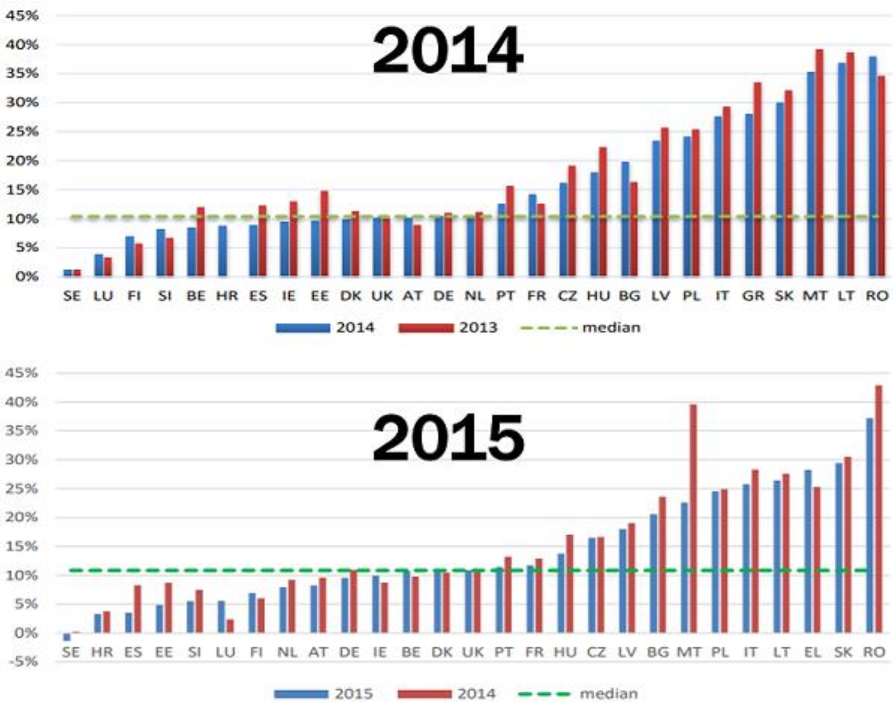
## 3. Single European VAT environment

In the frame of existing VAT system, all crossborder transactions are divided into two groups – intra-communitarian goods supply exempted from tax and taxable goods or service delivery from different EU member state. Above mentioned principle of taxes in the state of consumption in the single European market, which, at the beginning, was meant as temporary one, became long-termed because of unsuccessful effort in tax rates unification. An implementation of taxation principle in original state as the final principle in the frame of VAT has been a long-term aim of the European Commission. Under the maintenance of VAT tax neutrality, this principle demands an existence of single tax rate. While trying to harmonize the tax rates in VAT system, problems occurred thus the European Commission has reassessed its approach to it. (Bánociová, A., 2015). Entire harmonization, which basically means an identical shape of national tax systems in all aspects, has stopped to be the aim of the EC and instead, it has started to consider only a tax approximation. The member states not only applied different tax rates but the number of tax rates was different, too. There were states with the only one rate, the group of states with two rates was the biggest one and some states applied even three tax rates. Because the system with three tax rates is administratively very demanding (not only for the state but for the tax payers as well), the EC has decided that the European Union is to be use two tax rates system – basic and reduced ones. When considering the most often used techniques of tax frauds at VAT, those are the following ones: wrongs connected with the export of the goods or services, fictive provisions of services, chain – carousel frauds (occurring in minimum between two states of the EU), non-declaring an real value of the goods when importing it, legal avoiding of tax payment (official applications for permission to postpone the tax duty aiming at “extending” the time and the consequent obtaining of periods to provide the executory acts in other words to obtain the time to disappear. (Bielikova, 2017).

## 4. Discussion

VAT enables the excessive reductions to be paid back, which causes the effort in making the tax fraud. Tax evasions from VAT represent a significant problem not only for Slovakia but for entire European Union as well and create up to 64 % of all tax evasions. As already mentioned above, the most often used techniques while tax frauding, carousel frauds are. Carousel (chain, circle) frauds are such frauds connected with a misuse of VAT by not fulfilling tax duties, excessive reduction through a chain of companies operating in international environment. Real or fictive goods circle between real or fictive companies. Carousel frauds cause big losses as for tax yields in particular member states. One of the ways how to fight these frauds, cooperation among the member state by information exchange is. Tax system is not perfect neither in Slovakia nor the European Union. Tax fraudsters use this imperfection to steal money from the state by excessive reduction of VAT. By estimation, the EU states lost in 2015 about 152 billion EUR due to ineffective collection of VAT. Slovakia had, by the case study provided by the European Commission, the second biggest gap as it comes to VAT collection being of 29,4 %. Just Romania was worst with the gap of 37,2 % and Greece being the third with 28,3 %. The following figure illustrates the evolution of the VAT gap in the EU for the years 2014 and 2015.

*Figure 1: Evolution of the tax gap in the EU for the years 2014-2015*




*Source: own processing based on the European Commission*

One of the ways how to improve and make cooperation of better quality is to create a European system of VAT controlling reports. This aspect has pushed the Slovakian government to adopt regulations, which would return the level of VAT collection effectiveness to at least 2006. On 1st October 2012, it adopted the action plan of fight against tax frauds. This plan included 50 measures of legislative and operational character, which were continuously applied in 3 phases following always annual anniversary of previous implementation. As said above, measures of VAT controlling reports significantly improved the collection and control of VAT in Slovakia. By many professionals, this is the most effective measure being implemented in the frame of the fight against tax frauds. By creation of the European system of VAT controlling reports, the control of international transactions will be more effective because a part of carousel frauds has its core in creation of circle fictive invoicing trade chains among domestic and international companies. Just by involvement of international company into the business the control is in some cases even impossible.

## 5. Results

At present time when tax payers use different forms of international tax planning, the state should define treaties´ regulations in such way to avoid the cases of not paying the taxes. The project EUROCANET (European Carousel Network) has been started to fight VAT frauds. The aim of this project is to create a net of information exchange among specialized national units in the field of carousel frauds, namely by monitoring high risky tax subjects, which issue the invoices to businessmen disappearing in the states taking part in this project. (Nerudová, 2017). The implementation of VAT controlling report in Slovakia in the beginning of 2014 can be considered the turning measure. By implementation of those reports, the state gained complex information about business flows, based on which it is able to identify suspicious transactions, payments. Tax controllers thus can discover suspicious transactions. Slovakian police and tax controllers exposed many cases of tax evasions in the past, which were connected with so called carousel frauds. In those frauds, companies from several states faked trades in order to apply for excessive VAT reduction illegally. In the frame of European states, Slovakia was known as the country with lower level of effectiveness as it comes to VAT collection. Since 2012, some improvement came by implementation of measures to avoid tax evasions. Since 1st January 2015, controlling report does not have to be submitted on the day of a tax returns submission. Tax subject submits the controlling report in electronic way of XML format. This report includes the data on tax duties and on particular applied reductions for tax period. Based on issued and received invoices (goods and services supply and delivery), detailed data are reported about realized and received taxable trades, based on which the tax payer is obligated to pay taxes or is entitled to reduce the taxes. In case the tax payer obligated to submit the controlling report would not do so or would not follow some of legal conditions, would be sanctioned by a sanction of up to 10.000,- EUR. If he would repeat such breach, top limit of sanction is of 100.000,- EUR. The amount of the sanction is assessed based on the seriousness and length of illegal state. By the portal of financial administration, the controlling report discovered 2000 suspicious schemes, which included more than 42 millions of risky transactions within the period from 2014 implementation to the end of 2015.

**National receipts lottery** – a primary aim of this measure was to motivate the public to get receipts from registration cash boxes. By issuing the receipt, the businessmen registered the takings by electronic registration cash box. By registration of receipt, a customer “entered the lottery" as well as he informed the financial administration about paying the particular sum to the businessmen and thus an option to conceal incomes or not to declare takings. Data from receipts being registered in National receipts lottery are used when providing the tax controls. Based on the results of this period, estimated potential positive impact to annual VAT yield was 7 – 8 mil. EUR.

**Cash payment limitation** – this is the measure having come into effect since 1st January 2013 by adopting the Act No. 394/2012 Coll. on cash payment limitation. This act bans to provide with cash payments above limited level and takes into consideration whether the payments is made by natural or legal person. The act forbids the amount above 15.000 EUR to be paid in cash by natural person (person not making business). Natural person making business or any other activity bringing incomes or legal person are forbidden to pay in cash the amount above 5.000 EUR. The breach of mentioned act results in sanctions – for natural person it is up to 10.000,- EUR, for legal person it is up to 150.000,- EUR. The sense of such measure is to make the control of finances flowing through bank accounts easier and bank transaction is provable contrary to cash flow. The financial administration can request the bank accounts statements of the controlled subject and this way it can easily check a harmony between submitted invoices and bank transactions.

Final measure realized in Slovakia in order to eliminate VAT tax evasions, the **implementation of the risky subjects records or list of VAT payers, who were found to cancel the VAT payment** was. This list is up-to-dated and publically accessible. The headquarters of financial administration erases VAT payer from this list if the reasons based on which he was listed disappear and the VAT payer has not breached his duties, has submitted his tax return or controlling report, paid taxes and has been accessible at the seat or business address within the period of six months in sequence.

The European Commission offers the basic areas, which are to be paid higher attention to:

- **to improve cooperation within the EU and with the third states:**
    - to support the member states in order to make them seek the VAT gaps,
    - to implement automatic mechanism, which would enable to pair the data, which each party of transaction would report within the EU,
    - to strengthen the role of EURIFISC in the fight against VAT evasions in EU,
    - to reassess existing legislation in the field of administrative cooperation and fight against VAT evasions and to propose such measures which would aim at weak aspects of existing legislation,
    - to support cooperation of individual national tax administrators as for the fight against organized crimes in the field of carousel frauds and to focus on possible cooperation with Europol and OLAF including a founding of the European public prosecutor,
    - to deal with frauds in the field of electronic business,
    - to strengthen cooperation with the third states by treaties on administrative cooperation and help when executing tax payables,
    - to use synergic effects based on cooperation with international organizations such as OECD, CIAT, IOTA, IMF, etc.,
- **to make the tax administration more effective:**
    - Commission will provide a strategic discussion with financial ministries of the member states, which should aim at coordination,

- to make a development of competence frame of tax officers easier and support it,
- to provide with a platform to share knowledge and experience and for technical help,
- new approach to tax collection developed by member states,
- to monitor a performance of tax administration as it comes to tax collections as well as fight against tax evasions,
- to provide with technical assistance in the field of tax administration as well as fight against tax evasions,

- **to improve a voluntary compliance:**
  - to support a dialog among companies, especially SME and with tax administrators by EU VAT forum,
  - to sponsor concrete projects in the field of fight against tax evasions,
  - to provide a case study on proper sanctions in the field of tax administration,
  - to support an education and communication in order to improve the public´s awareness of a significance to pay the taxes. (Nerudová, 2017).

## 6. Conclusion

By analysis of the real and possible collection of VAT, we have concluded that there is still space to make it more effective. There are several options. The implementation of European controlling report of VAT, which would make the operations of authorities controlling the international transactions easier, we consider the most significant. Current dynamically developing economic relations among the states, which are supported by globalization and liberalization tendencies, pass a current status of tax-law regulation at the international, Union as well as domestic level. Thus, tax evasions bringing negative consequences for tax payers and for member states are the result of such lagging of tax-law regulation behind the needs of globalized economy. It is clear that globalization and harmonization in the area of accounting and taxation contributes to improving global conditions for trading in the EU, increasing the competitiveness and willingness of foreign investors to invest in and outside the EU. The harmonization, not only in the accounting but especially in the taxation, is a relatively demanding process and brings a number of issues and problematic areas (Hakalová et. al., 2017). In the future, tax administrations of the EU member state will have to cooperate more if they want to make effort in decreasing the volume of VAT evasions as well as exchange their experience with tax frauds uncovering and be able to adopt its new methods.

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# WORLD COMPETITIVENESS OPPORTUNITIES IN NOWADAYS: KEY OF LATVIAN FISH PROCESSING SECTOR

Inese Biukšāne[1,a,*]

[1]Riga Technical University, Institute of Agricultural Resources and Economics, Latvia

[a]inese.biuksane@inbox.lv

*Corresponding author

**Abstract.** Modern world economy undergoes changes, which are mostly related to globalization processes, uneven development of countries as well as increase in competition. The potential of countries development and welfare more and more is determined and influenced by competitiveness of national economy. Ensuring competitiveness has become one of the main goals in planning development of states, sectors and companies. In the world economy, competitiveness is set as one of conditions for economic recovery. In development of Latvia’s economy, fish processing sector has always had a significant importance. Assessment of the competitiveness of fish processing sector and its promotion is a topical issue not only among scientists, but also institutions involved in establishment of the policy of fisheries sector and companies working in the sector. The aim of the study is to evaluate competitiveness of fish processing sector in Latvia, determining further development opportunities. Based on the author's developed methodology, the author evaluated and analysed the level of competitiveness in Latvian fish processing sector, identified ensuring spheres influencing competitiveness and provided suggestions for further development of the sector. Significance of the factors and their influence upon competitiveness was checked through causation analysis. Methodology offered by the author may be used in order to evaluate competitiveness of fisheries sectors not only in Latvia but also in other countries. The elaborated methodology can help the institutions and entrepreneurs, involved in establishment and implementation of fisheries policy, to work more successfully, to develop, plan and improve the common policy of the sector.

**Keywords:** competitiveness, fish processing sector, Latvia, strategy.

**JEL Classification:** O12, O21, Q22

## 1. Introduction

In Latvia’s economy development fish processing sector has always had a significant importance, especially in development of the Baltic Sea and Riga Gulf coastline areas. It has not only ancient history and traditions, but also possesses the ability to produce competitive products on the world market. Fish processing is one of the few Latvia's economic sectors which almost completely meets the requirements in the local raw materials (Latvian State Institute of Agrarian Economics, 2014). However, the environmental pollution, adverse spawning conditions as well as intensive fishing and other factors have negative influence on the condition of fish stock; as a result, every year the number of fishing quotas and the amount of the available fish raw materials in the Baltic Sea reduces (Finance Ministry, 2003).

Consequently, companies use in their production the fish caught not only in the territorial waters of Latvia, but also in the international waters. In the recent years, also the freshwater fish bred in Latvia's waters are used. Fish processing companies specialized on production of many types: sterilized canned fish, unsterilized canned fish, smoked fish production, salted fish production, refrigerated fish production and frozen fish production, etc. Due to the embargo imposed by Russia, which affected 39% of fish processing companies, important markets were lost, consequently, the companies faced rapid decline in solvency. To improve the financial position, the companies partly (some companies even completely) stopped production and also dismissed employees for (un)definite period. In order to stabilize the situation, the government as well provided assistance in terms of compensations for partial repay of loan interest. Despite the lot markets, Latvia exports the products of its fish processing sector to more than 60 countries. Using the support opportunities provided by the EU funding instruments and participating in the EU Common fisheries policy creation, Latvian fish processing sector obtains wide possibilities to facilitate its competitiveness.

Assessment of the competitiveness of fish processing sector and its promotion is a topical issue not only among scientists, but also institutions involved in formation of the policy of fisheries industry and fish processing companies. The experience of economy's growth all over the world has proven that there are many different interrelated and mutually influencing factors impacting competitiveness; and consequently methodology for assessment of the competitiveness is not unequivocal. There is relatively few research on fish processing sector's competitiveness, thus raising problems in the process of assessment of competitiveness.

Research aim – to evaluate competitiveness of fish processing sector in Latvia, providing suggestions for further development of the sector. Research tasks: 1) to develop methodology for assessment of competitiveness; 2) to reflect competitiveness of fish processing in Latvia, determining the strategy to be implemented in future and the measures to be taken in its framework. The methodology for assessment of the competitiveness may be used for assessment of competitiveness of fisheries sectors not only in Latvia but also in other countries. The elaborated methodology can help the institutions and entrepreneurs, involved in establishment and implementation of fisheries policy, to work more successfully, to develop, plan and improve the common policy of the sector.

The author used qualitative and quantitative research methods in the research. In addition Microsoft Excel, Microsoft PowerPoint, XLSTAT Premium un IrfanView programme as well as www.google.com questionnaire creation tools were used to process and analyze the research results.

## 2. Materials and methods

After the Model of the Factors Influencing Competitiveness of the Fisheries Sector Cluster (Biuksane, 2016), the author developed the Fish Processing Competitiveness Index at the level of microeconomics. The Index is calculated from 6 sub-indexes: Sub-index of Availability and Quality of Production Factors, Sub-index of Production Competitiveness, Sub-index of Product Competitiveness, Sub-index of Marketing and Management Efficiency, Sub-index of Financial Stability and Sub-index of Cooperation, calculated from their relative scales and their indicators with normalized values (Biuksane & Judrupa, 2016).

The sub-indexes can have a different influence on competitiveness – it can happen that all the sub-indexes may have similar impact, or the very opposite – some of sub-indexes may have a greater influence on competitiveness than another. To find out the influence of sub-indexes, the relative weights of sub-indexes were established. The calculations were based on expert method and survey carried out 18.03.2016 – 21.06.2017 (Biuksane, 2017). 5 representatives from institutions involved in formation and implementation of Latvian fisheries policy took part in the interview. To obtain a more comprehensive opinion, the author also carried out a survey of companies working in the fisheries sector, where 36% of the companies provided the information. The relative weights of sub-indexes were calculated considering the opinion of both the experts and the companies.

To assess competitiveness, the author selected 22 indicators (Biuksane, 2016). The author performed normalization of the indicators on the basis using min-max normalization in values from -5 to 5.

The chosen normalization allows using indicators not with positive and negative values, but also allows keeping the correlation between the actual values of the indicators. It is relevant in order to obtain qualitative and significant results, and to avoid from normalization error and data interpretation problems.

In reliance upon the competitiveness level ($C_L$) and competitiveness growth rate ($G_P$) the author developed several strategies: penetration strategy ($C_{L(-0<)};G_{P(0\leq)}$), enlargement strategy ($C_{L(-0<)};G_{P(>0)}$), development strategy ($C_{L(>0)};G_{P(0\leq)}$) and improvement strategy ($C_{L(>0)};G_{P(>0)}$).

Strengthening of the spheres currently ensuring competitiveness should be carried out in priority sequence guided by the level of competitiveness and its development potential.

In the framework of causal relationship analysis, the author analyzed the importance of the factors influencing the competitiveness of fish processing sector and their impact on the competitiveness. To analyze causal relationships, the author used analysis of principal component and regression analysis.

In the framework of analysis of principal components, multicollinearity of indicators was verified, calculating the Pearson correlation coefficient. Analysis reliability was verified using Cronbach's alpha coefficient – tool for internal consistency analysis developed by the American psychologist Cronbach J.L. in 1951 (Cronbach, 1951). Sampling adequacy was determined through Kaiser-Meyer-Olkin Test (Kaiser, 1960). It is recommended also to conduct Bartlett's Sphericity Test to verify statistical significance, which may be used only if the ratio of number of cases $n$ to the number of variables $p$ is smaller than value 5 (Bartlett, 1950). Since the precondition of Bartlett's Sphericity Test application is not met, the author does not have to conduct the test. To determine the number of factors, the author used Screen Plot developed by Cattell R.B. in 1966, which provides a possibility to identify factors the eigenvalues of which in correlation matrix is larger than 1, thus grouping factors from strong correlation to weak correlation in dimension of certain correlations (Cattell, 1966). In the framework of the analysis the author used also Rotation Method – Varimax with Kaiser Normalization what shows the possibilities of variables inclusion in the obtained factors (Kaiser, 1958). Rotation converged in 5 iterations.

For a precise calculation of regression equation parameters, the author applied Multicollinearity Statistics Method available in MS Excel program, in the framework of which performed Multiple Linear Regression analysis (Kalnins, 2018). To make regression equation the Coefficient of Determination, Adjusted Coefficient of Determination were determined and several statistical tests were conducted: Student's t-distribution (Lafosse & Rodriguez, 2018), Fisher's exact test (Gunel & Ryan, 2017) and Durbin-Watson test (Bartels, 1992); as well as other indicators.

# 3. Results and discussion

The results of the Matrix of Pearson correlation coefficient (Fig 1) show multicollinearity of several variables.

*Figure 1: Matrix of Pearson Correlation Coefficients*

| Indicators | $FR_V$ | $FA_V$ | $E_N$ | AS | $NPA_E$ | $FA_C$ | $FA_D$ | $FA_T$ | $FA_P$ | PL | $FC_P$ | $P_A$ | SR | $MA_E$ | TL | DE | TAT | $P_{ROS}$ | $P_{ROA}$ | $P_{ROE}$ | $PO_N$ | $POC_{\%}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $FR_V$ | 1,000 | | | | | | | | | | | | | | | | | | | | | |
| $FA_V$ | -0,700 | 1,000 | | | | | | | | | | | | | | | | | | | | |
| $E_N$ | 0,725 | -0,659 | 1,000 | | | | | | | | | | | | | | | | | | | |
| AS | -0,682 | 0,934 | -0,842 | 1,000 | | | | | | | | | | | | | | | | | | |
| $NPA_E$ | -0,545 | 0,309 | -0,108 | 0,239 | 1,000 | | | | | | | | | | | | | | | | | |
| $FA_C$ | -0,667 | 0,828 | -0,892 | 0,912 | 0,026 | 1,000 | | | | | | | | | | | | | | | | |
| $FA_D$ | 0,175 | -0,287 | -0,100 | -0,104 | -0,168 | -0,168 | 1,000 | | | | | | | | | | | | | | | |
| $FA_T$ | 0,761 | -0,859 | 0,925 | -0,960 | -0,196 | -0,958 | 0,131 | 1,000 | | | | | | | | | | | | | | |
| $FA_P$ | -0,454 | 0,221 | -0,019 | 0,115 | 0,945 | -0,051 | -0,317 | -0,082 | 1,000 | | | | | | | | | | | | | |
| PL | -0,662 | 0,918 | -0,783 | 0,971 | 0,366 | 0,881 | -0,228 | -0,932 | 0,270 | 1,000 | | | | | | | | | | | | |
| $FC_P$ | -0,730 | 0,955 | -0,598 | 0,830 | 0,240 | 0,777 | -0,358 | -0,774 | 0,198 | 0,789 | 1,000 | | | | | | | | | | | |
| $P_A$ | -0,726 | 0,972 | -0,688 | 0,915 | 0,322 | 0,874 | -0,417 | -0,886 | 0,262 | 0,930 | 0,936 | 1,000 | | | | | | | | | | |
| SR | 0,035 | -0,147 | 0,478 | -0,317 | 0,548 | -0,388 | -0,043 | 0,392 | 0,560 | -0,188 | -0,173 | -0,172 | 1,000 | | | | | | | | | |
| $MA_E$ | -0,532 | 0,292 | -0,044 | 0,170 | 0,972 | 0,005 | -0,289 | -0,137 | 0,979 | 0,310 | 0,274 | 0,327 | 0,580 | 1,000 | | | | | | | | |
| TL | -0,261 | 0,440 | 0,126 | 0,255 | 0,605 | 0,017 | -0,318 | -0,068 | 0,582 | 0,311 | 0,436 | 0,361 | 0,492 | 0,628 | 1,000 | | | | | | | |
| DE | -0,284 | 0,559 | -0,651 | 0,626 | -0,466 | 0,697 | 0,213 | -0,640 | -0,514 | 0,484 | 0,562 | 0,510 | -0,626 | -0,480 | -0,334 | 1,000 | | | | | | |
| TAT | 0,683 | -0,855 | 0,903 | -0,961 | -0,148 | -0,973 | 0,180 | 0,984 | -0,055 | -0,946 | -0,762 | -0,888 | 0,382 | -0,098 | -0,117 | -0,618 | 1,000 | | | | | |
| $P_{ROS}$ | -0,512 | 0,244 | -0,013 | 0,123 | 0,970 | -0,051 | -0,292 | -0,096 | 0,986 | 0,264 | 0,228 | 0,278 | 0,567 | 0,995 | 0,588 | -0,505 | -0,050 | 1,000 | | | | |
| $P_{ROA}$ | -0,530 | 0,280 | -0,065 | 0,168 | 0,966 | 0,000 | -0,297 | -0,139 | 0,993 | 0,309 | 0,263 | 0,317 | 0,547 | 0,993 | 0,590 | -0,470 | -0,099 | 0,996 | 1,000 | | | |
| $P_{ROE}$ | -0,541 | 0,282 | -0,062 | 0,163 | 0,956 | 0,004 | -0,342 | -0,144 | 0,989 | 0,309 | 0,267 | 0,325 | 0,548 | 0,984 | 0,563 | -0,470 | -0,100 | 0,992 | 0,996 | 1,000 | | |
| $PO_N$ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| $POC_{\%}$ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

correlation coefficient at significance level a>0,05 (Two-Tailed Test).

*Source: calculated and created by the author using Central Statistical Bureau, 2018; LFICIS, 2018*

where $I^{nv}_{FR_V}$ - volume of fish resources;

$I^{nv}_{FA_V}$ - value of fixed assets per company;

$I^{nv}_{E_N}$ - number of employees;

$I^{nv}_{AS}$ - average salary of employees;

$I^{nv}_{NVA_E}$ - net value added per employee;

$I^{nv}_{FA_C}$ - fixed assets capacity ratio;

$I^{nv}_{FA_D}$ - depreciation to fixed assets ratio;

$I^{nv}_{FA_T}$ - fixed assets turnover ratio;

$I^{nv}_{FA_P}$ - fixed assets profitability ratio;

$I^{nv}_{PL}$ - productivity of labour;

$I^{nv}_{FC_P}$ - full cost pricing;

$I^{nv}_{P_A}$ - products average price;

$I^{nv}_{SR}$ - sales resultivity ratios;

$I^{nv}_{MA_E}$ - efficiency of management abilities;

$I^{nv}_{TL}$ - total liquidity ratio;

$I^{nv}_{DE}$ - debt to equity ratio;

$I^{nv}_{TAT}$ - total assets turnover;

$I^{nv}_{P_{ROS}}$ - return on sales;

$I^{nv}_{P_{ROA}}$ - return on assets;

$I^{nv}_{P_{ROE}}$ - return on equity;

$I^{nv}_{PO_N}$ - number of producers' organizations;

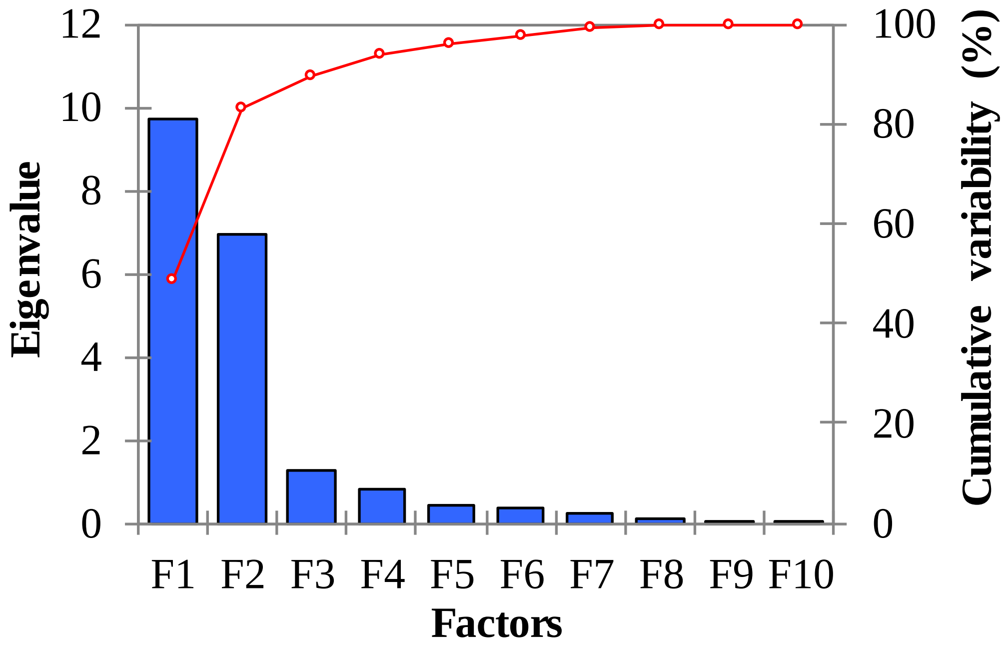
$I^{nv}_{POC_{\%}}$ - proportion of companies involved in producers' organizations from the total in the sector.

Internal consistency of the viewed variables is high (Cronbach's alpha coefficient's actual value 0,774 ≥ critical value 0,700) and the chosen data array – adequate (Kaiser-Meyer-Olkin

Test actual value 0,636 ≥ 0,600 critical value), what proves that the variables describing the factorial features are compatible.

In the Screen Plot diagram it is evident (Figure 2), that 3 variable eigenvalues are bigger than 1, what explains 89.82% of the total variability. The first factor $F1$ explains 48.71% of the total variability, the second factor $F2$ – 34.74%, and the third factor $F3$ – 6.38% of the total variability.

*Figure 2: Screen Plot in Covariance Matrix*




*Source: calculated and created by the author using Central Statistical Bureau, 2018; LFICIS, 2018*

The data of the performed calculations according to Rotation Method through Varimax with Kaiser Normalization show that the variables have different contributions into factor's loadings, and that they are to be combined in several factors.

In the framework of multiple linear regression analysis, the author elaborated regression equation (1).

$$I_{FP} = -3{,}9072 + 0{,}0203 \times FP_V - 13{,}7207 \times FA_D + 0{,}0243 \times SR + \\ + 1{,}7649 \times TL + 0{,}1443 \times DE \quad (1)$$

where $I_{FP}$ Fish Processing Competitiveness Index;
$FR_V$ volume of fish resources;
$FA_D$ depreciation to fixed assets ratio;
$SR$ sales resultivity ratios;
$TL$ total liquidity ratio;
$DE$ debt to equity ratio.

The results of multiple linear regression show (Table 2), that 59.42% ($R - squared = 0{,}594$) of the effective feature $y$ variance can be explained through the linear influence of 5 factorial features, whereas the linear influence of other factorial features corresponds to the influence of the background.

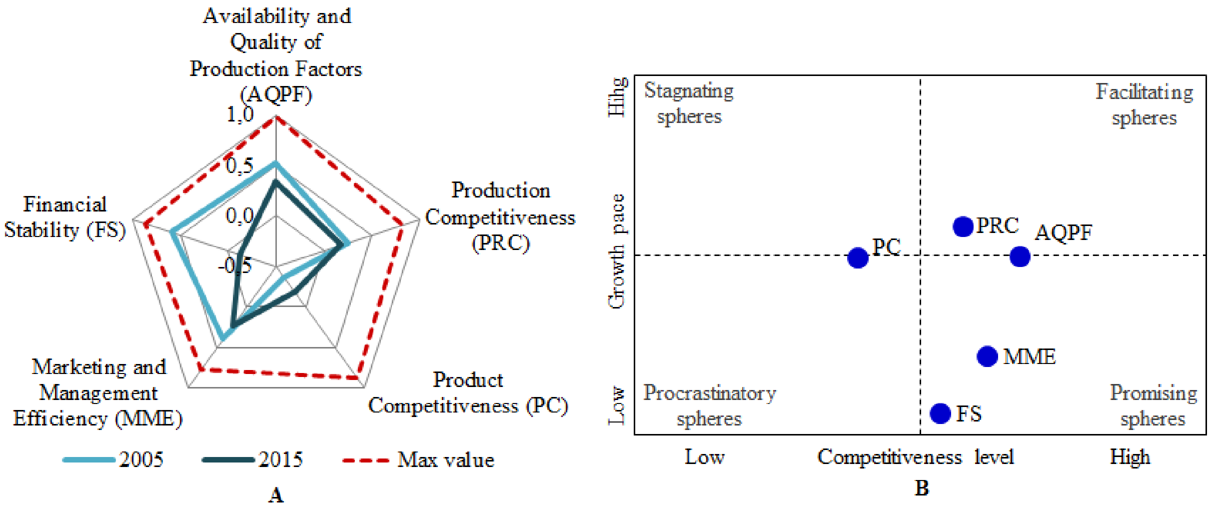
*Table 2: Results of Multiple Linear Regression*

| **Variable** | **Volume of fish resources** | **Depreciation to fixed assets** | **Sales resultivity ratios** | **Total liquidity ratio** | **Debt to equity ratio** |
|---|---|---|---|---|---|
| Coefficient | 0,020 | -13,721 | 0,024 | 1,765 | 0,144 |
| Std. Error | 0,010 | 13,621 | 0,028 | 1,540 | 0,191 |
| t-statistic | 2,019 | -1,007 | 0,867 | 1,146 | 0,756 |
| R-squared | | | 0,594 | | |
| Ad. R-squared | | | 0,188 | | |
| F-statistic | | | 1,464 | | |
| F-critical | | | 0,343 | | |
| p-value | | | 0,157 | | |
| Durbin-Watson stat. | | | 3,196 | | |
| Lower 95% | | | -9,947 | | |
| Upper 95% | | | 2,132 | | |

*Source: calculated and created by the author using Central Statistical Bureau, 2018; LFICIS, 2018*

From the results of the conducted analysis of causal relationships it is evident that at the moment the influence of variables on the competitiveness can be evaluated as significant; however, it should be cautiously analysed, what is mostly determined by the comparatively small number of observations for a large number of independent variables. The obtained results of the analysis provide an opportunity to understand the factors influencing the competitiveness better and allow judging about the possibilities to facilitate competitiveness. Latvian fish processing sector competitiveness during the period from 2005 to 2015 is evaluated as medium-high, which in this period decreased by -68%: from 1.38 in 2005 to 0.44 in 2015 (Figure 3). In the sector the sphere of facilitating competitiveness is the production competitiveness, promising spheres – availability and quality of production factors, efficiency of marketing and management and stability of the finances, but the procrastinatory sphere - competitiveness of the product.

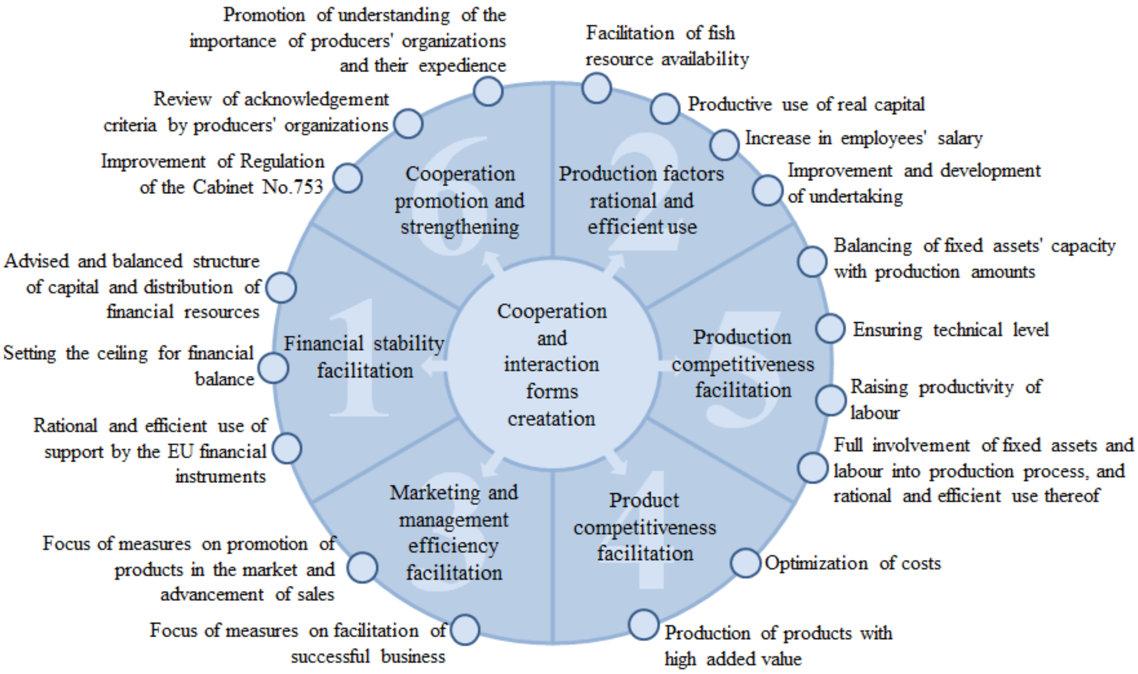
*Figure 3: The changes of competitiveness (A) and the spheres influencing competitiveness (B) in 2005 and 2015 (sub-indexes value)*




*Source: calculated and created by the author using Central Statistical Bureau, 2018; LFICIS, 2018*

Fish processing sector in Latvia has medium-high level of competitiveness, but with a tendency to deteriorate. For facilitating sector competitiveness would be advisable implement development strategy. In the framework of development strategy there are several interrelated and subordinates measures to be taken (Figure 4). The priority measures are facilitation of financial stability, and only then – facilitation of availability and quality of production factors, efficiency of the marketing and management, product and production competitiveness. In addition, cooperation would be preferable to acquire new markets.

*Figure 4: Measures for facilitation of competitiveness in the Framework of Priority Spheres*




*Source: created by the author*

To facilitate competitiveness, it is advisable to create forms of tight cooperation and interaction with the institutions involved in establishment and implementation of fisheries policy, educational and scientific institutions and other type of institutions, especially in creation of new ideas and innovations.

## 4. Conclusion

The developed methodology allows assessing and analyzing the competitiveness of Latvian fish processing sector in time, identifying spheres (facilitating, promising, procrastinatory, stagnating) influencing competitiveness, and providing suggestions for further development of the sector. The methodology can be used for the assessment of the competitiveness of fisheries sectors not only in Latvia but also in other countries, thus providing the institutions involved in the fisheries' policy formation and implementation a possibility to develop, planning and improve the common policy in the field more successfully. The competitiveness of fish processing sector in Latvia from 2005 – 2015 may be evaluated as medium-high, what is facilitated by production competitiveness, availability and quality of production factors, efficiency of the marketing and management and stability of the finances. For facilitating sector competitiveness would be advisable implement development strategy, in the framework of which the priority measures to be taken are improvement of financial stability, and only then – strengthening of other fields. To facilitate the competitiveness, sector can used opportunities of support by the EU financial instruments as well as to participate in formation of common fisheries policy of the EU.

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# COMPARISON OF OUTBOUND TRAVEL DESTINATIONS OF THE CZECH REPUBLIC IN THE CONTEXT OF GLOBALIZATION TRENDS

Milena Botlíková[1,a], Josef Botlík[2,b,*]

[1]The Institute of Gastronomy, Spa Management and Tourism, Faculty of Philosophy and Science in Opava, Silesian University in Opava, Hradecká 17, 746 01, Opava, Czech Republic

[2]Department of Computer and Mathematics, School of Business Administration in Karvina, Silesian University in Opava, Univerzitní náměstí 1934/3, 733 40, Karviná, Czech Republic

[a]botlikova.m@volny.cz, [b]botlik@opf.slu.cz

*Corresponding author

**Abstract.** Globalization is still a phenomenon that is reflected in all spheres of human life. We are facing globalization, in areas such as finance, politics and culture. The priority areas where we see globalization is the tourism segment. When thinking about the relationship between globalization and tourism, globalization can be considered a significant factor. This factor has a negative and positive impact on the development of tourism. Sophisticated logistics systems, the introduction of modern technologies and the removal of barriers (e.g., distance, boundaries, social connections, etc.) allow large numbers of inhabitants to overcome large distances. The paper deals with the development of outbound tourism in the Czech Republic. We analyse outbound tourism in the context of globalization trends. We analyse the period from the beginning of the twentieth century to the present. There is a wide range of conditions for the development of tourism, such as a reasonable disposable income, a sufficient pool of free time for the population or security. There are numbers of other important factors for client decision and destination choices. An important factor for decision-making is price competition, attractiveness of the destination, and more. Comparison of destinations for outbound tourism between different periods is based on selected indicators of the TTCI index (index of tourism competitiveness) and search of the literature. The default comparison databases are Eurostat and the Czech Statistical Office.

**Keywords:** globalization, safety, tourism, outbound travel.

**JEL Classification:** L83, Z32, Z39

## 1 Introduction

Cestovní ruch je možno chápat jako globalizační prostorový jev, který se stává fenoménem doby, ochota poznávat nové věci vede k nárůstu výjezdového cestovního ruchu. Co se týká výjezdového cestovního ruchu, dá se o něm hovořit jako o cestovním debetu. Z makroekonomického pohledu výjezdový cestovní ruch (dále jen výjezdový CR) finanční prostředky z ekonomiky „odsává. Pokud budeme vycházet z Beránka (2013), který hovoří o cestovním ruchu v souvislosti vlivu příjezdového CR na platební bilanci jako o „neviditelném exportu“, pak je možné výjezdový CR dané země považovat za „neviditelný import“, jehož převis negativně působí na platební bilanci států a jde o zemi „vysílací“. Pro stabilitu platební bilance země je nutnost kontinuálně sledovat vývoj výjezdového cestovního ruchu. Rozhodování vstupu účastníků výjezdového CR do dané země vychází z konkurenceschopnosti dané země a schopnosti se přizpůsobit megatrendům v cestovním ruchu. Jedním z nich je bezpečnost CR, schopnost zajistit bezpečnost pro všechny turisty (Demir, E.; Gozgor, G., 2018). Současný globální problém terorismu, válek či střety etnického charakteru uvnitř států i mimo stávající hranice států, občanské války, revoluce proti různému typu útlaku skutečnému či domnělému je potencionální hrozbou pro výjezdový CR (Novák, 2015). Podle (STEM/MARK, 2016) se Češi neradi stávají měkkými cíli a upřednostňují bezpečné destinace. Podle globálního průzkumu European Assistance Holiday Barometr, 2017 (převzato Idnes, 2017,) Češi více řeší bezpečnost (Havlíčková, et.al., 2017, Cestování Idnes, 2016) a zdravotní rizika než zbytek Evropy, především se to týká starší generace. Téměř 67% cestujících do zahraničí řeší zdravotní komplikace, oproti Evropy až o 20% českých turistů než evropských má obavy z teroristických útoků (přes 68%, 2017). Jak uvádí výzkum STEM/MARK (2016) pro české turisty je také stěžejním kritériem pro výběr dané destinace klima a cena. Výjezdový CR je v globálním prostoru ovlivněn prodlužování věku dožití, je snaha si udržet zdraví a vitalitu například směrováním cest za účelem ozdravných pobytů (Gomez, 1995).

### 1.1 Metodika analýzy

Výzkum je orientován na výjezdový CR České republiky (dále ČR). Primárně se analýza zabývá výjezdovým CR ČR na delších cestách (4 a více, počet cest[1]), tj. cesty za účelem trávení volného času a rekreace. Tento ukazatel, jak vyplynulo z analýzy, má významný podíl na výjezdovém CR. Komparace vychází z časového období let 2003 až 2017. Z důvodů změn metodiky ČSÚ nejsou publikovány meziroční změny 2010/2011, hodnoty meziročních změn 2010/2009 je potřeba brát orientačně[2]. Bezpečnostní rizika vychází z hodnot indexu TTCI[3] (Travel and Tourism competitiveness index). Hodnocení bezpečnosti do roku 2013 hodnotí celkovou bezpečnost na základě Dopravní bezpečnosti, Obchodní náklady na trestnou činnost a násilí, Spolehlivost policejních složek a Míra zabití (TTCI, 2017). Od roku 2015 došlo ke změně metodiky v návaznosti na globální problémy a ukazatel dopravní bezpečnosti (dopravní nehody) byl nahrazen ukazatelem výskytu teroristického nebezpečí.

## 2 Vývoj výjezdového cestovního ruchu ČR

Během 14-ti let nedosahuje výjezdový CR hodnot domácího cestovního ruchu (*Figure 1*a). Národní statistiky (ČSÚ, 2018) vypovídají o nerovnoměrném vývoji výjezdového CR[4] v delších výjezdech v letech 2003 – 2008 (Obrázek*Figure 1*a). Rostoucí tendence mezi roky 2003 – 2008 byly doprovázeny poklesy výjezdového CR v letech 2004/2003 a 2006/2005. Pokles v roku 2004/2003 je spojován s ekonomickou a politickou situací Řecka, která

[1] Zjišťují se jen cesty osob starších 15 let

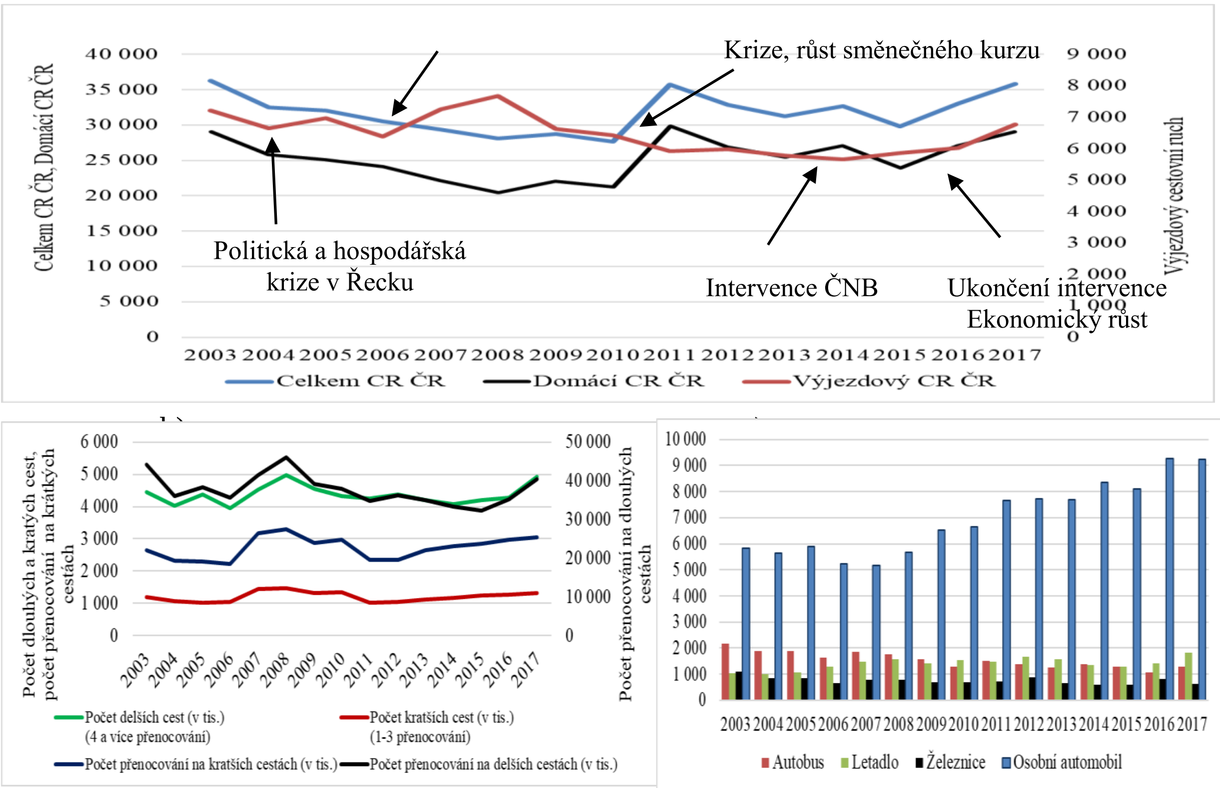
[2] Data od roku 2011 nejsou srovnatelná s předchozími roky, proto nebude porovnávána meziroční změna 2010/2011, podobně nebudou srovnávány roky 2008/2009 kdy metodika šetření, z důvodů rozšíření vzorku využitelných odpovědí šetří místo jednoho náhodně vybraného člena domácnosti všechny členy domácnosti).

[3] TTCI je vydáván v dvouletých cyklech od roku 2007 tj v letech 2007, 2009, 2011, 2013, 2015 a 2017

[4] Měřeno krátké (1-3 přenocování), dlouhé (4 a více přenocování) a služebné cesty

poškozuje destinaci až do roku 2012. Podle Ongana (2018) vede nejistota hospodářské politiky k poklesu cestovního ruchu dané destinace. Růst po roce 2004 byl generován možností výjezdů do západoevropských zemí po vstupu ČR do EU. Tak jako celosvětový a evropský výjezdový CR, je ten český od roku 2009 poznamenán hospodářskou krizí a dochází k propadu ukazatelů výjezdového CR. Krizové období zpomalilo vývoj delších cest až do roku 2011. Následný nárůst výjezdu na 4 a více přenocování po roce 2012 zastavila intervence České národní banky (listopad 2013). Krizové období, ekonomická nejistota obyvatelstva ČR a intervence ČNB (růst kurzu o +2,25%) se projevili v poklesu výjezdového CR až do roku 2014. Oživení ekonomiky po roce roku 2015 přispívá k postupnému nárůstu počtu zahraničních cest jak ve světě, Evropě tak i v ČR (Fig 1a), b)). V případě kratších cest, propady v letech 2005/2004 a propadu v letech 2009, 2011 vystřídaly růsty cest. Je tak evidentní, že kratších cest se intervence ČNB významně nedotkla. Vyjíždějící turisté na delších cestách preferovali země s velmi dobrou dopravní dostupností autem, s oblibou vzdálených cest roste i obliba letecké dopravy (Fig 1 c). Obecně preferuje většina vyjíždějících moře.

*Figure 1: a) Vývoj domácího a výjezdového CR ČR (souhrn počet kratší a delší cesty v tis.) b) vývoj ukazatelů počtu cest a přenocování delších a kratších cest c) vývoj dopravního prostředku při delších cestách*

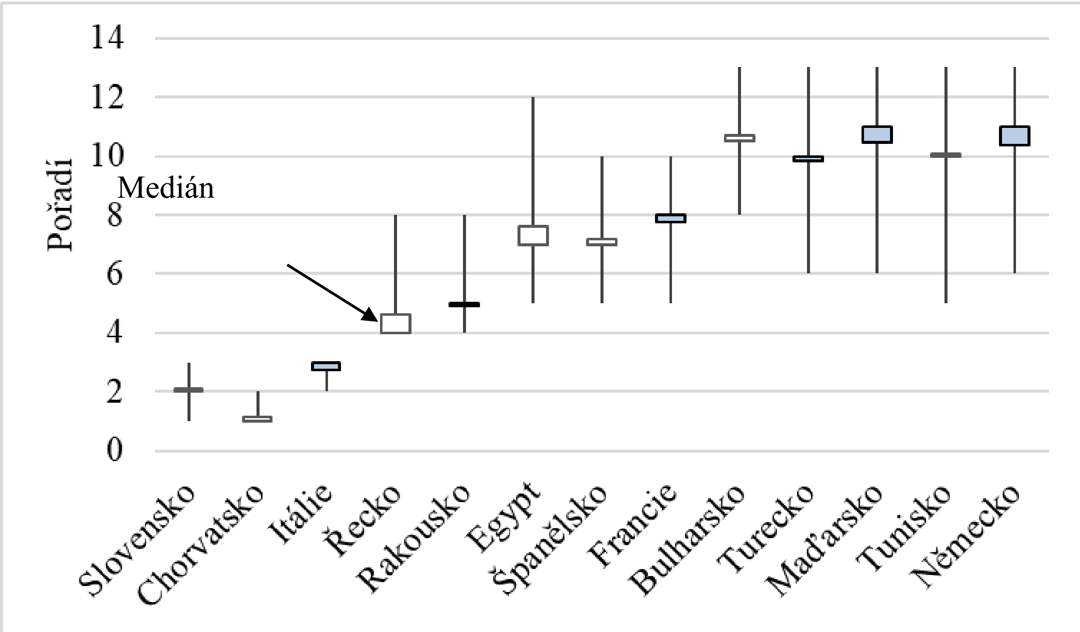



*Source: Vlastní zpracování, data ČSÚ (2018)*

## 3 Teritoriální struktura výjezdového cestovního ruchu ČR

Pokud se zaměříme na cílové destinace, na poklesu počtu delších cest v roce 2004/2003 se projevil snížený zájem o Evropské země a Ameriku, nárůst zájmu o země EU, Afriky a Asie nedokázal vybalancovat situaci ve výjezdovém CR. Stálicí výjezdového CR na delších cestách je prioritně Chorvatsko. Obliba Chorvatska sahá již do devadesátých let 20. stol., kdy po uklidnění politické situace a ukončení války po roce 1996 Chorvatsko přilákalo mnoho českých turistů. Další TOP destinací je Slovensko a Polsko. Tyto dvě destinace byly společně s Chorvatskem rozhodujícími destinacemi v návštěvnosti českých turistů na delších cestách. Jak je z obrázku Fig 2 vidět, Slovensko v roce 2008 a 2015 zaujalo první příčku, což můžeme přičíst na vrub krizového období (2008). V roce 2013, 2014 a 2017 se naopak umístilo Slovensko až na 3. místě za Itálii, která oproti Slovensku zaznamenala výraznější nárůst v počtech příjezdů českých turistů v roce 2017 a nižší pokles českých turistů v 2014. Pokles návštěvnosti Chorvatska a ztrátu první příčky v roce 2008 je možné připisovat omezování nebo zákazu dovozu potravin, navýšení, rovněž zavedení vyššího mýtného v 2017 zpomalilo nárůst výjezdů českých turistů do Chorvatska. Na ObrázkuFigure 2 je zřejmé, že nečastější hodnoty umístění (medián 4 a 5) zaujímalo Řecko a Rakousko, následuje Egypt, Španělsko a Francie. Poslední příčky návštěvnosti českých turistů zaujímá Maďarsko, i když v posledních letech si polepšilo a umístilo se na 6 příčce. Podle statistik z roku 2015 byly na posledním místě v návštěvnosti Německo, Tunis. Bulharsko je pro výjezdový CR ekonomicky výhodné.

Figure 2: Pořadí návštěvnosti cílových destinací 2003 -2017



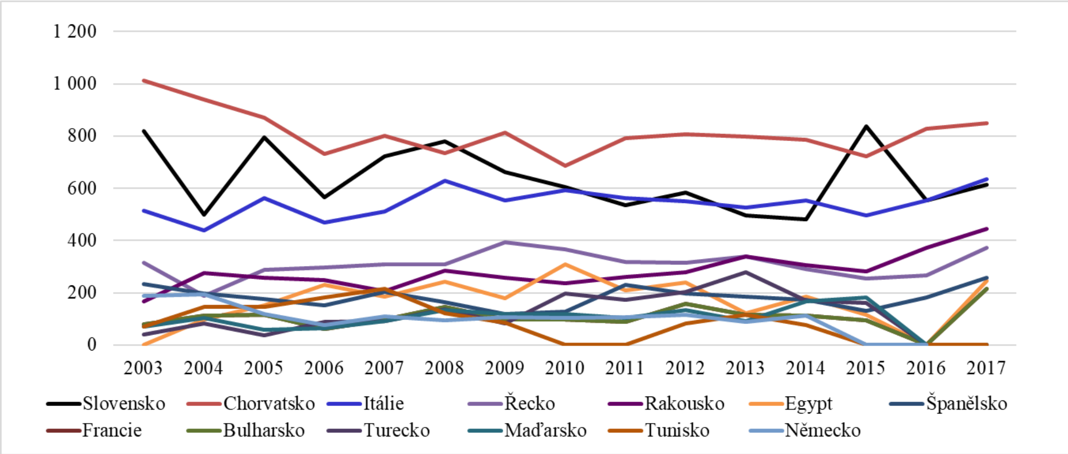

*Source: ČSÚ, 2018 poznámka: medián – nejčastější hodnota*

Pokud se zaměříme na vývoj výjezdového cestovního ruchu, počáteční pokles v 2004/2003 byl zaznamenán především u stálic výjezdového CR (Chorvatsko, Slovensko, Itálie). Například Slovensko, které je upřednostňováno jak v zimních tak letních měsících, zasáhly ničivé přírodními živly[5]. Dále se pokles projevil v případě Španělska a Německa a ekonomicky a politicky nestabilního Řecka. Naopak rostl zájem o Turecko a Tunis (o více než 100%) a Rakousko (o 63%). V období 2004/2003 rostou výjezdy českých turistů do Maďarska, což může mít souviset s tzv. cestováním za zdravím a welnes (Csirmaz, 2015) o čemž svědčí nárůst počtu cest (2017/2003 o 164,1%; Figure 3, 2004/2003 o 48%), Maďarsko a lázně patří k sobě. Nelákají jen lázně, ale i Čechy oblíbené moře a jezera, Balaton byl cílem starších občanů a rodin s dětmi. Po letech opět turisté cestovali do finančně dostupného Bulharsko (nárůst 2004/2003 o 43,2%). Během sledovaného období 2003 – 2017 výraznější narostly v období krize 2010/2009 cesty do Egypta (o 73%) a Turecka (o 136%). Propady

[5] V roce 2004 zasáhla Slovensko vichřice a způsobila velké škody na majetku.

výjezdů na Slovensko v roce 2009 vyvolalo cenové zdražení zájezdů přijetím Euro (Kasagranda, 2016).

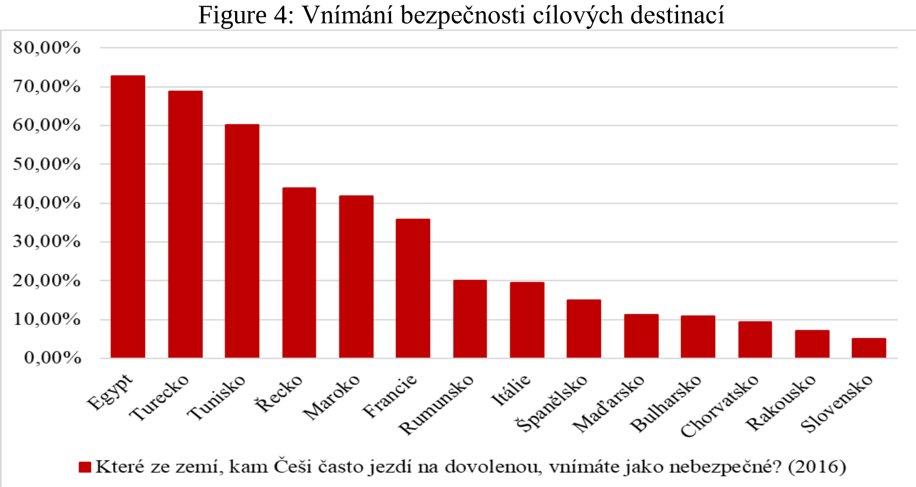
Figure 3: Vývoj počtu delších cest podle cílové destinace




*Source: ČSÚ, časové řady (2018)*

Je odsledovatelné, že v době teroristických útoků v Egyptě v roce 2015 čeští turisté upřednostňovali spíše Slovensko (2015, ↑ o 74,5%), které se podle TTCI (2017, 2015) v ukazateli výskytu terorismu dá považovat společně s Polskem za nejbezpečnější z cílových destinací výjezdového CR ČR. Po útocích ve Francii[6] v roce 2012 došlo k poklesu výjezdů do destinace, v roce 2015 se opět s oživením ekonomiky dostal výjezdový CR do plusových čísel. V roce 2016 a 2017 docházelo celosvětově (European Union Tourism Trends, 2018) i v ČR k přírůstkům na poli výjezdového CR, turisté se vraceli do destinací jako je Turecko, Egypt, Tunisko, Francie a Belgie, vyjíždějí do SAE, Dominikánské republiky, ale třeba i na Kapverdy. Informace hovoří, že přestože došlo v roce 2016 k teroristickému útoku v Hurghadě, 2017 v Káhiře[7] přestože byly tyto destinace podle šetření Idnes, 2016 (Fig 4, Fig 5) a TTCI (2007-2017) považovány z bezpečnostních rizik za nejméně bezpečné, české turisty tyto události nijak neodrazují od cestování do těchto destinací.

Figure 4: Vnímání bezpečnosti cílových destinací




*Source: STERM/MARK, 2017*

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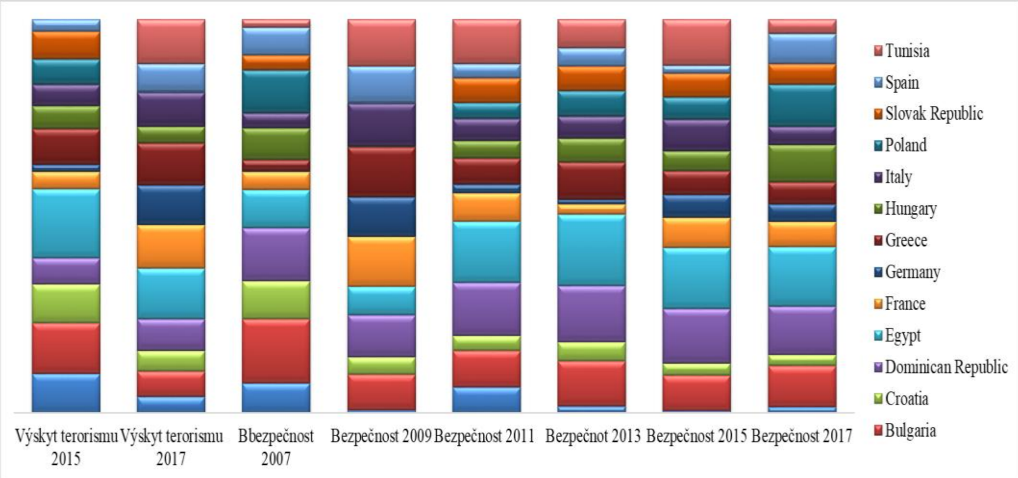
[6] Francii postihly útoky v Montauban a Toulouse 2012

[7] Přes 300 mrtvých. Nikdo se k činu nepřihlásil, ani ISIS.

Jak uvádí Samitas (2018) mezi cestovním ruchem a terorismem existuje kauzalita, délka propadu je závislá od ohniska útoku, cenové nabídky na trhu CR nebo dostupnosti destinace. Výjezdy do SAE podpořila pravidelná linka letecké společnosti Emirates, která od 1. května 2016 denně létá z Prahy do Spojených arabských emirátů, konkrétně do Dubaje. Boom v roce 2017 zažívaly výjezdy do Turecka, oproti roku 2016 se téměř zdvojnásobily. Důvodem je především pokles kurzu vůči koruně a i přes růst turecké inflace[8] si tam Češi mohou oproti jiným rokům polepšit. SAE jsou považovány z pohledu bezpečí za jednu z nejbezpečnějších (celkové hodnocení bezpečnosti) destinací jsou na druhé příčce ze 136 zemí (2015, 3 místo ze 141 zemí), z hlediska teroristických nebezpečí se řadí až na 54 místo v ukazateli výskytu terorismu (51 místo, 2015). Na druhou stranu Dominikánská republika se umisťuje na poslední příčky v celkové bezpečnosti hodnocené TTCI a na 114 místě v ukazateli výskytu terorismu (viz Fig 6).

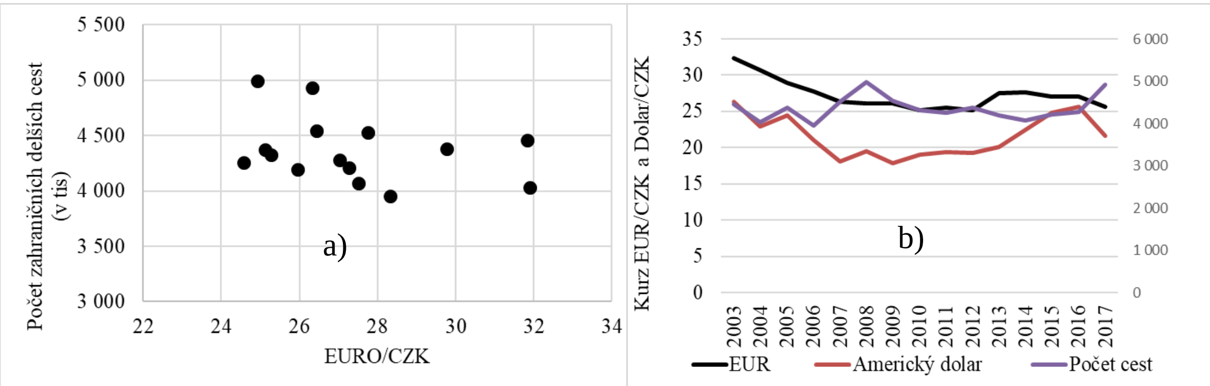
Figure 6: Vývoj bezpečnosti cílových destinací výjezdového CR podle TTCI




*Source: TTCI 2007 – 2017*

Matematicky nebyl prokázán statisticky významný korelační vztah mezi počtem cest (Fig 7 a)) a směnečným kurzem (r = 0,1), lze však odpozorovat citlivost na cenové výkyvy.

Figure 7: a) Korelační analýza: počet delších cest a kurzu EURO, b) vývoj EURO, Dolar a počet cest




*Source: Vlastní zpracování, data ČNB. ARAD. (2018)*

[8] Turecká inflace je 7% v roce 2016, odhad 2017 19%, nejvyšší za posledních 15 let. Pokles kurzu je rychlejší než růst inflace. Meziroční pokles turecké liry 23%.

Vývoj kurzu koruny má vliv na výběr cílové destinace (Hrubalová, Repanová, 2016), u delších výjezdů (4 a více přenocování) docházelo s výjimkou roku 2004/2003, 2006/2005, 2009/2008 s růstem kurzu (EURO, dolar) k poklesu počtu delších cest a opačně (Figure 7 b, www.datacentrum.online). Ve výše uvedených letech bezpečnostní a ekonomická situace upozadila cenový faktor. Preference ceny se projevuje velkým zájmem o akční nabídky.

# 4 Conclusion

Pokud budeme hodnotit bezpečnost navštěvovaných zemí českými turisty podle indexu TTCI, pak lze jednoznačně říci, že převážná většina českých turistů směřuje do zemí s vyšší bezpečností. Existuje však skupina turistů, kteří preferují i přes bezpečnostní rizika například oblasti Egypta nebo Francii[9]. Dále je možné konstatovat, že turismus je vůči bezpečnostním šokům dostatečně odolným odvětvím, o čemž svědčí i návrat turistů do destinací Francie, Egypt atd. (Pellešová, 2016). Pokud dojde k nečekané události v preferované destinaci, lidé dramaticky neomezují své výjezdy, pouze se přelévají do jiných zemí. Existuje určitá cenová závislost na rozložení výjezdového CR. Klienti s velkou oblibou využívají cenových nabídek a příznivý směnečný kurz podporuje výjezdový CR ČR. Po roce 2003 se otvírají nové možnosti, klienti objevují nové destinace, vyjíždějí do destinací Dominikánská republika, Tunis, Arabské Emiráty atd. Nicméně neměnná umístění TOP destinací svědčí o jisté konzervativnosti českých turistů v rámci výjezdového cestovního ruchu.

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[9] Podle (Pellešová, 2016) bylo při útocích v letech 2011 až 2015 usmrceno 170 lidí a 191 zraněno. Mezi takovéto útoky patří útok na časopis Charlie Heb, kdy 7. ledna 2015 při útoku zemřelo 12 osob, při útoku 14. 6. 2016 ve francouzské Nice přišlo o život 84 lidí a 100 bylo zraněných.

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# PRICING COMPETENCES AS A TOOL FOR COMPETITIVENESS INCREASE OF LATVIAN COMPANIES IN GLOBAL MARKET

Ieva Bruksle[1,a,*], Zane Drinke [2,b]

[1]Turiba University, 68 Graudu street, Riga, Latvia

[2]Turiba University, 68 Graudu street, Riga ,Latvia

[a]ievab @turiba.lv, [b]zane.drinke@turiba.lv

*Corresponding author

**Abstract.** In the global market with increasing of competition are facing all companies. And companies need to be able to use more and more actively different competitiveness increasing tools. Price and pricing are tools that entrepreneurs could use for strengthening their position and their competitiveness. In our previous studies, we have determined that: (1) price in the opinion of entrepreneurs, experts as well as various researchers is a significant competitiveness enhancing factor; (2) insufficient attention is paid to pricing in Latvian enterprises that does not allow using it comprehensively for ensuring competitiveness; (3) the changing and complex business environment, poor knowledge of pricing as well as unscrupulous pricing practices are main significant problems mentioned. The aim of this study is to evaluate the pricing competencies development opportunities for Latvian companies as a tool for competitiveness increase in global market. The following tasks were set to achieve the aims: to characterize the specifics of doing business in the global market; to describe pricing as an essential factor of increasing of competitiveness; to evaluate pricing competences of Latvian companies. Research methodology used in the research: logically constructive approach – to make judgments and results analysis; social research methods – panel discussion– to obtain primary information and to carry out its verification. As a result, the problems concerning pricing competences and the solution of increasing of those competences for Latvian companies can be evaluated.

**Keywords:** pricing, competences, competitiveness, Latvian companies.

**JEL Classification:** M16, M21, M31

## 1. Introduction

As a result of globalization, business environment have changed and therefore, the entrepreneurs must adjust, work and be a competitor in the global market. In different researches, such as, Masteikiene &Venckuviene, Verjjela &Schmida, Jankalova, Chi&Hung, Ensari &Karabay, Savrul et al, the effect of globalization on the bussiness environment and market is evaluated. Important characteristics that are mentioned are:

- unpredictable consumer behaviour and increase of their power (Masteikiene &Venckuviene, 2015; Chi&Hung, 2011; Savrul et al., 2014 );

- increasing role of the innovations, technology development and rapidly progressing internationalization of the market (Jankalova, 2012; Ensari &Karabay, 2014; Chi&Hung, 2011);
- the short life expectancy of the products and mutability of the business environment that forces to seek new effective solutions and complex approach to maintain the ability to compete in the market. (Masteikiene &Venckuviene, 2015; Verjjela &Schmida, 2015; Jankalova, 2012; (Ensari &Karabay, 2014; Savrul et al., 2014);

In an era of globalizing economies many markets become increasingly international and competitive. Globalization creates new structures and new relationships, with the result that business decisions and actions in one part of the world have significant consequences in other places. However the business environment has been changing in a drastic way with the emergence of globalization (Savrul et al., 2014). In previous researches (Bruksle&Gode, Dolan, Simon, Liozu &Hinterhuber, Ruskin-Brown, Ingenbleek ) a conformation for the importance of price making in the creation of the competitiveness of the business, that is increasing due to the globalization is achieved.

Pricing is a key element in firm profitability, pricing capabilities play an increasing role for companies. (Liozu &Hinterhuber, 2013). Product have "gona global" and pricing is implemented by different nations' situations; pricing practice have become more complex as terms and conditions have proliferated; and price customization opportunities are being pursued worldwide. (Dolan, Simon, 1996). Price has a major influence on the health of the organization's income, pricing policy is critical to the survival and success of any business. (Ruskin-Brown, 2008)

Although price-setting is one of the most important management functions, it is still insufficiently understood and also one of the least-controlled functions in many companies. At the same time, price-setting is a very sensitive tool available to managers for influencing the profit. Price-setting contains a huge potential, implementation of which can ensure the increase in the company's operational efficiency and gaining the competitive advantage. (Bruksle&Gode, 2012, A).

In the company, price making is a difficult, but significant and important process. Prices made accordingly to a particular economic situation is going to give price - privileges to the company that occurs in a significantly in a situation of strained competition; by gaining the price privileges, the company increases its ability to compete, directly because of a wisely made price (Bruksle&Gode, 2012, B). Discussions are being held of price making being a valuable knowledge that must be developed. However, managers have been often noticed distancing themselves from active price making (Ingenbleek, 2014, Kienzler, 2017, Adesi et.al., 2018, Dolan, Simon, Ruskin-Brown, Indounas, 2009, Gilmore& David Carson, 1996).

Price is the reward for the application of specialized knowledge and skills, pricing is an operant resource, or competence, (Ingenbleek, 2014). We continually heard that pricing is a big headache – and one that getting worse by the day as markets globalize. Many firms have given up, others have a different attitude, proactively using price as a key tool to achieve their business and financial aims. These "power pricer" have discovered the highly leveraged effect of price and built the capacity to practice pricing in a way which transforms the bottom line (Dolan, Simon, 1996). An awful lot people in management will steer away from pricing decisions and financial management accounts out of a fear that they will not be able to handle the calculations involved (Ruskin-Brown, 2008)

The significant role of the leaders in the process of price and decision making and the strategic effect of those decisions on the company's ability to compete is being marked. (Piercy et.al., 2010, Gilmore& David Carson, 1996, Kienzler, 2017, Prasad, 1997). It is very important that business executives recognize pricing decisions as a strategic responsibility with long-term implications, executives should give explicit attention to moving from tactical pricing to strategic pricing decisions (Piercy et.al, 2010).

It is indicated that one (Lusch and Vargo, 2008), has to be innovative in the price making process. Price making scope and ability to actively practice price making affects the achievements of the company and ensures the privileges in competing in the market (Liozu &Hinterhuber, 2013, Lusch and Vargo, 2008) Also Latvian businessmen acknowledge the price making as a tool promoting the company's ability to compete. However, this tool is not used actively enough and it is believed that lack of knowledge and scope in price making process is a reason for that.

According to entrepreneurs only some factors mentioned ensure the competitiveness of the enterprise and products and price is underlined as one of the primary factors (Bruksle&Zvirgzdiņa, 2017). With increasing competition in Latvian business environment, such competitiveness promoting tool as price making is not used often enough. It is necessary to improve knowledge in privileges of applying this complicated tool and managing it. (Bruksle&Gode, 2012, B). Latvian entrepreneurs carry out price-setting mostly by themselves. Usually it is done by the owner – the manager of the company. Price-setting in the companies is organized in a relatively simple way, without paying much attention to it. (Bruksle&Gode, 2012). Latvian entrepreneurs have highlighted: poor knowledge of pricing and chaotic pricing setting with lack of in depth research; poor use of pricing as a competitive advantage in Latvia due to lack of information, experience and the belief in ability to implement something new; attempts of entrepreneurs to conquer markets with unfounded low prices that distort the market; poor research of markets and prices (Bruksle& Gode, 2014).

We would also like to mention that both- the experts and the businessmen themselves mark the significant role of the knowledge in promoting the competitiveness. However, there is not enough discussion held in Latvian business environment about the price making process. The according experts' opinion only experience and knowledge as well as a healthy business environment would enable us to resolve the problems concerning competitive pricing. (Bruksle&Zvirgzdiņa, 2017). In the perception of a businessman, the business environment competitiveness promoting factors are- people, their knowledge, scope and skills (Bruksle at. al., 2016). In Latvian business environment there is insufficient discussion on pricing practice and the question is very topical, therefore the interest in the issue should be stimulated, there should be active discussions in business conferences, professional editions, and social media. (Bruksle& Gode, 2014)

Concluding this chapter, we want to mention the research of McCaskey & Brady about the possibilities to gain knowledge in price making in universities in USA, where it was found that the specialized study courses that would develop the price making skills are offered by a slightly small amount of accredited schools. The AACSB's list of accredited schools in the USA numbered 443. The data for the study were obtained from the online versions( 363 (81.9 percent) of the accredited schools),the marketing offerings of each qualifying school were examined to determine the existence of a course devoted specifically to pricing or including pricing as a significant component, but only 33 schools (9.1 percent) list a course in their online catalogue that demonstrates a significant emphasis in pricing, and only 14 schools (3.9 percent) offer a course dedicated solely to the topic of pricing ((McCaskey, Brady, 2007). In the continuing chapter we are going to address the research of price making process in Businesses in Latvia.

## 2. Methods

In the research were used following methods: the monographic method - gathering information about the pricing competences, also based on the literature review, determining the role of pricing competences in the company as the competitiveness tool in global market; analytical method: analysing the research issues, main aspects of the pricing in global market; social research method - panel discussion methods that enable acquiring a clear view of the situation in Latvia. To gather information about pricing competences in Latvian enterprises two panel discussion was organised. In the first panel discussion was attended by 10 entrepreneurs with long-term business experience in the Latvian market. The questions raised during the panel discussion were designed to ascertain the entrepreneurs' vision of pricing competences in Latvia companies, and possible solutions that would enable the develop the pricing competences. Second panel discussion was organized to get 10 experts' vision of the pricing competences in Latvian companies and to find out the possibilities for improving it. Specialists from various fields were invited to participate as experts: members of the Latvian Association for Quality, the member of the Association of Accountants, the board of the Direct Marketing Association, member the board of the Latvian Economist Association, member of the Business Efficiency Association, business management consultants.

In the panel discussions the answers were searched for to the following questions:

- Whether enough special attention is paid to the price making process, acknowledging its role in creating company's competitiveness;
- Where do businessmen gain knowledge in price making;
- Whether the price making requires specific knowledge;
- Whether the businessmen feel the need to improve the price making;
- What would improve the price making skills;
- How highly are the possibilities to gain education in price making elements rated in Latvia;
- In what kind of educational events would businessmen be interested to take part in?

## 3. Results

By collecting the results of the panel discussion, we can conclude, that:

- Entrepreneurs admit that a special attention in the company is given to the pricing and that the price significantly affects the competitiveness of the company. However, there are areas, where price is not the most important tool whilst the quality and speed of the service are more important. Moreover, they also that sensible price borders are very important and that the price is used as a tool in selecting the potential client;
- The knowledge about the pricing is gained from the course in universities, as well as through experience, from reading written works, discussing in forums and conferences and from listening to the opinion of the cooperation partners.;

- Evaluated as a significant knowledge there is: knowledge about the particular market and its important players; price politics of the intermediates; all the factors until the consumer that make up the price. It is mentioned that significant is an understanding about the product, its components, the demand of the product, the basics of the pricing and the understanding of the written and unwritten rules regarding the pricing. Additionally, analytic and critical thinking is important as well;
- The development and improvement of the price making skills is a continuous process - knowledge always has to be enriched. However, part of the businessmen admitted that they don't feel the need to improve their skills;
- To improve the pricing skills, the stories of experiences of experts are needed, as well as the research of the literature, market and actions of the competitors. Moreover, experience and experiments are necessary;
- Entrepreneurs believe that are possibilities for one to be educated in pricing process in Latvia, those possibilities just must be looked for. However, the experience of the lectors is very important;
- Entrepreneurs admit that the event of exchange of the experience is the one educational event they would be interested to take part in. Although, it could be possible to take part in different events such as lectures and methodical seminars as well.

The opinions of the experts were gained during the second panel discussion and after collecting the results, we can say that according to the experts:

- Majority of the entrepreneurs pay too little attention to the pricing by using primitive and generally known methods. Additional to that, in many cases businessmen are following the existing price of the market and do not calculate the cost price themselves, moreover, they do not create a stable price to maintain their regular customers. Only the big businesses can financially afford to have a marketing specialist that could create and carry out a pricing policy in the company. The small business owner often does not use all the privileges of the pricing system. Further and increased knowledge and skills in these areas are necessary for the business owners.
- The knowledge and skills of Latvian businessmen in pricing are average and gained during actual experiences, however that is not always sufficient enough.
- Pricing requires certain knowledge of strategic planning, financial management, process management, and marketing, as well as, specific knowledge of pricing strategies to create a model of tactics and be able to identify the differences in pricing processes between pricing of the product and service. Moreover, the bigger the business the higher the knowledge in price making methods should be;
- Business owners must improve their pricing skills. It could be done by cooperating with educational institutions more, as well as adopting the best examples from the big companies (associations of the industry etc.) and by distributing the information about pricing methods with the help of associations. Part of the business owners could be satisfied with few consultations where the information is based upon calculations of price making and creation of the discount. New business owners that don't have education in sphere of economics would need mentors/ consultants. Educating the workers is possible through courses and seminars;
- In Latvia there are possibilities to educate yourself in price making. There are accessible materials about pricing methods, however, business owners have a lack of

understanding about these areas. Pricing is looked at in different university courses, but there is no information about specific courses that are directly about the pricing methodology;

- The experts admit that all the educational events and institutions may be effective, however the methodical seminars of price making should be especially highlighted. They also suggest creating an online program or different main calculation templates, that could be adjusted to an environment of a business and basic calculations could be done.

## 4. Conclusion

We would like to note that in the global market price making skills are very important and special attention towards the price making as a strategic decision should be paid, which would increase the ability to compete in the market. A differing opinion from the experts and businessmen about the price making skills is observed. However, they all agree that these skills are important in securing the competitiveness of a company, as well as they agree that the development and improvement of these skills is a continuous process. It is said that, educational opportunities in Latvia are satisfying and the great significance is in the exchange of the experience itself.As well as a partial approval is gained for the previous lesson (Bruksle& Gode, 2014), that - there should be promoted the development of entrepreneur knowledge and skills regarding pricing solutions as the lack of knowledge unfortunately is acknowledged as being a significant problem in the optimum pricing practice in Latvia. It is necessary to continue researching the educational possibilities in price making elements in Latvia.

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# TRANSPORT LOGISTICS AS A SOURCE OF IMPROVEMENT QUALITY OF LIFE IN A REGIONAL CONTEXT IN THE PROCESS OF GLOBALIZATION

Ceniga Pavel[1,a,*], Sukalova Viera[2,b,*]

[1]University of Zilina, Univerzitna 1, 01026 Žilina, Slovakia

[2]University of Zilina, Univerzitna 1, 01026 Žilina, Slovakia

[a]pavel.ceniga@fpedas.uniza.sk, [b]sukalova@fpedas.uniza.sk

*Corresponding author

**Abstract.** The article deals with transport logistics as one of the factors for improving the quality of life both in general and in the regional context in the process of globalization. The analysis in this case is based on the fact, that transport logistics can be seen to have an obvious role here - both directly through investment in transport infrastructure, vehicles, and logistics systems, increasing physical capital; and indirectly through the impact that more efficient transport can have by inducing greater efficiency in the way that other sectors use their own inputs. Beyond the initial effects of transport investment on journey times and costs, labour market, agglomeration and transport network effects also influence the long-term impacts of transport investment on economic growth and urban/regional development. Each of these wider economic impacts has a spatial dimension through their influence on the location and geography of economic and social activity. Objectives, methods, and the particular results of investigations resulted in the definition and characteristics of the transport logistics in terms of the European Union with reference to their application and impact on quality of life in a regional context. The region is perceived as a territorial unit between the state and municipalities, resulting in the need for a specific approach to address the problem, which can then be developed.

**Keywords:** transport logistics, quality of life, region, globalization.

**JEL Classification:** M15

## 1. Introduction

Regional development is a broad term but can be seen as a general effort to reduce regional disparities by supporting (employment and wealth-generating) economic activities in regions. In the past, regional development policy tended to try to achieve these objectives by means of large-scale infrastructure development and by attracting inward investment. Logistics, assisting flow of goods, services, and values within the chain from the production spot to the consumption spot and oppositely, from the consumption spot to the production spot; signifies an important point in terms of development of economies. Share of logistics within GDP in most developing countries cannot be denied. Today, when separation of production from consumption, and execution of both activities within limits are in question; logistics management has gained importance and has become one of the important factors determining development levels of various regions within countries. The concept of regional development has been identified, and importance and objectives of regional development have been defined in this time. In closed-loop supply chains, the acquisition process of used products or materials often faces high volatility and results in both the uncertain quantity and quality of the recycled products. Managing these uncertainties, while coordinating the reverse and forward supply chain flows, is one of the many challenges faced by Supply Chain managers (He, 2017). Quality of life (QOL) is the general well-being of individuals and societies, outlining negative and positive features of life. It observes life satisfaction, including everything from physical health, family, education, employment, wealth, safety, security, freedom, religious beliefs, finance and the environment. As a contributor to economic development, transport infrastructure by its very nature has important spatial impacts, for example on intra-regional and inter-regional transport time and costs, and thus potentially on the location of households and businesses. Transport services are produced and consumed jointly with transport infrastructure, a major component of the fixed capital of the transport sector.

## 2. Transport logistics and logistics management

The operation of transportation determines the efficiency of moving products. The progress in techniques and management principles improves the moving load, delivery speed, service quality, operation costs, the usage of facilities and energy saving. Transportation takes a crucial part in the manipulation of logistics. Reviewing the current condition, a strong system needs a clear frame of logistics and a proper transport implements and techniques to link the producing procedures. The principal role of transport is to provide access between spatially separated locations for the business and household sectors, for both commodity (freight) and person movements. For the business sector, this involves connections between businesses and their input sources, between businesses and other businesses, and between businesses and their markets. For the household sector, it provides people with access to workplaces and education facilities, shops, and social, recreational, community and medical facilities. Given the significance of the sector in economic terms, both the level of transport investment together with the amount of expenditure on transport operations can have wider effects on the economy (as is seen when transport fuel prices increase substantially, resulting in reduced household expenditure on other goods and services). The direct effects of transport investment are to reduce transport time and costs through reducing travel times, decreasing the operating costs of transport and enhancing access to destinations within the network. Transport investment may also mitigate any economic disbenefits, for example where projects reduce congestion or the risk of injury. These incremental benefits of transport investments may be measured through conventional cost-benefit analysis. Other indirect consequences of transport investments should also be considered when evaluating projects. These include effects on productivity and the spatial pattern of economic development. In the long term, transport investments contribute to economic development by stimulating a variety of inter-connected economy-wide processes, which can yield spatial and regional effects that augment overall productivity. From the point of Logistics management it is estimated that recycling can avert approximately 50% annual landfill cost, while simultaneously recovering lost materials valued at 4 to 9.5% of the total logistics network cost. A mixed-integer programming (MIP) model is formulated to maximise the profit by considering the collection of returned products (Stefko et al., 2016; Shahparvari et al., 2018). As the competitive market becomes more customized and the customer becomes more educated, companies are striving to sell quality products. Moreover, customer relationships are significantly influenced by after product-purchase service quality. Reverse Logistics is one such area, where there is ample room for improvisation. It deals with the process of product return from the customer to the manufacturer. It can be optimized and made predictive in nature to forecast the reverse flow of commodities (Degbotse et al., 2017).

## 2.1 Perspectives on the economic contribution of transport

The economic contribution of transport interventions and transport policy can be assessed from various perspectives. These include:

- effects on aggregate economic welfare (that is, the sum of consumer and producer surplus), which is the focus of cost-benefit analysis, as applied to transport policies or projects
- micro-economic, for example, enterprise or household-level productivity effects
- macro-economic, for example, contributions to GDP, investment or employment, and the spatial patterns of economic activity (Gourdin, 2006).

In particular, lower costs and enhanced accessibility, due to better transport links and services, expand markets for individual transport-using businesses and improve their access to supplier inputs. Increased access and connectivity create increased opportunities for trade, competition and specialisation, which can lead to longer-term productivity gains. These changes are analogous to the gains from lowering barriers to trade and the expansion of opportunities that come from doing so. Therefore, knowing the circumstances in which these impacts occur is an important part of understanding the economic benefits that may arise from transport investments. The main focus in this case is placed on the role of Urban Freight Transport (UFT) projects the aspect of UFT projects' durability. This is particularly important for implementation of a Freight Quality Partnership as a solution enabling development of sustainable systems of urban logistics (Kijewska & Jedlinsky, 2018).

The logistics activities within a business organization attempt to satisfy customers through achieving the time and location related market challenges and also through the cost of the service provided as well as the quality, taking into consideration customers needs and purchase power. Customer satisfaction is important because it provides marketers and business owners with a metric that they can use to manage and improve their businesses (Ghoumrassi & Tigu, 2018). From a practical point of view managers should be aware that trust, commitment and reciprocity with their SC partners influence the willingness to share information with varying effects.

Access to proper IT capabilities increases willingness as does the life satisfaction. SC individuals who are happy with life are more willing. Interestingly, high power might get the sharer to share information albeit unwillingly (Zaheer & Trkman, 2017). Currently solved for example the perspectives on retailing and Supply Chain Management (SCM); trends and issues with fast fashion industry; the overview of Fashion Supply Chain Management (FSCM); fashion retail supply chains and fashion sales forecasting; fashion retail supply chains and sustainability; the overview of New Product Development (NPD (Kasemsap & Kijpokin, 2017).

### 2.2 Demand for transport

The demand for travel by individuals and households is essentially a function of their desire for physical access to workplaces, educational establishments, shops, and social, recreational and community facilities. The extent to which these desires translate into actual travel will be moderated by the time and costs involved in making the desired trip. Travel times and costs will be dependent on (National Strategy, 2016).

- the supply of suitable transport services, including speed, quality and convenience factors relating to the services (for example, service frequency, reliability, crowding)
- the financial cost (price) of the services
- perceptions of any social and environmental costs associated with the trip and the services involved (for example, level of safety and security, adverse environmental effects). Transport demand decisions are complex, as multiple factors are involved, and both longer and shorter term choices need to be addressed. For example, for a company wishing to manufacture and then sell its products in the marketplace, it needs to decide on:
- the sources of its inputs, and how these are to be transported to its manufacturing sites
- the markets that it is best placed to serve, and how it will transport products to these markets.

This will involve medium-term decisions about whether it provides its own transport (and if so how), or outsources its transport task, and shorter-term choices such as the transport mode to be used, travel times and service quality features as well as price. In this regard, it should be noted that, environmental issues arising from manufacturing and logistics operations affect the economic growth as well as sustainability of the SC which must be considered during policy making (Sarkar et al., 2017). Consumer goods supply chains have gradually incorporated lean manufacturing principles to identify and reduce non-value-added activities. Companies implementing lean practices have experienced improvements in cost, quality, and demand responsiveness. Nonetheless certain transportation and distribution practices may have detrimental impact on the environment (Ugarte et al., 2016). Traffic and its impact in urban areas have been the focus of attention in recent years. It is mainly public passenger transport and passenger car traffic that has benefited from it rather than the transport of goods. However, because of the growth of urban freight transport and the problems it creates, there is growing interest in urban freight and its environmental consequences (Barhoumi & Boujelbene, 2018).

## 3. Quality of life in the process of globalization

Transportation has emerged as an important, yet still not entirely understood element to Quality of life. Further, rather than a holistic approach to transportation, select transportation areas are typically studied such as public transit and parking, accessibility and mobility, or transportation systems efficiency. According to Quality of life research within and beyond transportation conducted by the Tourism Centre & Department of Forest Resources University of Minnesota we can described transportation across several major areas (in alphabetical order): access, design, environmental issues, maintenance, mobility, safety and transparency. ]

Results of the survey have been specified and defined in the following areas: (Shneider, 2013).

- Access: Accessibility refers to access to destinations or people's ability to reach the destinations they must visit in order to meet their needs and desire to visit to satisfy their wants. Much of the existing research measured access in terms of people's ability to reach a destination in a personal automobile. This auto-based conceptualization is limited and measures of access are expanding to reflect the variety of access opportunities people may reach their destinations. As such, subthemes of this category include: public transportation, service transportation, air travel, nonnotarized transportation, trains, and light rail transit.
- Design: The concept of transportation system design is particularly related to access and mobility. Design describes the physical layout of the transportation system and includes the multiple components that make up the system (e.g. roads, signs, and lights). Local neighbourhood streets, regional roads, and interstate connections are all dynamic; as such, design improvement emerged as a subtheme in this category. However, these changes require funding and subsequently, costs emerged as another subtheme. In some cases the physical layout of the transportation system was easy to use and expedited travel, in other cases the layout was poor and confusing to use. Related to this, quality and efficiency were additional subthemes of design.
- Environment: Several characteristics of the environment are shaped and influenced by the transportation system. Respondents noted carbon emissions and air pollution as subthemes for this category. Beyond atmospheric emissions, the transportation system is also responsible for adding considerable sound and light to the environment, and, as such, noise and light pollution are additional subthemes of this category.
- Maintenance: Maintenance is a broad category that describes road surfaces, paint indicators, general repair, and seasonal upkeep. Potholes and other poor road surfaces can negatively influence pavement ride quality and reduce customer satisfaction with state highway maintenance.
- Mobility: Mobility describes movement, the actual process or experience involved with moving from one point or another. Mobility is defined as the movement of people from one place to another in the course of everyday life. While access is required for people to reach desired destinations, mobility refers to the physical movement to get there. This concept of mobility describes movement, such as congestion or free-flowing traffic, travel time, and total hours of delay. Subthemes of this include: traffic flow, commute time, construction, congestion, and travel time within and between communities.
- Safety: Safety emerged as a primary category in discussing transportation related QOL indicators. Multiple safety elements exist: physical conditions, human behaviour, and the interaction among these factors were frequently described as safety concerns. Driver behaviour emerged as an important subtheme related to safety: distracted drivers as well as speeding drivers were mentioned most frequently. Other safety subthemes included troubled intersections or poorly marked streets, railroad crossings, and interactions between vehicles and bikers or pedestrians.
- Transparency: Several subthemes emerged in the focus groups adding depth and breadth to the concept of transparency. Communication in its various forms appears to

be most associated with transparency; specific subthemes include communication about finances and planning.

## 3.1 Economic growth

Generally countries can enhance their capabilities and outputs in three main ways, that is, by investment in:

- physical capital;
- human capital (through education);
- new knowledge creation and application.

Economic output is a function of the capital and labour inputs used in the economy together with the efficiency with which these inputs are applied. Economic growth therefore depends on increases in these inputs and in total factor productivity (TFP). Transport can be seen to have an obvious role here — both directly through investment in transport infrastructure, vehicles, and logistics systems, increasing physical capital; and indirectly through the impact that more efficient transport can have by inducing greater efficiency in the way that other sectors use their own inputs For the transport sector, the key question is whether improvements in transport provision are likely to encourage greater TFP growth by improving incentives for innovative activity. The mainsprings of long-run economic growth are investment and productivity growth (Stindt, 2017).

## 3.2 Transport infrastructure investment

Summary of conditions complementing transport infrastructure investment to contribute to economic growth (Mollenkopf et al., 2010):

Economic conditions:

- The presence of positive economic externalities (for example, labour market, network or agglomeration economies).
- The potential for economies of scale.
- The potential for specialisation of markets to occur.
- The availability of a good quality, skilled labour force.
- The availability of resources that ―represent entrepreneurial effort that would not have occurred without the infrastructure being in place‖

Investment conditions:

- The transport mode being invested in.
- The availability of investment funds.
- Network effects (for example. is it a new link in an existing network, a new link connecting two disjointed networks or expansion of a link in an existing network?)
- Scale, timing and location of investment.
- Efficiency in implementation.

Political and institutional conditions – related to the broader policy environment (the „noneconomic" factors) in which the investment takes place:

- Sources and method of finance.

- Presence of complementary or facilitative policies/action (for example, training programmes, structure of tax system, facilitating the entry of competitive and/or innovative firms).
- The organisational and managerial framework of the infrastructure facilities (BTRE, 2001).

## 4. Conclusion

The role that transportation plays in logistics system is more complex than carrying the goods. The integration and promotion of business activities have to involve transportation systems at different stages. The integration of various applications brings the convenience through promoting the system of information flow and business operations. Transportation complexity can take effect only through highly quality management. By means of well-handled transport system, goods could be sent to the right place at right time in order to satisfy customers' demands. Transportation is the most important sub-function of logistics that creates time and place utility in goods. Reviewing the current condition, a strong system needs a clear frame of logistics and a proper transport implements and techniques to link the producing procedures. Transport investment has a significant impact on where economic activity occurs. Over time, changes in access and mobility can lead to changes in the economic and social landscape of countries. It can influence the geography of agricultural production, manufacturing and the knowledge-based service sector through its impact on how easy and cost effective it is to move around. Transport costs and accessibility also influence where people choose to reside in relation to their place of employment and lifestyle preferences. The quality of transport infrastructure, in terms of amenity and aesthetics, plays a role in the overall live ability and attractiveness of cities. Modern thinking in economic geography describes cities as competing with each other (within and between countries) to attract highly-skilled people who can choose where they decide to live and work. One response to this competition is the investment that goes into major transport hubs around the world, which go beyond their utilitarian purpose and are designed to make a statement about the cities they service. Policy makers and researchers are increasingly recognizing the connections between public health and transportation, but health improvements are typically framed from a physical health perspective rather than considering broader quality of life impacts. The analysed framework identified six transportation-related QOL dimensions: access, design, environmental issues, maintenance, mobility, safety and transparency. As this is an extensive topic, this paper concentrates on a limited range of specific questions that are seen here and in other developed countries as core to transport policy and which connect to other components of this research.

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# ACCIDENTS ON EUROPEAN RAILWAYS CAUSES, CONTEXT, AND CONSEQUENCES

Tomasz Ciszewski[1,a,*], Waldemar Nowakowski[2,b] and Marcin Chrzan[3,c]

[1]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[2]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[3]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[a]t.ciszewski@uthrad.pl, [b]w.nowakowski@uthrad.pl, [c]m.chrzan@uthrad.pl

*Corresponding author

**Abstract.** Safety is an essential condition for sustainable development of the railway companies, and consequently, each railway operator should maintain and increase safety level within its activities. European railways are continually strive to improve safety and reduce number of accidents, and the requirements for incident reporting and analysis are imposed on them by European Commission regulations. According to these regulations, every accidents should be reported and carefully analysed in order to determine the failure and also to assess appropriate compensation. The safety culture and accidents monitoring implementation are the responsibility of the national and European regulators. The most important indicators and trends related to the state of safety on European railways obtained based on the above-mentioned reports and available statistical data are presented in the paper. The accidents causes were analysed and corrective actions that can be taken to improve safety and to reduce accident costs were indicated. Although the analysis results clearly show that consistent efforts in the area of safety lead to structural reduction in the number of incidents, there is still scope of the improvement in many areas. The comparative analysis of the safety indicators in the individual European countries was also included in this paper. It turned out that a small group of countries is responsible for a significant part of accidents. These countries need to pay more attention to the implementation of appropriate corrective actions. Past practical experiences show that costs of preventive measures are smaller than costs of eliminating the effects of events.

**Keywords:** railway safety, safety culture, accidents monitoring, failure evaluation.

**JEL Classification:** R41, R42, L92, L98

## 1. Introduction

Although rail transport is currently the safest mean of land transport, there are still accidents that cause direct and indirect damage to people, property and the environment. In order to enable their reliable analysis leading in consequence to a reduction in the number of dangerous accidents and to maintain (or increase) a high level of transport safety in 2004 the European Railway Agency was established by Regulation (EC) No. 881/2004 of the European Parliament and of the Council. Its tasks include monitoring railway safety, as well as developing recommendations on Common Safety Targets (CSTs), Common Safety Methods (CSMs) and Common Safety Indicators (CSIs) in the European Union (Commission, 2003), (Regulation, 2016), (Commission, 2018). The CSTs, in accordance with the safety directive (Directive, 2016), (Directive, 2004), define the minimum safety levels, expressed in risk acceptance criteria, which must be achieved by different parts of the railway system and by the railway system as a whole. The CSTs are determined by the European Railway Agency on the basis of the so-called National Reference Values (NRVs) for individual countries, in accordance with the procedure laid down in the Commission Decision of 5 June 2009 concerning the adoption of a common safety method for assessment of achievement of safety targets (Schutte et al., 2005) whether as referred to in Article 6 of Directive 2004/49/EC of the European Parliament and of the Council (2009/460/EC). Member States shall be required to continuously monitor the safety level of their railway systems (El Koursi & Tordai, 2006), (Lewinski & Perzynski, 2010), including monitoring the achievement of CSTs, defined in quantitative and qualitative terms (Braband & Schaebe, 2012), (Commission, 2010), (Regulation, 2003), (Regulations, 2007). Accidents and serious incidents data occurring on the railway network are obtained from infrastructure managers who are obliged to report serious accidents, accidents and incidents in railway transport. Due to the fact that the safety level depends on both technical and organizational safety (Nowakowski et al., 2018), (Nowakowski et al., 2017), (Nowakowski et al., 2016)), and proper protection against external security factors, both these aspects should be taken into account when analysing the state of safety in order to improve it. These include following safety and security indicators: (1) technical condition of infrastructure and traffic control devices; (2) technical condition of level crossings; (3) technical condition of rolling stock; (4) safety culture; (5) employees' competences and skills.

## 2. Causes, locations and types of railway accidents

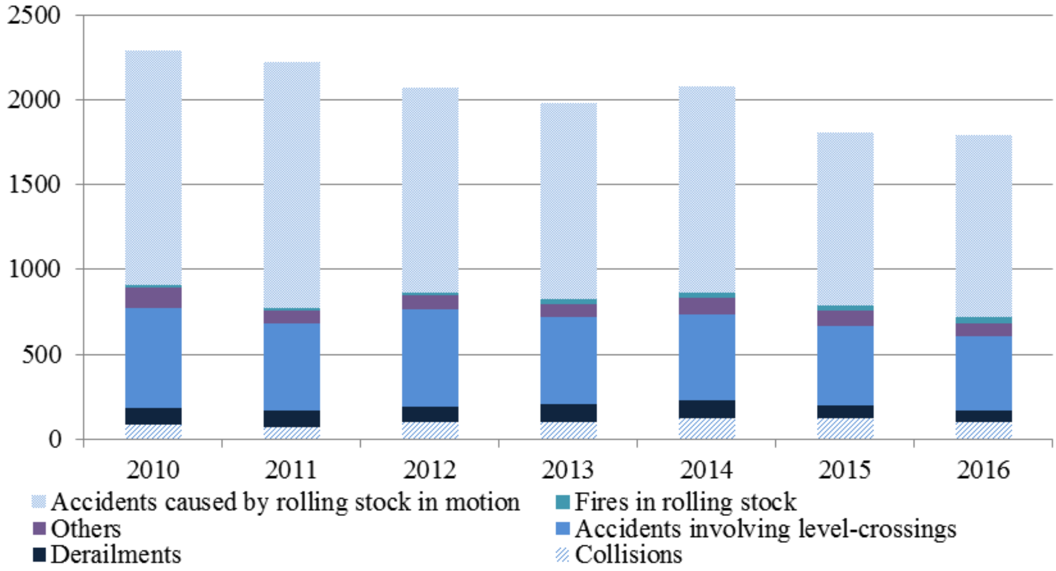
According to the UIC Safety Database and the recommendations defined by the ERA, the following categories of accidents are distinguished:

- Collisions including collision with obstacles within the clearance gauge (collision with other train, collision with an obstacle)
- Derailments of train
- Level-crossings accidents involving pedestrians at LC (collision with an obstacle at LC, individual hit by train at LC)
- Other types of accidents (electrocution by overhead line or third rail, accidentsAccident involving dangerous goods, shunting operations, runaway vehicles)
- Fires in rolling stock
- Accidents to persons caused by rolling stock in motion with the exception of suicides (individual hit by train not at LC, individual falling from a train)

Number of rail accidents in EU-28 according to its type is shown in Figure 1.

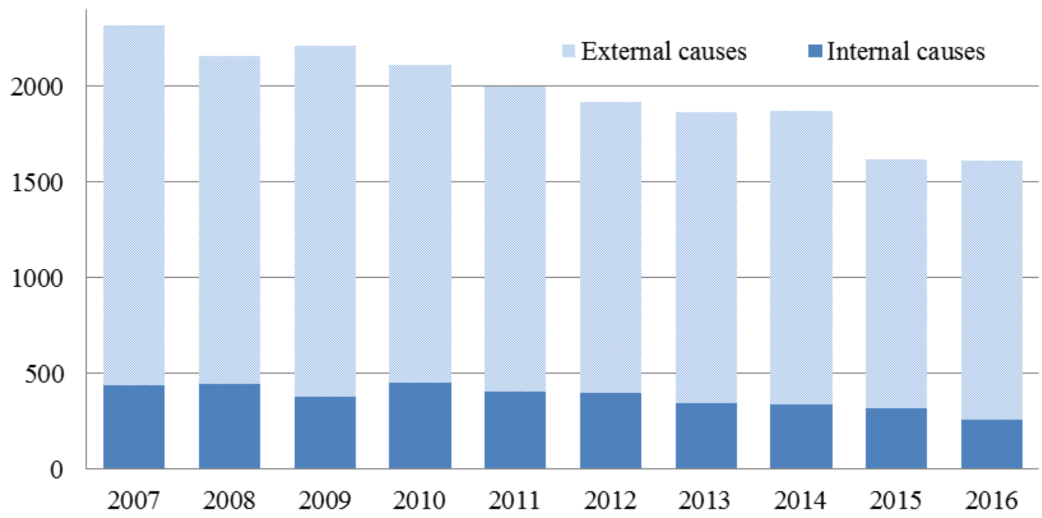
The causes of accidents can be both the internal factors (infrastructure, rolling stock, human factors and railway users), as well as external causes (third parties, weather, environment). According to the report (UIC, 2017), external factors are responsible for more than 80% of accidents each year (Figure 2). Both diagrams (Figure 1, Figure 2) also show the progressive process of gradual reduction in the number of accidents.

*Figure 1: Number of rail accidents by type of accident in EU-28*




*Source: own preparation based on (Eurostat, 2018)*

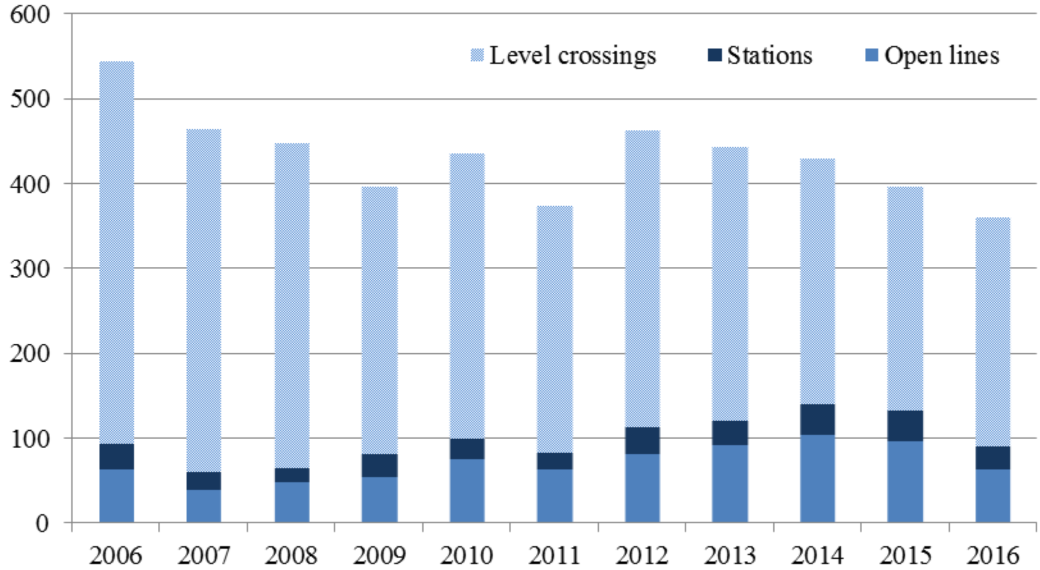
*Figure 2: Number of rail accidents per internal/external causes*




*Source: own preparation based on (UIC, 2017)*

According to UIC Safety Report 2017 (UIC, 2017) in 2016 external causes were responsible for more than 88% of all victims and 95% of all deaths, and more than 60% of accident victims caused by external causes were fatalities. In the case of internal causes, only 24% of accident victims were fatalities. The report mentioned above indicates that in the years 2006-2016 the number of collisions with an obstacle decreased significantly (-34%), and collisions with motorised road vehicles dropped by 40%. During this period, the number of collisions with an obstacle at stations or on open lines has not changed significantly. It is important to note that 80% of collisions at stations and open lines are without victims, and all those who had at least 2 victims occurred on level crossings. The level crossings are the most frequent place of collisions events and accidents in the whole analysed period and in 2016 they constituted 75% of all collisions (Figure 3).

*Figure 3: Collisions with an obstacle per location*

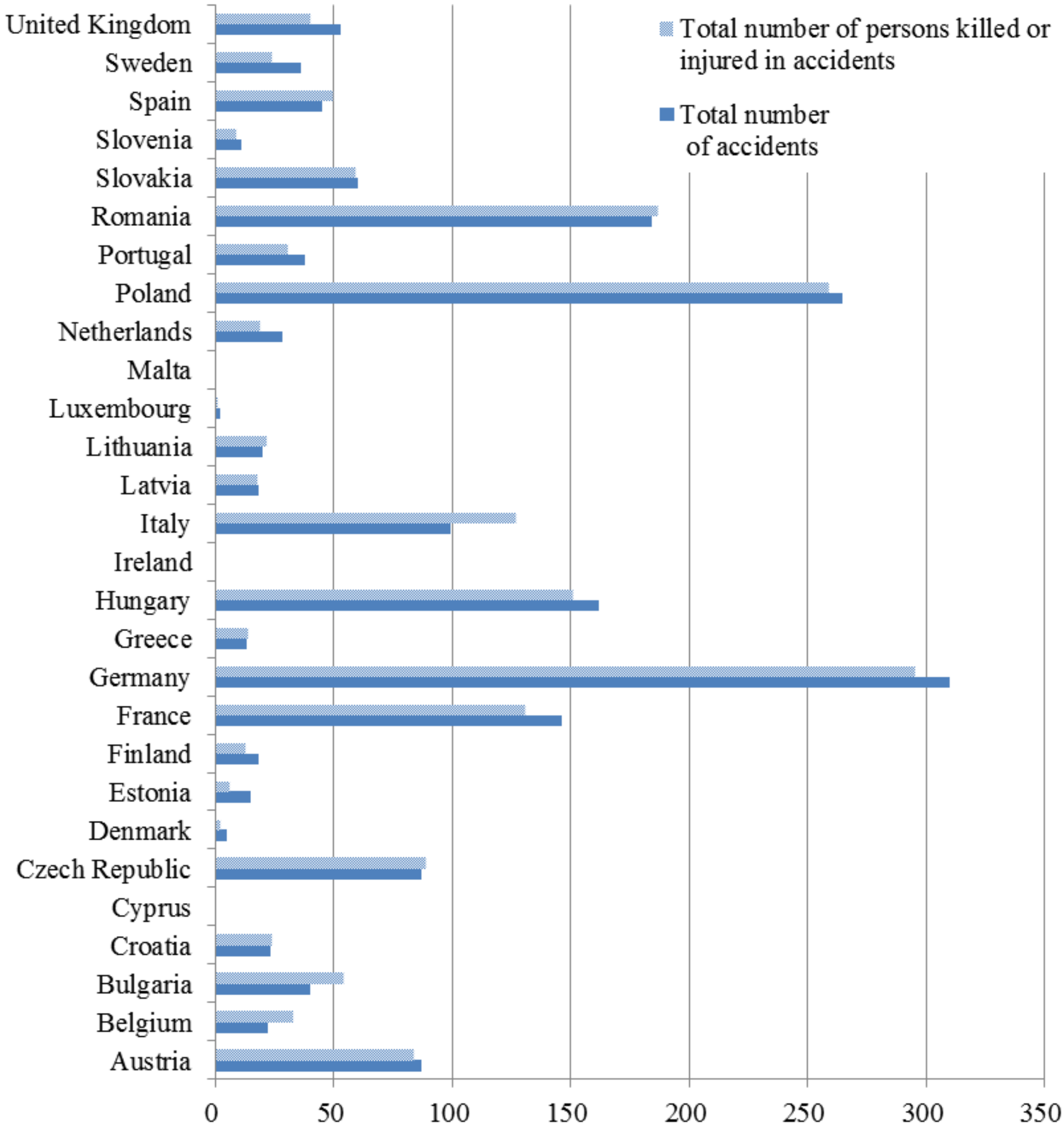



*Source: own preparation based on (UIC, 2017)*

## 3. Data analysis on railway accidents in the European Union countries in 2016

In 2016 in all European Union countries 1787 railway accidents happened. As a result of these accidents 964 people died and 778 people were seriously injured (a total of 1742 victims). The number of fatal accidents and the total number of railway accidents in individual countries in 2016 are summarised in Figure 4. The number of accidents increased by 6% compared to 2015, reversing the trend of continuous improvement in safety over the years. In 2016, as many as 14 countries recorded an increase in the number of accidents (the highest in Italy), while 12 countries recorded a decrease in the number of accidents (the highest in Poland). Despite significant improvement in Poland, the analysis of collected data (Figure 4) shows that Poland, together with Germany and Hungary, is responsible for as much as 43% of fatalities in railway accidents, and more than 50% of all railway accidents victims took place in four countries again in Germany, Poland and Hungary as well as in Romania. In 2016, in almost all countries reporting accidents, the most frequent incidents (Figure 1) were those caused by rolling stock in motion (60%), of which the largest number of accidents were caused by a train that hit people or vehicles crossing the tracks in places not allowed as well as accidents at level crossings (24%) mainly involving incidents such as the hit by a train on a road vehicle and/or persons at the level crossing or pedestrian railway crossing (Figure 3). These two categories of incidents in 2016 accounted for 90% of the total number of railway accidents and resulted in 94% of fatalities. Third parties represented 95% of all fatalities (Figure 5) and 76% of serious injuries. Most victims in this group were trespassers (61%) and level crossing users (34%). Passengers accounted for 10% of all victims and 2% of all fatalities (Figure 5). According to (UIC, 2017) around 80% of events with passenger victims are “individuals falling from a train”.

*Figure 4: Number of significant rail accidents in EU-28, 2016*



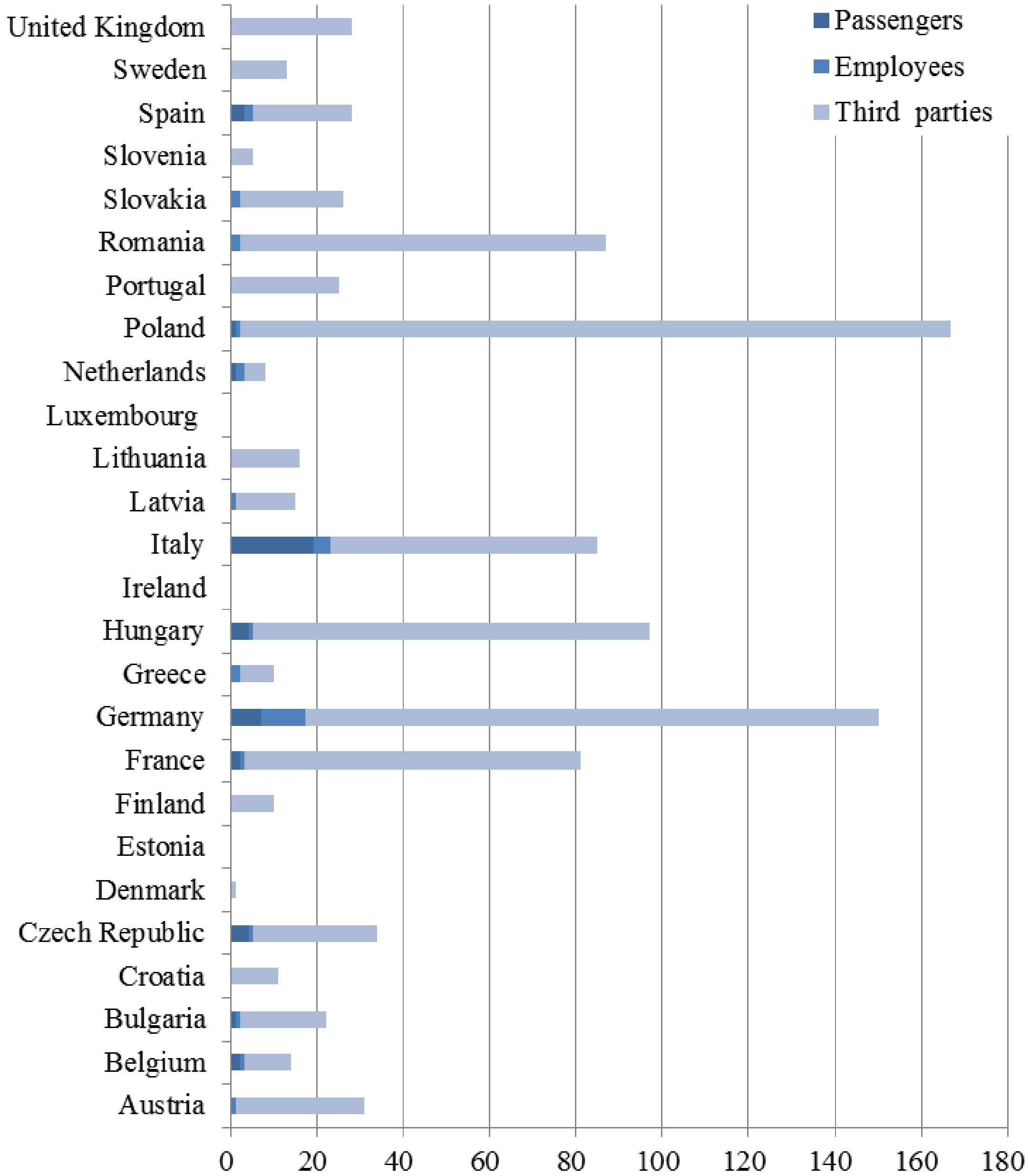

*Source: own preparation based on (Eurostat, 2018)*

Accidents with staff victims were decreased significantly, and in 2016 reach the lowest level of the decade (-65%). The most common cause of accidents in this group is individual hit by train (48%). From 2007 to 2016, fatalities decreased by -33% while serious injuries decreased by -36%. Severe accidents (with two and more victims) decreased -48% during these years (UIC, 2017).

## 4. Conclusion

Continuous monitoring of accidents and incidents is an important element of the safety culture. Reporting even less serious incidents gives a valuable warning signal. Under unfavourable conditions, the incident may lead to an accident.

*Figure 5: Number of fatalities by category in EU-28, 2016*




*Source: own preparation based on (Eurostat, 2018)*

Monitoring such events in the railway system allows for the analysis of events and the implementation of adequate corrective and preventive actions, e.g. appropriate procedures, device safety verification and validation (Lukasik et al., 2016, B), new technologies (Kornaszewski et al., 2017), improvement railway systems interoperability (Ciszewski & Nowakowski, 2016), power reliability (Lukasik et al., 2016, A), etc. Such activities have a significant positive impact on the safety of rail transport and allow for a gradual reduction of the number of these incidents and accidents that have their causes in the railway system. As shown by the above analysis, most of the accidents, have their origins outside the railway system. They are mostly accidents on level crossings and hits by train (trespassers or vehicle drivers). The best and recommended ways to minimize such accidents is to separate traffic flows by entering collision-free level crossings and intersections or by modernizing and raising level crossings categories. (Bester &Torun, 2014). Another important action related to improving safety, which should be carried out in parallel, is comprehensive education. It should cover a wide range of potential users of level crossings, for example children, young people and drivers. To promote a safety culture educational elements in its scope should become not only an important part of staff training, but also a common element of education at schools. A strong emphasis on this issue should also be put by training and examination centres for drivers. Awareness-raising media campaigns will also be useful. An interesting way to improve safety at level crossings (Bester &Torun, 2014), (Lewinski & Perzynski, 2010), (Kornaszewski et al., 2017) are the systems for monitoring driver behaviors along with the registration of the offenses, which not only mobilize drivers to observe the traffic regulations, but also ensure faster assistance in the case of accident. Comprehensive activities leading to the improvement of safety culture should be systematically carried out in all European Union countries. Particularly strong pressure on popularizing the safety culture should be put by such countries as Poland, Germany, Hungary and Romania, where accidents were the most frequent.

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# COMPETITION IN THE RAIL TRANSPORT MARKET – THE WAY TO INCREASE THE MODAL SHARE OF RAIL TRANSPORT?

Anna Dolinayova[1,a,*], Martin Kendra[2,b] and Martin Kvizda[3,c]

[1]University of Žilina, Faculty of Operation and Economics of Transport and Communications, Department of Railway Transport, Univerzitná 8215/1, 010 26 Žilina, Slovakia

[2]University of Žilina, Faculty of Operation and Economics of Transport and Communications, Department of Railway Transport, Univerzitná 8215/1, 010 26 Žilina, Slovakia

[3]Masaryk University, Faculty of Economics and Administration, Lipová 41a, 602 00 Brno, Czech Republic

[a]anna.dolinayova@fpedas.uniza.sk, [b]martin.kendra@fpedas.uniza.sk, [c]kvizda@mail.muni.cz

*Corresponding author

**Abstract.** Rail transport services market must adapt to globalization trend as well as all other industries. Liberalization has been a basic tool to adapt this trend and simultaneously increasing competitiveness of railway transport. The liberalisation of the rail transport enabled new investors (railway undertakings) to enter the rail transport services market. Concurrently, the effective legislation of the European Union enables all the railway companies holding the licenses acquired in any of the EU member states as well as the safety certificates, based on the non-discriminatory and equal conditions determined by the infrastructure manager to use the rail infrastructure of all the EU member states. Finally, the opening up of the market of rail transport services to the private sector should bring an increasing of quality of rail services, competitiveness, rail transport performances and share of rail transport in the transport market. The paper deals with the issue of competition in the rail transport market in the selected European countries. We researched how the competition influences the number of rail freight and passenger operators, transport performances of the rail freight and passenger transport and other indicators. The main result is a different development of these indicators for incumbents and other rail transport operators.

**Keywords:** competition, incumbent operator, liberalization, private operators, rail transport market.

**JEL Classification:** D40, R41, R48

## 1. Introduction

The globalization of economy required a re-evaluation of rail transport sector with aim to increase its competitiveness (Skrucany & Gnap, 2014). Liberalization of railway transport market should become a tool to achieve this goal (Panak et al., 2017) but each country has developed its own framework according to its transport system, political context, economic situation, business and regulatory environment (Laurino et al., 2015). The many authors have dealt the issue of liberalization and their impact to competitiveness of railway transport. Altzelai and Miren (2017) studied a key aspect of the liberalization process of the sector, such as the area of market relations between railway infrastructure managers and transport service operators. Nash et al. (2013) compared European countries with long experience of competition in rail transport - Britain, Sweden, and Germany. Kelemen-Erdos (2011) applied macro and micro environment analysis to demonstrate the situation of V4 countries and introduced the regulatory impact on the railway market supply while concentrating on intra-modal competition. As described by the authors, reforms of railway transport have been different and have bring different results (Cantos et al, 2012; Andersson & Hulten, 2016; Stoilova, 2018). In some countries, it has been achieved improvement of rail transport competitiveness even in the absence of competition (Desmaris, 2013). The results of these studies are not clear. We have focused on research of transport performances development of incumbents and other freight and passenger carriers and their impact to modal share of railway transport.

## 2. Methods

The liberalization process of the railway transport in the EU started at the beginning of the 90's by the Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways. Since then, the railway industry has faced multiple reforms, all aiming at creating a single railway market on which competition and free access would be the key factors (Bougna & Crozet, 2016). The Council Directives 91/440/EEC, 95/18/EC, 95/19/EC were amended by the first and second railway packages. Jointly with the directive on interoperability for the traditional railway network they established the basis for the process of creating a single railway area.

The First Railway Package contains directives related to the area, which has essential significance for the reform of the European railway sector. They focus on opening of the international railway freight transport to competition, they introduce detailed framework for allocation of infrastructure capacity and charging of fees for its use. Furthermore, the directives require each member state to establish a regulatory body.

In the second half of the 90s the financial results of the European railways considerably improved. In the period from 1995 to 2001 the railways reported considerable increase of transport within the whole of the EU (15). The railways became economically more viable. In spite of the financial results they failed to improve their market share. On 23rd January 2002 the Commission proposed the Second Railway Package of measures losing of the market shares of railways. The Commission's commitment was reinforced mainly by the fact that the congestion of the road transport increased.

The Second Railway Package should have opened up the EU to the international as well as inland transport of goods within the whole European network. Another objective has been also the promotion of market opening by means of structural measures that concern the interoperability and safety. Based on the package there was established the European Union Agency for Railways for technical works management. Second Railway Package contains the following directives: Directive 2004/51/EC, 2004/49/EC, 2004/50/EC as well as Regulation No 881/2004/ of the European Parliament and of the Council of 29 April 2004. This set of measures was adopted with the aim to develop the regulatory framework of EC in the area of railways.

In 2004 the European Commission submitted the Third Railway Package containing measures to revitalise the European railways. The package consists of four legislative measures, communications and a working document on the extension of the impact of making the market accessible to services of the international passenger transport. The proposed Third Railway Package was composed of the following documents:

- COM (2004) 140 Further integration of the European rail system
- Directive proposal COM (2004) 139 final, which amends Directive 91/440/EEC on the development of the Community's railways
- Directive proposal COM (2004) 142 final on the certification of train crews operating locomotives and trains on the Community's rail network
- Directive proposal COM (2004) 143 final on international rail passengers' rights and obligations
- Directive proposal COM (2004) final 144 on compensation in cases of non-compliance with contractual quality requirements for rail freight service
- SEC (2004) 236 – Commission staff working paper amending Directive 91/440/EEC on the development of the Community's railways to gradually open up the market for international passenger services by rail

The Fourth Railway Package (2013) includes legislative proposals amending the following directives and regulations:

- Directive of the European Parliament and of the Council 2012/34/EU of 21 November 2012, establishing a single European railway area
- Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road
- Regulation (EC) No 881/2004 of the European Parliament and of the Council of 29 April 2004 establishing a European Railway Agency
- Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community's railways
- Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community
- Annulment of Regulation (EEC) No 1192/69 of the Council of 26 June 1969 on common rules for the normalisation of the accounts of railway undertakings

The EU considers the liberalisation of the rail transport to be the main way of promoting competition, which can contribute to the development of the railway transport as well as increased use of its capacity possibilities.

## 3. Results and discussion

Liberalization of the railway transport opened the railway transport market to private carriers which has been reflected in many countries by improving the quality of rail services (Dedik et al, 2017), but has been increased the competitiveness of railway transport in the transport market? Firstly, we carried out an analysis of the number of railway undertakings in selected EU countries that have their applicable established Contract on access to the rail infrastructure (GoF4R project, 2018). The Table 1 shows the analysis of railway undertakings for the period from 2009 – 2015.

*Table 1: Number of carriers in the selected countries with established contracts on access to the rail infrastructure*

| **Country/Year** | **Number of carriers** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| Germany | 353 | 370 | 385 | 395 | 389 | 401 | 412 |
| Poland | 50 | 52 | 65 | 67 | 76 | 83 | 88 |
| Austria | 23 | 23 | 26 | 29 | 31 | 31 | 32 |
| Czech Republic | 62 | 68 | 75 | 79 | 84 | 89 | 94 |
| Slovakia | 30 | 31 | 38 | 41 | 41 | 43 | 47 |

*Source: data of the infrastructure managers of the analysed countries*

The number of railway operators has grown in the each of analysed countries. However, the number of operators does not tell us much about the competition on the railways neither about the market share. That is why, in the following we will closely look at the transport performances. Table 2 shows the development of rail freight transport performances in the V4 countries, Austria and Germany.

*Table 2: Performance on the rail freight market in the mil. tonne km*

| **Country** | **Performance** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|---|---|---|
| Austria | Total | 45 318 | 43 697 | 40 554 | 41 799 | 40 927 | 41 878 | 40 500 |
| | Incumbent | 44 336 | 42 760 | 33 926 | 31 998 | 31 934 | 32 737 | 31 700 |
| | Others carriers | 982 | 937 | 6 628 | 9 801 | 8 993 | 9 141 | 8 800 |
| Czech Republic | Total | 13 770 | 14 316 | 14 266 | 13 965 | 14 574 | 15 261 | 15 619 |
| | Incumbent | 11 896 | 12 147 | 11 423 | 10 588 | 9 871 | 9 284 | 9 187 |
| | Others carriers | 1 874 | 2 169 | 2 843 | 3 377 | 4 703 | 5 977 | 6 432 |
| Germany | Total | 107 317 | 113 317 | 110 065 | 112 613 | 112 629 | 116 632 | 116 164 |
| | Incumbent | 105 794 | 111 980 | 105 894 | 104 259 | 102 871 | 98 445 | 94 698 |
| | Others carriers | 1 523 | 1 337 | 4 171 | 8 354 | 9 758 | 18 187 | 21 466 |
| Hungary | Total | 16 385 | 15 740 | 15 012 | 16 701 | N/A | N/A | N/A |
| | Incumbent | 10 079 | 9 336 | 8 760 | 9 729 | 9 663 | 8 909 | 7 840 |
| | Others carriers | 6 306 | 6 404 | 6 252 | 6 972 | N/A | N/A | N/A |
| Poland | Total | 48 705 | 53 746 | 48 903 | 50 881 | 50 073 | 50 063 | 50 650 |
| | Incumbent | 34 327 | 37 189 | 32 904 | 33 256 | 32 017 | 28 720 | 26 836 |
| | Others carriers | 14 378 | 16 557 | 15 999 | 17 625 | 18 056 | 21 343 | 23 814 |
| Slovakia | Total | 8 105 | 7 960 | 7 591 | 8 494 | 8 829 | 8 439 | 8 370 |
| | Incumbent | 8 021 | 7 598 | 7 016 | 6 780 | 6 791 | 7 047 | 7 072 |
| | Others carriers | 84 | 362 | 575 | 1 714 | 2 038 | 1 392 | 1 298 |

*Note: Hungary and Austria – transport performances in the train km*
*Source. Authors by Annual Report ÖBB-Infrastruktur AG 2016, Current financial reports of DB Group and DB AG. 2016-2010, Eurostat 2018, UIC Statistics 2018, UTK 2016*

The performances of the incumbents to the others operators on the rail freight market. We can observe that the performance of the incumbent operators is decreasing in the V4 countries (except SR) and Germany, in the Austria performance increased in 2015 compare with 2014 but is degreasing throughout the rest of the period. The performance of the other carriers increased in 2016 compared to 2010, while the total performance decreased except Czech Republic and Germany.

*Table 3: The share of rail freight transport on the national freight transport markets in percentage*

| **Country** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|---|---|
| Austria | 33,0 | 33,1 | 32,7 | 32,0 | 32,9 | 32,2 | 31,5 |
| Czech Republic | 30,1 | 30,1 | 30,5 | 28,3 | 28,2 | 26,4 | 26,4 |
| Germany | 18,7 | 19,3 | 19,1 | 19,1 | 18,8 | 19,5 | 18,8 |
| Hungary | 27,1 | 28,5 | 29,8 | 30,7 | 31,1 | 29,5 | 28,5 |
| Poland | 29,5 | 29,9 | 27,6 | 26,4 | 26,5 | 25,6 | 24,7 |
| Slovakia | 38,5 | 38,2 | 36,5 | 39,0 | 38,9 | 36,6 | 34,5 |

*Source: Eurostat 2018*

Generally, the share of rail freight transport in the analysis countries developed negatively but development was different in individual countries. While in the Germany and Hungary the share of railway transport increased, in the other countries decreased in 2016 compare with 2010. The development of the rail passenger performances of incumbent and new entrants is shown in table 4.

*Table 4: Performance on the rail freight market in the mil. passenger km*

| **Country** | **Performance** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|---|---|---|
| Austria | Total | 10 306 | 10 421 | 10 353 | 11 299 | 11 601 | 11 684 | 11 271 |
| | Incumbent | 10 186 | 10 300 | 10 220 | 10 630 | 10 668 | 10 715 | N/A |
| | Others carriers | 120 | 121 | 133 | 669 | 933 | 969 | N/A |
| Czech Republic | Total | 6 591 | 6 714 | 7 265 | 7 601 | 7 807 | 8 298 | 8 843 |
| | Incumbent | 6 553 | 6 635 | 6 907 | 6 924 | 6 233 | 6 360 | 6 495 |
| | Others carriers | 38 | 79 | 358 | 677 | 1 574 | 1 938 | 2 348 |
| Germany | Total | 82 837 | 89 316 | 93 918 | 89 450 | 90 978 | 91 050 | N/A |
| | Incumbent | 78 582 | 77 567 | 80 210 | 79 906 | 79 339 | 79 257 | 80 046 |
| | Others carriers | 4 255 | 11 749 | 13 708 | 9 544 | 11 639 | 11 793 | N/A |
| Hungary | Total | 7 692 | 7 763 | 7 806 | 7 842 | 7 738 | 7 609 | 7 653 |
| Poland | Total | 17 907 | 18 164 | 17 860 | 16 797 | 16 071 | 17 443 | 19 181 |
| | Incumbent | 17 900 | 17 868 | 17 662 | 16 593 | 15 749 | 17 144 | 18 967 |
| | Others carriers | 7 | 296 | 198 | 204 | 322 | 299 | 214 |
| Slovakia | Total | 2 291 | 2 431 | 2 459 | 2 485 | 2 583 | 3 411 | 3 484 |
| | Incumbent | 2 291 | 2 431 | 2 413 | 2 422 | 2 503 | 3 081 | 3 194 |
| | Others carriers | 0 | 0 | 46 | 63 | 80 | 330 | 290 |

*Source. Authors by Annual Report ÖBB-Infrastruktur AG 2016, Current financial reports of DB Group and DB AG. 2016-2010, Eurostat 2018, UIC Statistics 2018, UTK 2016*

Rail passenger market was opened subsequently than rail freight market and in the many countries it is open only for long distance rail passenger transport. Total rail passenger performance increased in the all countries (except Hungary). It cannot be said that the entry of new carriers caused decreasing a transport performances of incumbent. In some countries transport performances of incumbent increased (Austria, Germany), in other countries development was fluctuating. The cause of the increase of total transport performance is not only rail passenger market opening but other economics and social factors.

*Table 5: The share of rail passenger transport on the national passenger transport markets in percentage*

| Country | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| Austria | 11,0 | 11,3 | 11,8 | 12,2 | 12,1 | 12,0 |
| Czech Republic | 7,5 | 7,6 | 8,3 | 8,5 | 8,4 | 8,6 |
| Germany | 8,0 | 8,2 | 8,9 | 8,5 | 8,5 | 8,4 |
| Hungary | 10,0 | 10,2 | 10,1 | 10,2 | 9,9 | 9,5 |
| Poland | 7,1 | 7,1 | 7,2 | 6,7 | 6,3 | 6,8 |
| Slovakia | 6,7 | 7,0 | 7,1 | 7,1 | 7,3 | 9,4 |

*Source: Eurostat 2018*

As can be seen in Table 5, the share of rail passenger transport has evolved differently in individual countries. While in the Austria, Czech Republic, Germany and Slovakia it increased, in the Hungary and Poland decreased. It should be note that high growth of the share of rail passenger transport in Slovakia in 2015 compare to other years was caused by free tickets for pensioners and students.

## 5 Conclusion

It takes several years for open access competition to settle after legal opening of passenger transportation market (Perennes, 2017) on the one hand and on the other hand reforms are apparently not increasing the modal shares of railways on the transport market (Tomes, 2017). Our research has produced similar results. In the same regions the introduction of competition can reduce level of subsidy (Guihery, 2014) but the share of railway freight transport in the transport market has had steady or decreasing tendency. The implementation of the European legislative framework by itself is not sufficient for creating an effective competition in the rail transport sector and increasing the share of railway transport in the transport market. It is needed to create other economic and social conditions to increasing of competitiveness of the rail transport.

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# DEVELOPMENT OF MULTIMODAL TRANSPORT SERVICES IN THE GLOBAL LOGISTICS CLUSTERS

Michael V. Drapalyuk[1,a,*], Sergei V. Dorokhin[2,b,*] and Anna Y. Nebesnaya[3,c,*]

[1]Voronezh state forestry engineering University named after G.F. Morozov, 394087, Voronezh, Timiryazeva st., 8, Voronezh, Russia

[2]Voronezh state forestry engineering University named after G.F. Morozov, 394087, Voronezh, Timiryazeva st., 8, Voronezh, Russia

[3]Voronezh state forestry engineering University named after G.F. Morozov, 394087, Voronezh, Timiryazeva st., 8, Voronezh, Russia

[a] michaell@yandex.ru, [b]dsvvrn@yandex.ru, [c]an-nebesnaya@yandex.ru

*Corresponding author

**Abstract.** The article deals with the issues of development of logistics clusters. Worldwide the performance of transportation and logistics companies varies greatly. One of the main reasons for this is the quality of infrastructure, which is fundamental to their effective operation. The importance of good logistics performance for economic growth, diversification and poverty reduction is now firmly established. The transportation and logistics industry forms the backbone of modern global supply chains. The logistics industry encompasses freight transportation, warehousing, border clearance, payment systems and, increasingly, many other functions outsourced by producers and merchants to service providers. Russia has a potential for logistics cluster development but there are some factors which need to expect. There are population incomes, economic climate, quality of auto and rail roads and transportation routes and others. Transportation is a cost of doing business. Improvements in the transportation system may not generate large numbers of new jobs, but they are important to enhance the competitive position of the region in the global aspect. The article analyses the state of the logistics infrastructure of the Russian Federation, the dynamics of its development, its ability to integrate into the global logistics cluster. The development of the multimodal transport complex of the Russian Federation is analysed.

**Keywords:** logistics clusters, multimodal transportation, regional integration, global competitive infrastructure.

**JEL Classification:** R53, L92, R4, R1

## 1. Introduction

In the conditions of transition of economy to the innovative way of development, transport is considered as the most important factor of social and economic growth of the Russian state, providing: unity of economic space of the country; improvement of interregional and international transport and economic relations; rationalization of productive forces; increase of efficiency of use of natural resources and socio-economic potential of the regions of the country; development of entrepreneurship and expansion of international cooperation;

Russia's entry into the world economy as an equal partner (Hasan, 2008). The sustainable operation of transport throughout the country is a guarantee of the unity of the economic space, the free movement of people, goods and services, the development of competition and freedom of entrepreneurship, the improvement of living conditions and standards of the population, ensuring the integrity and national security, integration into the world economic space. In the Russian Federation, a modern transport system, which is an important part of the production and social infrastructure, ensuring the needs of the national economy and the population in transport services, territorial integrity, economic and geopolitical security of the country, has been created and is generally functioning steadily.

According to the World Bank, which published the logistics performance Index 2018 logistics ranking. Russia takes 75th place – 24 lines higher than in the previous version of 2016, when it took 99th place. The main components of the logistics index – "custom" assessment of customs, infrastructure, international transport, quality of logistics and logistics competencies, the ability to track the movement of goods and timely delivery. (Blyde & Molina, 2015). Experts estimate that the cost of delivery of goods to the Russian consumer from the manufacturer is 2-3 times higher than similar costs in Europe and the United States. In Russia, logistics services account for almost a quarter of GDP, and in European countries — 6-12%.

In modern conditions of the world economy, such low logistics ratings can have an extremely negative impact on Russia's participation in the global foreign trade turnover, its place and role in the organization of foreign economic relations, the development of the system of international transport corridors and the implementation of the country's transit potential, and requires an immediate formulation of the task of developing and implementing a national strategy for the integrated development of logistics in Russia. (Coulibaly & Thomsen, 2015). The main system-wide problems of development of the transport industry of the Russian Federation are as follows: the presence of territorial and structural imbalances in the development of transport infrastructure; lack of accessibility of transport services and mobility of the population; insufficient quality of transport services; low level of export of transport services, including the use of transit potential; insufficient level of transport security; increasing the negative impact of transport on the environment. Thus, in Russia there are significant restrictions on economic growth due to the lack of development of the transport system. (Xiu, 2013). The creation of a market for competitive transport services involves: development of the regulatory framework in the field of transport services (safety, environmental friendliness, quality of transport services, development of methods of state regulation of the market; development of high-performance transport and logistics infrastructure that provides a competitive level of transport services (primarily commercial speed and reliability); achievement of the advanced level of equipment and technologies that ensure standards of safety, environmental friendliness, efficiency and quality of transport services. (Bilovodska et al,2016).

## 2. Prospects of creating a transport and logistics cluster

In such conditions, the most important task is the formation of transport and logistics clusters (TLC) as the most effective innovative-oriented form of integration of transport and logistics services market participants, providing the maximum synergetic effect on the basis of innovation and coordination of economic interests of all supply chain contractors (Iannone F, 2012).

Transport and logistics custer(TLC) allows: to develop the basic terminal and logistics structural elements on the basis of the formation of cargo processing terminals, terminal and warehouse complexes of multi-purpose, providing a full range of warehouse customs and accompanying services; improve the competitiveness of transport corridors;

reduce the share of transport costs in gross domestic product; ensure cooperation and integration of small and medium-sized logistics organizations — transport, forwarding, warehouse, etc. in the overall logistics system; adapt internal structures and external business relations to the conditions of environment uncertainty ( Pietz & Becker, 2016).

The cluster approach is widely used in the economies of Germany, the USA, Japan, Finland, China and a number of other countries. So in the European Union at the moment formed a full network of transport and logistics clusters, consisting of more than eighty TLC, and the share of transport and logistics services provided by specialized organizations in the total turnover reached 40% (Veenstra et al, 2012).

There is a transport and logistics cluster in the German city of Frankfurt am main. This cluster includes Lufthansa, Deutsche Bank group, and many companies engaged in small and medium-sized businesses. The companies implement and offer a full range of logistics services: from planning and construction of logistics facilities and systems to consulting services of materials/cargo flow management processes and supply chain management (supply chain management). (Doumouras et al, 2016).

The excellent infrastructure of local information technology companies helps logistics enterprises to install electronic data processing systems of sufficient capacity, record the flow of goods with indication of time and take the necessary security measures.

In Finland, there is a logistics cluster Limowa-a national logistics network. The cluster unites logistics enterprises, freight forwarding firms, consulting, production, research and educational organizations, state and administrative institutions.

The examples discussed above, the TLC show that their structure concentrates market actors such as producers, consumers, transport and forwarding companies, warehouses, distribution centres, terminals, commercial intermediaries, institutional bodies, financial institutions, insurance companies, research organizations, training centers for training and retraining of personnel, consulting and analytical organizations, marketing organizations, etc. Which in turn leads to increase in logistics capacity of the area (Bychkov et al, 2016).

In Russia, the practice of applying the cluster approach is in its infancy. The Russian Federation has all the prerequisites for the creation and operation of transport and logistics clusters. Thus, in some regions the Foundation for the clustering of transport and logistics services in the form of transport and logistics centers and systems has already been formed.

Now in many subjects of the Federation the question of creation of TLK is updated. In particular, some of them base their transport strategy on a cluster approach, and also differ in that they have clearly formulated goals of operation, the plan of the main projects and the timing of their implementation.

Thus, according to experts, the Russian market of logistics services requires restructuring towards the creation of large logistics clusters. Russia has quite a large number of territorial and sectoral clusters, many of which have proved their effectiveness. Unfortunately, the formation and development of the transport and logistics cluster is not given due attention, adequate to their importance for the economy.

The introduction of transport and logistics clusters will improve the country's competitiveness in the international arena due to the following economic results: modernization and accelerated innovation; enhancing the territory's competitive advantages through the sharing of resources; reduced logistics costs due to economies of scale and territorial location and proximity of participants. (Jarašūnienė et al, 2016).

Transport and logistics cluster in its structure has a complex mixed character. On the one hand, it is sectoral in nature, since most of its subjects and participants (carriers, freight forwarders, terminal owners, sea and river ports, airports, Railways, etc.) belong to the transport industry. At the same time, the cluster usually includes information, insurance companies, customs representatives, financial structures, service companies, large shippers and consignees, which gives the cluster an inter-sectoral character. Being formed on the territory of the region, country or in the area of international transport corridors, transport and logistics cluster can have regional, interregional, national and global character.

The creation of clusters is possible in almost all sectors of the economy. Clusters can bring together enterprises and institutions, both in individual regions and in different countries, to improve efficiency and competitiveness, increase productivity and product quality, stimulate innovation, promote the formation of new enterprises taking into account their favorable geographical location.

Cluster centers can be formed in traditional industries with geographical concentration, as well as in business structures of the commercial sector and in the service sector. Often centers of clusters can serve as innovation centers, technology parks, logistics centers of multimodal transport hubs of Federal and international level, universities, research institutes and other organizations.

Transport and logistics clusters include a complex of infrastructure and companies specializing in the storage, maintenance and delivery of goods and passengers. The cluster may also include organizations serving port infrastructure facilities, companies specializing in sea, river, land, air transportation, logistics complexes and others. Transport and logistics clusters are developing in regions with significant transit potential.

When building a cluster model of TLC, the following structural elements can be distinguished:

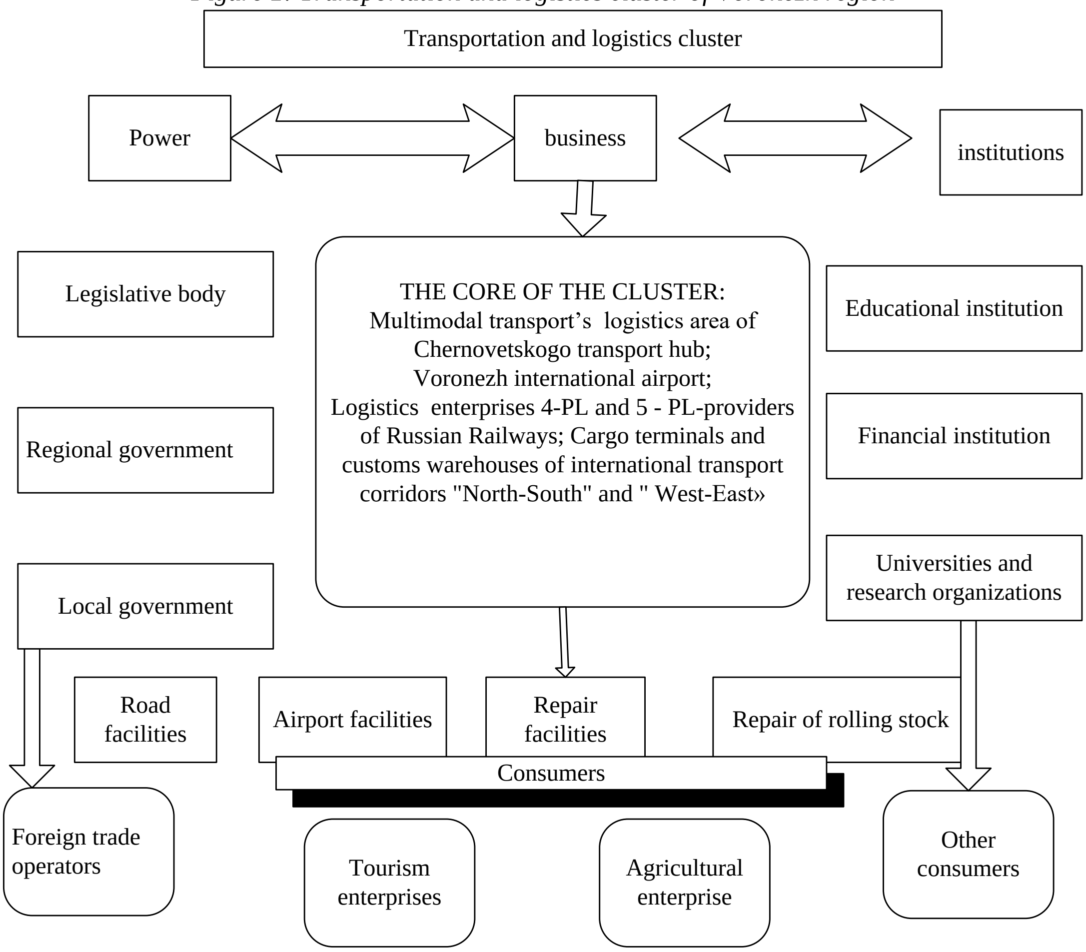
- "Core" - objects around which the cluster is grouped, performing the main activity, positioning the cluster, producing final products or providing services, taking into account regional specialization and geographical advantages of the region.
- "Complementary objects" – objects whose activity directly ensures the functioning of the"core" objects.
- "Service objects" – objects which presence is obligatory, but which activity is not directly connected with functioning of objects of"kernel". The service objects may include enterprises that implement the service functions of the cluster, i.e. information, sales, repair, etc.In addition, the service objects include the financial center of the cluster, i.e. the banking structure that provides financial support for the activities of the cluster enterprises.

- "Auxiliary objects" - cluster objects, the presence of which is desirable, but not necessary for the operation of other cluster objects. These include various service and consulting enterprises, whose functions can be carried out both within the cluster and through outsourcing. In addition, these objects include various financial capital institutions that are not part of the financial center. The purpose of these enterprises, if they are present in the cluster, is to find internal reserves to ensure the continuity of reproductive processes, to achieve strategic benefits associated primarily with increased mobility of development and implementation of the technological potential of the entire cluster.

Figure 1 shows a graphical model of the transport and logistics cluster.

The core of the transport and logistics cluster (TLC) can be such leading structures as multimodal transport and logistics centers, created in large transport hubs and seaports, 4PL-providers and 3PL-providers, while the core of TLC can include large freight forwarding companies, multimodal and intermodal transport operators, information and consulting and analytical companies, large transport and railway companies, as well as airlines, sea and river ports, large cargo owners et al.

*Figure 1: Transportation and logistics cluster of Voronezh region*




*Source: Own elaboration*

Presented in Fig. 1 the transport and logistics cluster (TLC) model is typical and reflects the overall structure of TLC. It should be noted that in each particular region the model will have its own specifics, reflecting the specialization of the region, the level of its socio -

economic development, the nature of the placement of productive forces, the outline of the transport network, the location of transport and logistics infrastructure, the size and structure of passing and formed in the region of traffic flows, etc. (Mun & Nakagawa, 2010).

Taking into account the boundaries of the spatial distribution of TLC, geopolitical, socio-economic, strategic and tactical goals solved by its formation, the following main types of TLC can be identified (Li, H. (2016):

- Regional transport and logistics clusters, formed, as a rule, within the borders of the subjects of the Federation.
- Interregional, covering several subjects of the Federation, while one of the subjects with a more developed economy becomes a leading region for less developed socio-economically neighboring subjects, the core of interregional TLC.
- Global transport logistics cluster are, as a rule, in regions located in the zone of gravitation to the international transport corridors, to ensure acceleration of progress through goods and stocks and associated flows, providing high quality logistic service.

## 3. Conclusion

With regard to the Voronezh region, the key objective of the development of transport and logistics infrastructure in the development Strategy of the Voronezh region until 2035 is the creation of modern transport and logistics infrastructure of the region, providing internal material flows and the growing transit of goods along international transport corridors.

To solve this problem requires:

- creation of the terminal and warehouse infrastructure providing transit, interregional and internal commodity flows;
- expanding the range of logistics services and improving the level of logistics service.

According to the Strategy, the solution of the tasks will ensure an increase by 2035:by 15% compared to the 2016 level of transit and intraregional cargo transportation by road, rail and air transport; by 20% to the level of 2016 volumes of goods stored and processed in warehouses and logistics centers; by 10% to the level of 2016 of the volume of services of logistics enterprises; growth of the area of warehouses of category "A", per 1000 people of the active population of the Voronezh region, in 2035, 1.2 times to the level of 2016; expansion of public-private partnership in the implementation of new projects and modernization of the existing transport and terminal and warehouse infrastructure; construction of a cargo terminal on the basis of Voronezh international airport»; construction of high-speed rail links in the direction of the international North-South transport corridor»; reconstruction of the cargo terminal, with train tracks; construction of new sections of roads and maintenance of already used sections of the road network in the region; construction of bypasses and bringing to the normative state of the sections of the street and road network of municipalities used for this purpose; the construction of category "A", the reconstruction of the warehouses of the categories "B" and " C " in the direction of MTK "North-South" and " West-East»; expanding the range of logistics services and improving their quality provided by 4 - PL and 5 - PL-providers of the Voronezh transport and logistics cluster; creation of Voronezh logistic industrial Park in the district of Chernovetskogo transport hub; increase in the number of intelligent systems used in the transport complex of the region; the transition to intelligent management of passenger transport; development of production and technical base and renewal of rolling stock of passenger road transport; organization of a system of professional training for the logistics industry, its harmonization with international practice. (Chirkov, 2016). Thus, we present the scheme of transport and logistics cluster of the Voronezh region. The purpose of TLC is integration into the transport and logistics system of international transport corridors North-South, West-East. (Dorokhin& Nebesnaya, 2017). The main participants will be: "Russian Railways", Voronezh Airport, logistics companies and warehouses in the region. The main projects are: the creation of terminal and warehouse infrastructure, providing transit, interregional and domestic trade flows; expanding the range of logistics services and improving the level of logistics service.

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# GLOBAL QUALITY MANAGEMENT SYSTEMS IN SLOVAK COMPANIES

Pavol Durana[1,a,*]

[1]University of Zilina, Faculty of Operation and Economics of Transport and Communications, Department of Economics, Univerzitna 1, 010 26 Zilina, Slovak republic

[a]pavol.durana@fpedas.uniza.sk

*Corresponding author

**Abstract.** The article describes the use of global quality management systems in the Slovak republic in manufacturing companies. In current globalized world, quality is assessed every day. It is reported, that the quality of the products derives the position of the company compared to other companies. This means that quality is a major factor in competitiveness and international success. In the global assessment of the hierarchy of importance of individual competitive factors, it has a winning position. The starting situation of the company in the conditions of globalization represents a large number of demands placed on it. These claims come not from customers but come from all parties involved. Each company should make an effort to meet these requirements. Based on the experience, it is tested, whether the provided products are of high quality. However, there may be considerable confrontations with this assessment, because the view of quality is characterized by subjectivity. To unify the company quality delivered, three basic concepts of quality management have been developed as a stage in the development of quality management in the world measurement. This is a concept of company or sectoral standards, ISO standards and TQM philosophy. The aim of this paper is to detect the use of these world quality systems and determine which of these globally used systems is the most preferable in Slovak conditions. The survey was carried out in the year 2018 to analyse the current situation in the manufacturing companies.

**Keywords:** company, globalization, quality, quality management systems.

**JEL Classification:** L11, L15, M11

## 1. Introduction

Globalization, rapid transfer of information, growing customer awareness, over-production, saturated markets, shortening innovation cycles and pressures on declining supplies indicated Nenadal (2005) as the changes in world economy, that caused an increased interest in quality. Mateides (2006) highlighted in his work the results of various marketing studies and the success factor studies that quality was determined as the decisive factor of success. Studies related to the relationship of quality management and indicators of the enterprise are published constantly. Flynn et al. (1995) and Lakhal et al. (2006) detected the quality management practices and their impact on performance. Saraph et al. (1989) and Claver (2003) dealt with the critical factors of quality management. Ahire & Golhar (1996) compared quality management of small enterprise to quality management of large enterprise. In the enterprises where the priority of all policies is quality achievement, they have not only focused on creating of departments of quality management, but on implementing of quality management systems. Konecny (2017) discussed that the quality management system stimulates the enterprises to analyse global customer requirements, characterize processes involved in the production or provision of services, and keep these processes within specified limits. Quality management system is a support for continuous improvement and progress in customer satisfaction and other stakeholders. The enterprise provides products that meet requirements of customer thanks to a quality management system that provides a reliable starting point for the business and the affected customers. Mateides (2006) outlined three basic concepts of quality management as the stages of world quality management development as follows: the concept of enterprise or sectoral standards, the ISO standards and the TQM philosophy. A lot of empirical studies was written about these global quality management systems, mostly about ISO norms and TQM. Rao et al. (1997) and Terlaak & King (2006) assessed the effect of certification ISO norms, Levine & Toffel (2010) identified how ISO standards affects employees and employers. Total quality management as competitive advantage described Powell (1995), empirical, conceptual, and practical issues of TQM mentioned Hackman & Wageman (1995) and Kaynak (2003) studied the relationship between total quality management practices and their effects on performance of the enterprise.

## 2. Theoretical background

Before describing the concrete quality management systems, it is necessary to define basic terms related to the solved issue as a system, management system, quality management system. All terms are defined based on Konecny (2017). The system is a set of interconnected or inter-acting elements. The management system is a set of mutually interconnected or mutually active elements of the enterprise for setting policies, goals and processes to achieve these goals. The quality management system is part of management system related to quality.

### 2.1 Sectoral standards

Mateides (2006) noted that sectoral quality standards began to be applied in the 1970s and their creation was initiated by US companies. The companies implemented these standards to build quality management systems. Standards were created that first applied only within individual company, later involving entire industries including suppliers. These standards are characterized by different approaches depending on the sector or the specified scope. The most frequently used sectoral standards: IAFT (International Automotive Task Force) 16949, HACCP (Hazard Analysis Critical Control Points), AQAP (Allied Quality Assurance Publication) and Nuclear Safety Standards (NUSS).

### 2.2 ISO standards

The problematic of ISO standards is very extensive, for this reason are dealt in the paper only with ISO norms of series 9000, in particular ISO 9001. The ISO 9000 standard of quality management system, is the most frequently used management systems in the world as well as in the SR, it is a normative access to quality management (Stefko et al, 2014; Konecny, 2017). The introduction, certification, maintenance and regular recertification of quality management system according to ISO 9001 can ensure economic benefits, benefits in relation to business leadership, benefits in relation to the environment and customers. These ISO standards have been published for the first time by the International Organization for Standardization in 1987.

The last revision was in the year 2015. The ISO system does not prioritize the technical requirements of products and processes, but it addresses a priori the requirements of the quality management system (Konecny, 2017). ISO standards represent universal standards applicable to manufacturing and service enterprises with any number of employees in heterogeneous business spheres (Stefko et al., 2015; Konecny, 2017). Konecny (2017) stated that an enterprise can build quality management system by itself, itself and using consultancy services or externally using the services of an external organization.

### 2.3 TQM philosophy

TQM is a management philosophy that integrate all activities of the company so that it was possible to focus on meeting customer needs and achieving goals of the company. TQM is built from 4 pillars: meeting customer needs, using system and process approach, respecting and assessing employees as a significant resource, using tools to achieve progress in quality (Konecny, 2017). TQM consists of 2 partial subsystems. It is a technical subsystem and a social subsystem. Konecny (2017) summarized and described the quality award or quality/excellence models at national resp. international (global) level that support TQM ideas: Deming Application Prize (DAP), United States Malcolm Baldrige National Quality Award (MBNQA), Australian Business Excellence Framework (ABEF), Common Assessment Framework (CAF) and European Foundation for Quality Management Excellence Model (EFQM), this model is a platform for European Quality Award, labelled as EFQM Quality Award (EQA), in Slovak conditions National Quality Award of the Slovak republic.

## 3. Paper objective and methodology

The information used in the article was gained from the primary and secondary sources.

Primary sources – survey made by author. The survey was carried out in the year 2018 to analyse the current situation of the quality management in the manufacturing enterprises. It was realized non-probability sampling (purposive sampling). There were 2 key conditions, that had to the enterprise meet:

- it was manufacturing enterprise,
- at least one of the quality management systems was implemented in the enterprise.

After determining the characteristics of the purposive sample of the enterprises, the sample size was determined. It was decided to connect two recommendations. Saunders et al. (2012) state that sample size determination is specific for each case and must reflect many factors. They specify minimum sample sizes for different study characters, specifically 12 to 30 responses for heterogeneous samples. It was chosen a heterogeneous sample because enterprises are of varying size, they operate in different sectors of the economy, etc. Singh & Masuku (2014) quoting Sudman (1976) suggest that each minor subset of the sample would necessarily contain 20 to 50 elements.

There is no database in Slovakia that would meet demanded conditions, because of this fact it was made own database on the base of data from Slovak Society for Quality, Slovak Office of Standards, Metrology and Testing, participants of National Quality Award of the SR, Slovak National Accreditation Service and Certification companies. Final database made by author consists of 2 909 enterprises. 2 909 questionnaires were sent electronically, and the number of correctly recorded responses in the given time was 126. It represents the completion of approximately every 23rd questionnaire and the return of 4.33 %.

Secondary sources – were foreign and domestic literature and articles linked to presented issue. The key area of interest was quality management.

The aim of this paper is to detect the use of world quality systems. The partial objectives:

- determine which of these globally used systems is most preferable in Slovakia,
- determine the proportion of use of quality management systems in Slovak manufacturing enterprises.

These methods were used: analysis of results and gained information from primary and secondary sources, synthesis and the method of deduction, the first as a tool for overall review of the level of the quality management systems in Slovak enterprises and the second in order to support the conclusions, the method of induction when the development of world quality systems in Slovak conditions were discussed.

The hypotheses tested in this paper:

- *Hypothesis A: ISO standards are implemented in more than 50 % of enterprises.*
- *Hypothesis B: TQM philosophy is implemented in more than 10 % of enterprises.*
- *Hypothesis C: sectoral standards are implemented in more than 10 % of enterprises.*

For testing this type of hypotheses is used hypothesis test of a proportion, where is compared test statistic to critical value of standard normal distribution. In the literature, there are 2 approaches to verifying the range of test (due to the approximation of the normal distribution) and none of them has a significant preference. That is way, it is verified the validity of both approaches. Test statistic is demonstrated in Eq. 1, conditions of the range in Eq. 2 and Eq. 3.

$$T = \frac{\frac{m}{n} - \pi_0}{\sqrt{\frac{\pi_0(1-\pi_0)}{n}}} \tag{1}$$

$$n\pi_0(1 - \pi_0) > 5 \tag{2}$$

$$n\pi_0 \geq 5 \quad \text{and} \quad n(1 - \pi_0) \geq 5 \tag{3}$$

where:

T - test statistic
m - occurrence of selected quality management systems the in the sample
n - range of the sample (every enterprises)
$\pi_0$ - hypothesized value of the proportion of the parameter

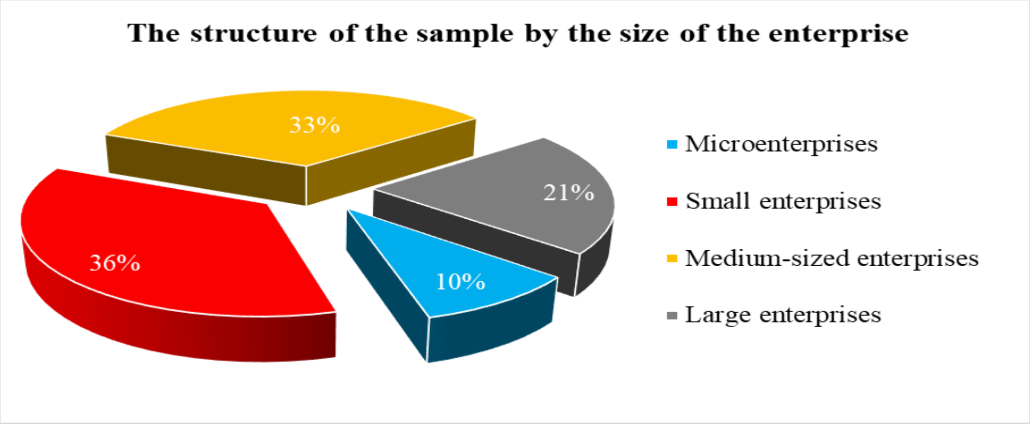
## 4. Results and discussion

Firstly, the surveys detected the size of the enterprise. The biggest proportion in the sample (nearly 70 %) have SME.

Secondly, the survey detected the sectors of Slovak economy, in which operate the enterprises of the sample. The biggest proportion have engineering and automotive.

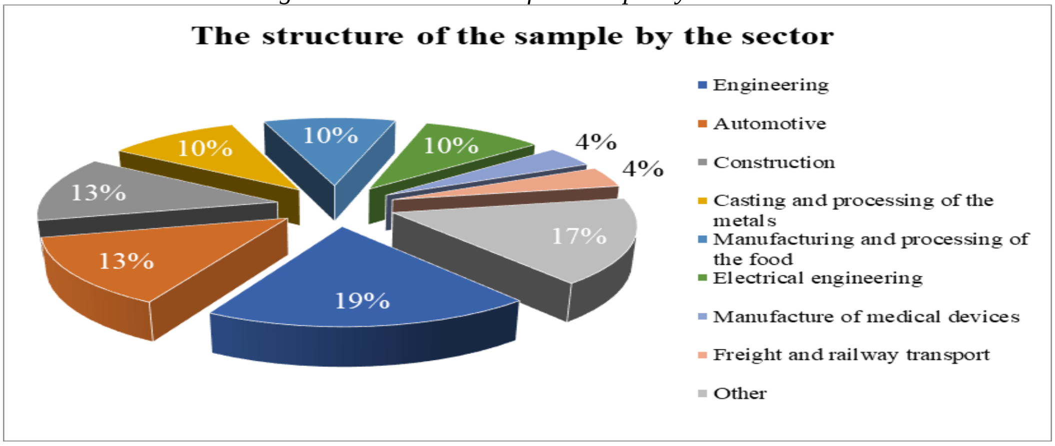
Finally the surveys detected the use of world quality management systems. The biggest proportion have ISO standards (81 enterprises). TQM philosophy (23 enterprises) and sectoral standards (22 enterprises) have almost the same occurrence in the sample. This data of concrete proportion of quality management systems create the base for testing the hypotheses of the paper.

*Figure 1: The structure of the sample by the size of the enterprise*



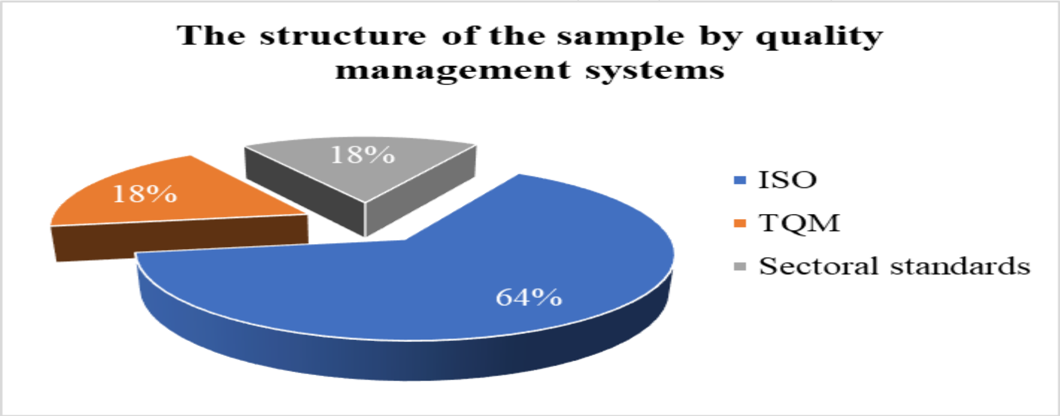

*Source: Author on the base of own survey*

*Figure 2: The structure of the sample by the sector*




*Source: Author on the base of own survey*

*Figure 3: The structure of the sample by quality management systems*




*Source: Author on the base of own survey*

*Table 1: Hypothesis A*

| | |
|---|---|
| Null hypothesis ($H_0$): | $\pi_0 = 0.5$,<br>ISO standards are implemented in 50 % of enterprises. |
| Alternative hypothesis ($H_1$): | $\pi_0 = 0.5$,<br>ISO standards are implemented in more than 50 % of enterprises. |
| Level of significance ($\alpha$) = | 0,01 |
| Distribution of the sample can be approximated by a normal distribution: | yes, both conditions are met. |
| Test statistic (T) = | 3.2071 |
| Critical value of standard normal distribution ($Z_{2\alpha}$) = | 2,3263 |
| Comparison T to $Z_{2\alpha}$ value: | $\|3.2071\| > 2.3263$ |
| Decision: | $H_0$ rejected and $H_1$ accepted,<br>ISO standards are implemented in more than 50 % of enterprises.[10] |

*Source: Author*

*Table 2: Hypothesis B*

| | |
|---|---|
| Null hypothesis ($H_0$): | $\pi_0 = 0.1$,<br>TQM philosophy is implemented in 10 % of enterprises. |
| Alternative hypothesis ($H_1$): | $\pi_0 > 0.1$<br>TQM philosophy is implemented in more than 10 % of enterprises. |
| Level of significance ($\alpha$) = | 0.01 |
| Distribution of the sample can be approximated by a normal distribution: | yes, both conditions are met |
| Test statistic (T) = | 3.0884 |
| Critical value of standard normal distribution ($Z_{2\alpha}$) = | 2.3263 |
| Comparison T to $Z_{2\alpha}$ value: | $\|3.0884\| > 2.3263$ |
| Decision: | $H_0$ rejected and $H_1$ accepted,<br>TQM philosophy is implemented in more than 10 % of enterprises.[11] |

*Source: Author*

*Table 3: Hypothesis C*

| | |
|---|---|
| Null hypothesis ($H_0$): | $\pi_0 = 0.1$,<br>sectoral standards are implemented in 10 % of enterprises. |
| Alternative hypothesis ($H_1$): | $\pi_0 > 0.1$,<br>sectoral standards are implemented in more than 10 % of enterprises. |
| Level of significance ($\alpha$) = | 0.01 |
| Distribution of the sample can be approximated by a normal distribution: | yes, both conditions are met. |
| Test statistic (T) = | 2.7914 |
| Critical value of standard normal distribution ($Z_{2\alpha}$) = | 2.3263 |
| Comparison T to $Z_{2\alpha}$ value: | $\|2.7914\| > 2.3263$ |
| Decision: | $H_0$ rejected and $H_1$ accepted,<br>sectoral standards are implemented in more than 10% enterprises.[12] |

*Source: Author*

It was $H_0$ rejected and $H_1$ accepted in all tested hypotheses. The most preferable world quality management systems in Slovak manufacturing enterprises is ISO standards.

[10] P-value = 0.0006703 for 53.98 % enterprises.

[11] P-value = 0.0010064 for 11.59 % enterprises.

[12] P-value = 0.0026241 for 10.99 % enterprises.

Hypothesis test of a proportion validated that ISO standards are implemented in more than 50 % of the enterprises. It is possible to expect rising trend minimally to the level 60 %. Hypotheses tests of a proportion validated that TQM philosophy and sectoral standards are implemented in more than 10 % of enterprises. It is possible to expect rising trend both quality management systems minimally to the level 15 %.

## 5. Conclusion

The advanced global quality management systems help enterprises not only achieve the quality objectives, but also in all areas of the business. The quality management systems are principal base of every high-quality production or provision of perfect services. On the base of own survey was detected that the most preferable quality management system (ISO standards). By the use of the hypothesis test of a proportion was determined the proportion of use of quality management systems in Slovak manufacturing enterprises. The results of testing set the systematic phenomenon that ISO standards are implemented in more than 50 % of the enterprises, TQM philosophy and sectoral standards are implemented in more than 10 % of enterprises. Because of the global reasons as quality affects macroeconomic indicators, quality is a significant source of resource savings, quality is closely linked to consumer protection, quality is a way to sustainable development, quality is a protective tool against loss of market share and quality is the principal determinant of enterprise (economic) growth were set the premises of growth of the use of every quality management systems in Slovak manufacturing enterprises. Concretely, in closest years increasing of use of ISO standards at least by 10 % and increasing of use of TQM philosophy and sectoral standards at least by 10 %.

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# GLOBALIZATION AND ECONOMIC CONDITIONS OF BROWNFIELDS REGENERATION IN THE VISEGRAD GROUP COUNTRIES

Zuzana Dvořáková Líšková[1,a,*], Dagmar Škodová Parmová[1,b], Petr Dvořák[2,c] and Renata Klufová[3,d]

[1]Department of Regional Management, Faculty of Economics, University of South Bohemia, Czech republic

[2]Institute of Aquaculture and Protection of Waters, Faculty of Fisheries and Protection of Waters, University of South Bohemia, Czech republic

[3]Department of Applied Mathematics and Informatics, Faculty of Economics, University of South Bohemia, Czech republic

[a]zu.li@seznam.cz, [b]parmova@ef.jcu.cz, [c]dvorakp@frov.jcu.cz, [d]klufova@ef.jcu.cz

*Corresponding author

**Abstract.** Globalization and economic changes currently create brownfields from social infrastructure, housing and commerce. Brownfields are both a problem and an opportunity. Brownfields can have a negative impact on the surrounding area and community, and hinder effective regeneration. Regenerating brownfields can stimulate opportunities at numerous levels to improve urban quality of life and reducing urban sprawl. This paper presents the economic evaluation of brownfields regeneration within the Visegrad Group. The first part is devoted to the characteristics of strategic documents dealing with the brownfields problematics and it also analyses economic conditions and structure of the instruments supporting brownfields regenerations in selected countries. The second part contains comparison of level of national and regional policies in selected countries with the EU and the assessment of financial support of brownfields regeneration. This part is complemented with the sociological survey focused on "the financial support of brownfields in Visegrad group". An important aspect in the regeneration of brownfields in the Visegrad group countries is a future use. In all four countries of Visegrad Group there is a clear movement in favor of cognition and protection of the cultural values of industrial heritage. There is also an increasing interest in the use of former industrial built structures. In the future, brownfields can help balance regional land-development processes, so that fewer green fields are despoiled and at the same time underutilized land can be regenerated.

**Keywords:** globalization, brownfields, Visegrad group countries.

**JEL Classification:** P25, R58, R11

# 1. Introduction

Väčšina európskych krajín je v súčasnosti vystavená neustále sa zosilňujúcej a prehlbujúcej ekonomickej i politickej globalizácii, čo sa výrazným spôsobom odrazilo aj v aktuálnej podobe rozvoja regiónov. Presuny mnohých významných ekonomických aktivít do krajín s nižšími výrobnými nákladmi spôsobili výrazný pokles u niektorých tradičných výrobných odvetví (Bacot & O'Dell, 2006, Henderson, 2015) a prejavili sa okrem iného výraznými zmenami v oblasti zamestnanosti Predovšetkým zmenou je štruktúry (Alker, 2000), nárast v sektore služieb a pokles pracovných síl v priemysle a takisto vznikom rady nedostatočne využívaných objektov a areálov tzv. brownfieldov. Regenerácie brownfields je základom pre manažment využívania krajiny vo všetkých členských štátoch Európskej únie. V súčasnej dobe je však regenerácie existujúcich brownfieldov nedostatočná, či už z hľadiska výšky finančných prostriedkov, efektivity dopadov na stav životného prostredia či akceptácie spoločností. Rovnako ako existuje veľké množstvo inovatívnych technológií pre regeneráciu problémových území, sú k dispozícii aj rôznorodé metodiky na podporu rozhodovacieho procesu (Rizzo et al., 2015), ktoré však veľmi zriedka využívajú celý svoj potenciál. Široká škála nástrojov sa vyznačuje veľmi obmedzeným vzájomným prepojením a dostatočne nezohľadňuje regionálne a kultúrne špecifiká, čo konečných užívateľov od využívania týchto metód spravidla odrádza (Klusáček et al., 2015). Táto neprepojenosť nástrojov mnohokrát spôsobí, že vlastníci, manažéri, verejná správa a ostatné aktéri nevyužívajú pre regeneráciu brownfields najlepšie dostupné technológie a zároveň finančné zdroje.

# 2. Finančné nástroje regenerácie brownfieldov na európskej úrovni

Evrópsky fond pre regionálny rozovj vznikol v roku 1974. Základným cieľom tohto fondu je posilnenie ekonomickej a sociálne súdržnosti v EÚ a vyrovnanie rozdielov medzi regiónmi. V období 2014 – 2020 sú investície smerované do niekoľkých kľúčových aktivít, a to: inovácie a výskum, digitálna agenda, podpora malých a stredných podnikov, nízkouhlíkové hospodárstvo. Revitalizáciu brownfieldov tento fond podporuje prostredníctvom financovania operačného programu podnikania a inovácie pre konkurencieschopnosť (Stoilkov-Koneski, 2015).

Ďalšou možnosťou je Kohézny fond zameraný na členské štáty, ktorých hrubý národný dôchodok na obyvateľa je nižšia ako 90% priemeru EÚ. Fond vznikol v roku 1993 na podporu štyrom menej rozvinutým krajinám (Grécko, Portugalsko, Španielsko, Írsko). Cieľom je odstrániť hospodársku a sociálnu nerovnosť a podporiť udržateľný rozvoj (Rowan & Fridgen, 2003, Thornton, 2007). Na obdobie 2014 – 2020 je určený pre Bulharsko, Českú republiku, Estónsko, Chorvátsko, Cyprus, Litvu, Lotyšsko, Maďarsko, Maltu, Poľsko, Portugalsko, Rumunsko, Grécko, Slovensko a Slovinsko. Na toto obdobie bolo vo fonde pripravené 63,4 miliárd EUR. Fond podporuje dve oblasti, a to transeurópskej dopravnej siete a životné prostredie. A práve prostredníctvom podpory životného prostredia dochádza k podpore brownfieldov s ekologickou záťažou (Green, 2018).

Európsky poľnohospodársky fond pre rozvoj vidieka, spadá do spoločnej poľnohospodárskej politiky EÚ. Ide o finančný nástroj na podporu rozvoja vidieka. Cieľom je zvýšenie konkurencieschopnosti poľnohospodárstva, potravinárstva, lesníctva a rozvoja vidieckych oblastí (Loures & Vaz, 2018). V krajinách V4 sú z neho financované programi, ktoré práve svojou časťou podporujú revitalizáciu vidieckych brownfieldov.

Ďalším finančným nástrojom je tzv. JESSICA je spoločná európska podpora udržitelných investícií do mestských oblastí. Vznikla na žiadosť Európskej komisie v spolupráci s Rozvojovou bankou Rady Európy a Európskou investičnou bankou. Pomocou mechanizmov finančného inžinierstva sa podporuje udržateľný mestský rozvoj (Haninger & Timmins, 2017). Krajiny EÚ sa rozhodujú, či časť finančných prostriedkov, ktoré majú pridelené zo štrukturálnych fondov, investujú do revolvingových fondov, kde by sa prostriedky zhodnotili a mohli sa opätovne využiť(Líšková & Dvořák, 2016). Investície z revolvingových fondov majú podobu zvýhodnených úverov, záruk, vlastného kapitálu. JESSICA je určená pre pomoc v rozvoji mestskej infraštruktúry, kultúrneho dedičstva a pamiatok, nové využitie bývalých priemyselných priestorov, univerzitných budov, vytváranie nových komerčných priestorov pre malé a stredné podnikanie. Tento finančný nástroj s iným pomenovaním je využívaný i pre obdobie 2014 – 2020 (Cehlar et al., 2013).

Pod názvom JEREMIE sú spoločné európske zdroje pre mikropodniky až stredné podniky. Vytvorenie tohto nástroja iniciovali Európsku komisiu a Európsky investičný fond. Jedná sa o využívanie nástrojov finančnej inžinierstva na zlepšenie prístupu malých a stredných podnikov k finančným prostriedkom. Tento nástroj môžu využívať všetky krajiny EÚ tak, že časť finančných prostriedkov zo štrukturálnych fondov presunú do revolvingové fondy, ako fondy požičkové, záruční, fondy rizikového kapitálu (Leigland, 2018). Z týchto fondov sa poskytujú prostriedky vo forme vlastného kapitálu, zvýhodněných úverov alebo záruk. Takto sú určené finančné prostriedky určené k budovaniu nových alebo rozširovaniu existujúcich podnikov, k zlepšeniu prístupu MSP k investičnímu kapitálu za účelom modernizácie a diverzifikácie činnosti, pre obchodné účely orientované na výskum a vývoj, technologie, inovácie a výrobné investície. V súčastnom programomov období 2014-2020 je finančný nástroj využívaný.

## 3. Metodológia

Na základe štúdií a analýz súčasných dokumentov a štatistík týkajúcich sa registrácie a financovania brownfieldov v jednotlivých krajinách V4, bola prevedená komparácia evidencie brownfieldov a pridelená finančná podpora na ich regeneráciu. Evidencia brownfieldov bola hodnotená podľa vytvorenej evalulačnej stupnice o bodovom rozpätí 1-3 body. Tri body boli udelené v prípade vyhovujúceho existujúceho systému – database brownfieldov a možných ďalších vypracovaných návrhov a opatrení pre jednotlivé krajiny. Dva body boli pridelené v prípade vyhovujúceho existujúceho systému bez aktualizácií a dalšej previazanosti. Jeden bod je pridelený v prípade existencie aspoň čiastočnej evidencie, ktorá ale nie je pravidelne aktualizovaná a není koncepčne rozdelená. Ďalším krokom bola komparácia krajín z pohľadu evidencie brownfieldov a z hľadiska využívania a finančných nástrojov pre regeneráciu brownfieldov. Ďalšiou časťou bolo dotazníkové šetrenie zamerané na vlastníkov brownfieldov, aké majú povedomie o možnostiach spolufinancovania obnovy areálov, budov. Bola stanovená hypotéza: "Vlastníci brownfieldov v krajinách V4 vedia o možnostiach spolufinancovania opravy brownfieldov z nadnárodných a národných zdrojov". Celkom bolo z každej krajiny V4 200 respondentov. Šetrenie prebiehalo prostredníctvom dotazníka s úzatvorenými a otvorenými otázkami a ďalej emailovou komunikáciou. Vlastníci boli vybraní selektívnym sposobom tak, aby každá kategória brownfieldu bola zastúpená. Získané výsledky boli prostredníctvom kvantitativných metod vyhodnotené.

# 4. Výsledky

V krajinách V4 napr. v Maďarsku môžeme vidieť prípravu právnych predpisov v oblasti krajinného plánovania, ktoré vyžadujú aby orgány spadajúce pod miestne a regionálne plánovanie pripravovali, udržiavali a zverejňovali evidencie – registre z nevyužitými a chátrajúcimi areálmi tzv. brownfieldami. Komparáciu evidencií v rámci krajín V4 uvádza tabuľka 1.

*Table 1: Hodnotenie evidence brownfieldov v krajinách Višegrádskej skupiny*

| **Krajina** | **Popis stavu evidencie brownfieldov** | **Hodnotenie** |
|---|---|---|
| CZ | V Českej republike bola vytvorená národná databáza brownfieldov na základe vyhľadávacích štúdií realizovaných v rokoch 2005-2007, ktoré lokalizovali 2 355 brownfieldov s rozlohou 10 326 ha25. Databáza obsahuje len údaje o lokalitách, ktorých vlastníci súhlasia s uverejnením informácií, a nezahŕňa lokality v Prahe. V inej databáze sú zachytené brownfieldy vo všetkých regiónoch, ale len tie, ktoré z väčšej časti vlastnej obce (375 lokalít). V Českej republike existuje celoštátna databáza kontaminovaných a potenciálne kontaminovaných lokalít SEKM27 v najbližších priemyselných, vojenských a mínových lokalitách, skládkach atď. V súčasnosti sa pripravuje nová databáza kontaminovaných lokalít s cieľom zjednotiť údaje z rôznych zdrojov a aktualizovať existujúcu celostátnu databázu. | 3 |
| PL | V Poľsku celoštátna evidencia brownfieldov neexistuje. Určité informácie sú k dispozícii na regionálnej alebo miestnej úrovni, ale nie sú porovnateľné, pretože neexistuje jednotná metodika výberu a prezentácie údajov. Počínajúc rokom 2005 sa uskutočnili pilotné súpisy brownfieldov v troch regiónoch. Príprava celostátneho súpisu brownfieldov však bola zastavená v tejto rannej fáze. | 2 |
| H | V Maďarsku existuje plán rekultivácie kontaminovaných lokalít od roku 1996. Jeho hlavným cieľom je identifikovať kontaminované lokality a vykonať ich rekvalifikáciu tak, aby znečistenie neprenikalo do podzemných vôd. Realizácia tohto plánu sa opiera o evidenciu kontaminovaných lokalít, ktoré sú potenciálnym ohrozením kvality vody. Každá lokalita má svoju prioritu na základe niekoľkých kritérií rizika pre životné prostredie a zdravie. | 3 |
| SK | Na Slovensku, neexistuje komplexnejšia evidencia brownfieldov, podobného charakteru ako v Čechách. Tu sú evidované plochy individuálne na krajskej úrovni. Nie je vytvorená ani jednotná metodika, prostredníctvom ktorej by sa dali brownfiledy porovnať. Kontaminované plochy sú evidované pod Ministerstvom životného prostredia, kde ale databáza nie je verejne prístupná a o informácie je potrebné písomne požiadať. | 1 |

*Source: (Vlastné spracovanie)*

V nasledujúcich tabulkách 2 a 3 prinášame prehlad čerpania finančných prostriedkov zo štrukturálnych fondov v období predvstupovom a vstupnom (2000-2006) a období, keď už krajiny V4 boli plnohodnotnými členmi Európskej únie 2007-2013). Regeneráciu brownfieldov v oprávnených regiónoch členských štátov bolo možné v sledovanom období spolufinancovať z Európskeho fondu regionálneho rozvoja (EFRR) a z Kohézneho fondu (KF), nazývaných ako štrukturálne fondy. Podpora u konkrétneho projektu mohla dosahovať až 85% oprávnených výdajov. Z výsledkov vyplýva, že pokiaľ štát má jasne nastavené pravidlá, presnú evidenciu brownfieldov a jej pravidelnú aktualizáciu, tak i príprava projektov a čerpanie finančných prostriedkov pre ich realizáciu je na veľmi dobrej úrovni. Príkladom môže byť Česká republika v období 2000 – 2006 dokázala zrekonštruovať velké množstvo brownfieldov s pomocou štrukturálnych fondov približne 46 mil. Eur viz tabuľka 2.

V programovom období 2007 – 2013 dokázalo Maďarsko zosumarizovať a evidovať kontaminované lokality vo svojich regiónoch. Na základe čoho dokázalo využiť 475 mil. Eur pre regeneráciu brownfieldov a dostalo sa tak na prvé miesto z krajín Eu v množstve pridelených finančných prostriedkov na regeneráciu vyššie uvedených areálov viz tabuľka 3.

*Table 2: Regenerácia brownfieldov zo štrukturálnych fondov v období 2000 – 2006*

| Krajiny V4 | Poradie (z 27 krajín) | Pridelená čiastka (EUR) | Podiel z uvoľnených fin. prostriedkov EÚ v % |
|---|---|---|---|
| Česko | 10 | 46 073 161 | 2,0 |
| Poľsko | 11 | 43 940 360 | 2,0 |
| Maďarsko | 12 | 28 773 946 | 1,3 |
| Slovensko | 17 | 10 112 378 | 0,4 |

Source: *(Vlastné spracovanie zo zdroja Európsky dvor auditorov)*

*Table 3: Regenerácia brownfieldov zo štrukturálnych fondov v období 2007 - 2013*

| Členský štát | Poradie (z 28 krajín) | Pridelená čiastka (EUR) | Podiel z uvoľnených fin. prostriedkov EÚ v % |
|---|---|---|---|
| Maďarsko | 1 | 475 191 832 | 14,0 |
| Česko | 2 | 372 290 509 | 11,0 |
| Poľsko | 6 | 278413 953 | 8,2 |
| Slovensko | 10 | 178 9780350 | 5,2 |

Source: *(Vlastné spracovanie zo zdroja Európsky dvor auditorov)*

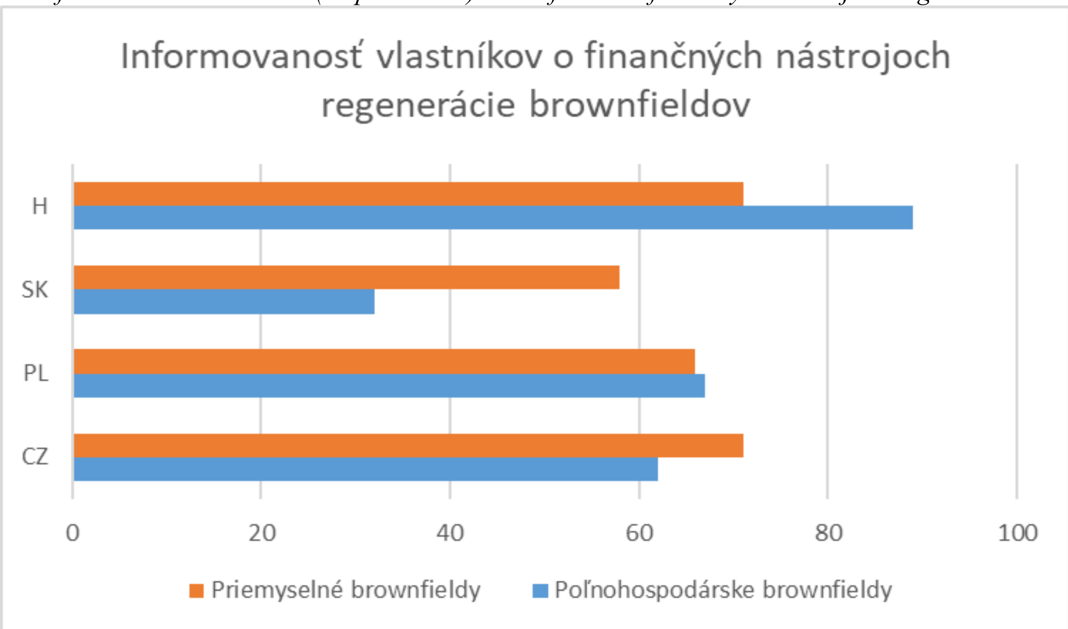
Dotazníkové šetrenie bolo realizované v období 10/2016 – 7/2018. Celkom bolo 200 respondentov z každej krajiny V4.

*Table 4: Zastúpenie jednotlivých brownfieldov v dotazníkovom šetrení*

| **Krajina** | Poľnohospodárky | Priemyselný | Vojenský | Ostatný |
|---|---|---|---|---|
| **CZ** | 107 | 86 | 3 | 4 |
| **PL** | 109 | 86 | 3 | 2 |
| **SK** | 80 | 113 | 3 | 4 |
| **H** | 115 | 81 | 2 | 2 |

Source: *(Vlastné spracovanie)*

*Graph 1: Informovanosť vlastníkov (respondentov) brownfieldov o finančných nástrojoch regenerácie*




Source: *(Vlastné spracovanie)*

Z dotazníkového šetrenia vyplíva, že v krajinách ako je Maďarsko a Česká republika majú vlastníci brownfieldov najlepšie informácie o možnostiach spolufinancovania opravy areálov a budov. Ich informovanosť je podrobná a 20% respondentov z CZ a H už dotačné možnosti využila. Najnižšia informovanost je na Slovensku, kde vlastníci majú informácie iba povrchné a prevažuje u nich obaya z využitia finančných nástrojov.

Dotazníkové šetrenie potvrdilo stanovenú hypotézu iba v dvoch krajinách V4 a to v Čechách a Maďarsku. Zistené výsledky o kvalitnej informovanosti sú potvrdené i pridelenými prostriedkami zo štrukturálnych fondov viz tabulka 2 a 3 na regeneráciu brownfieldov.

# 5. Conclusion

Regenerácie brownfieldov sa v členských štátoch realizujú v súlade s väčšinou všeobecne prijímaných osvedčených postupov, avšak stretávame sa významnými prekážkami, ako je nedostatok finančných zdrojov (Alexandrescu et al., 2014). Jedná sa predovšetkým o národné programy, ktoré sú veľmi slabo finančne podporované. Vnútroštátne evidencie síce poskytujú isté údaje o stave lokalít, avšak vo všetkých sledovaných krajinách sú neúplné a nie celkom vhodne využiteľné ako podklad ku kontaminovaným lokalitám pre stanovenie priorít k verejnému zásahu.

Dôležitú úlohu zohráva nastavenie pravidiel na nadnárodnej úrovni v podobe noriem EÚ pre vymedzenie kontaminovaných lokalít a závažnosti environmentálnych a zdravotných rizík, ktoré z nich plynú. Ďalej je dôležité vytvorenie jednotnej metodiky EÚ pre vymedzenie noriem pre rekultiváciu jednotlivých typov lokalít s prihliadnutím na ich konečné využitie. Prostredníctvom operačného programu podporovať používanie integrovaného prístupu k rozvoju tým, že bude vyžadovať, aby boli spolufinancované projekty regenerácie brownfieldov začlenené do integrovaného plánu rozvoja

Na národnej úrovni by sa malo požadovať, aby projekty regenerácie brownfieldov boli súčasťou integrovaného plánu rozvoja mesta alebo území. Žiadať navrhovateľa, aby vykonávali trhové analýzy a zvažovali relevantné alternatívy možnej budúcnosti brownfieldov, ktoré by mali vychádzať z integrovaného plánu rozvoja.

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# SPECIALIZATION IN THE FOOD SECTOR IN POLAND IN AN ASPECT OF IMPLEMENTATION OF A NEW DEVELOPMENT PATHWAY

Krzysztof Firlej[1,a,*], Chrystian Firlej[1,b,*]

[1]University of Agriculture in Krakow, University of Economics in Krakow

[a]krzysztof.firlej@uek.krakow.pl, [b]chrystianf@poczta.onet.pl

*Corresponding author

**Abstract.** The industrial specialization of the food sector supports development of related industries that synchronize their activities in the framework of cooperation. A profitable economic activity functioning for a long period of time in the given area often becomes an inspiration to other enterprises that attempt to follow or undertake cooperative activities. A necessary condition for achieving a market success by companies is the ability to recognize a sector and a market. This kind of activity also requires the information about the general economic situation of a country, as well as an answer for a question: is the selected industry profitable, stable, developmental and worth to invest in. The main aim of the research presented in the article is to give the opinions about market trends in relation to the possibilities of industrial specialization implementation in the food sector. It is worth analyzing what is an inspiration for the future entrepreneurs, what motivates them to undertake actions towards specialization of the economic activity in the food sector and what are its potential directions of development. The study used the selected elements of economic and comparative analysis, the survey of the available Polish and international literature, reports and institutional studies, scientific and press publications and data available from the entrepreneurs. The study used a comparative analysis and a descriptive method. Their results proved that industrial and companies specialization in the food sector in Poland is an inevitable phenomenon.

**Keywords:** agri-food sector, specialization, development.

**JEL Classification:** Q13

## 1. Introduction

The globalization of the world food markets after the Second World War initiated a situation that the entrepreneurs pay their attention to the possibility of specialization in the production of food goods for which a demand on the global markets is high, and which have the biggest chances to be sold in the local markets (Gold, Enlow 1943, Strauss, 1941, Staehle, H., 1945). According to W. Ziętara the significant intensification of specialization processes was a result of adopting in the EEA countries of the Rome Treaty in 1957, in which the main aim for the agri-food sector was indicated, that is to ensure food security (Ziętara, 2014). The guidelines of this aim obliged all the mamber states and the states of the European Union to create and develop favourable economic conditions ensuring an increase of the level in the area of intensification of food goods production, their proper distribution and use.

The main aim of the research presented in the article was to give the entrepreneurs‘ opinions about the trends in the industrial specialization in the food sector, to determine the capacity of the market in relation to the planned volume of production, and an indication of the necessity to response to competitors‘ activities. It is worth to analyze what motivates the future entrepreneurs to undertake the activities towards specialization and what are its directions. The author emphasizes that the activities undertaken by the entrepreneurs are inspired by the Smart Specialization program, initited and partly financed by the European Union (Krueger, 1991) and they are widely spread in Poland. The activities in the field of specialization may contribute to indication of a development path for a lot of enterprises and foster finding a place on the international arena for them. (Ziętara, 2014).

During the last two decades in the functioning of the food sector in Poland a a clear interest in industrial specialization can be noticed. The main reasons include  the globalization of economy, a search for profitable industries by producers, and in many industries a need for management of surplus production (Firlej, Żmija, 2017, Firlej, 2015, Hutchins, 1997). The phenomenon of specialization is usually defined as a attempt to improve a system of activity and a concentration of production in one enterprise or in its facilities in order to produce one or a few similar products. According to F. Kapusta the specialization may be considered as a form of activity efficiency. It should result in creating competitive advantage of a company as an economic process created by the market participants, who by striving to realize their interests generate more favourable offers then the others in terms of price, quality, delivery conditions, etc. (Kapusta, 2008). Specialization is an activity that aims at achieving a higher level of production, both in terms of quantity and quality, that results in a company competitive advantage (Pytkowski, 1976). This activity, which is often considered by the entrepreneurs as a kind of strategy, is not available for many companies due to a necessity to increase high costs, additionally, its requires high qualifications, organizational skills and taking high risk, which descourages from undertaking this kind of activities. A professional strategy and its realization lead to a production of the selected goods in the required amount, defining funds that will be invested and indicate a need to determine a production market and target sales market. In Poland the research on specialization of both domestic and worldwide food production was conducted by the team of experts chaired by I. Szczepaniak in the National Research Institute of Agricultural and Food Economics (IERiGŻ) in Warsaw. The author believes that in a globalised economy, each economy should be self-sufficient in terms of covering domestic demand for food, and the developing specialization of food production facilitates to achieve that situation (Szczepaniak, 2012). On the other hand, the results of the studies presented by K. Domańska and A. Nowak proved that Poland has comparative advantages in food trade in the years 2007-2011 and the export food specialization (Domańska & Nowak, 2014). K. Smędzik-Ambroży and A. Czyżewski dealt with the specialization and diversification of the production and their prospects in the agricultural production (Czyżewski & Smędzik-Ambroży 2013).

## 2. Research area and methods

The research area in the article is the food sector selected as one of the most important parts of the agri-business in Poland. The food sector, aiming at feeding the European population at the proper level, is also very important in many Community economies (Firlej et al., 2017). The food sector determines the level of development of the whole agri-food sector and its strategies and technologies shape the competitive position of its units (Firlej, Mierzejewski, Palimąka, 2016). The food sector in Poland includes the following industries: acohol, brewery, confectionery, convenience food, poultry, food concentrates, meat, dairy, beverages and mineral water, oilseed, fruit and vegetables, feed, bakery, production of spirits, herbs and spices, potato products, coffee and tea processing, fish processing, tobacco, wine, grain-milling and other food goods (Firlej, 2008). The surveys and in-depth interviews relating to the functioning of all the food industry in Poland were conducted in the period from the beginning of March to the end of May 2016 in the group of 438 enterprises and concerned both internal and external factors limiting their activity in all industries. Since Poland's accession to the European Union, the food industry has belonged to the rapidly growing branches of processing, significantly supporting the food security in our country. The previous studies confirmed that Poland has the natural conditions enabling to produce surplus food (Firlej, 2017). The tasks of the food sector include the primary processing of agricultural materials, such as crops, as well as technologically advanced food processing, e.g. yoghurt, convenience food, preserved products, food concentrates (Hamulczuk et al., 2015). The food industry as an immanent part of the economy in Poland is subject to the activities focused on the modern development path determined in the Intelligent Specializations, which are supported by innovative solutions and allow to specify social and economic initiatives in connection with the central and local government administration [Chyłek et al., 2016]. The selected elements of economic, comparative and descriptive analysis as well as the data from the Polish Central Statistical Office and Eurostat wer used in the study.

## 3. Results of the study

The beginning of the industrial specialization in Poland dates back the post-war period when the phase of rebuilding of the industrial structures started with the aim to satisfy the people's food needs. The enterprises functioning in the economy at that time had to ensure food security in that difficult period, which was decided by the superior entities regarding both the quantity and quality of the produced food. The result of these guidelines was the limitation of the functionality and decision-making of the enterprises. The phase of market economy initiated in Poland in the early 1990s introduced an economic freedom enabling the enterprises functioning in accordance with free market rules.

Therefore, the entrepreneurs could decide about the choice of an industry, its change and specialization of production. These activities fostered the processes of enterprises modernisation and restructuring as well as began the period of introducing modern production processes, extension of the range of products and implementing innovations. The interests were directed on the commonly used in the free market economy competitive mechanisms forsing a diversification of activities, rebranding and competition. Unfortunately, the market mechanism also contributed to initiating selection processes and enterprises insolvency and, on the other hand, kept the strongest entities on the market. After Poland's accession to the European Union the universally applicable veterinary and phytosanitary requirements were introduced, which in many cases changed the conditions of enterprises functioning (Firlej 2013).

The studies of the specialization of the food sector enterprises in Poland were supported by the identification of entrepreneurs' competitive advantages in the food sector in Poland. According to the respondents, the biggest impact on them have as follows: marketing (57%), economic growth of the country (37%), technological changes in producing goods and services (26%) and development of means of production and their technological advancement (20%). The importance of marketing was emphasized in the study as well as the need to develop common export brands and promoting Polish food abroad. The remaining sources of advantages of the sector include: the specialization of enterprises in the sector (13%), political and legislative support (11%), agri-business sector restructuring 911%) and changes of market leaders strategies (10%). The last position on the list have development and diversification of service sector (7%) and enterprises localization diversification (4%). The enterprises started to specialize in their prodaction more widely noticing the possibilities to use the potential existing in the area. Some of them adopted one kind of production, usually connected with one industry, and started to specialize in it. The others have still been searching the most beneficial solutions regarding diversified production, highly advanced technology or copying the other entrepreneurs‘ activities. These choices are determined by an economic situation in the given area, profitability, stability, the forecast future of an industry as well as the necessity to conduct business activity in accordance with CSR rules.

The next group of questions in the area of the food sector enterprises specialization concerned a potential diversification of business activity, which undoubtedly specifies its directions in the future. It was stated that the most important activities are as follows: activities concerning development of goods and services (31%), sales markets (28%), suppliers (27%), recipients (25%) and technology (20%). As less important were mentioned diversification of multi-functionality (10%), entering new sectors (10%), methods of action (9%), investment (9%), source of financing (7%), structure of activity (7%) and risk review (6%). The diversification of the research and development base was considered as insignificant by the respondents (3%). The entrepreneurs functioning in the food sector take into account trends on the market, market capacity and competitive possibilities. A very important issue for the food enterprises is their size, that determines the production quantity, development possibilities and servicing of individual markets. The entrepreneurs usually monitor the market in order to receive the information concerning the current conditions of economic activity, new market niches and opportunities (Firlej, 2018).

The next group of questions indentified the aims of the enterprises using diversification strategies. The most important was to meet customers expectations (47%), to ensure a competitive advantage for their own company (31%), to introduce new products (26%), balanced and intense development (26%), entering new domestic and international markets and achieving a leading position in the industry (23%). As the last the issue of limiting business activity risk was mentioned (10%). The entrepreneurs were most interested in using practical knowledge, as well as the Internet, e-mail, document management systems and data warehouses (Firlej, 2017). The results of the studies also confirmed the need to introduce the industrial specialization, as the respondents believe that it ensures them a proper market and competitive position.

A series of questions that appeared during in-depth interviews in the area of industrial specialization concerned a strategy of food companies, modern food industry challenges, consolidation issues connected with boom on the mergers and acquisitions market, industry potential 4.0, export possibilities at the time of food embargo, protectionism (Firlej, Ciura, 2016). and trade wars, possibilities of effective implementation of development vision of a company, chances of existing on a saturated market and creating own brand. The respondents, showing extensive interest in the discussed issues, indicated that the food sector needs a creation of modern strategies in the aspect of ongoing generation changes and should be prepared for any challenges, most of all for further success in international arena. The entrepreneus expect consolidation processes in the near future as the food market is still fragmented, especially in its most attractive sectors. An issue of succession, in which better educated generation will take part, may become very important. The succession undoubtedly will contribute to the further specialization of companies, which will be supported by qualifications, automation and robotization of processes, as well as modern strategies and logistic solutions at the level of industries and companies. A growing number of companies want to produce healthy, natural food, search new markets and use variety of Polish products at the same time noticing the limitations resulting from increasing protectionism. The respondents pointed out that the specialization will be facilitated by new visions of companies development, using new technologies, business digitisation, innovation of companies and their products and new trends in production. A significant role in the industrial specialization will also play information provided by social media, consuments' opinions, ideas regarding brands promotion, cooperation with commercial chains, recognition of the saturated market needs and creation of consumer habits.

## 4. Conclusion

The presented studies in the area of industrial specialization in the food sector in Poland proved that the researched entrepreneurs are extremely interested in specialization considering it as one of the paths of future development. Its dissemination is supported by the success of the companies that are becoming role models in the given area. The results of the studies lead to the following findings, reflections and recommendations:

- The main conditions to achieve market success are skills in recogizing a sector and a market, an ability to gain information on the general economic situation of a country as well as to identify profitability, stability, development possibilities and investment effectiveness of an industry.
- An appropriate reception and evaluation of market trends foster the implementation of the industrial specialization in the food sector and the efficient response for the competition activities by using new strategies and skillful development of competitive advantages.
- A diversification of economic activity determines the directions of specialization regarding a development of goods and services, sales markets, suppliers, recipients and technology. The realization of these activities is possible by satisfying customers expectations, ensuring competitive advantage for own company, introducing new products, balanced and intense development, entering new domestic and international markets and achieving a leading position in the industry.

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# GLOBAL TRENDS IN RUSSIAN RETAIL: A COMPARISON OF THE MARKETS OF ST. PETERSBURG AND MOSCOW

Elena Gregova[1,a,*], Victor V. Dengov[2,b] and Irina R. Tulyakova[2,c]

[1]University of Zilina, Faculty of Operation and Economics of Transport and Communications, Department of Economics, Univerzitna 1, 010 26, Zilina,

[2]Saint Petersburg State University, Faculty of Economics, Department of Economics and Economic Policy, Tchaikovskogo str. 62, Saint Petersburg, 191194, Russia

[a]elena.gregova@fpedas.uniza.sk, [b]vvdengov@mail.ru, [c]irinatulyakova@mail.ru.

*Corresponding author

**Abstract.** In the article presented, the authors analyze the current state of the retail market in Russia both in general and in its largest megacities: St. Petersburg and Moscow, estimate the consequences of its inclusion into the globalization process and attempt to determine its type. The area of academic expertise of the authors of this article has since a long time included the study of the specifics and the determination of types of the consumer markets. The disastrous state of the consumer market was one of the reasons for the breakup of the USSR in 1991, while the filling of the consumer market with the food products became the first, though rather painful due to the dramatic increase of prices, result of Russian transition to the market economy. Within a short time, the imported goods, virtually unseen before, including the production of the well-known global manufacturers, appeared on the Russian market. Though not all of the import products delivered to Russia at that time were of acceptable quality, the process of Russian entry into the global consumer markets has definitely started. Within the article, we used the certain criteria to choose the main retail chains, dominating the retail markets of St. Petersburg and Moscow. We also established that these markets do not represent a single whole and that, in order to successfully reach our goal and determine its type, it is necessary to start with dividing the markets into segments. The next stage of our study allowed us to make some conclusions about the competitive pattern and domination in these markets

**Keywords:** retail, concentration, market segmentation, oligopoly, monopolistic competition.

**JEL Classification:** C43, D12, D21, D43

## 1. Introduction

Studying of features of the branch markets (workforce, telecommunications, transport, insurance, etc.) and definition of their type have been in the sphere of scientific interests of authors of article already for a long time (Gregova, 2007; Gregova & Dengova, 2014; Dengov & Tulyakova, 2015a, b, c; Dengov & Gregova, 2015). In the last published articles the sphere of a food retail of St. Petersburg was analyzed (Maksimov et al., 2016; Dengov et al., 2016). At a new stage of our researches we have decided to analyze and compare rather similar in demand capacity markets of retail trade in St. Petersburg and Moscow for identification of common features and specifications. Our choice was explained also by the fact that in view of the huge territorial sizes of Russia it is difficult in general to consider the consumer market of the country as a homogeneous one-qualitative object. At the same time large cities go in vanguard of the happening changes, define development tendencies for the short and medium term.

## 2. The purpose and object of study and the methodology of analysis

The purpose of our research is to find common features of development of retail trade in two largest cities of the Russian Federation (RF). Though "two capitals" considerably differ both by the size and by the level of population´s income, them, certainly, could be compared as they have endured identical transformational changes upon transition to market economy. So, the consumer markets of Moscow and St. Petersburg were taken as an object of a research.

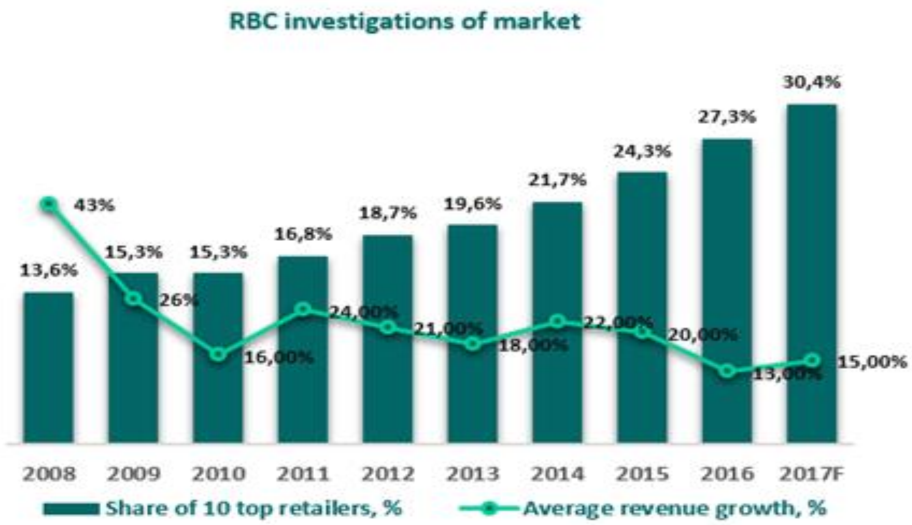
In the previous articles on this subject, where the food retail market of St. Petersburg was investigated in detail (Dengov et al., 2016, Maksimov et al., 2016), we put forward and, as we hope, confirm the hypothesis of type of the retail market in St. Petersburg as a market of "indistinct" oligopoly. Unfortunately, the statistical base for the analysis refers generally to the so-called "pre-sanctioned" period of development of the country. But, though it seems to be paradoxical, the sanctions imposed by the US & EU against Russia in connection with events in Ukraine and response countersanctions from Russia against first of all western food, caused the essential growth of own production of agricultural products. For short term Russia turned from the strongly dependent on world markets importer of food to the large exporter of a number of the major food products (such as grain, for example). At the same time import substitution process literally on all commodity positions in domestic market took place very successfully. During the present analysis we were faced by a task to check how the situation in the consumer market of St. Petersburg has changed and, at the same time, to confirm or disprove a hypothesis of type of the consumer market in Moscow as market of "the monopolistic competition".

The factual and statistical basis of the study came from the open sources available to the authors of this article. The method of the analysis included monitoring, the processing of the acquired information using the statistical methods. To understand structure of the Russian retail, it is necessary to divide the system of retail trade into several directions. Traditionally there are the following: 1. FMCG (fast moving consumer goods). It is necessary to notice that the FMCG direction is more than a food retail. It is a grocery retail which includes also goods of the non-food direction (goods of the nonfood industry) which are in daily demand: toothpaste, soap, bulbs, personal care products; 2. Household appliances and electronics; 3. Goods for the house and DIY (Do It Yourself – make itself) – includes textiles, household chemicals, ware, floor coverings and construction materials; 4. Furniture; 5. Cosmetics and perfumery; 6. Medical production; 7. Other less large directions: jewelry, pet goods, mobile phones, products for children ("Retail&Loyalty"). The analysis of concentration level in the market of a grocery retail of St. Petersburg, which was carried out in the previous researches, has shown existence of several market segments, each of which is focused on its own consumer. This aspect is a vital one for our research: if the companies are the part of one industry, yet belong to the different market segments – they will not compete. Therefore, the analysis should be performed not for the market as a whole, but rather for each of its segments in particular. Muzykant (2008) provides the following chief segmentation criteria: 1) the size of the segment; 2) its stability (growth perspectives); 3) the segment's profitability; 4) its availability; 5) competition within the segment.

## 3. The situation in a grocery retail of Russia at the moment

Among the main formats of modern grocery retail, the following are usually distinguished: "shop at home", discounter, supermarket, hypermarket and Cash & Carry. In the territory of Russia all above-mentioned formats are presented. However, it is possible to notice that large retailers try to use several of them at once to increase geography of their influence and to occupy different target audiences. In economically unstable time, when the consumer ability of the population mainly affects the market of food retail, regional and local retailers have the greatest difficulties which, as practice has shown, quite often lead to reduction of shops of chain or bankruptcy with the subsequent absorption by larger players of the market. In such a way the large companies increase the influence in the geographical market and at the same time get rid of competitors. So, Retail Group X5 in 2015 has absorbed Rosinka retail chain, in 2017 has bought 32 shops of O'KEY chain and 99 shops of Polushka chain. Growth of concentration in the sphere of a food retail of the Russian Federation is possible to be judged according to the fig. 1.

*Figure 1: A share of top-10 retailers in turnover of food retail*



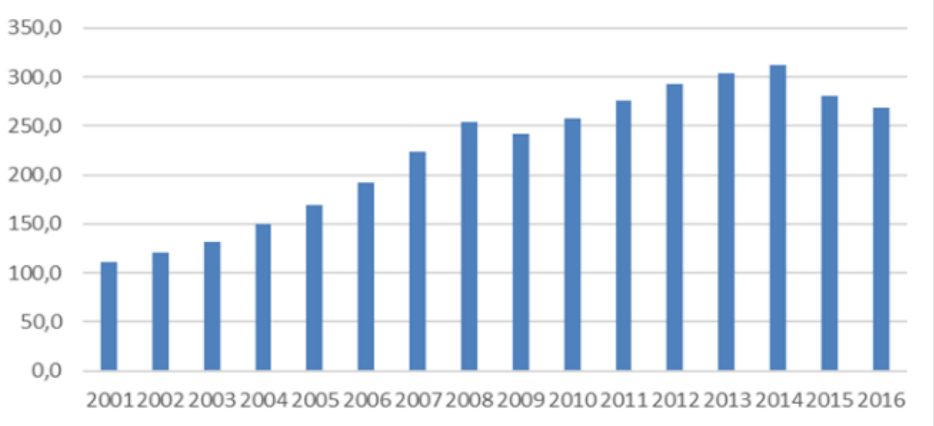

*Source: RBC investigations of market, 2017F- forecast of RBC investigations of market URL:https://marketing. rbc.ru/.*

At the moment it is also possible to observe general tendency of large food retailers to release goods under own brand, to arrange bakeries in the territory of their floor spaces, etc.

As analysts note, formats "discounter" and "shop at the house" with flexible price policy and an available arrangement became the main driver of development of food chains (Borovikov, 2017) in recent years. In turn the retail chains selling the products only in a format of hypermarkets have had serious problems and falling of profits. The good examples of this are the large retailers using one format for organization of the floor spaces - Auchan and METRO. It should be noted that Auchan and the Subway, following recent trends of the market, plans to open new stores in the "shop at the house" format in 2018 - "My Auchan" and "Fasol". If to speak about influence of crisis and other not economic factors on branch, then it is possible to notice the general decrease in retail trade turnover. The low solvency of the population remains the main reason for decrease in a turn. At the same time increase in prices persisted as well as weakening of a rate of domestic currency and restriction of import as a result of sanctions. According to forecasts of National Rating Agency growth of retail trade in the first half of the year 2018 and the general improvement of a situation in branch is expected. However, if there are external shocks capable to influence the population and their expenditure, forecasts will be less optimistical. According to results of 2016 TOP-5 large chains of retail trade include: "Magnit" (Revenue was 1069,2 billion rubles), X5 RetailL Group (1025,6 billion rubles), then Auchan, Dixi Group, "Lenta" follow in descending order of turnover.

At assessment of retail trade turnover in real prices it is possible to observe the general tendency to recession (see the fig. 2).

*Figure 2: The index of physical volume of retail trade turnover of the Russian Federation (in % to 2000)*




*Source: Rossiyskiy riteyl «Itogi 2016 g. – I polugodiya 2017 g.» URL: http://www.ranational.ru/.*

According to the report of Rosstat retail trade turnover in the RF in 2016 was reduced by 5,2% in the comparable prices in comparison with 2015 – to 28,137 trillion rub (FSGS,ED).

## 4. The analysis of a consumer retail in St. Petersburg

The share of retail trade of St. Petersburg in the one of the whole Russian Federation makes for 2016 - 4,358% (in 2015 - 4,158%) (FSSS RF, 2017). In St. Petersburg there are more than 300 retailers, but the leading role in the FMCG market is played by several large players: X5 Retail Group, Magnit, Dixi, Auchan, Lenta, Azbuka vkusa, Spar, SemYA.

**X5 Retail Group** is the largest multiformat chain of grocery stores of federal importance, with more than 12 thousand shops through the whole country. It has three main formats: discounter Pyaterochka, supermarket Perekrestok and hypermarket Karusel. Multi-format allows X5 Retail Group to focus on different segments of the population. The indisputable leader on the Russian retail market (revenue in 2017 was 1,29 trillion rub. (MALLS.RU, 2018)) has also leading position in the market of St. Petersburg. In 2017 X5 has outstripped in the total revenue its main competitor — Magnit. At the moment the company expands the business and allocation, using at the same time both tools for optimization of outlets, and more radical measures for absorption of the competitors. Last year absorption of the retail chain "O'KEY", that played a significant role in the market of St. Petersburg, has been announced. And so far as the quantity of points of sales in St. Petersburg has already reached the most admissible number, the company has made an attempt of optimization of the floor spaces by closing of low-profitable, unclaimed shops and opening of new points with higher rates. X5 Retail Group can be considered as the most widespread chain of grocery stores in St. Petersburg. It contains almost 400 outlets on the territory of the city (345 - Pyaterochka, 40 - Perekrestok, 14 - Karusel).

The main competitor of X5 Retail Group at the moment in Russia and in St. Petersburg is the retail chain **"Magnit"**. It overtakes X5 Retail Group by quantity of outlets across Russia and not much more concedes one in volume revenue - 1,29 trillion rubles for 2017. It should be noted that throughout long time Magnit held the leading position on total revenue in the Russian market and only in the last year it has conceded this position to Retail Group X5 (Business St. Petersburg, 3/4/2018). At the moment on the territory of St. Petersburg 133 points of Magnit chain work (in three main formats of a retail: shop at the house, hypermarket and also - "Magnit-Kosmetik"). In total the quantity of outlets of all types of this chain across the Russian Federation exceeds 13 thousand. In the middle of 2012 Magnit was included into the five largest retailers of the world by capitalization.

In St. Petersburg the chain "**Diksi**" which number of shops is 195, that exceeds quantity of outlets of "Magnit" in turn, has a large popularity. At the territory of the city "Diksi" is presented in a "shops at the house" format with own bakery departments and own brand of goods. Dixi focuses on the clients with an average and below than an average income.

The chain "**Azbuka vkusa**" is presented mainly in Moscow, the Moscow region and St. Petersburg. Shops of a premium class are focused on the population with income above an average. In St. Petersburg at the moment 11 shops are opened. Distinctive feature of "Azbuka vkusa" is his positioning as a shop for connoisseurs of qualitative, natural production with the various range and high quality service. In this segment the retail has no direct competitors that, despite an average bill, doesn't affect demand of this chain at consumers.

Besides domestic retailers three large foreign retail companies work in the territory of St. Petersburg: **Auchan** (France), **Spar** (Netherlands) and **PRISMA** (Finland). Auchan contains 9 hypermarkets located mainly on the suburb of the city near large shopping centers. The Spar chain has more than 60 supermarkets in the city. In 2017, according to data of INFOLine, the revenue of Auchan chain was reduced by 4% (CRE.RU, 2018) that first of all is connected with the accruing competition from the St. Petersburg retail chain "Lenta". Since 2011 the rights for the Spar brand belong to the Russian company TH "Intertorg"" which is also presented at the market of St. Petersburg by such food retailer as "SemYa" (more than 140 shops in St. Petersburg). The Finnish PRISMA has 6 hypermarkets and 11 supermarkets in the district of city and the Leningrad Region. Moreover, the Finnish company plans to increase its influence on the market of St. Petersburg and the Leningrad Region by 2022 by opening 20 new shops (Karlos, 2017).

The first shop of the Cash & Carry format has opened in St. Petersburg in 1993, but already by the end of the 90th years the chain was reformatted in hypermarkets which has prevailed in the market till today. The retail chain **"Lenta"** at the moment contains 34 hypermarkets and 20 supermarkets in St. Petersburg. It is remarkable that in recent years Lenta increases the influence in St. Petersburg, first of all by opening the new points not at suburbs of the city, but in residential areas. Increase in number of supermarkets has allowed Lenta to approach closely the main competitor Auchan by the volume of annual revenues for 2017 (the sales volume of Auchan was 389 billion rubles, Lenta - 365 billion rubles).

The only shop of the Cash&Carry format presented at the market of St. Petersburg - **METRO**, has 3 outlets. In the Russian market generally and the market of St. Petersburg in particular the foreign chain has shown negative dynamics in sales volume (fall of profit by 9% in comparison with 2016 is recorded).

Comparing a present condition of the grocery retail market of St. Petersburg to a situation of 2013, we should note further increase in the market share of three largest chains (X5, "Lenta", "O'KEY") to more than 50%. We will remind that according to the Federal Law "About Protection of Competition" penalties and the ban on opening the new points can threaten retailers. In St. Petersburg chains "Leroy Merlin", "OBI" and "Petrovich" are leaders in the DIY segment. These retail chain stores are the oligopolists in the considered market. Other companies in various segments also are large, but they don't occupy such big share.

## 5. The analysis of a consumer retail in Moscow

The share of Moscow in the all-Russian retail in 2016 has made 15,122%, against 15,657% in 2015. This falling has happened because of devaluation of ruble: the income of the population began to decrease, and the prices have gone up. Also food embargo has played a role, together with the general economic crisis they have made consumption more conservative and "patriotic" (RBC.RU, 2015).

City trade, generally, consists of shopping centers and so-called street retail. Online trade still occupies no more than 4% of the total trade turnover. By estimates of the Cushman and Wakefield company, about 30% of commodity turnover fall to the share of shopping centers in Moscow: the most part of goods is on sale in shops on the street, separate supermarkets or the markets. In previous years the main trend in development of city trade was an increase in a share of the format trade presented by the Russian and foreign chain trade operators. Every year 10-15 international retailers of a different profile came to Russia. The street retail developed more slowly, generally due to converting of the first floors of buildings in shopping facilities. It should be noted that in Moscow the street retail occupies one of the main positions in retail trade at the moment. However, practically in the street retail there are no large chains which could compete to the large companies.

In Moscow also as in St. Petersburg in the market of a grocery retail there are several leaders. If to divide on segments, then "Karusel" belongs to a segment "hyper-" in the market of Moscow, however quantity of its points there differs markedly from quantity of its points in St. Petersburg, where there are only 13 of them. So, it couldn´t be considered as a big chain of stores. In this segment in Moscow the Auchan hypermarket prevails. In Moscow it is one of the largest retail chain stores. It contains 46 shops (in general in Russia - 289 shops, including 102 hypermarkets and 187 supermarkets) (GROUPE-AUCHAN.COM, 2017). This chain in Moscow is considerably presented also in a supermarkets segment.

X5 Retail Group is the second largest multiform chain of grocery stores in Moscow. It is presented in formats: "shops at the house" (Pyaterochka), "supermarkets" ("Perekrestok"), "hypermarkets" ("Karusel"), express-retail stores under various brands. “Perekrestok”, the company that relates to the second segment of this retail chain stores, is presented in Moscow by 88 shops, 48 of them are in Moscow region. These are the most widespread retail chain stores of supermarkets. By the way, these retail chain stores were the first in Russia that have begun to develop and create goods on own trademark. The leading position in a "shop at the house" segment in Moscow is held by Pyaterochka (727 shops are open (ZOON.RU, 2017). In this segment the retail chain of the same X5 Retail Group Perekrestok-express competes with Pyaterochka. The retail chain stores "Magnit" in Moscow are presented by 153 supermarkets, 7 hypermarkets and 77 "Magnit-Kosmetiks" shops.

The position of DIY category retails in Moscow also differs from one in St. Petersburg, though insignificant. The leader is also "Lerua Merlen". At the moment its 18 shops work in the territory of Moscow. "OBI" - the international retail chain stores of shops of construction and household goods having more than 570 shops in 13 countries, a part from which works by franchising. In Moscow and the Moscow region 9 shops of this chain are presented at the moment (OBI.RU, 2017). Building trade house "Petrovich" is a private Russian company specializing in trade with construction materials. Now its trade bases are open in the Northwest and Central federal districts of the Russian Federation. But unlike St. Petersburg, in Moscow there are only 4 bases and, generally, they are located in the territory of the Moscow region. Thus, it is possible to note that, despite a leading place in national economy, the consumer retail of Moscow in general significantly differs from the retail of St. Petersburg. In Moscow there are more shops, but not by large retail chain stores, but small or even single shops are presented. It means that the oligopoly in the grocery market of Moscow practically hasn't developed yet and it is possible to call the current situation rather as the monopolistic competition.

## 6. Conclusion

In spite of the fact that the grocery retail of how all Russia, and her largest megalopolises for the last 3 years endured the serious recession caused by many external (sanctions, etc.) and internal (fall of real income of the population, etc.) reasons, it can still be considered as one of drivers of an exit to steady tempo of development of the country. In the Russia in general and in its capitals Moscow and St. Petersburg in particular – process of concentration and centralization of the grocery retail market has continued. We think that our conclusion drawn on the basis of the previous researches about type of the grocery retail market of St. Petersburg as market of "an indistinct oligopoly", still is true. The analysis of a situation in the sphere of a grocery retail of Moscow and the RF in general confirms our hypothesis that the given market, despite the leading positions of large retail chain stores both in the capital, and in the country, could be characterized rather possible as the monopolistic competition, than even "an indistinct oligopoly"

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# GLOBALIZATION OF CONSUMPTION AND THE STANDARD OF LIVING IN POLAND - SELECTED ISSUES

Urszula Grzega[1,a,*]

[1]University of Economics in Katowice, 1Maja 50, 40-287 Katowice, Poland

[a]ugrzega@ue.katowice.pl

*Corresponding author

**Abstract.** The globalization of consumption, as a derivative of market globalization, denotes the process of expansion of consumption patterns in the supranational scale. One of the positive effects of this process is the creation of better conditions to fulfill consumers' needs, which are favorable to the improvement of the standard of living. The standard of living, understood as a level of needs fulfillment, is a result of interactions between various determinants. The globalization is one of them. Its influence, although it is obvious, is defined as indirect, postponed in time and difficult to measure. The present paper is to indicate the connections between globalization of consumption and the standard of living. This will be the background to the presentation of changes occurring in Polish standard of living. Undoubtedly, the globalization and integration processes, which took place in Europe from 2004-2016, influenced the present image of the standard of living in Poland. This influence was of multidirectional nature, whereas the particular significance for the level of Polish needs fulfillment can be assigned to the changes, which took place in the market of consumer goods and services and in the labor market. Based on the consumption indicators analysis, it is possible to state the opinion that Polish standard of living reached higher level in the end of researched period than in 2004. It is proven by positive pace of increase of individual consumption in the household sector, as well as the increase of free choice expenditures and the decrease of food index value.

**Keywords:** consumption, consumption's globalization, standard of living, Poland.

**JEL Classification:** E21, F62

## 1. Introduction

One of the dimensions of globalization, which reflects the functioning of consumption entities on the market, is the globalization of consumption. It consists in spreading of the identical or similar consumption patterns in supranational scale and creating the global consumption culture, mainly due to popularization of global products offer (Bywalec, 2017). The patterns spread usually from developed to underdeveloped countries. In such a perspective, the globalization may be comprehended as a tendency to assimilation and standardization. It causes among others: homogenization of needs, requirements and consumer expectations and in consequence, the standardization of satisfaction level of needs, which is exactly the standard of living.

The standard of living should be interpreted as the level of needs satisfaction, resulting from the consumption of material goods and services and from the use of natural and social environment values (Bywalec, 2017). Researching the standard of living, the needs and their satisfaction level in various groups and in overall perspective need to be taken into consideration.

The main and theoretical aim of this paper is the indication of connections between globalization of consumption and standard of living. This will be the background to the changes occurring in Polish standard of living starting from Poland's affiliation to European Union. The consumption indicators will be used in the research. The entity of the research will be the household sector, while the subject will be the standard of living in the perspective of globalization and integration processes which take place in Europe. The analyzed period of time is between 2004 and 2016. The basis for this research is secondary information derived from Eurostat.

## 2. Influence of globalization and integration processes on standard of living

The globalization, understood as the range of processes leading to growing interdependence and integrity of countries, societies, economies and markets, is of multidimensional nature. It is characterized by multitude of connections between market entities and the appearance of new sources of economic activities, which are strongly supported by the development of technology, communication and transport. Such a situation is favorable to the exchange and development of experiences and to the continuous formation of supranational and social connections in various areas of functioning of economic entities (Ferreira & Lima, 2017). The obvious target and simultaneously the result of a globalization process is development, which – according to globalization approach – is an irreversible, intentional and natural process of object integration in the global environment. It involves the change of current state and it "goes ahead" in various areas of economic and social life. The stimulus of a development is synergy resulting from the interaction of individual elements forming a system (Bilan et al., 2017). It is worth noticing that globalization is not a state, but a process consisting of a sequence of events related to various life areas and dimensions. One of social and economic life areas is a consumption area. Its global products offer and so called - global trends monitored in economy (e.g.: growing people's mobility, popularization of the Internet, climate challenges, ageing society) clearly influence the expansion of similar attitudes and consumers' behavior and in consequence, the patterns of goods and services consumption expand as well.

The globalization of consumption may be understood as the process of assimilation of the levels and structures of consumption of food related and non-food related goods and services, both in quantitative and qualitative approach and in macro and microeconomic areas. This basically leads to equalization and unification of levels and methods of fulfilling the needs when it comes to individual households and whole societies. The changes in the level of needs fulfillment relate to fundamental and higher-level needs which belong to various groups, e.g.: food, material adaptation, culture, etc. (Grzega, 2012).

The main determinants of consumption globalization are the processes of globalization and integration of economies, facilitation in national borders crossing and the increase of people's mobility in spatial and socio-professional dimensions, formation of densely populated areas, assimilation of lifestyles of various age and social groups, decreasing significance of material possessions and concentration on non-material elements of standard and quality of living, increasing standardization of distribution products and channels, development of technical, organizational and social innovations and their rapid expansion, development and popularization of virtual life through Internet access and community portals (Bywalec, 2017).

The influence of globalization on assimilation of the level of consumer needs fulfillment may be evaluated both ways, positive and negative. Two cases may be distinguished among negative results of globalization in the context of standard of living, fulfilling artificial demands at the expense of real demands and the hazard resulting from the purchase of global products at the expense of satisfying elemental needs. The first case behavior leads to consumerism, supported neither by needs nor the current consumption state, to shopoholizm and materialistic attitude. Second case behavior induces lack of satisfaction of elemental needs, e.g.: health needs which may cause negative health effects and influence everyday functioning of consumption entities. The positive results of influence of globalization on the level of consumer needs fulfillment are as follows: the increase of supply offer, formation of better conditions to fulfill consumer needs and expectations, increase of accessibility to products of better quality, higher technology, higher nutritional or utilitarian values, popularization of products and the manners of their use in the world’s scale, standardization of precepts of law regarding consumer safety on the market (Mazurek-Łopacińska, 2003). The significance is also attached to lower prices of some products and services on the global market, the freer access to information, communication and other consumers’ opinions as regards particular products and the opportunity to fulfill their needs (Antalová, 2016). The influence of globalization and integration processes on standard of living is connected with the situation on labor market as well. The freedom of movement in the EU offers opportunities of working in member countries (Bajzik, 2017). This in turn, reflects in the improvement of financial situation of people working outside the borders of their country and influences the consumption and standard of living in their households.

While concentrating on the main virtue of globalization (with regard to present deliberations), which is forming better conditions to fulfill the needs and expectations of consumers, we need to emphasize the influence of globalization on the supply offer. High quantity and variety of goods and services on the market enable consumers to expand and make needs fulfillment more attractive. It facilitates the access to modern lifestyle, it is favorable to seeking products which are comfortable, time saving, high quality, exceptional and elite in their own kind. Simultaneously, it forces entities working on the supply side to take care of consumer needs in greater extent.

The particular manifestation of globalization processes is expressed in the growing international economic dependency of countries in the form of economic integration. The most common integration is of markets of neighboring countries. It is a result of cultural similarities, closeness of supply and sales markets and lower transport costs. The complete integration, which is profitable for every country, requires approximation, equalizing the levels of development and standards of living. This means among others: the protection of vulnerable businesses in relation to strong ones. The natural reaction to the globalization processes in Europe was and still is European integration. The main aim of the integration, significant from the point of view of consumption entities, was the improvement of life conditions through stability and prosperity ensured in the country and raising the standard of living (Grzega, 2017).

The results of integration between Poland and the European Union may be evaluated from various points of view. They may have economic, political, financial or socio-cultural character. From the perspective of standard of living deliberations, we may find economic and social benefits as particularly interesting. The main virtue of integration of economic nature is the participation in the EU's single market and the freedom of movement of goods, services, money and people (Grzega, 2012). The access to various types of structural funds and to various investment projects, which are co-financed from the EU financial resources, need to be counted as positive sides of integration of Poland and the European Union as well (Czech, 2017). In the above context, the significance should be attached as well to the increase of investments appearance and new technologies. Among main advantages of social nature, we can find Poland approaching to European standards in terms of internal security, decent working conditions and environmental protection which generally reflects in higher standard of living (Konarzewska, 2008).

More precise and simultaneously highly sensible advantage of Polish access to the European Union is the situation on labor market improvement, which was reflected in the decrease of quantity of unemployed and the increase of quality of workplaces and workforce. The single market brought advantages connected with liberalization of particular markets (e.g.: telecommunications) and improvement in the quality of goods. As it was mentioned before, it created better opportunities to fulfill the needs and it offered liberty for consumers. Among the advantages of integration we may find actual improvement of consumer protection in the market, which is the effect of using the means functioning on the community level. We need to mention also the advantages which are a result of wider participation and access to community initiatives and programs supporting the education and science – the increase of health protection of Polish society, the approval of community standards in terms of natural environment protection and others (Grzega, 2012).

The negative results of the EU accession are as follows: the increase of prices of some goods, especially between 2004-2005, and the threat to national identity, Polish traditions and sovereignty. Apart from inflation, these are the elements of life that have the least possible influence on the level of needs fulfillment of particular entities (Szopa et al., 2008).

Polish accession to the European Union was connected with many expectations of Polish people, mainly with the improvement of socio- economic sphere of the country and the standard of living. Polish people mainly approve the globalization and integration processes of economies. They reveal high support for the EU membership and the faith in its economic potential, which was reflected in CBOS (Public Opinion Research Center) research from 2017. 88% of Polish people approve membership of Poland in the EU (CBOS, Rogulska, 2017).

## 3. Changes in Polish standard of living between 2004 and 2016

In the research of standard of living there are many methodologically diverse solutions. The measures are among others: objective and subjective, economic and non-economic, direct and indirect, qualitative and quantitative, synthetic and fragmentary. Some of them are based on consumption indicators use. Most frequently, they come from the system of national accounts and they are of macroeconomic character or they come from the research of household budgets.

In Eurostat methodology, the actual individual consumption indicator is used. It includes all goods and services consumed by population, regardless of financial source (private or public). A part paid from the disposable income, realized in the terms of individual consumption, is defined in Eurostat research as household final consumption expenditures. This category encloses all expenses made by household sector. The remaining part consists of governmental and non-governmental organizations expenses (e.g.: for education).

It results from GUS data (Polish Statistics Office) that between 2004 and 2016 there was an increase of individual consumption in Polish household sector. The increase varied, depending on analyzed year and a particular subsector of households. However, taking into consideration whole research period and the entire household sector and current prices, individual consumption from personal income increased by 43.6%. Moreover, the real gross disposable income in household sector increased at the same time by 43.9% (GUS, 2018). It results from the research of many authors that the expenses on consumption are positively correlated with standard of living (Yuo, JP, 2014), so the change should be evaluated as positive from the point of view of deliberations regarding Polish standard of living.

*Table 1: The structure of the household final consumption expenditure in Poland and EU in the years 2004, 2008, 2010, 2016 (total expenditure = 100)*

| **Year** / **Expenditures** | **Poland** | | | **EU=28** | | |
|---|---|---|---|---|---|---|
| | **2004** | **2010** | **2016** | **2004** | **2010** | **2016** |
| Food and non-alcoholic beverages | 21.1 | 19.1 | 17.1 | 12.3 | 12.3 | 12.2 |
| Alcoholic beverages, tobacco, narcotics | 7.1 | 7.9 | 6.1 | 4.1 | 4.0 | 3.9 |
| Clothing and footwear | 4.8 | 4.1 | 5.2 | 5.4 | 5.0 | 4.9 |
| Housing, water, electricity, gas and other fuels | 21.3 | 22.8 | 21.2 | 22.4 | 24.3 | 24.5 |
| Furnishings | 4.3 | 4.4 | 5.3 | 6.0 | 5.6 | 5.5 |
| Health | 4.2 | 4.1 | 5.6 | 3.4 | 3.7 | 3.9 |
| Transport | 10.6 | 11.0 | 12.1 | 13.3 | 12.8 | 12.9 |
| Communication | 3.2 | 3.0 | 2.4 | 2.9 | 2.8 | 2.5 |
| Recreation and culture | 8.0 | 7.6 | 7.9 | 9.4 | 9.0 | 8.5 |
| Education | 1.4 | 1.2 | 1.0 | 0.9 | 1.1 | 1.2 |
| Restaurants and hotels | 2.9 | 2.8 | 3.2 | 8.3 | 8.0 | 8.6 |
| Miscellaneous goods and services | 11.2 | 11.9 | 13.0 | 11.6 | 11.3 | 11.5 |

*Source: http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do (12.07.2018)*

When Poland accessed the EU, the individual consumption structure went through the changes. From the data in Table 1, it results that there was an increase of share of transport expenditures (by 1.5%), health (1.4), furnishings and household running (1), clothes and footwear (0.4) and restaurants and hotels (0.3). All other expenditures for goods and services increased by 1.8%. The decrease of share of expenditures was noted in the following categories: food (by 4%), alcoholic beverages and tobacco (1), communication (0.8), education (0.4). In case of expenditures on housing and water, electricity, gas and other fuels and for recreation and culture, the changes of their share in the general expenditure structure remained insignificant.

From the data in Table 1, it results additionally that the structure of individual consumption in Polish households still differs from the structure of general EU-28 household consumption.

First of all, the significantly higher share is associated with food expenditures. Polish people spend more on alcoholic beverages and tobacco and on health. Less is spent on restaurants and hotels, housing and water, electricity, gas and other fuels, transport and recreation and culture. The most similar elements of structure of individual consumption sector for Polish and EU-28 households are as follows: clothes and footwear, furnishing, communication and education.

The most significant change indicating the improvement in Polish standard of living – according to 1st Engel's Law – was the decrease of food index value. This index presents the share of food expenditures in the general expenditures and it is recognized as one of the oldest and the most basic measures of standard of living. According to 1st Engel's Law, the bigger the increase of income, the smaller the expenditures for food. The low value of food index implies that relatively small part of the income is allocated for food and this means that society is wealthy. The decrease of discussed measure in Poland between 2004-2016 indicates the improvement of Polish people's wealth and the improvement of their needs fulfillment, which should be evaluated positively.

Similar conclusions can be drawn on the basis of another consumption measure, i.e.: the index of free choice expenditures. It is calculated as the share of free choice expenditures in the general expenditures. The higher index, the better – from the point of view of standard of living evaluation. When the free choice expenditures are calculated together with expenditures for recreation and culture, education, restaurants and hotels and so called other expenditures for goods and services, it is clearly visible that their share between 2004 and 2016 in Polish household sector increased from 23.5% to 25.1%, i.e.: by 1.6%. Such a situation may prove that the actual costs of living decreased (Gorry & Scrimgeour, 2018). In the EU, there was at the same time the decrease by 0.4%, from 30.2% to 29.8%.

In general, on the basis of conducted analysis, it may be assumed that in 2016 the standard of living in Poland reached higher level than in 2004. It is confirmed by positive changes in level and structure of individual consumption. The higher level of Polish needs fulfillment is proven by positive pace of increase of individual consumption in household sector, by decrease of food index and increase of free choice expenditures share. It influenced the assimilation of Polish consumption structure and consumption structure of more developed countries. However, significant differences to Polish society disadvantage are still visible.

## 4. Conclusion

Unambiguous evaluation of the influence of globalization and integration processes on the standard of living is complicated, because cause-and-effect relationships existing in this relation do not have the direct nature, but indirect one. The globalization processes can be classified as so called macro conditions of standard of living. It means that their influence is not only indirect, but also postponed in time and difficult to measure or even non-measurable. The importance of consumption globalization in forming the standard of living is visible in the functioning of consumer goods and services market and labor market. The first one influences growing opportunities for needs fulfillment and making them more attractive, which thanks to global supply offer, leads to unification of standard of living in its particular areas. The functioning of the latter market and the opportunities of taking up a job abroad are relatively visible the fastest when it comes to people's income. Subsequently, people's income is reflected in consumption expenditures and finally in standard of living. Despite the indirect influence of those conditions, it is worth noticing their "initial" character and the fact that they constitute a peculiar economic context for other conditions and factors of not only economic nature, but also non-economic. Evaluating the changes in Polish standard of living between 2004 and 2016 we need to bear in mind that in last three decades, countries of Central and East Europe underwent radical developmental changes. Their economies, social and environmental matters were afflicted by transition to market economy, globalization and sustainable development, all at the same time (Dagiliute, 2018). Repeatedly, those changes became a stimulus or a "check" for fulfilling chosen groups of people's needs. Some of them were directly connected with economic factors and their influence on standard of living should also be defined as significant. Others, important in nature, influenced the standard of living in the researched period only in insignificant degree. In general, Polish standard of living reached higher level than in 2004. The share of expenditures on fulfilling particular groups of needs changed favorably, including the share of food and free choice expenditures. Obviously, there is no reason to think that the change of economic behavior, including general increase of consumption and the changes in consumption expenditures structure (the desire to consume more and to consume new goods), is a typically Polish or European phenomenon, which is induced by some research (Franks, 2013). However, it does not exclude and it does not delimit by any possibility the positive evaluation of changes which took place in a given period of time in Poland. Concluding, it is worth mentioning that apart from favorable changes in Polish standard of living, we may also observe positive changes in their quality of life, which is confirmed by research conducted by other authors (Czech, 2017).

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# GLOBALIZATION AND ITS IMPACT ON FOREIGN CONTROLLED CORPORATIONS IN THE CZECH REPUBLIC

Eva Hamplová[1,a,*], Jaroslav Kovárník[2,b]

[1]University of Hradec Králové, Faculty of Informatics and Management, Czech Republic

[2]University of Hradec Králové, Faculty of Informatics and Management, Czech Republic

[a]eva.hamplova@uhk.cz, [b]jaroslav.kovarnik@uhk.cz

*Corresponding author

**Abstract.** Foreign direct investment in the form of foreign controlled corporations has become a significant factor of globalization and obviously in the Czech economy, which has been making its performance and export abilities more dynamic in the last twenty years. The article summarizes selected analyses and trends in development of FDI (2000-2017) in Czech economy. Methods of comparative analysis and analysis of trends are used. Apart from the assessment of foreign direct investment inflow seen from the European Union perspective, this article also focuses on the assessment of the foreign direct investment inflow in the national economy. The main point is to formulate the selected benefits and the costs of foreign controlled corporations functioning in the Czech economy in the last decade and on this basis to give a recommendation for the economic policy in this area. Macroeconomic connections are an equally important constituent of this article – the relation of foreign direct investment to the labour market, and to the balance of payment. The results of analysis are briefly described in the text of the article. However, one of the most important conclusion is that the foreign controlled corporations as capital part of globalization, which significantly contribute to the growth of the Czech economy, employment and the increase of its export performance, must have enough investment opportunities in the domestic economy in the future to reinvest the created profit and not to transfer it back abroad.

**Keywords:** globalization, balance of payments, business environment, foreign controlled corporations, foreign direct investment (FDI).

**JEL Classification:** F23, G34, O11

## 1. Introduction

Přímé zahraniční investice (PZI) patří mezi hlavní dlouhodobou formu mezinárodních kapitálových toků vztahujících se k podnikům. Stupeň kontroly je hlavní kritérium pro zahrnutí toku kapitálu do přímých investic. Nejčastější případ pro začlenění do přímých investic je pohyb kapitálu, kde se získává 20 % až 25 % podílu na celkovém kapitálu. Vyhovujícím může být také 10 % podíl na celkovém kapitálu zahraničního podniku, ale musí být dostačující z hlediska ovlivnění řízení a kontroly podniku. Dle devizového zákona, který byl zrušen v roce 2016, byla přímá zahraniční investice popsána jako vynaložení peněžních prostředků za účelem vzniku trvalých ekonomických vztahů investujícího devizového tuzemce v zahraničí nebo cizince v tuzemsku. Do přímých investic můžeme zahrnout nákup akcií, reálné investování i reinvestování zahraničního zisku. Hlavní rozdělení přímých investic je na základní kapitál, reinvestovaný zisk a ostatní kapitál dle Fajgelbaum, Grossman & Helpman (2015), Nocke & Yeaple (2008) nebo Werner (2002). Růstem toků přímých zahraničních investic, které se vyznačují významně růstem počtu a produkce nadnárodních společností, zejména formou přímých zahraničních investic, lze charakterizovat již druhou vlnu globalizace, tedy období 1950 – 1970. V této době byly hlavním poskytovatelem velké americké firmy, které prostřednictvím internacionalizace své produkce usilovaly o maximalizaci zisku a dosažení vysoké výnosnosti investovaného kapitálu. Firmy expandující do zahraničí sledovaly zejména dosažení nižších nákladů na pracovní sílu a zvýšení odbytu na jiných trzích. Současná vlna globalizace, která dle většiny teoretiků např. Tintelnot (2017), Kingsley & Graham (2017), začala na přelomu 80. a 90. let, nabyla silného rozmachu v 90. letech, a to zejména díky geopolitickým změnám a rozpadu systému centrálně plánovaných ekonomik ve střední a východní Evropě. Dnes dochází k rozvoji skutečné mezinárodní produkce, kde různé segmenty v rámci jediného produkčního řetězce, jsou umístěny v různých místech. Zásadními faktory a hybnou silou současné globalizace jsou podle Fratzscher & Imbs (2009) nebo Fu (2015) uváděny deregulace ve finančních, dopravních a komunikačních službách. Zejména v oblasti finančních služeb byla výsledkem deregulace globalizace finančních trhů a rozvoj nových finančních instrumentů, které mj. pomohly financovat masivní růst fúzí a akvizic působících mimo samotný finanční sektor. Jak zmiňuje Srholec (2004), zejména inovace v oblasti informačních a telekomunikačních technologií ovlivňují způsob produkce, distribuce, či managementu a působí napříč celým systémem, nikoliv pouze v jednom odvětví. Zrychlený technologický rozvoj pak snižuje významně roli vzdálenosti a zvyšuje podobnost spotřebního chování v hlavních centrech světové ekonomiky. Hlavním impulsem pro současný růst objemu světové obchodní výměny se stává právě vnitropodnikový obchod a obchod s meziprodukty transnacionálních korporací. Jde o důsledek fragmentace výrobního procesu a specializace na jednotlivé výrobní činnosti v různých zemích světa, tedy o podnikovou globalizaci jak uvádí Cannizzaro & Weiner (2018), Zamrazilova (2007), Kuzel (2017). Hlavním motivem pro expanzi nadnárodních společností je ve vyšší míře získání přístupu na trh, než dosažení nižších nákladů, i když i to je neopomenutelná složka tvorby úspor z rozsahu. Hlavně obory s vysokými nároky na fixní náklady (např. v důsledku vysokých výdajů na výzkum či pořízení potřebného technologického vybavení) vyžadují i vysoký objem výroby a následně prodejů, aby byly schopny vytvářet zisk. Úspory z rozsahu lze realizovat nejen ve výrobě, ale též v marketingu, logistice a dalších činnostech, které zajišťují odbyt podle Ferencikova (2012), Kramarova (2017). A právě v této souvislosti se jeví působení přímých zahraničních investic v malé otevřené ekonomice, jako je Česká republika, vysoce pozitivně. Může být zdrojem zajištění nedostatečného kapitálu, managementu či technologií. Může být nositelem zvýšení produktivity, kterou přenáší do hostitelské země, může být nositelem vyšší konkurenceschopnosti na zahraničních trzích pro hostitelskou zemi díky vyšší kvalitě produkce, nižší ceně v souvislosti se zvýšenou efektivitou výroby, rozsahem výroby nebo přístupem do rozsáhlých distribučních sítí těchto společností. Neopomenutelným pozitivním parametrem ovlivňují přímé zahraniční investice hostitelskou zemi při tvorbě nových pracovních míst, a to i v navazujících odvětvích. Rozvíjí se infrastruktura v širokém slova smyslu (dopravní, sociální, komunikační, energetické sítě) a může být posilována politická a tím i ekonomická stabilita hostitelské země jak se vyjadřuje Zamrazilova (2007), Brada & Tomsik (2009), Damborsky & Konecny (2017).

## 2. Methodology and data

Základní oblasti řešené v tomto příspěvku se zaměřují na odpovědi následujících otázek. Investují zahraniční subjekty do nákupu aktiv v podobě přímých zahraničních investic? A jaký je trend tohoto typu investování? Dále je analyzován efekt PZI na platební bilanci České republiky a doplňkovou analýzou tohoto příspěvku je i přehled teritoriálních oblastí, ze kterých zahraniční subjekty investují a jaké odvětvové oblasti jsou předmětem jejich zájmu. Při zpracování dat použitých v tomto článku byla využita veřejná databáze České národní banky a Eurostatu v letech 2010 – 2017. Pro účely tohoto příspěvku jsou data posuzována pouze na úrovni celé České republiky a nejsou zohledňovány vnitřní regionální rozdíly. Pro vyhodnocení byla použita metoda analýzy trendu, zejména prostřednictvím meziročního koeficientu růstu, který vyjadřuje relativní změnu hodnoty sledované veličiny vzhledem k bezprostředně předcházejícímu období. Pro komplexní posouzení trendu mezi lety 2010–2017 je použita hodnota aritmetického průměrného koeficientu růstu.

## 3. Results

V analýze příchozích přímých zahraničních investic v České republice byla v mezinárodním měřítku hodnocena zásoba PZI jako procento k hrubému domácímu produktu jednotlivých zemí Evropské unie. To nám umožňuje vymezit postavení jednotlivých zemí Evropské unie a v jejím rámci České republiky. Dle statistických dat veřejné databáze (Eurostat a, 2018, Eurostat b, 2018) je zřejmé, že pokud provedeme srovnání podle roku 2017, tak se Česká republika se svou zásobou PZI umisťuje na 12. místě z 28 zemí Evropské unie. Jak ukazuje Tabulka č. 1, s vyšší zásobou PZI se umístilo Portugalsko, Švédsko, Bulharsko a Estonsko a se zásobou nižší než má Česká republika, pak vidíme Velkou Británii, Slovensko a Rakousko. V níže uvedené tabulce jsou uvedeny pouze vybrané země Evropské unie, a to vzhledem k extrémům. Ty bychom chtěli zmínit pouze slovně. V našem uvedeném pořadí se na 1. – 7. místě vyskytují ekonomiky, jejichž zásoba PZI přesahuje 100 % HDP. Uvádíme Lucembursko, které k roku 2017 vykazuje 7 867.4 % HDP, dále Maltu 1 629.3 % HDP, Kypr 1 009 % HDP, dalšími v pořadí jsou Nizozemí 615.5 % HDP, Irsko 432.6 % HDP, Maďarsko 214.7 % HDP a Belgie 197.4 % HDP.

*Table 1: Zásoba příchozích přímých zahraničních investic ve vybraných zemích Evropské unie (% HDP)*

| **Region/Rok** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **Pořadí** |
|---|---|---|---|---|---|---|---|---|---|---|
| Estonsko | 89.1 | 95 | 89.9 | 94.2 | 98.8 | 104.9 | 98.9 | 99.8 | 98 | 8. |
| Bulharsko | : | 90.3 | 87.8 | 90.1 | 89.3 | 96.2 | 91.8 | 87.6 | 85.2 | 9. |
| Švédsko | 100.9 | 92.9 | 91.8 | 91.5 | 90.8 | 84.6 | 83.9 | 81.8 | 81.8 | 10. |
| Portugalsko | 53.6 | 56.4 | 54.7 | 66.7 | 69.5 | 74 | 74 | 77.4 | 80.2 | 11. |
| CZ | 66.2 | 70.1 | 69.6 | 74.7 | 77.4 | 77.3 | 75.8 | 78.4 | 78.3 | 12. |
| UK | 57.3 | 59.7 | 60.4 | 73.8 | 71.8 | 71.8 | 71.4 | 78.8 | 76.6 | 13. |
| Slovensko | 64.3 | 62.5 | 65.8 | 64.7 | 64.8 | 62.1 | 63.5 | 65.6 | 68.6 | 14. |

*Source: vlastní výpočty s použitím Eurostat a (2018)*

Je jasné, že se jedná o velmi zajímavé země, pro investování, hovoříme o tzv. daňových rájích, ale přesto se z této skupiny vymykají Maďarsko a Belgie. Z druhého pohledu, tedy nejnižší zásoby PZI, je v Evropské unii vymezeno postavení Řecka 17.4 % HDP, Itálie 26.8 % HDP a Slovinska 37 % HDP. Následuje Litva 40.7 % HDP, Německo 42.2 % HDP, Rumunsko 42.6 % HDP, Francie 46.5 % HDP, Polsko 49.6 % HDP, Finsko 50.4 % HDP, Dánsko 54.5 % HDP, Lotyšsko 58.5 % HDP, Chorvatsko 58.7 % HDP a Španělsko 59.1 % HDP. Zejména viditelné jsou problémy s přímým zahraničním investováním do Řecka a Itálie, neboť je zřejmé, že investoři nemají důvěru v tyto ekonomiky Evropské unie. Pokud hodnotíme, dynamiku růstu zvyšující se zásoby přímých zahraničních investic, můžeme konstatovat, že mezi vybraným zeměmi, jak naznačuje Tabulka č. 2, je dynamika Estonska 2.5 krát vyšší než v Rakousku, 1.5 krát vyšší než v České republice, dost podobná situace je i v Bulharsku. Opět extrémní dynamika v zemích Evropské unie je vykazována v Lucembursku, kde jde o roční průměrný příliv přímých zahraničních investic 441 % k HDP, tedy téměř 4.5 krát větší než je hrubý domácí produkt Lucemburska. Na Maltě jde o průměrný roční objem PZI ve výši 127 % k HDP, Nizozemí téměř 31 % HDP a Irsko 25 % k HDP. Nízkými hodnotami ročního přílivu PZI se vyznačuje ekonomika Řecka, kdy jde o průměrný roční objem PZI ve výši 0.93 % k HDP, kolem 1 % k HDP se ročně zvýší PZI v Dánsku a Itálii. Česká republika stojí mezi sledovanými zeměmi v první třetině pomyslného žebříčku měřenou touto metodikou.

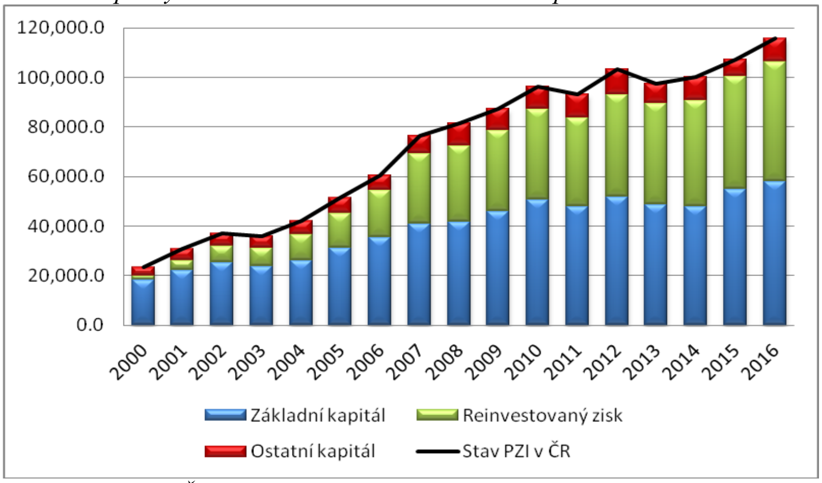
*Table 2: Roční tok příchozích přímých zahraničních investic ve vybraných zemích Evropské unie (% HDP)*

| **Region/Rok** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2000 – 2017 Ø** |
|---|---|---|---|---|---|---|---|---|---|---|
| Estonsko | 9.1 | 13.2 | 4.9 | 7.8 | 4.4 | 6.6 | -3.2 | 3.2 | 3.2 | 7.95 |
| Bulharsko | 7.5 | 3.6 | 3.7 | 3.3 | 3.6 | 3.6 | 5.4 | 3.1 | 2.9 | 7.51 |
| Švédsko | 2.1 | 0.2 | 1.1 | 0.8 | 0.3 | -1.7 | 1.8 | 1.5 | 5.9 | 3.89 |
| Portugalsko | 2.3 | 3.5 | 4 | 10.1 | 4.7 | 5.7 | 1.3 | 4.6 | 4.6 | 4.12 |
| CZ | 2.5 | 4.9 | 1.9 | 4.5 | 3.5 | 3.9 | 0.9 | 5.6 | 4.3 | 5.09 |
| UK | 0.4 | 2.7 | 1 | 1.8 | 2 | 2 | 1.6 | 10.1 | 2.5 | 4.53 |
| Slovensko | 1.9 | 2.3 | 5.6 | 1.9 | 1 | -0.4 | 1.7 | 4 | 6.3 | 4.52 |
| Rakousko | 3.4 | -5.4 | 5.4 | 1.3 | 0.1 | 0.4 | -2.3 | -7.8 | 3.3 | 3.16 |

*Source: vlastní výpočty s použitím Eurostat b (2018)*

Při analýze vývoje absolutního stavu přímých zahraničních investic v České republice můžeme konstatovat, že pokud posuzujeme výchozí stav PZI v České republice v roce 2000 byla hodnota PZI ve výši 23 323.2 mil. EUR, a po 16 letech vystoupala na hodnotu 115 626.6 mil. EUR. Jde o průměrný roční přírůstek cca 10 %. Jak naznačuje Obrázek č. 1, jsou přírůstky v jednotlivých letech nevyrovnané. Vysoké přírůstky lze zaznamenat v letech 2001 – 2002, 2004 – 2007, samostatně pak rok 2010 a rok 2012. Se zápornými hodnotami, a tedy s celkovým poklesem stavu PZI v České republice, se setkáváme v roce 2003, 2011 a roce 2013. Jak je vidět v pokrizovém období (tj. po roce 2007) se v České republice stav PZI nesnížil, pokud, tak se jedná o pokles o 3 % v roce 2011, ale bohužel tato skutečnost nebyla v závěrečných zprávách České národní banky blíže komentována. Je jednoznačně zřejmé, že se významně mění struktura zásoby přímých zahraničních investic. V roce 2000 byly více jak ¾ zásoby PZI reprezentovány základním kapitálem (přesně 78 %), tedy investovaným kapitálem zahraničních subjektů, relativně nízké zastoupení měl reinvestovaný zisk (8 %) a ostatní kapitál (14 %), který představuje čisté závazky vůči podnikům ve skupině PZI. Zcela odlišná je situace v posledním sledovaném roce. V roce 2016 byla hodnota přímých zahraničních investic reprezentována z 50 % základním kapitálem, ze 42 % reinvestovaným ziskem a z 8 % ostatním kapitálem. Svoji významnou roli při rozšiřování stavu přímých zahraničních investic v České republice čím dál více od roku 2000 sehrává reinvestovaný zisk, který představuje výsledek hospodaření podniku připadající zahraničním vlastníkům a dosud nevyplacený formou dividend nebo podílů na zisku. Pro zahraniční firmy je zajímavé financovat provoz event. investice svých dceřiných podniků ze zisku, rozšiřovat se prostřednictvím interních forem financování. Rok 2017 nebude výjimkou, nejsou bohužel ještě k dispozici veřejně dostupná data.

*Figure 1: Zásoba přímých zahraničních investic v České republice 2000 – 2016 v mil. EUR*



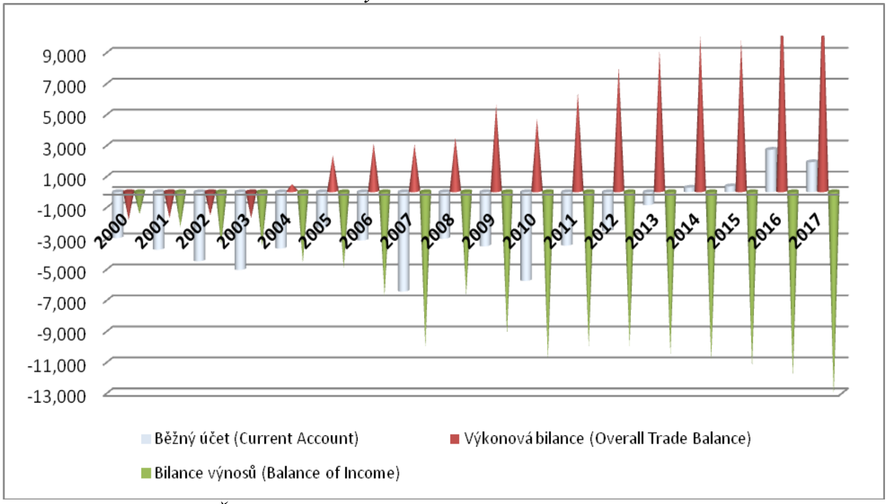

*Source: vlastní výpočty s použitím Česká národní banka (2018)*

## 3.3 Dopad přílivu přímých zahraničních investic na platební bilanci České republiky

Výplata dividend do zahraničí snižuje přebytek běžného účtu platební bilance, případně prohlubuje schodek na běžném účtu. Tento trend je viditelný na Obrázku 2 v období let 2000 - 2017. Přebytek na účtu výkonové bilance se dostává do svého kladného salda v roce 2004. Jde o jasnou spojitost se vstupem České republiky do Evropské unie. Největšími debetními položkami běžného účtu platební bilance byly tzv. primární výnosy (dříve bilance výnosů), konkrétně důchody z přímých investic. Jejich podíl na celkových primárních výnosech činil 41% v roce 2000, 68% v roce 2005, 81 % v roce 2010 a 84 % v roce 2017. Je zřejmé, že poměr mezi růstem přebytku bilance zboží a služeb a růstem deficitu bilance výnosů je důležitý pro vytvoření přebytku běžného účtu. Celkový dopad přílivu PZI na platební bilanci je znázorněn na Obrázku č. 3. PZI odčerpávají více finančních zdrojů z české ekonomiky, než do ní investují.

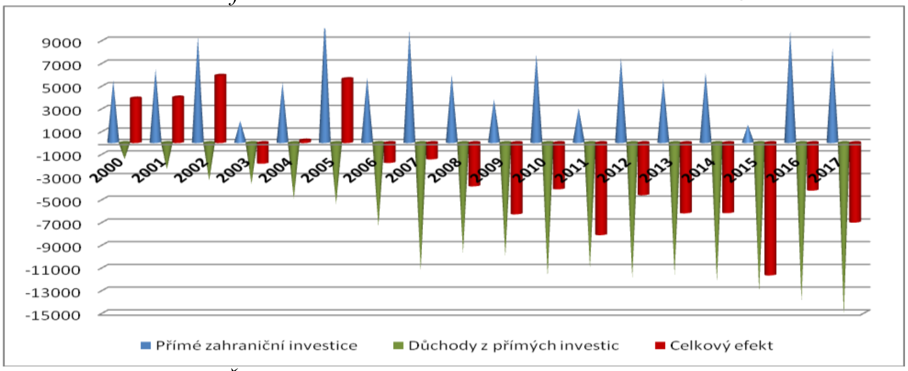
Repatriované zisky event. úroky plynoucí ze země ve formě důchodů z přímých investic byly mnohem vyšší než tvorba zdrojů z nových přímých zahraničních investic nebo reinvestovaného zisku. Negativní účinky jsou vážným problémem, pokud vezmeme v úvahu celkové částky, protože od roku 2006 jsou stále rostoucí a naznačují, že firmy ze zahraničí vytváří prostřednictvím PZI zisky, ale ty jsou odváděny ze země a nejsou investovány. Jak je vidět na Obrázku č. 3 v roce 2015 záporný efekt kulminuje a situace se zmírňuje v roce 2016 – 2017. Lze předpokládat, že oživení ekonomiky v roce 2014 přineslo firmám nové příležitosti, což se sice neprojevilo na zmírnění odlivu zisku, ale jsou viditelné zvýšené roční toky PZI od roku 2016 prakticky ve všech svých kategoriích (základní kapitál, reinvestovaný zisk a ostatní dluhové nástroje).

*Figure 2: Vývoj běžného účtu platební balance České republiky v letech 2000 – 2007, výkonové bilance a bilance výnosů v milionech EUR*




*Source: vlastní výpočty s použitím Česká národní banka (2018)*

*Figure 3: Analýza celkových dopadů přímých zahraničních investic do České republiky na platební bilanci ve vztahu k finančnímu účtu a běžnému účtu v milionech EUR*




*Source: vlastní výpočty s použitím Česká národní banka (2018)*

## 3.4 Teritoriální a odvětvová analýza PZI v České republice

Pokud zahrneme do analýzy PZI v České republice i teritoriální pohled a zájem investorů o odvětví, do kterého investovali během sledovaného období, můžeme vyjádřit následující. Největší zájem o umístění investic do České republiky projevují investoři z Evropy a tvoří 94 % všech PZI. Jmenovitě se jedná o Nizozemí (23 %), Německo (14 %), Lucembursko (12 %) a Rakousko (11 %). Slovensko představuje pouhá 3 % z celkových přímých zahraničních investic, Polsko 2 %. Situace se od roku 2000 výrazně nemění a poslední data o stavu přímých zahraničních investic v České republice podle principu směru jsou dostupná za rok 2016. Z pohledu odvětví, která jsou pro zahraniční investory zajímavá, také nedochází k výrazným změnám ve sledovaných letech 2000 – 2016. Největší zájem je o zpracovatelský průmysl, kde byla zásoba PZI v roce 2000 30 % a v roce 2016 došlo ke změně na 32 % ze všech PZI. Jedná se především o výrobu motorových vozidel (v obou letech 7 %), výrobu ropných, chemických, farmaceutických, pryžových a plastových výrobků (v obou letech 5 %), výrobu potravin, nápojů a tabákových výrobků (2016 3 %, 2000 2 %), výrobu kovů a kovových výrobků (2016 3 %, 2000 4 %), výrobu strojů a zařízení (v obou letech 3 %). Další významné odvětví je finanční a pojišťovací činnost, kde byla zásoba PZI v roce 2000 21 % a v roce 2016 došlo ke změně na 27 %. PZI v roce 2000 byly zastoupeny ze 7 %

velkoobchodem, maloobchodem a v roce 2016 se jedná o podíl 10 %. PZI v roce 2000 byly zastoupeny z 9 % činností v oblasti nemovitostí, v roce 2016 se jedná o podíl 8 %. Za zmínku stojí ještě informační a komunikační činnosti (v obou letech 6 %) a profesní, vědecké a technické činnosti (2016 6 %, 2010 5 %).

## 4. Conclusions

Autoři tohoto příspěvku si kladli za cíl zmonitorovat vývoj přímých zahraničních investic v České republice v návaznosti na globalizační tendence v 21. století. Je zmapován nejenom samotný vývoj PZI v České republice v letech 2000 - 2017, ale také provedeno srovnání s ekonomikami Evropské Unie. Nelze tvrdit, že příliv a samotný stav PZI je srovnatelný s ekonomikami EU, které se profilují jako vysoce investičně lákavé (Lucembursko, Malta, Kypr, Nizozemsko, Irsko), ale můžeme Českou republiku v tomto ohledu porovnávat s ekonomikami Estonsko, Bulharsko, Švédsko, Portugalsko, Velká Británie, Slovensko. Samotný vývoj v letech 2000 – 2017 resp. 2016 naznačuje, že PZI zvyšují svoji absolutní zásobu meziročně průměrně o cca 10 % a výrazně se mění forma investování těchto PZI. Na počátku období se PZI rozšiřovaly zejména formou základního kapitálu, ale dnes hrají stejně významnou roli formy reinvestovaného zisku a ostatního dluhového kapitálu. Tzn., že nejsou skupovány nové firmy, ale již vlastněné firmy formou PZI jsou rozšiřovány. Z pohledu zemí, které mají zájem v České republice investovat, se jmenovitě jedná zejména o Nizozemí, Německo, Lucembursko a Rakousko, větší zájem jsme očekávali od Slovenska a Polska. Odvětví přitažlivá pro investování formou PZI jsou reprezentována výrobou motorových vozidel (obecně zpracovatelský průmysl), finanční a pojišťovací činností, velkoobchod, maloobchod, činnosti v oblasti nemovitostí a informační a komunikační činnost. V teritoriálním a odvětvovém určení PZI v České republice nedošlo ve sledovaných letech k výrazné změně. Velmi zásadní je však trend dopadu PZI na platební bilanci, protože s růstem zásoby PZI se zvyšuje i meziroční odliv finanční prostředků formou důchodů z přímých investic, který není kryt přílivem finančních prostředků formou PZI. Jedná se o jasný dopad tzv. pasivní investiční pozice české ekonomiky, který ve sledovaném období nabývá na významu. To naznačuje, že jsou firmy, které investovaly v České republice ziskové a nemají zájem a možná ani příležitosti tento zisk investovat v hostitelské zemi.

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# EVALUATION OF GLOBALISATION IN SLOVAKIA AND V4 COUNTRIES

Holúbek Ivan [1,a,*], Tóth Marián [2,b], Rábek Tomáš [3,c] and Palkovič Jozef [4,d]

[1]Slovak University of Agriculture in Nitra, Faculty of Economics and Management, Department of Finance, Slovakia

[2]Slovak University of Agriculture in Nitra, Faculty of Economics and Management, Department of Finance, Slovakia

[3]Slovak University of Agriculture in Nitra, Faculty of Economics and Management, Department of Finance, Slovakia

[4]Slovak University of Agriculture in Nitra, Faculty of Economics and Management, Department of Statistics and Operations Research, Slovakia

[a] ivan.holubek@uniag.sk, [b]marian.toth@uniag.sk, [c]tomas.rabek@uniag.sk, [d]jozef.palkovic@uniag.sk

*Corresponding author

**Abstract.** Globalization as a common term appeared at the end of the 1980s, and even nowadays it is a frequently used expression of our time. The definition of globalization in terms of its development might be difficult, because according to some authors, it is a process of interconnection between human civilizations from the very beginning of their existence. Other authors use the expression globalization as a result of fundamental changes in the development of the world economy since the end of the 70s of the 20th century. The main objective of the paper is to analyse and compare the intensity of globalization in the Slovak republic and V4 countries, after the decay of the centralised economy and its transition to the market economy. The data used for the analysis are obtained from the dataset of Swiss Economic Institute. In order to assess the level of globalization and compare it within V4 countries, the analysis using the Globalization Index (KOF) has been used. The index measures the economic, social and political dimensions of globalization. At the end of the paper, we try to outline scenarios of future impact of globalization on the V4 countries and compare these scenarios with development in the developed countries of the world and Europe.

**Keywords:** globalization, KOF index of globalization, impacts of globalization, measuring, statistical data.

**JEL Classification:** F6, E6, R11

## 1. Introduction

Od začiatku deväťdesiatych rokov 20. storočia (Lisý, 2005) nastali v ekonomikách vyspelých krajín zmeny, ktoré sa významom často prirovnávajú k priemyselnej revolúcii. Tieto zmeny sú spojené s uvedením nových technológií, ktorých vplyv na reprodukčný proces a ekonomiku je taký významný, že ekonómovia k tradičným výrobným faktorom - práci, pôde a kapitálu – začali priraďovať znalosti a inovácie ako osobitné výrobné faktory. Podľa štúdie (Zhang Xin Shu, 2008) od deväťdesiatych rokov došlo k veľkým zmenám vo svetovej hospodárskej situácii. V súčasnosti v spoločnosti rezonujú dve nevyriešené otázky: jedna je znalostná ekonomika, ktorá sa nazýva sa aj informačnou ekonomikou, novou ekonomikou; druhou je hospodárska globalizácia. Ekonomická globalizácia je nezmeniteľným vývojovým trendom súčasného hospodárstva tohto sveta. Podľa iného zdroja (Leitão,2012) sa otázkou konvergencie a hospodárskej divergencie zaoberá veľká časť odbornej literatúry v posledných desaťročiach. V 90. rokoch sa objavili endogénne modely rastu. V skutočnosti technologický pokrok a inovácie nemožno analyzovať mimo ekonomického systému, ako to dokazujú modely exogénneho rastu. Modely monopolnej konkurencie (endogénne) ukázali, že medzinárodný obchod, priame zahraničné investície a ostatné technologické faktory podporovali hospodársky rast. Niektoré verejné a odborné kruhy (Ayesha & Eatzaz, 2018) považujú ekonomickú a finančnú globalizáciu za nebezpečnú silu. Perspektíva globalizácie bola ovplyvnená minulou ekonomickou a finančnou krízou. Štúdia sa zameriava na pozitívne príspevky globalizácie. Ukazuje sa , že globalizácia je nepochybne silným motorom štrukturálnych zmien v národných, regionálnych a globálnych ekonomikách. Globalizácia má okrem pozitívnych účinkov tiež negatívne účinky (Taheri & Taheri, 1964). V tejto súvislosti môžeme poukázať na hospodársku krízu, ktorá zahŕňa finančnú krízu a krízu nezamestnanosti. Druhým nepriaznivým účinkom globalizácie je zhoršenie environmentálnej pozície. Bohaté krajiny majú najvyšší podiel na znečistení životného prostredia. Ďalšími negatívnymi účinkami globalizácie je zintenzívnenie rozdielov medzi bohatými a chudobnými krajinami. Podľa inej štúdie (Chovancova et al., 2003) sa s často skloňovaným termínom globalizácia spája predovšetkým spontánny a neriadený proces, ktorý ovplyvňuje udalosti na celosvetovej úrovni, zároveň však pretvára každodenný život jednotlivcov. Cieľom ďalšej štúdie (Khan et al., 2016) bolo analyzovať vzťah medzi globalizáciou a jej vplyvom na ekonomický rast v období 38 rokov v Pakistane s pomocou indexu KOF a jeho subindexov. Výsledky štúdie priniesli dôležité poznanie pre politických činiteľov v Pakistane a taktiež pre rozvojové krajiny ako celok. Ak chcete maximalizovať výhody vyplývajúce z globalizácie bude potrebné zlepšenie zručností a vzdelania pracovníkov prostredníctvom formálnych, ako aj neformálnych spôsobov. Školenie a workshopy by mohli byť v tomto ohľade užitočnými nástrojmi. Podľa štúdie (Kaurin & Simic, 2017), ktorá skúmala vplyv globalizácie na rast vo vzorke krajín strednej a východnej Európy jej výsledky naznačujú pozitívny vplyv investícií a negatívny vplyv spotreby vlády pričom uvedené ukazovatele majú štatisticky významné účinky. Niektoré z týchto výsledkov môžu byť trochu prekvapujúce, najmä absencia vplyvu vzdelávania na rast. Z hľadiska hlavnej hypotézy tohto dokumentu sa zistilo, že globalizácia má štatisticky významný a pozitívny vplyv na rast. Globalizácia bola meraná celkovým indexom KOF a jeho subindexmi a v závere štúdie je konštatované, že najväčší vplyv na rast vykazuje ekonomická globalizácia, zatiaľ čo politická a sociálna globalizácia bola odhadnutá ako nevýznamná. Objektívne zhodnotenie príčin a dôsledkov globalizácie (Dreher et al., 2010) je nevyhnutnou podmienkou pre hodnotenie rastu a vývoja spoločnosti. Pozitívne ekonomické, sociálne a politické analýzy vyžadujú rôznorodé údaje a indexy globalizácie sú najsľubnejším prostriedkom na dosiahnutie tohto cieľa. Jednou z výstižných a jednoduchých definícií (Janatka, 2017) je aj charakteristika globalizácie podľa Medzinárodného menového fondu: Globalizácia je rastúca ekonomická vzájomná závislosť krajín vo svetovom meradle v dôsledku zväčšujúceho sa objemu a druhu cezhraničných transakcií tovaru a služieb a toku medzinárodného kapitálu. Charakterizuje ju aj rýchle a rozsiahle šírenie technológií. V článku autori (Raab, et al., 2008) navrhujú multidimenzionálne meranie globalizácie, ktoré zahŕňa hospodárske, technologické kultúrne a politické dimenzie globálnej zmeny. Toto opatrenie vychádza z predchádzajúcich prác Dreher, Lockwood a Redoano, OECD a Kearney, ale rozširujú ho o ďalšie dimenzie a ukazovatele, ktoré predstavujú ústredné aspekty skutočného sociologického konceptu globalizácie. Jasná a presná definícia globalizácie (Schölte, 2008) je rozhodujúca pre modernizáciu súčasných poznatkov a politiky. Nový dôležitý pohľad sa otvára vtedy, keď sa globalizácia chápe ako šírenie transplanetárnych a v poslednej dobe aj čoraz nadnárodnejších vzťahov medzi ľuďmi. Argumentujúc , že globalizácia je dôležitým faktorom pri formovaní vzťahov medzi skupinami (Ariely, 2019) tento článok skúma vplyv globalizácie na xenofóbne postoje k prisťahovalcom a na vzťah medzi nacionalizmom, konštruktívnym vlastenectvom a xenofóbiou. Viacúrovňová analýza ukazuje na negatívny vzťah medzi konštruktívnym vlastenectvom a xenofóbiou, ktorý sa dosahuje v krajinách s vyššou úrovňou globalizácie a na pozitívny vzťah medzi nacionalizmom a xenofóbiou, ktorý je v týchto krajinách tiež silnejší. Porovnanie globalizácie a ekonomických vysvetlení pre xenofóbiu poukazuje na jedinečný vplyv globalizácie. Článok iného autora (Nathan, 2018) sa zaoberá pracovnou silou v globalizujúcich sa podmienkach v rozvojových krajinách, najmä v Indii. Ide o otázku, ako konvergencia globálnych príjmov a nerovnosti ovplyvnila prácu. Pozícia Indie ukazuje, že po globalizácii došlo na vidieku k nárastu reálnych miezd a poľnohospodárskej produktivity. Článok argumentuje, že globalizácia poskytuje priestor na zvyšovanie kapacít práce s cieľom zlepšiť reálnu mzdu a kvalitu zamestnania. Článok autora (Kay, 2004) sleduje hlavnú teóriu medzinárodných vzťahov ako rámec pre premýšľanie o globalizácii a skúma modernú úlohu moci v globalizovanom medzinárodnom systéme. Hlavným záverom je, že globalizácia radikálne nezmenila základné aspekty medzinárodných vzťahov, ale skôr zmenila prostriedky a kanály na výkon moci. Článok dokazuje, že moc zostáva kľúčovou nezávislou premennou, ktorá formuje moderné medzinárodné vzťahy. Počas uplynulého polstoročia sme zaznamenali postupný trend smerom k zvýšeniu globalizácie (Mukherjee & Krieckhaus, 2012). Tento fenomén zahŕňa také rozmanité procesy, ako je väčšia mobilita kapitálu, tovaru a služieb, ako aj rastúca difúzia myšlienok, technológií a noriem. Vzhľadom na všadeprítomnú a mnohostrannú povahu globalizácie hodnotí článok vplyv ekonomickej, sociálnej a politickej globálnej integrácie na mimoriadne dôležitý výsledok - blahobyt človeka. Závery článku tvrdia, že globalizácia má veľký počet rôznych účinkov na ľudský blahobyt, vrátane viacerých pozitívnych účinkov a viacerých negatívnych účinkov. Ďalšia štúdia (Hirst & Thompson, 2002) sa zaoberá budúcnosťou globalizácie, ktorú tu predstavuje ako procesy podporujúce medzinárodnú vzájomnú prepojenosť. Skúmajú sa tri otázky. Po prvé, je súčasná globalizácia nezvyčajná v porovnaní s minulými epizódami, ako napríklad 1850-1914? Po druhé, súčasné globalizačné procesy podkopávajú národné ekonomiky, a tak vylučujú štáty? Naopak, hlavné štáty sú posilnené vo svojej úlohe medzinárodných aktérov. Avšak globálne hospodárstvo aj národné vlády čelia počas tohto storočia zásadným výzvam, ktorých hlavným cieľom je zmena klímy. Takéto zmeny budú mať tendenciu podporovať konflikty a posilňovať úlohu štátu. Po tretie, je pravdepodobné, že hospodárska globalizácia sa zvýši alebo zníži? Sú prezentované dôkazy o vplyve hraníc a obmedzeniach obchodnej expanzie, ktoré naznačujú, že by sme mohli byť blízko potenciálnej hranici realizovateľnej globalizácie. Zatiaľ čo mnohé štúdie ukázali, že zvýšená úroveň ekonomickej globalizácie znižuje úroveň korupcie medzi obchodnými partnermi, existujú štúdie, ktoré vyvolali pochybnosti v súvislosti s týmto tvrdením. V článku (Mukherjee, 2018) sa skúma tento vzťah vo veľkej vzorke 138 krajín a zistením je, že vplyv ekonomickej globalizácie na úroveň korupcie nie je významný a vyššie úrovne hospodárskeho rozvoja sú spojené s nižšou úrovňou korupcie. Článok autorov (Babones & Vonada, 2009) sa zaoberá komplexným prístupom k skúmaniu empirického vzťahu medzi globalizáciou obchodu a nerovnosťou národných príjmov. Záverom je, že rastúce úrovne nerovnosti, ktoré nedávno prežili anglicky hovoriace krajiny, sú pravdepodobnejšie spôsobené politikami špecifickými pre jednotlivé krajiny, než všeobecnými silami súvisiacimi s globalizáciou.

Globalizácia radikálne mení podobu svetovej geografie a preto je potrebné analyzovať faktory, ktoré rozhodujúcou mierou vplývajú hlavne na priestorové zmeny. Pre účely analýzy vplyvu globalizácie v krajinách V 4 sme vybrali globalizačný index KOF, ktorý bol predstavený verejnosti v roku 2002, pričom v roku 2012 bol aktualizovaný do súčasnej podoby. Autori indexu globalizáciu chápu ako proces vytvárania sietí a vzťahov medzi aktérmi naprieč kontinentmi prostredníctvom rôznych tokov: ľudí, informácií, ideí, kapitálu, produktov a služieb. Globalizácia predstavuje teda proces narúšania národných hraníc, ktorý integruje národné ekonomiky, kultúry, technológie a vlády, pričom vytvára komplexný systém vzťahov vzájomnej závislosti (KOF Index of Globalization, 2012). Globalizačný index KOF je jediným svetovým indexom, ktorý poskytuje informáciu o úrovni globalizácie v jednotlivých štátoch v troch hlavných oblastiach, ktorými sú ekonomická, sociálna globalizácia a politická globalizácia.

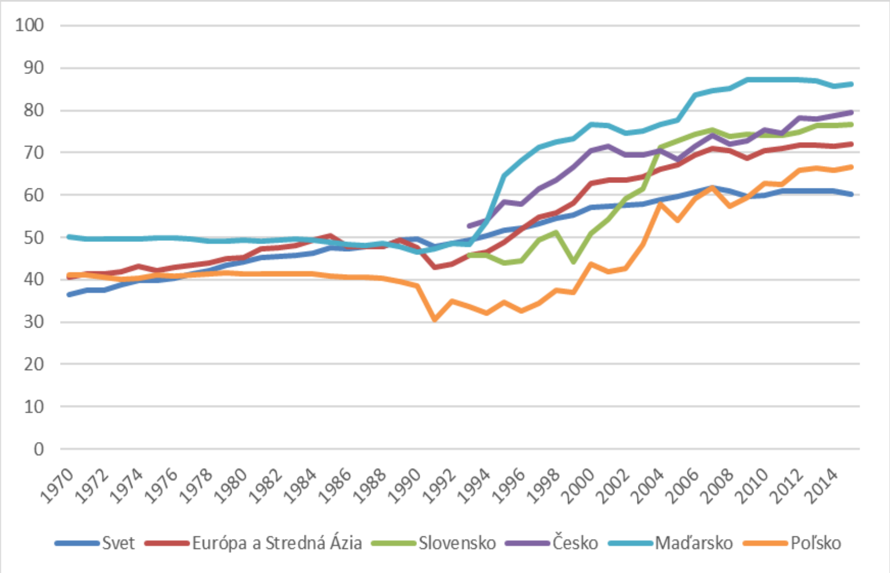
## 2. Ciele a metódy výskumu

Ku splneniu hlavného cieľa príspevku bolo potrebné v prvej časti príspevku definovať globalizáciu z hľadiska jej vývoja, v druhej časti analyzovať a porovnať intenzitu globalizácie za časové obdobie (1993 – 2015) v SR a ostatných krajinách V4 po rozpade centrálne riadenej ekonomiky a prechode na trhom riadené hospodárstvo. V závere príspevku je možné naznačiť možnosti budúceho vývoja procesu globalizácie v krajinách V 4 a porovnať scenáre s vývojom vo vyspelých krajinách sveta a Európy. Z hľadiska metodológie boli v príspevku využité empirické metódy - pozorovanie a meranie, teoretické metódy - abstrakcia, analýza, syntéza, a štatistické kvantitatívne metódy. Zo štatistického hľadiska bol pre porovnanie úrovne globalizácie medzi obdobiami rokov 1993 a 2015 použitý jednoduchý aritmetický priemer, pre hodnotenie variability bol použitý variačný koeficient vyjadrený ako hodnota štandardnej odchýlky v percentách z priemeru. Významnosti rozdielov z hľadiska jednotlivých aspektov globalizácie v krajinách V4 boli vyhodnotené pomocou párového t - testu pri stredných hodnotách (p-hodnota nižšia ako 0,05 naznačuje významnú zmenu v hodnote indexu) a F - testu pri variabilite (p-hodnota nižšia ako 0,05 naznačuje významnú zmenu z hľadiska rozdielov medzi krajinami v skúmaných obdobiach).

## 3. Výsledky výskumu

Vývoj ekonomickej globalizácie mal výrazne rastúci trend hlavne v období po roku 1992. Údaje pre Českú republiku a Slovensko sú úvádzané až od roku 1993 od ktorého tieto krajiny vznikli ako samostatné štáty. Úroveň ekonomickej globalizácie v európskych krajinách bola takmer počas celého sledovaného obdobia na vyššej úrovni v porovnaní s priemernou hodnotou indexu ekonomickej globalizácie vo svete. Krajiny V4 boli pod touto úrovňou hlavne v 90-tych rokoch keď sa úroveň ekonomickej globalizácie aj v týchto krajinách začala prudko zvyšovať a došlo k rýchlejšiemu dobiehaniu úrovne ekonomickej globalizácie vo svete. Po roku 1993 malo najvyššiu úroveň ekonomickej globalizácie Maďarsko ktoré zostalo lídrom z hľadiska tohto indikátora až do konca sledovaného obdobia. Najvýraznejší rast tohto ukazovateľa od roku 1993 zaznamenalo Slovensko a v roku 2015 dosiahlo podobnú úroveň ekonomickej globalizácie ako Česká republika. Najnižšia hodnota ekonomickej globalizácie takmer počas celého sledovaného obdobia bola zaznamenaná v Poľsku, ktoré až v roku 2006 dosiahlo priemernú úroveň ekonomickej globalizácie vo svete, stale však nedosiahlo priemernú úroveň krajín Európy a Strednej Ázie.

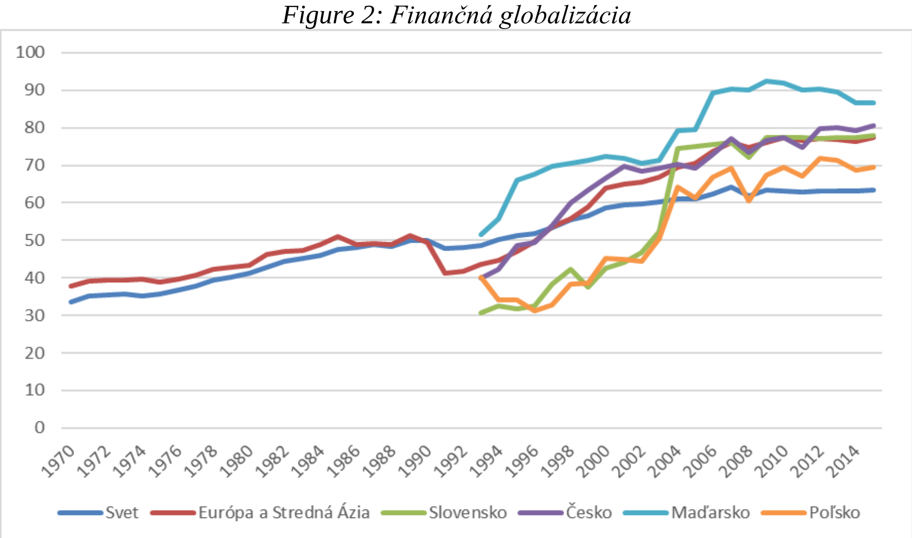
*Figure 1: Ekonomická globalizácia*




*Source: vlastné spracovanie (databáza KOF)*

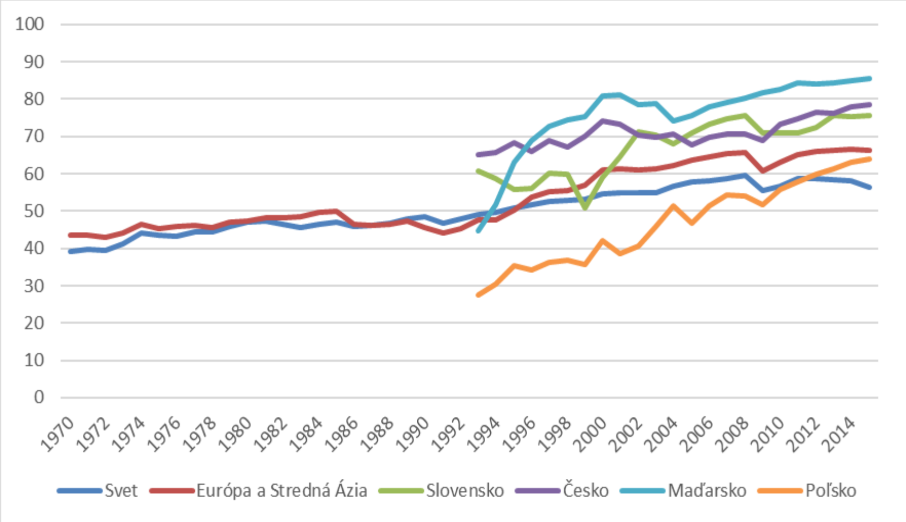
Index ekonomickej globalizácie je zložený z dvoch podindexov ktoré majú rovnakú váhu, a to indexu finančnej a obchodnej globalizácie. Vývoj v krajinách V4 z hľadiska finančnej globalizácie bol podobný ako v prípade ekonomickej globalizácie. Od začiatku 90-tych rokov bolo lídrom regiónu z hľadiska finančnej globalizácie Maďarsko, Česká republika bola vo vačšine sledovaného obdobia na úrovni Európskeho priemeru, Slovensko a Poľsko v 90-tych rokoch výrazne zaostávali, no zaznamenali prudký rast. Slovensko sa priblížilo takmer na úroveň Českej republiky, zatiaľ čo Poľsko sa im tiež významne priblížilo a dosiahlo výrazne vyššiu úroveň ako bol svetový priemer.

*Figure 2: Finančná globalizácia*




*Source: vlastné spracovanie (databáza KOF)*

*Figure 3: Obchodná globalizácia*




*Source: vlastné spracovanie (databáza KOF)*

V tabuľke (tab.1) nižšie sú uvedené priemerné hodnoty jednotlivých indexov globalizácie v roku 1993 a v roku 2015 pre všetky krajiny V4. Tabuľka uvádza priemerné hodnoty, variabilitu meranú štandardnou odchýlkou a variačným koeficientom. Vo všetkých prípadoch je možné vidieť výrazný nárast z hľadiska všetkých uvedených dimenzií globalizácie. Najvýraznejší nárast nastal v prípade finančnej globalizácie (rozdiel v hodnote indexu medzi obdobiami 38,09) čo výrazne prispelo tiež k podobnému nárastu hodnoty indexu ekonomickej globalizácie (rozdiel hodnoty indexu medzi obdobiami 32,22). Na druhej strane možno sledovať významný pokles variability meranej variačným koeficientom, čo naznačuje signifikantné konvergenčné tendencie medzi krajinami V4 a ich vzájomné približovanie sa z hľadiska jednotlivých ukazovateľov miery globalizácie. Najvýznamnejší rozdiel vo variabilite medzi obdobiami nastal v prípade obchodnej globalizácie kde sa hodnota variačného koeficientu znížila o 20%, výrazný rozdiel bol zaznamenaný tiež v prípade kultúrnej globalizácie s hodnotou rozdielu vo variačnom koeficiente takmer 14%. Z uvedeného možno teda konštatovať významný nárast miery globalizácie z hľadiska sledovaných kritérii a zároveň výraznú konvergenciu medzi krajinami V4.

*Table 1: Porovnanie hodnôt KOF pre V4 medzi obdobiami 1993 a 2015*

| **Rok** | **2013** | | | **2015** | | |
|---|---|---|---|---|---|---|
| **Charakteristika V4** | **Priemer** | **Št. Odchýlka** | **Var. koef.** | **Priemer** | **Št. Odchýlka** | **Var. koef.** |
| Ekonomická | 45,07 | 6,99 | 15% | 77,30 | 7,00 | 9% |
| Sociálna | 62,36 | 7,43 | 12% | 71,34 | 3,65 | 5% |
| Kultúrna | 69,20 | 11,51 | 17% | 81,56 | 2,10 | 3% |
| Interpersonálna | 53,61 | 8,18 | 15% | 78,66 | 6,21 | 8% |
| Obchodná | 49,58 | 14,86 | 30% | 75,93 | 7,80 | 10% |
| Finančná | 40,57 | 7,46 | 18% | 78,66 | 6,21 | 8% |

*Source: vlastné spracovanie (databáza KOF)*

Porovnanie období rokov 1993 a 2015 je možné vidieť tiež na obrázku 4. V roku 1993 boli z hľadiska sociálnej globalizácie nad premernou svetovou úrovňou všetky krajiny V4, no z hľadiska ekonomickej globalizácie sa nad hodnotou svetového priemeru nachádzala len Česká republika. V roku 2015 sa už všetky krajiny nachádzali nad úrovňou svetového priemeru z hľadiska sociálnej aj ekonomickej globalizácie. Rovnako možno na uvedenom obrázku 4 vidieť zníženie rozdielov medzi krajinami V4 v uvedených dvoch obdobiach. V oboch sledovaných obdobiach bola najnižšia úroveň indexu sociálnej globalizácie zaznamenaná v Poľsku ktoré sa v roku 2015 ale výrazne priblížilo k zvyšku V4. Najvyššiu úroveň indexu sociálnej globalizácie malo Maďarsko, ku ktorému sa ale v roku 2015 významne priblížilo Česko aj Slovensko. Z hľadiska ekonomickej globalizácie bolo v roku 1993 medzi krajinami V4 Česko, kým v roku 2015 bolo už lídrom Maďarsko, pričom Česká republika, Maďarsko aj Slovensko dosiahli úroveň významne prevyšujúcu európsky priemer.

*Table 2: Zmeny v stredných hodnotách, varaibilite a ich významnosť*

| | **Rozdiel (2015-1993)** | | **Významnosť zmeny 1993/2015** | |
|---|---|---|---|---|
| **Charakteristika** | **Var. koef** | **Priemer** | **Variabilita** | **Priemer** |
| Ekonomická | -6% | 32,22 | 0,997 | 0,001 |
| Sociálna | -7% | 8,98 | 0,275 | 0,057 |
| Kultúrna | -14% | 12,36 | 0,019 | 0,113 |
| Interpersonálna | -7% | 25,05 | 0,328 | 0,042 |
| Obchodná | -20% | 26,35 | 0,318 | 0,035 |
| Finančná | -10% | 38,09 | 0,770 | 0,002 |

*Source: vlastné spracovanie*

Štatistické významnosti v rozdiele jednotlivých indexov medzi obdobiami rokov 1993 a 2015 zobrazuje tabuľka 2. Z hľadiska stredných hodnôt došlo v krajinách V4 k najvýznamnejším zmenám pri indexoch ekonomickej a finančnej globalizácie, významné zmeny boli zaznamenané tiež pri obchodnej a interpersonálnej globalizácii. Napriek postupnému znižovaniu rozdielov medzi krajinami z hľadiska jednotlivých aspektov globalizácie došlo k významnému zníženiu variability len pri kultúrnej globalizácii. Teda rozdiely medzi krajinami v roku 2015 boli významne nižšie v porovnaní s rokom 2013.

## 3. Conclusion

Globálna ekonomika v roku 2018 vstupuje na trajektóriu rastu. Pozitívne signály prichádzajú zo zvyšovania priemyselnej produkcie a z pracovných trhov, čo podporuje rast spotreby a oživenie dopytu. Zlepšený výhľad svetovej ekonomiky je založený na politike podporujúcej rast, ako napríklad priaznivý mix makroekonomických politík a odkrývanie a odstraňovanie zraniteľností v systémových ekonomikách, ale odvíja sa aj od nerušeného toku globálneho obchodu a globálnych financií. Globalizácia prináša SR a ostatným krajinám V 4 možnosti rozvíjať sa v oblastiach, v ktorých vynikajú. Európska únia a Vyšehrádska skupina z globalizácie predovšetkým ťaží. V predkladanom článku sa potvrdila cieľová hypotéza, že krajiny V 4 sú vysoko globalizované, čo potvrdzujú aj vysoké hodnoty indexov a subindexov KOF.

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# EVOLUTION OF COST MANAGEMENT IN POLISH HOSPITALS IN THE CONTEXT OF GLOBALIZATION OF MEDICAL SERVICES

Jolanta Chluska[1,a,*]

[1]Czestochowa University of Technology, Poland

[a]jolanta.chluska@wz.pcz.pl

*Corresponding author

**Abstract:** Nowadays, efficient cost management in health care is very important in most countries of the world because of the increasing competition and globalization of health services. One of prerequisites of the cost optimization is the ability to be aware and avoid the mistakes made in the past, and knowledge of the history of cost management. Activities of Polish hospitals are financed by the National Health Fund, which was established after the liquidation of the sickness insurance funds. Earlier, the financial resources of local government units were used to finance health services in hospitals operating as budgetary units. Contracting of financing health services with the payer forced hospitals to analyse and rationalize operating costs. The aim of this article is to identify conditions (primarily barriers) of cost management in Polish hospitals. Analysis of the literature, legal acts and data on Polish hospital reporting, and the deduction method were used as research tools. An important role in the correct identification, valuation, presentation, reporting and cost analysis is played by the accounting of hospitals, including the appropriate and correct company hospital cost account. The corporate cost account allows for planning and controlling costs. Studying literature and observation of the economic practice leads to the research hypothesis that cost management in Polish hospitals is more and more often determined by external global factors.

**Keywords:** healthcare management, costs management.

**JEL Classification:** I10

## 1. Introduction

Healthcare entities in Poland are allowed to operate based on various organizational and legal forms. The respective regulations have been used since the 90s of the last century. Healthcare entities ceased to be budgetary units and became independent and self-financing entities. The preferred organizational and legal form was defined for them, termed independent public healthcare institution. This remains to be the form of operation of hospitals as basic entities in the healthcare system. Each entity involved in business activity defines accounting principles used in their activities, including cost account. Such a definition is needed for meeting the obligation to prepare financial and other reports and financial settlements due to the performance of health services. The paper provides characterization of the changes in the principles of cost account in healthcare entities in Poland, with particular emphasis on its informational character. Cost account of the healthcare entity also represents the tool for entity management.

The aim of the paper is to identify conditions of cost management in Polish healthcare entities in processes of health care globalization. The focus of the study was on hospitals as one of healthcare entities in Poland. Analysis of the related literature, legal acts and observation of the practice of functioning of healthcare entities lead to formulation of the research hypothesis that cost management in Polish hospitals is more and more often determined by external global factors. Analysis of the literature, legal acts and data on Polish hospital reporting, and the deduction method were used as research tools.

## 2. Cost account in hospital management in Poland in 1992-2018

Cost account is and element of the hospital accounting system. Cost account can be defined as a process of identification, collecting, processing, presentation and interpretation of information about costs (Świderska, 2010; Mayer et al. 2017; Chluska, 2008). The following functions of cost account have been enumerated in the literature: evidence, registering, information and statistical, planning, optimization, control, price and analytical (Sawicki, 1996). Hospital managers need information created by cost account to make proper decisions, planning and control activities . This concerns both information about the past and planning information (Nowak, 2011). Decision made using information from hospital cost account which are oriented internally concern such areas as:

- value and structure of contracts concluded with the National Health Fund (Narodowy Fundusz Zdrowia, NFZ),
- value and structure of contracts with payers other than NFZ,
- profitability of activities,
- taking restructuring or developmental actions,
- planning directions of development of the tangible and intangible resources of hospitals,
- scope, structure and type of provided health services,
- acquisition and utilization of various forms of financing of services and potential of resources.

The decision-making processes in hospitals are affected by costs that result from such external conditions as:

- increase in costs of readiness for providing health services,
- reduction in the number of health entities due to mergers or liquidation of institutions,
- taking over the range of health services provided by the liquidated institutions and, consequently, the necessity of providing services to greater number of patients,
- changes in legal regulations that impact on conditions of providing health services,
- globalization, resulting in financing services for foreign patients in Poland and Polish patients abroad.

The most important characteristic of information provided by cost account for management purposes is its relevance and usefulness (Lipscomb at al., 2009). Informational usefulness of cost account depends on completeness, topicality, significance and accuracy of the information it contains. (Biadacz, 2017)

In the last two decades, hospitals in Poland have operated based on the following legal regulations for the cost account:

- The Instruction of the Minister of Health and Social Care as of 15 June 1992 on detailed principles of accounting records of revenues and costs in public healthcare institutions (Instruction as of 15 June 1992),
- The Ordinance of the Minister of Health and Social Care as of 22 December 1998 on detailed principles of cost account in public healthcare institutions (Instruction as of 22 December 1998),
- The Ordinance of the Minister of Health as of 8 July 2015 on recommendations concerning the standards of cost account for service providers (Ordinance as of 8 July 2015).

The Instruction of 15 June 1992 regulated the principles of accounting records of revenues and costs of healthcare institutions that performed the tasks of health care policy of the state, functioning under conditions of the central system of health care management. The act was effective. It determined principles of accounting records of revenues and costs in the institutions. A complete recording of the costs was stipulated, both according to their types and in calculation terms, according to types of activity. The costs were approached in terms of cost centres which were divided into task and service centres. The costs of health services were obtained by summation of the direct costs determined in task centres with indirect costs, determined in service centres. It should be emphasized that in that period, public healthcare institutions did not have a decision-making and financial independence. The source of financial resources for public healthcare was state budget.

The ordinance as of 22 December 1998 has been effective since 1999 and concerned independent public healthcare institutions (SPZOZs) which were allowed to be established as independent and self-financing institutions since 1998. Establishing SPZOZs was regulated by the change in the Act on healthcare institutions. (the Act as of 20 June 1997, Art. 1, item 46) The ordinance stipulated the principles for organization, identification, grouping, recording and settling the costs. Cost accounting in healthcare institutions should concern all the costs incurred by the institution in type arrangement and subjective-objective arrangement. The costs were collected in subjective-objective arrangement with division into direct and indirect costs. The cost carriers in cost centres were:

- in cost centres of core activities which are hospital wards: man-day of care and patient with assigned medicines and medical procedures,
- in other cost centres of core activity: medical procedures,
- in costs centres of auxiliary activities: services provided by these centres.

Unlike the previous two, the Ordinance as of 8 July 2015 has not the commonly obligatory character. It determines the recommendations concerning the standard of cost accounts in healthcare providers who concluded contracts with the Agency for Health Technology Assessment and Tariff System (AOTMiT) for supplying data needed for determination of service tariffs. (the Act as of 27 August 2004, Art. 31lc, item 4) The Ordinance will be effective in 2020.

Cost account standard defines:

- method of identification and collecting costs actually incurred in the financial and accounting system,
- method to evaluate the cost of providing healthcare services in the controlling module.

The Ordinance as of 22 December 1998 is no longer in force since the Act as of 15 April 2011 on healthcare activity came into effect. This means that healthcare institutions (hospitals), with their current legal status, can continue using the regulations of the Ordinance as of 22 December 1998 or use general principles that concern all business entities according to the Act as of 29 September 1994 on accounting. Due to the specific activity of healthcare institutions (hospitals), the use of general principles of cost account can be insufficient. This was confirmed by numerous literature surveys and observation of the economic practice during examination of financial reports. The author's examinations conducted in 2004 in 41 big Polish hospitals that met the criteria of obligatory examinations of financial reports prepared by a statutory expert auditor demonstrated that hospital prepared a full cost accounting (they group costs according to types and according to cost centres) using the computer hardware and software. Only 63% of the examined institutions demonstrated a set of procedures needed for calculation of unit costs. This represents an incomplete utilization of the principles of cost account as set forth in the Ordinance as of 22 December 1998.

## 3. Globalization of health care and cost account in hospitals

Globalization has a significant effect on changes in the principles of settlements and financing of health services. Membership of Poland in the European Union requires the use of the Regulations of the Directive of the European Parliament and of the Council 2011/24/EU as of 9 March 2011 on the use of patient's laws in cross-border health care (Directive). The cross-border health care directive allows patients to obtain a reimbursement of the costs of medical treatment incurred abroad. Furthermore, foreign patients can use Polish healthcare services, which are accompanied by the respective settlements. The extension of international cooperation in terms of improving health services is stimulated by the European reference networks. These networks include service providers and knowledge centres in the EU member states in various areas of health care, both treatment of illnesses and preventing them. They also support development of medical technologies.

Detailed principles of reimbursement of the costs of health services are stipulated by legal regulations. The National Health Fund finances costs of healthcare services abroad:

- based on reimbursement principle,
- according to regulations concerning coordination or
- based on the decision of the director of the voivodeship division of the NFZ (the Act as of 27 August 2004, Art. 42a).

The reimbursement equals the funds spent for a guaranteed services used in the national settlements between NFZ and service providers.

Costs of performance of the tasks resulting from the regulations on coordination in Poland were (Financial report, 2016, 2017):

- in 2015: 393 million zlotys
- in 2016: 493 million zlotys
- in 2017: 476 million zlotys

Revenues due to coordination were:

- in 2015: 214 million zlotys

- in 2016: 214 million zlotys
- in 2017: 253 million zlotys

As shown by the data, settlements due to costs and revenues on cross-border health care show an upward tendency.

The directive stipulates the reimbursement of the costs of cross-border health care to the level at which the costs would be covered by a member state if the same health care was provided in this country and to the level that does not exceed the actual cost of the health services received by the patient. (Directive, 2011) For this reason, the state should develop a clear mechanism of computation of cross-border health care. This represents a major challenge for national healthcare bodies to develop efficient principles of cost account in healthcare institutions that match the sector specific character.

## 4. Directions of changes in cost account in hospitals

Although cross-border mobility of patients for planned treatment was evaluated in 2015 as low, it was at a higher level in terms of unplanned treatment (Report, 2015). Current economic and political conditions will stimulate this mobility.

Both globalization problems and the necessity of rationalization of financing of health services force a direct determination of the costs of health services. The problem of availability of information from cost account for the decision-making purposes has been discussed in the literature for many years. (Gebreiter & Ferry, 2016; Tan et al., 2014; Bojke et al., 2018). Recognition of the components of cost of services is especially important. The cost of health care should take into account:

- medical procedures,
- man-days of treatment,
- drugs and other materials (including food),
- costs of readiness for providing services per patient. (The Ordinance of the Minister of Health as of 8 June 2015, § 14)

This is the more detailed division than traditional, taken into consideration in calculation of the unit costs (direct costs, indirect costs) (Conteh &Walker, 2004). It takes into account not only the costs of used resources but also the costs of readiness of the service provider to perform health services. Costs of readiness include the unused resources which are owned and needed for the performance of services. Costs of health services increase costs of managing health entities.

In order for the costs of health services provided in Poland and abroad to be comparable, it is especially important to define their type, scope and medical technologies used. The problems of cost account for the purposes of calculation of costs of health services have been addressed in many countries (Bertoni et al., 2017; Lutilsky et al., 2016; Dittmann H., 2016). The need for using modern forms of cost account has been often addressed, including activity-based costing (ABC) as a method which is the most appropriate for cost account of healthcare institutions (Hilsenrath et al., 2015; Mercier & Naro, 2014; Keel et al., 2017).

Various types of performance of the same or similar services require flexibility of procedures of cost calculation. It should be also taken into consideration that, as it is in many other countries, the system of service settlements in Poland was introduced according to diagnosis-related groups (DRG). (Fattore & Torbica, 2006; Leister & Stausberg, 2005).

## 5. Conclusion

For the last two decades, the Polish health care system has searched for the principles of cost account of healthcare entities meeting the expectations of the recipients of cost-related information. Health care stakeholders expect comprehensive and updated information that is useful in various areas, both in accounting and management of entities. These cannot be only collective cost calculations. Cost account should take into consideration global determinants of the achievement of health services.

Traditional calculation of unit costs is not a proper method to calculate the costs of health services. The only postulates concerning modernization of the technique of determination of the costs of health services, especially in light of the increasing importance of cross-border mobility of patients include:

- recognition of the structure of cost of services,
- identification of resources needed for the achievement of services,
- identification of other costs of performance of services, including those that result from medical technologies,
- taking into account the costs of transfer of knowledge in terms of the performance of services,
- identification of the costs not related to performance of services which are needed for their effective performance (e.g. so-called hotel costs),
- increased role of cost budgeting.

Development of cost account of healthcare institutions in Poland was changing towards the developed of the cost database and increasing the usefulness of the calculation of the unit costs of health services. Differentiation of the accounting systems, especially in terms of accounting records of costs prevents from evaluation of the cost of performance of health services, especially for the purposes of systematic decisions. The substantial progress in identification and appraisal of costs of health services in Poland is ensured by the standard cost account in service providers from 2015. The precondition for the effectiveness of determination of important information about costs is its implementation in healthcare institutions and systematic data coordination.

Globalization of the health care offers opportunities for improving the quality of providing health services but, as it is the case with any decision-making process, it requires information tools. Such a tool is provided by an efficient cost account of healthcare institutions that extends beyond national legal regulations. The international cooperation in terms of health care requires development of a model of cost account accepted on a global scale. This confirms the research hypothesis proposed in the Introduction section.

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# DEVELOPMENT OF SOCIAL ENTREPRENEURSHIP IN LATVIA

Silva Jeromanova-Maura[1,a,*], Rosita Zvirgzdina[2,b,*] and Iveta Liniņa[3,c,*]

[1, 2, 3] Turiba University, Graudu street 68, Riga, Latvia, LV 1058

[a]silva@silja.lv, [b]rosita@turiba.lv, [c]iveta.linina@turiba.lv

*Corresponding author

**Abstract.** The concept of Social Enterprise is still relatively new in Latvia and as such, is not well understood. For example, the terms "social enterprise" and "social entrepreneurship" very often were used interchangeably in policy documents and research materials. Social entrepreneurship typically refers to an entrepreneurial activity undertaken by specific individuals or organizations in pursuit of social goals. Basically, social entrepreneurship was the one of NGO activities to support people with special needs. The aim of the research paper is to examine experience and trends, development of Social Entrepreneurship in all Baltic States and compare Latvian experience with the experience of Estonia and Lithuania, because all Baltic States face the same social problems today, and all Baltic States had the same historical experience, all three countries celebrate 100 years birthday. We had similar past, we could have very similar development for new ideas in the future. To attain the aim, author studied the Law of Social Entrepreneurship in Latvia and Lithuania, investigated situation in Estonia, participate in conferences and seminars for social enterprises. The research shows that the Social Enterprises in Baltic Countries are very different even if aim of social enterprises is the same for all three countries.

**Keywords:** social enterprise, social entrepreneurship, development.

**JEL Classification:** L 26, L 30, L31

## 1. Introduction

In Latvia, entrepreneurship is generally new, as until 1990 the start of the USSR, while Latvia was a part of the Soviet Union, it was basically a centralised private business did not exist at all. Therefore, entrepreneurship as a way of life, as a concept, as an activity is by its very nature relatively new. Elsewhere in the world, including Europe, entrepreneurship is a centuries-old experience, with companies inheriting from generation, continuing business over several generations. There is an interesting fact that only a handful of families succeed in the long-range success of many generations. The most successful businesses are no farther than the fourth generation and there are many different economic and psychological, in any case, the rationale. In Latvia, historical business was already in the early 20th century, with a number of highly developed production sites, service providers, book publishers, fishing business representatives, who were familiar not only in Latvia but at the time, far beyond borders. The Latvian export product was a variety of farmers. Even today the world is famous for brands such as Kuznetsova Factory, Erenpreisa bicycle Factory, Benjamin publishing house. In Latvia, bricks were produced, Latvian butter and Bacon was one of the most popular export goods.

In the early years of the Latvian independence, many businesses were doing charity, which, in today's view, can be described as social entrepreneurship. This period could be a very interesting research object about social entrepreneurship in Latvia in early last century. With the end of the 20th century, a new milestone has been developed for business development, the generations have been destroyed, and all of them had to start from the beginning. During the USSR, all estates, including factories, were public property. After independence, the forms of ownership were already changed, the previous owners or their descendants regained their property and were able to resume farming. Indeed, the majority of them were already devastated or altered to an unrecognizable nature, with the way in which the Soviet farming was not able to compete in the market. But there were also positive examples of Ērenpreiss' descendants undertook to continue production. Basically, most farmlands reached the hands of former owners and a new generation continued the ancestors. (Guo & Jiang, 2018; Petruz, 2018; Logue et al., 2018)

Based on Western business theories about business and experience re-built the business environment in Latvia, including the commercial law and all other laws affecting business environment. In parallel with the increase in economic activity, new types of business developed in the logical, the directions which had not previously been necessary. That is, business accounted for new business modes. At the moment, it was even difficult to comprehend, but in the last century the 1990s began to create a serious banking system, with non-cash payments being younger than a large part of modern entrepreneurs. The first commercial bank, which started to compete with monopolistic existing Latvian savings banks, was a commercial bank.

The earliest germs of commercial banks were the currency exchange offices, from which banks were formed, for example in Parex. Western entrepreneurs helped with both the advice – the different lessons, seminars, lectures, and the investments they invested in and started their own business, as well as providing financial support both in the form of loans and grants. The Danish and Finnish farmer consultation centres have been very much assisted to farmers by sending to Latvia their experts engaging in practical activities. America's Latvian associations, as well as the compatriots from Germany and Australia, contributed much to the material and different teachings. In the development of entrepreneurship, not only new business niches but also various business types appeared. It was accordingly working on a tax policy to devise and rectify a variety of new business rules. (Dey et al., 2018, Daniela, 2018)

One of the most recent business types is social entrepreneurship. It arises in the seventies of the last century as a willingness to help the poor, although they, regardless of their status, would have something to achieve in the future (Junus 2011). The initiator is Muhammad Junus, who the Poorers opened the Gramennes Bank in Bangladesh, thus making it possible for the poor to get loans and begin to create their lives again. This type of business is characterized by a mature, intelligent, socially responsible society. This means that only when society has reached a certain level of prosperity and intelligence, it emerges the necessity and also desire as well as opportunities to create these types of businesses. (Yunus, 2011)

The topic of social entrepreneurship is very topical now, not only because the public has until grown, but also because it is vitally important for the retention of Labour: in Latvia, and for the return of gone people to their homeland. Particularly at the moment when the Brexit process has started and many Latvians look for choices to do next, when the UK will no longer be a member of the European Union, to act, live and regularly communicate with their loved ones in Latvia, it will no longer be Simple and easy. (Dobele, 2014)

It is also important to set up social enterprises because the new tax policy, which comes into force in January 2018, will not be beneficial to those who have previously diverted a portion of the profit tax to donations. Social enterprises are one way for businesses that are and want to be socially responsible, to continue to invest their money in the well-being of society.

The objective of the work is to explore as much as possible the development of social entrepreneurship in the world, in Europe, in the Baltic States and in Latvia on the basis of all research and practical experience, to create the most effective model for social entrepreneurship in order to It would make as much contribution as possible to the Latvian economy. Since social entrepreneurship is a new type of business, there are few research on the subject in Latvia, making it very important to look at the best and best routes for Latvia, particularly Europe's experience in social entrepreneurship.

The development of social business cycles in other countries, what problems have been solved, should be based on the study. It is important to understand the motivation of economic operators, which encourages them to focus on social entrepreneurship. The most valuable research will be on the practical experience of how and why it was developed in different European countries, in each country there has been a factor contributing to the development of social entrepreneurship in that particular region and in the same time frame.

It is important to explore not only practical experience, business and municipal cooperation, but also the development of legislation that has contributed to the development and sustainability of social entrepreneurship in the long term. Undoubtedly, account must be taken of the time when social entrepreneurship has evolved and legislation has been established, as it already has several decades of experience in some European countries.

Unfortunately, the information on social entrepreneurship is limited, with the fact that knowledge is insufficient. Most of the social business has written to its father Muhammad Junus, in his works has explained why and how it came to the social business, why it was needed. In the book on Building social entrepreneurship, the author reflects the situation in Bangladesh as it was in the seventies of the last century, how vulnerable people had been, completely without any way of changing their lives, had not first Access to education. An interesting Muhammad Junus described the Gramennes bank's clients – basically the most responsible was a woman, and the cash received from the Bank. Contributed represented for the future of the family.

Other author – David Bornstein in the book "How to Change the world", in terms of the need for social entrepreneurship, truly reflects the different segments of society, not only in underdeveloped ones countries but also in large, developed countries (Bornstein, 2013). There are many underprivileged people in America – one in which some social business support would provide a huge opportunity in life to achieve something. (Bornstein, 2007; Bornestein & Davis, 2010)

Social entrepreneurship is capable of changing people's lives, especially in regions where there are few opportunities, so there is a particular need to work with information and education of local authorities in this respect, as only successful local authorities and business cooperation can give a good Long-term results. It is therefore important to study the patterns of cooperation, to carry out economic calculations and to draw up proposals to promote cooperation, by recommending different forms of cooperation in all possible forms of business, taking into account differences in each of them, not just people and Geographical location, but also level of education, business environment, infrastructure and other important parameters. (Praszkier & Novak, 2012)

In order to develop a constructive dialogue, it is necessary to compare the information gathered in interviews with the understanding of government, municipal leaders and businessmen on these issues and their thoughts on the prospects for and prospects for social entrepreneurship in the long term. (Mair & Marti, 2006)

Interesting research on the development of social entrepreneurship in Latvia, on legislation still in the top of this issue, on how the defined social business definitions, how has been and now being explained in social business Concept. (Lesinska et al., 2014)

The subject of the study will be the impact of social entrepreneurship on the economy of Regions of Latvia comparing with impact in other countries.

Based on the fact that in Latvia social business is a brand new business that was regulated by law only 2018. in compiling the lessons learnt from expert interviews on the social undertakings in Latvia, the author describes:

- the concept of social entrepreneurship,
- the practical need for social business,
- the impact of social entrepreneurship in order to prevent inequalities as much as possible between different social layers,
- the impact of social entrepreneurship in order to maximise the employability of the labour market.

In order to demonstrate the role and role of social entrepreneurship, and to give business and civil servants the necessary information, the experience of social entrepreneurship worldwide should be explored, with a focus on European experience. (Lesinska et al., 2014)

We have to gather all the information about this type of business in Latvia – both the available articles, studies, success stories, and the social entrepreneurship legislation. Based on an expert interview, because the questions may be specified, there is no possibility of interpretation. Much additional information, which was not asked, was identified during the interview. It is intended to continue structured interviews with employees of social enterprises.

It is intended to continue interviews with municipal leaders and senior managers, social service staff. Based on the information gathered and studies conducted, negotiations and interviews with social business representatives in Latvia, there is a picture of social business opportunities and potential impact on the Latvian economy.

To make the feature history and trends in the social entrepreneurship of Latvia, several experts were interviewed, but in the light of experience and how different the opinions of scientists and practitioners differ from that available to scientists and practitioners, the following table provides a look at the responses that gave the same questions to Dr.oec, Lasma Licite and practitioner – Director of the Social Entrepreneurship Association, Madara Ulande.

*Table 1: Summary of structured interviews*

| Question | Lāsma Līcīte | Ūlande Madara |
|---|---|---|
| The concept/nature of social entrepreneurship | The social enterprise addresses the societal challenges in the use of business. | There are 3 large whales – public, public sector, business – operating on the economy, NGO-Association, own-initiative, non governmental and local authorities, but are not interested in Entrepreneurs, there's a place in the fourth – something of an NGO, with entrepreneurs address the state and municipality's outstanding problems. |
| What are the future perspectives of social entrepreneurship? | Periodically, the flashes periods deal with problems that are common to the era. There are highs and lows, lack of smooth, rapid constant growth. | Perspectives are great, this business has a place for political initiatives, it is a way for politicians to realize their ambitions without spending public and local resources, or to see it??? |
| What is the social business place among other business types? | Is an enterprise and yet different, with a different fundamental purpose. | Legally varied – in Latvia the 2018 has been put in business – one of the business types – an ordinary SIA with the status of a social enterprise acquired at the Ministry of Welfare, and more social business is seen as one of the business models abroad. |
| Can a social enterprise survive without additional funding? | Can, but hard, have no sustainability. | Based on no however, at least a grant financial year is required. |
| How big is the social enterprise, by the number of employees, the turnover, the territorial breakdown? | There are no restrictions. | There are no restrictions. In Latvia, all businesses are very small, so it is not possible to expect large-size companies. One of the members of the Social Entrepreneur Association, the "Samaritan movement" currently employs around 700 employees. |
| What are the different types of social entrepreneurship? | On the basis of producers, House builders, the production of which is a problem, whether producers are the "outcasts" of the labor market, there is the possibility of operating in the service market – masseurs, cosmetologists, etc. | Based on services, production is less. There are a variety of restrictions, but actually there is a potential to operate in the financial sector where necessary work on the computer. |
| Sustainability of the social enterprise? (if it is being created to solve a problem, is the company closed by solving this problem?) | There is a relatively limited period of occupation if the target is not changed. | In Latvia has just begun the process, hard to comment. |
| Do you see social enterprise as a normal business satellite imagery for socially responsible functions (due to a new tax policy when entrepreneurs are not motivated to donate) | It might be so. | The main role here is in driving/owner objectives, attitudes and thought. If the desire is, then this is a good solution, if not, then no solution will promote being socially responsible. |

*Source: (created by authors)*

## 2. Results

In an evaluation of data from expert interviews, the author concludes that there are still different views on the definition, sustainability and economic importance of the social enterprise. In addition to conducting interviews with both practitioners and state representatives. Compared to other countries in Europe and also the world, social entrepreneurship in Latvia is a new but very promising business. First, you must change the root people, especially business thinking, must make it possible for economic operators to be socially accountable – to create social enterprises in their own and profitable companies in order to be able to address, in cooperation with their local authorities, Its social problems, with which Signeda the municipality itself is unable to cope. (Lesinska et al., 2012) The biggest problem in Latvia is that business history is very recent, and we can talk about 20 – 25 years of experience compared with other companies in Europe and in the world that already hosts several generations and has been many decades, even one hundred old. Undoubtedly their ability to act in social entrepreneurship is much higher, because the basic needs are satisfied. By contrast, a large number of companies in Latvia Experience is not such large, accumulated capital, there are big financial commitments to banks because they invested in development and, in order not only to evolve but also in the future, there is a need for a large amount of financial resources, It is therefore not easy to devote to social business. The new social Business law requires that every social company must self-sustain, namely social For business used work with profit rather than living from donations. (Bornstein & Davis, 2010; Dees, 2016) This is one of the main challenges for the new period of social entrepreneurship development – as a company that has been a part of donation, to become a company that by its own economic activity. This requires not only thinking change, but also carefully should consider the way of working, the niche, the company's team, the cooperation partners, the mode of operation, location and other issues related to the standard business environment. (Lesinska et al., 2012; Mair & Marti, 2006) In addition, young social enterprises have been openness in the unconventional environment with other social enterprises over the first period, with their status automatically acquired through a transition from NGOs/society to the social enterprise.

## 3. Conclusion

According to above mentiond we cane state than:

- Social entrepreneurship in Latvia is a very new business direction.
- Social entrepreneurship is very important for raising people's standard of living.
- Successful social entrepreneurship can only evolve in the long term if there is successful cooperation between the State, local authorities and economic operators.
- Social entrepreneurship is one of the forms of support to bring back to life in Latvia those countrymen who are on profit abroad.
- Social entrepreneurship is one of the ways that entrepreneurs are encouraged to be socially responsible.
- Latvian entrepreneurs, municipal management, responsible ministries, activists involved in the move for the return of compatriots in Latvia, NGOs, social Enterpreneurship Association have initiated cooperation at the level of ideas, while further In collaboration, a specific action plan for the next period has to be developed,

promote a specific objective to be achieved, define the objectives, divide responsibility between all those authorities and establish an operational plan, and regularly monitor the situation, the pace of project development.

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# ECONOMIC ENVIRONMENT OF THE SLOVAK REPUBLIC IN THE GLOBAL CONTEXT

Vladislav Kaputa[1,a,*], Hana Maťová[2,b] Mikuláš Šupín[3,c] and Miroslava Triznová[4,d]

[1,2,3,4]Technical University in Zvolen, Faculty of Wood Sciences and Technology,

T. G. Masaryka 24, 960 53 Zvolen, Slovak Republic

[a]kaputa@tuzvo.sk, [b]matova@tuzvo.sk, [c]supin@tuzvo.sk, [d]triznova@tuzvo.sk

*Corresponding author

**Abstract.** The paper evaluates economic environment of the Slovak Republic. The emphasis is given on the international comparative study. Analysed are trade balance relations, market and entrepreneurial conditions based on chosen indices and economic characteristics comparing to selected countries (in particular the Visegrad group countries) in a frame of certain time period. The outcomes bring insight into the structure of Slovak economy in terms of trade and refer to a position of Slovakia in the international ranking of business environment. Slovakia as an open economy depends on foreign trade relations a lot. The trade balance analyses based on territorial and commodity structure of foreign trade showed that Slovakia has had the active balance since 2009 with the strongest trade relations with EU countries, especially Germany followed by the Czech Republic. Services still play a minor role in the long-range regarding their share on the total trade balance with transport and tourism as the most significant branches. The findings reveal that Slovakia (similarly as Hungary) holds worse position among Visegrad group countries concerning the ranking of competitiveness as well as the level of business environment. Here, the analyses pointed out at the most problematic issues of the Slovak entrepreneurial environment.

**Keywords:** trade balance, entrepreneurial conditions, economic environment, Slovakia.

**JEL Classification:** F43, F63, O11

## 1. Introduction

Konkurencieschopnosti ekonomík sa od roku 1979 sa venuje Svetové ekonomické fórum a definuje ju ako „súbor inštitúcií, politík a faktorov determinujúcich úroveň produktivity krajiny, ktorá následne stanovuje úroveň prosperity dosiahnuteľnú danou ekonomikou.“ (The World Economic Forum, 2018b). Problematika konkurencieschopnosti krajín na svetovom trhu je novodobou teóriou, ktorá je založená na medzinárodnom obchode a ekonomickom raste. Táto teória v porovnaní s klasickými a neoklasickými teóriami medzinárodného obchodu prezentuje nové aspekty inovácií, reálneho využitia zdrojov a ekonomického rozvoja (Kalamárová et al., 2014).

Tradičný pohľad na konkurencieschopnosť je konfrontovaný na jednej strane s inovatívnou ekonomikou a so stále viac významnejšou tzv. zelenou ekonomikou na strane druhej (Lis &Wanat, 2014). Konkurenčná výhoda môže byť postavená na nehmotných zdrojoch ako história, tradícia, identita priemyslu, ako aj na hmotných zdrojoch, napr. na obnoviteľných zdrojoch krajiny (Maťová & Dvořáček, 2014), ako je to v prípade Slovenska. Ak hodnotíme konkurencieschopnosť na mikroúrovni je objektom posudzovania firma. Jej konkurencieschopnosť sa chápe, ako schopnosť umiestnenia svojich produktov na trh, v kvalite lepšej ako konkurencia, so zohľadnením cenových aj necenových faktorov. Triznová et al. (2015) vo svojej štúdii zdôrazňujú taktiež pro-klientsky prístup a dôraz na tvorbu dobrých vzťahov vnútri firmy komunikujúc tak dôveryhodne foremné hodnoty a kultúru. Konkurencieschopnosť je takto dynamický, trvalý proces zvyšovania efektívnosti a vývoja firiem na trhu.

Ak hodnotíme konkurencieschopnosť v širšom poňatí, rozumieme ňou podnikateľské prostredie krajín dané ich infraštruktúrou, reguláciami, indikátormi na trhu práce, finančných trhoch a trhoch tovarov a služieb. V rámci Slovenska bol najväčší ekonomický rast zaznamenaný počas periódy po vstupe do Európskej únie v roku 2004 a predchádzajúcej roky 2008-2010 poznačené hospodárskou a finančnou krízou ústiacou v spomalenie globálneho ekonomického rastu (Kaputa et al., 2016).

## 2. Methods

V článku sa zameriavame na zhodnotenie postavenia Slovenskej republiky z pohľadu obchodnej výmeny, trhových a podnikateľských podmienok pomocou vybraných globálnych ukazovateľov a indexov s dôrazom na vymedzenie sa voči krajinám Vyšehradskej štvorky (V4). Krajiny V4 slúžia ako vhodná porovnávacia platforma vychádzajúc zo spoločensko-historického kontextu. Údaje za porovnávané krajiny boli získané z dostupných medzinárodných, resp. národných databáz (World Economic Forum, National Bank, Eurostat, Statistical Office). Konkrétne pre prípad Slovenskej republiky sa spracovali štatistických údajov zo Štatistického úradu SR a jeho databázy časových radov Slovstat. Využili sa metódy analýzy, syntézy a komparácie.

Pri hodnotení podnikateľského prostredia krajín V4 boli použité: Index Globálnej konkurencieschopnosti (GCI) a Doing Business (DB) index. GCI je každoročne vydávaný organizáciou The World Economic Forum, v súčasnosti pre 137 krajín sveta. Od roku 2006 sa hodnotenie zostavuje na základe troch subindexov, ktoré sa skladajú z dvanástich pilierov. Piliere pôsobia na seba navzájom, čo spôsobuje to, že dopad z jedného piliera má vplyv na druhý, tzv. nezávisle sa ovplyvňujú. Skóre indikátora GCI sa pohybuje od 1 do 7 bodov. Rebríček Doing Business vydáva ročne Svetová banka a skúma regulačné prostredie ovplyvňujúce podnikanie v 190 krajinách sveta na základe hodnotenia indikátorov.

Pri hodnotení zahraničného obchodu Slovenskej republiky sa vývojové trendy analyzovali za obdobie rokov 2007-2017. Pri komparácii podnikateľského prostredia krajín, boli analyzované údaje od roku 2003, kde sa sledovala ich zmena ktorá nastala v roku 2004, vstupom všetkých členských krajín V4 do Európskej únie. Dôležitými rokmi pri ich analýze boli roky 2008-2009 – špecifické globálnou hospodárskou a ekonomickou krízou.

## 3. Results and discussion

Analýza vývoja GCI v rokoch 2007-2017 poukazuje na Českú republiku (úroveň GCI 4,66 % v r. 2007 a 4,77 % v r. 2017) ako na lídra krajín V4 nasledovaného Poľskom. Maďarsko a Slovensko dosiahli v rokoch 2016-2017 hodnoty GCI v rozmedzí 4,25-4,33%. Správa GCI poukazuje v krajinách V4 na tieto problémy: korupcia, byrokracia, zlé fungovanie a vnímanie štátu, ako aj zdravotníctvo a vzdelávanie.

*Table 1: Index globálnej konkurencieschopnosti (GCI) – rebríček lídrov a krajín V4*

| **Krajina** | **Pozícia 2017-2018** | **Pozícia 2016-2017** | **Zmena** |
|---|---|---|---|
| Švajčiarsko | 1. | 1. | - |
| USA | 2. | 3. | ↑ |
| Singapur | 3. | 2. | ↓ |
| Holandsko | 4. | 4. | - |
| Nemecko | 5. | 5. | - |
| Hong Kong | 6. | 9. | ↑ |
| Švédsko | 7. | 6. | ↓ |
| Veľká Británia | 8. | 7. | ↓ |
| Japonsko | 9. | 8. | ↓ |
| Fínsko | 10. | 10. | - |
| Slovenská republika | 59. | 65. | ↑ |
| Česká republika | 31. | 31. | - |
| Maďarsko | 60. | 69. | ↑ |
| Poľsko | 39. | 36. | ↓ |

*Source: self elaboration based on The World Economic Forum, 2018a*

Krajiny V4 nepatria medzi najkonkurencieschopnejšie ekonomiky sveta, ale zaraďujú sa do mierneho nadpriemeru v rámci globálnej úrovne. Pozíciu krajín V4 podľa rebríčka Doing Business predstavuje Tabuľka 2. Je vypracovaná na základe čiastkových hodnotení pomocou desiatich indikátorov za rok 2018.

*Table 2: Postavenie krajín V4 podľa indikátorov Doing Business za rok 2018*

| **Indikátor** | **Slovenská republika** | **Česká republika** | **Maďarsko** | **Poľsko** |
|---|---|---|---|---|
| Začatie podnikania | 83 | 81 | 79 | 120 |
| Proces stavebného povolenia | 91 | 127 | 90 | 41 |
| Získanie elektriny | 57 | 15 | 110 | 54 |
| Registrácia majetku | 7 | 32 | 29 | 38 |
| Získanie úveru | 55 | 42 | 29 | 29 |
| Ochrana malých investorov | 89 | 62 | 108 | 51 |
| Platenie daní | 49 | 53 | 93 | 51 |
| Cezhraničné obchodovanie | 1 | 1 | 1 | 1 |
| Vymožiteľnosť zmlúv | 84 | 91 | 13 | 55 |
| Riešenie platobnej neschopnosti | 42 | 25 | 62 | 22 |
| **Celkové poradie 2018/2017** | **39. /33.** | **30. / 27.** | **48. / 41.** | **27. / 24.** |

*Source: self elaboration based on The World Bank, 2018*

Slovensko má oproti krajinám V4 najhoršie postavenie v získavaní úverových zdrojov (rozsah, prístup a kvalita informácií o úvere) a najlepšiu v oblasti registrácie majetku (počet úkonov, čas a náklady na registráciu). Rovnakú pozíciu majú krajiny V4 v oblasti cezhraničného obchodovania. Za posledný rok zhoršili svoje umiestnenie v rebríčku DB všetky krajiny V4. Krajiny umiestnené v prvej desiatke sú: Nový Zéland, Singapur, Dánsko, Kórea, Čína, Spojené štáty, Veľká Británia, Nórsko, Gruzínsko a Švédsko.

V rámci sledovaného obdobia sa pohybovala úroveň funkčnej otvorenosti ekonomiky na priemernej úrovni 157 %. Najvyššia miera sa dosiahla v uplynulom roku kedy dosiahla hodnotu 172,5 %. Najvyšší podiel salda zahraničného obchodu na HDP Slovenska predstavoval v roku 2014 a to 6,2 %, v roku 2017 tento podiel poklesol na 3,5 % HDP. Rok 2009 bol jediným obdobím kedy zaznamenal zahraničný obchod Slovenska prepad. Medziročná zmena 2009/2008 znamenala pri dovoze takmer 23 % pokles a pri vývoze takmer 20 % pokles. Následne trvalo dva roky pokým hodnoty dovozu aj vývozu prekonali svoju predkrízovú úroveň. Do roku 2017 sa vyskytla ešte jedna medziročná zmena 2014/2013, kedy zahraničný obchod rástol najpomalším tempom, vzrástol o 0,5 %.

*Table 3: Hodnoty zahraničného obchodu SR*

| **Rok** | **Import** | | **Export** | | **Saldo (mil. Eur)** | **Obrat (mil. Eur)** |
|---|---|---|---|---|---|---|
| | **Hodnota (mil. Eur)** | **Index** | **Hodnota (mil. Eur)** | **Index** | | |
| 2007 | 48 076 | - | 47 351 | - | -725 | 95 427 |
| 2008 | 50 280 | 104,6 | 49 522 | 104,6 | -758 | 99 802 |
| 2009 | 38 775 | 77,1 | 39 721 | 80,2 | 946 | 78 496 |
| 2010 | 47 494 | 122,5 | 48 272 | 121,5 | 779 | 95 766 |
| 2011 | 55 768 | 117,4 | 56 783 | 117,6 | 1016 | 112 551 |
| 2012 | 58 588 | 105,1 | 62 144 | 109,4 | 3556 | 120 732 |
| 2013 | 59 940 | 102,3 | 64 172 | 103,3 | 4232 | 124 112 |
| 2014 | 60 019 | 100,1 | 64 721 | 100,9 | 4702 | 124 740 |
| 2015 | 64 361 | 107,2 | 67 680 | 104,6 | 3319 | 132 041 |
| 2016 | 66 386 | 103,1 | 70 032 | 103,5 | 3646 | 136 419 |
| 2017 | 71 817 | 108,2 | 74 813 | 106,8 | 2996 | 146 631 |

*Source: self elaboration based on ŠÚ SR, 2018*

Saldo zahraničného obchodu bolo v prvých dvoch rokoch sledovaného obdobia pasívne. Najviac v roku 2008 a to vo výške – 758 mil. Eur. Od roku 2008 kontinuálne rástlo, a v roku 2014 bolo saldo aktívne vo výške 4,7 mld. Eur čo predstavuje vrchol sledovaného obdobia. V rámci sledovaného obdobia od roku 2014 výrazne začal klesať objem zahraničného obchodu z Ruska. Udialo sa tak v dôsledku uvalenia sankcií EÚ na Rusko a následného ruského embarga na niektoré výrobky (najmä potravín) a zavedením dodatočného cla (napr. na automobily a ich súčasti). EÚ bola do zavedení sankcií prioritným obchodným partnerom Ruska.

V tomto smere slovenský export bol najviac negatívne ovplyvnený v rámci krajín V4 a štvrtý najvýraznejšie ovplyvnený spomedzi krajín EÚ. Dlhodobo pasívne saldo dosahuje SR obchodovaním z ázijskými krajinami: Čína, Kórejská republika, Japonsko, Taiwan. Taktiež vysokú zápornú obchodnú bilanciu dosahujeme výmenou s Ruskou federáciou, a to z dôvodu vysokého dovozu nerastných palív. Kladné saldo zahraničného obchodu dosahujeme takmer zo všetkými krajinami Európy aj členmi OECD. V rámci Európy dosahujeme pasívnu bilanciu napr. s Írskom a Ukrajinou. Dlhodobo najaktívnejšie saldo dosahujeme s Nemeckom, Rakúskom, Poľskom, Českom a Francúzskom.

Vo vybranom sledovanom období najviac vzrástol vývoz SR do Poľska a Spojeného kráľovstva. Objem exportu do týchto krajín sa v roku 2017 oproti roku 2007 takmer zdvojnásobil. Na strane importu sa takisto takmer zdvojnásobil dovoz z Poľska. Najrýchlejšie však rástol import z Číny, v roku 2017 dosiahol 7,3 % podiel na celkovom dovoze Slovenska. Oproti roku 2007 ide o nárast 2,2 percentuálneho bodu (p. b.).

*Table 4: Základné ukazovatele zahraničného obchodu SR*

| ROK | HDP (mil. Eur) | Funkčná otvorenosť (%) | Dovozná náročnosť (%) | Exportná výkonnosť (%) | Podiel salda na HDP |
|---|---|---|---|---|---|
| 2007 | 63 054 | 151,3 | 76,2 | 75,1 | -1,1 |
| 2008 | 68 492 | 145,7 | 73,4 | 72,3 | -1,1 |
| 2009 | 64 023 | 122,6 | 60,6 | 62 | 1,5 |
| 2010 | 67 577 | 141,7 | 70,3 | 71,4 | 1,2 |
| 2011 | 70 627 | 159,4 | 79 | 80,4 | 1,4 |
| 2012 | 72 704 | 166,1 | 80,6 | 85,5 | 4,9 |
| 2013 | 74 170 | 167,3 | 80,8 | 86,5 | 5,7 |
| 2014 | 76 088 | 163,9 | 78,9 | 85,1 | 6,2 |
| 2015 | 78 896 | 167,4 | 81,6 | 85,8 | 4,2 |
| 2016 | 81 154 | 168,1 | 81,8 | 86,3 | 4,5 |

*Source: self elaboration based on ŠÚ SR, 2018*

Z hľadiska komoditnej štruktúry je pri vývoze aj dovoze Slovenska dominantou skupinou trieda SITC 7 – stroje a prepravné zariadenia. V rámci nej sú najsilnejšími obchodovateľnými oddielmi: cestné vozidlá (78), zariadenie na telekomunikáciu záznam a reprodukciu zvuku (76), Elektrické zariadenie, prístroje a spotrebiče (77). Druhou najdôležitejšou skupinou je SITC 6 – trhové výrobky. Najobchodovanejšie oddiely tejto skupiny sú: železo a oceľ (67), kovové výrobky (69), výrobky z gumy (62). V skupine SITC 3 – nerastné palivá má významný oddiel Ropa, ropné výrobky a príbuzné materiály (33). Najdôležitejšie vývozné komodity sú motorové vozidlá, spotrebná elektronika a komunikačné zariadenia. Dovozným komoditám dominujú komunikačné zariadenia, motorové vozidlá a ich príslušenstvo, zemný plyn a ropa. Najvýznamnejšími slovenskými exportérmi sú tri automobilky, ako aj firmy Samsung Electronics Slovakia, s.r.o. a Slovnaft, a. s. V súčasnosti tvorí podiel exportu služieb v celosvetovom meradle na základe štatistiky vydávanej UNCTAD (2017) jednu tretinu z hodnoty exportu tovarov. Hodnota exportu služieb v roku 2016 bola 4.9 bilióna USD. Trend vývoja je negatívny, pretože v posledných dvoch rokoch export služieb stagnoval, v období rokov 2009 až 2014 stabilne rástol. Najdôležitejšou kategóriou sú v prípade rozvinutých krajín obchodné služby, za ňou je cestovných ruch. O dve tretiny exportu služieb sa postarali vyspelé svetové ekonomiky (USA má 15 % podiel), aj keď stále narastá podiel ázijských rozvojových krajín (s najdôležitejšou kategóriou cestovných ruch). V prípade SR, aj pri vysokej miere otvorenosti slovenskej ekonomiky, ide o nízke hodnoty podielu služieb na celkovom vývoze/dovoze.

*Table 5: Vývoj zahraničného obchodu so službami*

| ROK | Export | | Import | | Bilancia služieb (mil. Eur) | Obrat (mil. Eur) | % vývozu služieb na celk. vývoze | % dovozu služieb na celk. dovoze |
|---|---|---|---|---|---|---|---|---|
| | Hodnota (mil. Eur) | Index | Hodnota (mil. Eur) | Index | | | | |
| 2007 | 6 325 | 100,0 | 5 697 | 100,0 | 627 | 12 022 | 12,1 | 10,8 |
| 2008 | 6 475 | 102,4 | 6 814 | 119,6 | -339 | 13 288 | 11,8 | 12,1 |
| 2009 | 4 736 | 73,2 | 5 639 | 82,8 | -903 | 10 376 | 11,0 | 12,9 |
| 2010 | 4 836 | 102,1 | 5 488 | 97,3 | -651 | 10 324 | 9,4 | 10,5 |
| 2011 | 5 228 | 108,1 | 5 498 | 100,2 | -270 | 10 726 | 8,7 | 9,1 |
| 2012 | 6 049 | 115,7 | 5 628 | 102,4 | 421 | 11 677 | 9,1 | 8,9 |
| 2013 | 6 965 | 115,1 | 6 481 | 115,2 | 484 | 13 446 | 10,0 | 9,8 |
| 2014 | 6 889 | 98,9 | 6 713 | 103,6 | 176 | 13 601 | 9,9 | 10,1 |
| 2015 | 7 324 | 106,3 | 7 144 | 106,4 | 181 | 14 468 | 10,2 | 10,1 |
| 2016 | 7 680 | 104,9 | 7 225 | 101,1 | 455 | 14 905 | 10,3 | 9,9 |
| 2017 | 8 499 | 110,7 | 7 658 | 106,0 | 841 | 16 157 | 10,6 | 9,7 |

*Source: self elaboration based on NBS, 2018*

V Tabuľke 5 sú použité údaje sú z platobnej bilancie NBS podľa metodiky BPM6. Priemer dovozu/vývozu služieb na celkovom dovoze/vývoze predstavuje hodnotu 10,3 %, pri vysokej miere otvorenosti Slovenskej ekonomiky ide o nízku hodnotu. Pri zahraničnoobchodnej výmene SR so službami sú najvýznamnejšími kategóriami cestovný ruch, doprava, ostatné obchodné služby a to jednak na strane vývozu tak aj dovozu. Takúto štruktúru služieb majú skôr rozvojové krajiny. Vo vyspelých krajinách prevládajú služby spojené s duševným vlastníctvom a obchodom. Hlavným problémom však je nízka miera zapojenia sa SR do medzinárodného obchodu so službami. Pokiaľ Slovensko porovnáme s ostatnými krajinami s vyspelými ekonomikami možno konštatovať, že žiadna nedosahuje nižší podiel zahraničnoobchodnej výmeny so službami na svojom celkovom zahraničnom obchode. Vývoj obchodu so službami v rámci sledovaného obdobia stagnoval. V roku 2017 oproti roku 2007 poklesol podiel služieb na celkovom vývoze o 1,5 p. b. a celkovom dovoze o 1,1 p. b. Jednoznačne môžeme konštatovať, že Slovensko v zahraničnom obchode so službami značne zaostáva a služby tak predstavujú oblasť pre ďalší rozvoj zahraničného obchodu.

# 4. Conclusion

Z hodnotenia postavenia Slovenska a ďalších krajín V4 v rebríčkoch globálnej konkurencieschopnosti vyplýva, že sa ich trhové prostredie po výraznom poklese v roku 2009 stabilizovalo a vykazuje signály oživenia hospodárstiev. Zmeny postavenia (negatívne) v hodnotení Doing Business je potrebné interpretovať s ohľadom na vývoj všetkých hodnotených ekonomík (zmeny u lídrov, resp. výrazne pozitívne zmeny iných krajín). Na druhej strane užitočné pre rozhodovanie politických lídrov krajiny je hodnotenie konkrétnych indikátorov kvality podnikateľského prostredia a ich vývoj v čase. K najproblematickejším v rámci hodnotení patria na Slovensku: korupcia, byrokracia, daňové a pracovné predpisy. Veľkosť objemu HDP radí Slovensko k najmenším ekonomikám eurozóny. V porovnaní s priemerom eurozóny alebo EÚ je Slovensko podstatne menšou a otvorenejšou ekonomikou, s obmedzeným rozsahom vnútorného trhu čo ho predurčuje k hlbšiemu rozvíjaniu medzinárodných ekonomických vzťahov. Na vysokej otvorenosti Slovenska má dominantný podiel obchod s tovarmi, kým obchod so službami sa dlhodobo drží na nízkej úrovni. Napr. Írsko, Estónsko či Maďarsko ako krajiny s podobnou mierou otvorenosti ekonomiky dosahujú vyšší podiel importu aj exportu služieb na HDP. Platí to aj pre Českú republiku z nižšou mierou otvorenosti ekonomiky. Poukazuje to na značný priestor pre budúci rozvoj zahraničného obchodu so službami. Krajina s nízkou diverzifikáciou výroby a zahraničného obchodu podlieha vo veľkej miere negatívnym dopadom asymetrických ponukových a dopytových šokov v jednotlivých odvetviach. Tu možno pre ďalší rozvoj spomenúť výhody medzisektorovej spolupráce uplatňovanej namiesto konkurencie opísanú autormi Wanat et al. (2018). Dominantným v exporte a hospodárstve SR je automobilový priemysel. Autá sú produktom, ktorých predaj prudko stúpa v dobrých časoch a v zlých naopak klesá. Taktiež, výrobcovia automobilov sú citliví na ceny vstupov a zmeny prostredia, v ktorom je výroba alokovaná. Zvyšujúca koncentrácia výrobcov automobilov tak okrem pozitívnych efektov na ekonomický rast a zamestnanosť stupňuje aj významné riziká spojené s rastúcou závislosťou ekonomiky od jedného dominantného odvetvia. Ako uvádzajú Parobek et al. (2016), „keďže globalizácia ovplyvňuje všetky aspekty ekonomického a sociálneho prostredia a zvyšuje konkurenciu je pre priemysel nevyhnutné čeliť týmto výzvam a implementovať inovatívne stratégie pre získanie trhových výhod“. Žiadúcim kľúčom k diverzifikácii hospodárstva SR a zvýšenie jeho konkurencieschopnosti v užšom aj globálnom geografickom priestore sú investície do sofistikovaných odvetví s vysokou mierou pridanej hodnoty. Popri podpore rozmachu digitalizácie, robotizácie a automatizácie je kľúčová tvorba podmienok priaznivých pre podnecovanie malého a stredného podnikania alokovaného naprieč krajinou. Klásť dôraz je potrebné na využívanie výstupov dizajnu, výskumu, vývoja a inovácií a tiež potrebu rastu vysokokvalifikovanej pracovnej sily. Popri dôraze na rozvoj kvalifikácie pracovnej sily je logické a nanajvýš žiadúce spracovávanie domácich zdrojov. Príkladom je lesnícko-drevársky sektor, kde stále vysoký podiel exportovanej drevnej suroviny nepoukazuje len na situáciu vytváranú medzinárodným trhom, ale indikuje tiež problémy v rozhodnutiach producentov (napr. nastavenie kontraktov), ako aj vo vytváraní podmienok pre domáce spracovanie. Tu, ako uvádzajú Paluš et al. (2015), má v porovnaní s krajinami V4 Slovensko komparatívnu výhodu vo väčšine sortimentov surového dreva. Dôležitú rolu na domácom a medzinárodnom trhu zohráva hlavne piliarsky priemysel (Paluš et al., 2018) s produkciou výrobkov pre stavebníctvo. Trhovo vzaté, dopyt po výrobkoch z dreva je odvodeným dopytom od dopytu v stavebníctve (Kaputa et al., 2018). Podobne sa odvádza dopyt aj v iných odvetviach. Preto napr. podpora tohto stavebníctva môže akcelerovať viacero iných sektorov. V prípade Slovenska ide aj o odstránenie bariér pre rozvoj v oblasti drevených stavebných konštrukcií (Maťová & Kaputa, 2018; Kaputa & Paluš, 2014). Celkovo nejde len o využitie dendromasy, ale biomasy a obnoviteľných zdrojov ako takých. V rámci EÚ sú najdôležitejším energetickým zdrojom s podielom 64,2 % práve obnoviteľné zdroje energie (Parobek et al., 2016). V tomto duchu možno konkurencieschopnosť na globálnom trhu zvyšovať taktiež dôrazom na komunikovanie environmentálnych stratégií (Loučanová et al., 2017) a to na úrovni verejného aj súkromného sektora.

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# RUSSIAN ECONOMY GROWTH MODELING IN THE TRANSFORMATION CONDITIONS IN THE GLOBALIZATION PERIOD

Maria Klevtsova [1,a], Yulia Polozhentseva [2,b] and Evgeniy Leontyev[3,c,*]

[1]Department of Regional Economics and Management, South-West State University,
305040, 94, 50 let Oktyabrya str., Kursk, Russia

[2]1Department of Regional Economics and Management, South-West State University,
305040, 94, 50 let Oktyabrya str., Kursk, Russia

[3]1Department of Regional Economics and Management, South-West State University,
305040, 94, 50 let Oktyabrya str., Kursk, Russia

[a]polojenceva84@mail.ru, [b]klevtsovam@mail.ru, [c]leo88swsu@mail.ru

*Corresponding author

**Abstract.** The transition to a new technological era determined that human resources and investments should become the basis for the economic growth of any country economy. At present, developed and developing countries are interested in constantly increasing economic growth and finding ways to achieve it based on intensifying competitive advantages. The main way of development of the regions is this trajectory of economic growth, where the share of production indicators is unchanged and the indicators grow with a constant maximum possible speed. The purpose of the study is to analyze the growth rates based on the Harrod and Domar models, which allow determining the rate of growth with which investments should grow, as well as the rate of growth in income and production capacity, which contributes to the effective regulation of economic development. The study constructed models of Harrod and Domar economic growth of the Russian economy, which make it possible to identify the areas of outstripping growth necessary to stimulate investment activity and balance the savings of the population. Taking into account the peculiarities of the development of the territories and the different rates of economic growth, the study suggested measures to stimulate sustainable development of the economy. The economic growth of the territories involves achieving a number of balanced goals: increasing investment in the region economy, increasing employment, and increasing the growth rate of scientific and technological progress.

**Keywords:** economic growth, Harrod's model, Domar's model of macroeconomic equilibrium, transformation.

**JEL Classification:** O1,O2, C4

## 1. Introduction

The increasing complexity of the processes of globalization in the world economic space leads to the emergence and development of new forms of integration and cooperation of industrial enterprises (Held et al., 1999; Dent et al., 2016). In the conditions of industrial transformation, technoparks are becoming more widespread in the countries of the world and in Russia - specialized industrial territories, where high-tech production is located, aimed at production of competitive industrial products, which is due to the creation of a modern technical and technological base at the local level (Babkin et al., 2015). Political and financial crises have a significant impact on the structure of development of Russian industry. Structural shifts in industry affect a wide range of methodological problems of the functioning and development of various forms of cooperation, which are aimed at increasing the pace of economic growth through enhanced competitive advantages (Grechenyuk et al., 2016). A scientifically substantiated solution of these problems of transforming the structure of industry has a need for methodological and methodological support (Dávideková & Greguš, 2017). Developments of this kind rely on the use of economic laws for the development of the subject of research and the specifics of their application in specific historical and material conditions of the functioning of this or that economic system (Rizescu & Tileagă, 2017). Applied means are individual forecasts of the socio-economic development of the Russian Federation, as well as the dynamic characteristics of the industry and the economy of the region (Plotnikov & Volkova, 2015). The study analyzes the activities of domestic technology parks and the growth rates of economic systems based on the Harrod and Domar models, which allow determining the growth rates with which investments should grow, as well as the growth rates of incomes and production capacities, which contributes to the effective regulation of economic development.

## 2. Background and methodology

Harrod focuses attention on the problem of the growth rate of income, which is necessary for the full utilization of growing capital. He tries to study the constant rate of growth, corrective factors in the deviation of the natural rate of growth from the guaranteed one (Harrod, 1939). R. Harrod believes that the growth of national income depends on the rate of accumulation and the coefficient of capital intensity. The basis in the model is capital as the only growth factor that combines the functions of all other factors. The model is an auxiliary tool when considering the problems of economic growth in the long run and is based on 3 equations.

Equation 1 shows what should be the share of savings in national income.

$$G \cdot C = S \tag{1}$$

$$G = \Delta Y/Y, S = S/Y, C = I/\Delta Y$$

C = Total production volume / Gross regional product

where G - the growth rate of the national income, S - the share of savings in national income, C - capital intensity.

Equation 2 shows a guaranteed growth rate that provides a dynamic equilibrium between actual savings and projected investments.

$$G_w \times Cr = S \tag{2}$$

where S - the share of savings in the past period of time, Cr - the required value of the capital ratio (capital intensity), Gw - the guaranteed rate of growth.

Equation 3 expresses the equilibrium condition or its violation.

$$G \times Cr = S \tag{3}$$

where Gw - the growth rate guaranteeing full employment of the growing capital, Cr - the required capital ratio, S - the share of savings in the past period of time.

Harrod in the model concludes that the economy is developing unstably with a characteristic deviation from the guaranteed rate of growth. It underlies the theory of economic instability from which it follows that if entrepreneurs plan a higher rate of growth of the commodity than the guaranteed one, then a mechanism enters into action that will divert the actual development line from the equilibrium line.

Harrod considers three cases of the relationship between guaranteed, natural and actual growth.

1. Gw> Gn, G <Gw. If the guaranteed rate of growth exceeds the natural one, then the actual growth rate can not provide the volume of production that is necessary for the use of all production capacities. Consequently, there are unloaded capacities that prevent an increase in investment costs.

2. Gw <Gn, G> Gw. If the guaranteed growth rate is less than the natural one, then the actual reaching the load of all capacities will tend to a natural tempo. This will lead to an excess of investment and an increase in demand over the supply, which will lead to inflation. The way out of this situation will be an increase in saving rates, which will bring the guaranteed rate closer to the natural one.

3. G = Gw = Gn. In this case, the economy develops evenly. The expectations of entrepreneurs are realized, all production capacities and the entire labor force are involved.

In his model, Harrod pays special attention to the mechanism for making investment decisions. If the producer hopes that the demand for his goods will grow, he, provided all the used capacities are used, acquires additional equipment to increase the volume of production in connection with demand.

Domar's model (Domar, 1946) and Harrod's model (Harrod, 1939) are often considered to be of the same name, but there are differences between them. In his studies, Domar is not based on the equality of savings and investment, but on the equality of money income (demand) productive capacity, provided full employment. The increase in production capacity is seen as an investment. In the model, they play a dual role: on the one hand, they contribute to the growth of income, on the other hand - they provide an increase in production capacity. The model is designed to determine the amount of investment thereby making an increase in revenue equal to an increase in production capacity. Domar proposed the following three equations (Domar, 1946).

1. The equation of demand, which shows how much demand should increase in order to use additional capacity.

$$Y = \Delta I \frac{1}{\alpha} \tag{4}$$

where Y - the annual increase in income, ΔI - annual growth of investments, $\frac{1}{\alpha}$ - the multiplier, $\frac{1}{\alpha} = \frac{1}{MPS}$, where MPS - the marginal propensity to save.

2. Equation of supply, showing what kind of increase in production capacity creates an investment.

$$\Delta Y = \frac{\Delta I}{\alpha} \qquad (5)$$

where ΔY - the amount of income increase, ΔI - increase in investment, α - propensity to save.

3. Equation of the rates of growth in income and production capacity.

$$\frac{\Delta I}{I} = \alpha\theta, \qquad (6)$$

where $\frac{\Delta I}{I}$ – annual growth rate of investments, $\alpha\theta$ – amount of revenue increase.

From the derived formula it follows that a balanced rate of investment growth is a product of the propensity to escape and the degree of investment productivity. Thus, the model determines the rate at which investment should grow. The rate is directly dependent on the share of savings in national income and the average efficiency of savings.

## 3. Results

Based on the Harrod and Domar models, based on the well-known Keynesian condition of macroeconomic equilibrium, we estimated the economic growth rates of the technoparks "Alabuga", "Kaluga", "Turquoise Katun", "Ulyanovsk". From Table 1 it can be seen that the lowest growth rate in the SEZ "Kaluga" is due to the high capital-intensity ratio, which is inversely related to economic growth. When considering such an element as savings, you can display the following relationship: the growth rate is directly dependent on savings, as the higher the savings, the higher the investment (Plotnikov et al., 2015). According to the tabular data of the SEZ "Ulyanovsk" is the first in terms of the share of savings, has the lowest capital-intensity ratio and, in general, takes a leading position at the actual rate of growth (Plotnikov & Vertakova, 2015). Under a guaranteed growth rate, Harrod understood growth, in which the full utilization of all existing capacities is realized (Polozhentseva, 2016). SEZ "Ulyanovsk" show the highest guaranteed growth rate, that is - it is the growth rate with full capacity utilization (Polozhentseva & Klevtsova, 2015). The accumulation of unloaded capacities as a result of the fact that the economy is unable to realize the growth rates corresponding to the full capacity utilization, will constantly erect barriers to further increase investment costs (Lin & Wang, 2017). However, there are limits to the increase in the rate of growth imposed by the availability of labor resources, and, consequently, the rates of actual growth may exceed the natural rate only for short periods (Vertakova et al., 2015). Based on the analysis of data on the profitability of Russian technology parks, the calculation of the Domar equation The amount of increase in income or the supply equation in the Domar model showed how much growth in production capacity creates investment (Vertakova et al., 2016). The highest indicators were found in technoparks "Ulyanovsk" and "Turquoise Katun". Despite this, the SEZ "Ulyanovsk" volume of investments for the year 2016 fell, although the number of residents has increased. The SEZ "Turquoise Katun" has seen a decline in investment since 2012, and only in 2016 they will increase together with the number of residents.

*Table 1: Growth rate analysis based on Harrod and Domar models*

| Indicators/Technoparks | Calculation formula | SEZ "Alabuga" Republic of Tatarstan | SEZ "Turquoise Katun" Altai region | SEZ "Kaluga" Kaluga region | SEZ "Ulyanovsk" Ulyanovsk region |
|---|---|---|---|---|---|
| Equation 1 - G · C = S, billion rubles | | | | | |
| The share of savings in national income, S | - | 26047,4 | 26047,4 | 26047,4 | 26047,4 |
| Total production volume, I | - | 850,665 | 289100 | 385315 | 131866 |
| Gross regional product | - | 1944 | 3213873 | 324941 | 301 424 |
| Capital intensity, C | C = I/GRP | 0,437585 | 0,089954 | 0,437585 | 0,437477 |
| Actual growth rate, G | G = S/C | 59525,37 | 289564,3 | 21966,12 | 59540,07 |
| Equation 2 - GW × Cr = S, billion rubles | | | | | |
| The share of savings in the past period of time, S | - | 24130,8 | 24130,8 | 24130,8 | 24130,8 |
| Total production volume, I | - | 850,665 | 289100 | 385315 | 131866 |
| GRP | - | 1944 | 3213873 | 324941 | 301 424 |
| The required value of capital ratio (capital intensity), Cr | Cr = I/GRP | 0,437585 | 0,089954 | 1,185799 | 0,437477 |
| Guaranteed growth rate, Gw | Gw = S/Cr | 55149,81145 | 268257,1092 | 20349,8232 | 55159,01407 |
| Equation 3 - $Y = \Delta I \frac{1}{\alpha}$, billion rubles | | | | | |
| Marginal propensity to save, MPS | - | 24130,8 | 24130,8 | 24130,8 | 24130,8 |
| Multiplier, 1/a | 1/a = 1/ MPS | 4,14408 | 4,14408 | 4,14408 | 4,14408 |
| Annual growth of investments, $\Delta I$ | - | 0,7 | 0,7 | 6,3 | 0,7 |
| Annual income growth, Y | $Y = \Delta I \frac{1}{\alpha}$ | 0,168915658 | 0,168915658 | 1,520240922 | 0,168915658 |
| Equation 4 $Y = \frac{\Delta I}{\Delta \alpha}$, billion rubles | | | | | |
| Annual growth of investments, $\Delta I$ | - | 107 | 0,7 | 6,3 | 0,7 |
| Marginal propensity to save, a | - | 24130,8 | 24130,8 | 24130,8 | 24130,8 |
| Amount of revenue increase, $\Delta Y$ | $Y = \frac{\Delta I}{\Delta \alpha}$ | 0,004434 | 2,9E-05 | 0,000261 | 2,9E-05 |

*Source: obtained by the authors*

Analyzing the data obtained in Table 1, it can be concluded on what value demand should increase in order to use additional production capacities. The largest annual increase in income for a special economic zone of industrial and production type "Kaluga" (Vertakova & Plotnikov, 2016). This is due to the fact that the SEZ was established only in 2012, therefore did not gain the necessary number of residents, has enough jobs (total 34). Of the planned investments, only 2% of investments were realized.

# 4. Conclusion

Today it can be argued that the creation and operation of the SEZ in the territory of Russia has only to a small extent achieved the set goals, both at the regional and national levels. In the implementation of this new task for the country, a number of problems of a different nature arose, the solution of which is to be in the near future (Vertakova & Trusova, 2014). The state, on the basis of implementing instruments for investing and redistributing tax burdens, has the ability to influence the pace of economic growth in the development of technoparks, as well as public-private partnerships contribute to the growth of economic growth rates of both individual integrated structures and industry as a whole. However, it is worth noting that the implementation of these tools needs, first of all, to improve state policy and the development of relevant institutions, namely, an effective innovation and investment system, market structure and so on. On the basis of this, it is possible to single out the main strategic tasks aimed at increasing the rates of economic growth: the creation and development of new points of economic growth in the subjects of the Russian Federation; creation of mechanisms for targeted mobilization of financial resources aimed at developing selected priorities; programs for the reconstruction of industrial enterprises with the use of advanced technologies; renewal of production fixed assets, assistance in creating a mechanism for the timely disposal of obsolete fixed assets; the development of infrastructure facilities designed to ensure connectivity and transport accessibility.

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# TALENT MANAGEMENT AS AN EFFECT OF GLOBALIZATION IN CASE OF VISEGRAD 4 COUNTRIES

Anita Kolnhofer Derecskei [1,a*], Adam Pawliczek [2,b]

[1]Obuda University in Budapest, Hungary

[2]Moravian Business College Olomouc, Czech Republic

[a]derecskei.anita@kgk.uni-obuda.hu, [b]adam.pawliczek@mvso.cz

*Corresponding author

**Abstract.** The Bologna Process, as a special form of globalization, targets to ensure comparability in the standards and quality of higher education qualifications and creates comparable academic degree standards. Therefore, these standards form relatively comparable contexts for European countries member countries, and facilitate globalization but inhibit special customized education programs. The question is given: In this standardized global system where is the place of talented students who require more and more focused attention? And what is the current situation regarding talent management and excellence in European countries? The aim of this study is the analysis of the climate for talent management in Visegrad four countries. What kind of talent management strategies can be identified in each country? Are there any? What are country relevant factors and what are global wide issues? We examine how to motivate young people with promising intellectual abilities as an increasingly important topic of excellence in education. On the other hand, we should take the teachers and professors into account. We provide a systematic overview of support talent management in higher education, as a form of globalization and we try to compare strategies of different higher education institutions (HEIs).

**Keywords:** talent management, higher education, Visegrad 4 countries, globalization.

**JEL Classification:** A1, A11, I21, I28, J50, M53, Z1

## 1. Introduction

The Lisbon Recognition Convention is one of The Bologna Process main instruments, creating comparable academic degree standards. (Ghinea et al., 2017) Although, in recent years, a cultural shift and globalization have gradually made more room for excellence and talent development in the national discourses. But, in order to enhance HEI 'competitiveness' by cutting down costs, the number of participants is growing that leads to formal mass education and removes non-formal customized training programs.

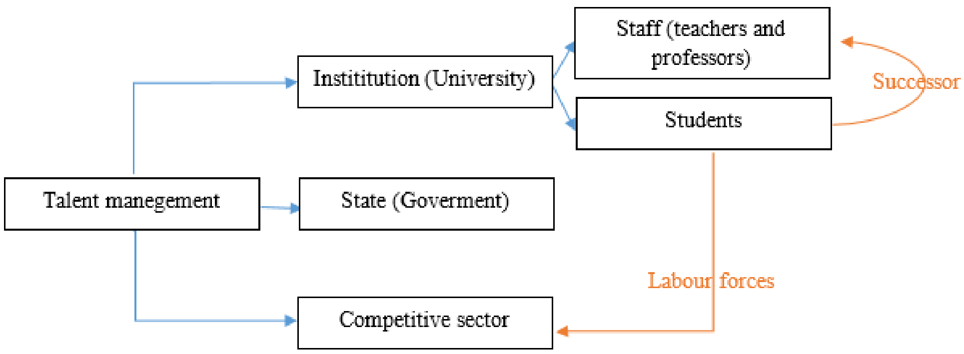
We focused on talent management in the Higher Education (HE) Sphere. (Dobbins, 2009) HEI (Higher Education Institution) is clearly defined, structured and detailed, moreover the fields are well-organized that means most of the country level statistical offices follow and use the so-called ISCED (International Standard Classification of Education). Three main terms are used Academic / Professional / Orientation unspecified. ISCED classifies education programmes by their content using two main cross-classification variables: levels of education and fields of education. (http://ecahe.eu/)

It could be expected that the definition of talent management is also clear. Regarding the competitive sector, the well-known Armstrong's handbook defines Talent Management as the following "Talent management is the process of ensuring that the organization has the talented people it needs to attain its business goals."(Armstrong & Taylor, 2016) But in the case of the HEI, it is more complicated. We fully agree with Wolfensberger (2015) who suggested that the term of talent management is used in a wide variety of contexts and for a wide variety of purposes so has no broadly accepted definition. Moreover, Balogh (2015) found that there are many differences in employer expectation in terms of varying talent definitions in the regions. He examined that the talent-concept composition differs by region and talented people preferred the central regions and the capital city over rural areas. Indeed the question is given, who is considered as a talented person: the teacher, the researcher or the student? Bradley (2016) provided a new perspective when he joined the HR' concept with the HEI' view. He defines „talent management as an organizational system (or culture) that: 1. Identifies key positions that add value to the organisation's competitive advantage; 2. Develops a talent pool of high potential and/or high performing individuals to fill these positions; and 3. Develops human resource systems to facilitate the alignment of talented individuals, key positions and organisational strategy." (Bradley, 2016, p. 13)

Taking this aforementioned colourful definitions we tried to structure talent management's term. Firstly we detailed the participants (subjects), the process of talent management, finaly the outcome or result was studied. All of these provide a good starting point to understand what kind factors and how trigger talent management. In the last part of this chapter, premisses and conditions of talent management were listed.

Figure 1. helps us to summarize each subject of talent management in the HE sector. The whole complex and seemingly complicated situation sources from the double players view because the HEI's staff has double responsibilities: teaching and researching. That means the focus of talent management is also duplex. Who is the target of the talent management whether (1) tightly the students (that calls honors-program) or (2) the whole institution with the main staff (professors and teachers), or (3) stakeholders also should be included?

*Figure 1: Subjects of talent management in the HE*




*Source: Own source*

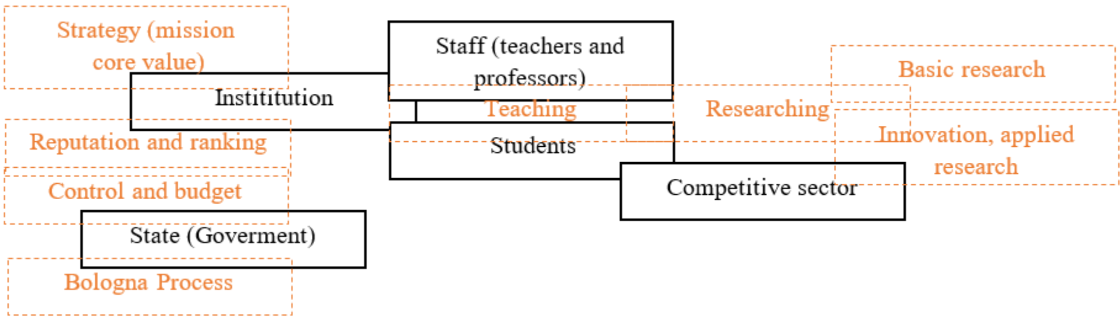
1) Strictly the institution (university or college) has a special relationship between the students and teachers. The teachers should educate the students and the most motivated

(hopefully most talented) selected part could become the professors of the future's generation. But it is not so easy, teachers face with more and more challenges. As Takács-György said „Talent management is one of the tasks of higher education, but to define what is talent and what will be a good output of higher education is not too easy. New, competence based educational methods, team-oriented, problem solving project works are needed instead of learn-the-data education, to meet the changed requirements of business and public organisations." (Takács-György & Takács, 2017) Wolfensberger (2015) took a further step when she refers to talent management as honors-programs and defines it as providing extra opportunities to talented students. Of course, there are wide variations in the content and structure of the programs, as they are designed by the vision on the excellence of each institution. The honors-programs' curriculum has to meet the needs of the students (harmonized with the political background and competitive markets) and features special courses, seminars, colloquia, experiential learning opportunities, undergraduate research opportunities, conferences, young researcher committees or other independent-study options. But here is deeply underlined to develop those aspects which move the practical side of each honors program. That includes first of all to state the clear mission/goals of the honors program. (Wolfensberger, 2015)

(2) Traditionally, universities have two core activities: teaching and research. In this context, also teachers and professors as researchers should be taken into account. Where the focus is on whether teaching or research is the target of talent management? According to Bradley (2016) we tried to explore this duplicated factor. Of course, university's teaching activities improve the educational outcomes but research performance is the primary driver of global university rankings, mostly this research activity separates the top universities from the competitors. Research activity and ranking serve as reputation, too. This is a concentric process because good reputation triggers the new participants.

As Bradley (2016) underlined that university rankings also contribute to a university's reputation and engagement which influence further student choices. Although teaching activity increase income, too (in the form of upfront fees or public, or government funding and student loans) but these various roles mean different strategies and budgets. Figure 2. shows these special dependent relationships among the participants and it highlights how each process influence and result in different kinds of outcomes.

*Figure 2: Process and aims of talent management in the HE*




*Source: Own source*

In sum, both teaching and research activities are critically important to a university's strategy and long-term success. From a talent management perspective, the importance of both teaching and research activities means that universities need to identify high value-added, roles in both roles. This requires a special structure and organigram, where staff and deans, directors are responsible for both. Having talented individuals in both roles (teaching and research) not only increase the potential of the scale of the research, by increasing research income but also the quality of the research, that is why requires training and development. Indeed, both teaching and research facilitate further external engagement with domestic and international partners, clients and stakeholders. (Bradley 2016)

(3) There are further participants out of the institution. The students are going to be employees after their studies, entering into the business or non-governmental sphere. The competitive sector is also a key factor, as a buyer of new innovation and as a supporter of universities. According to the OECD (2014) „countries now need to step up their efforts to deliver higher quality post-secondary vocational programmes.

This means programmes that integrate an element of work-based learning and foundation skills of literacy and numeracy, teachers who are well-versed in the techniques of modern industry (as well as in teaching ability), and well-prepared school and college leaders.“ This is acceptable and flashes a special dependent situation namely the controls of governments over the HEI. Governments have played a significant role in talent management, as well. Talent management must be linked to the universities‘ strategies (Paisey & Paisey, 2016). In this point of view, universities should be handled as other international companies with clear vision and mission statements and well-structured strategies. This has led to a redefinition of the role of universities‘ function. That means sharing the focus between research and teaching activity moving from being mainly focused on administrative or financial support to a role that is more strategic, focusing on the alignment of talent management and leadership development with an organization’s strategic goals. It is therefore important also for all participants to consider an organization’s strategic priorities more widely.

In sum, talent management has to be proactive and contribute to the development of the organizational level strategy. In this way, an organization’s strategy can ensure the pool of talent (already available within the organization or be directly involved in the development and/or acquisition of the talented people required to implement a strategy). (Bradley, 2016)

## 2. Empirical research and results

In this chapter, we have collected hard data which shows hard facts in case of studied countries’ best universities. In that way, this study identifies good practices and puts the spotlight on those countries that are making progress compared with the Visegrad 4 countries. Firstly we have chosen the Global Talent Competitiveness Index (GTCI) which is an annual benchmarking report that measures the ability of countries to compete for talent. The GTCI measures how countries grow, attract and retain talent, providing a resource for decision-makers to develop strategies for boosting their talent competitiveness.

*Table 1: GTCI ranking across the Visegrad 4 countries*

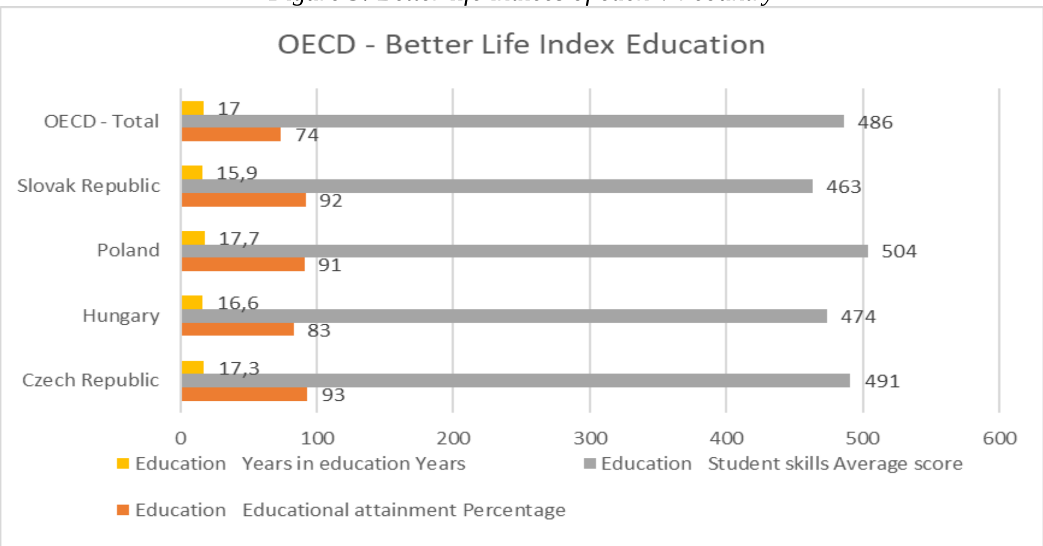
| Country | Score | Overall ranking | Europe regional ranking |
|---|---|---|---|
| Czech Republic | 60 | 17 | 15 |
| Hungary | 51.27 | 41 | 26 |
| Poland | 52.87 | 37 | 23 |
| Slovakia | 52.32 | 38 | 24 |

*Source: Global Talent Competitiveness Index 2018.*

Of course, there is no universal reason and impact, each country differs regarding their histories, cultures, languages, etc. Comparison of the V4 countries is difficult, we have implemented the OECD Better Life Indices to show how life is in each country. Better life index allows us to compare well-being across countries, based on 11 topics in the areas of material living conditions and quality of life.

We have chosen only the education indicator which contains three subfactors (1) educational attainment provides a good indication of whether a country is preparing its students to meet the minimum requirements of the job market. (2) Students‘ skills factor based on the OECD's Programme for International Student Assessment (PISA) and it reviews the extent to which students near the end of their compulsory education (usually around age 15) have acquired some of the knowledge and skills that are essential for full participation in modern societies, particularly in reading, mathematics, and science. Finally the average (3) years in education. Indicators are the following (see Figure 3.)

*Figure 3: Better life indices of each V4 country*



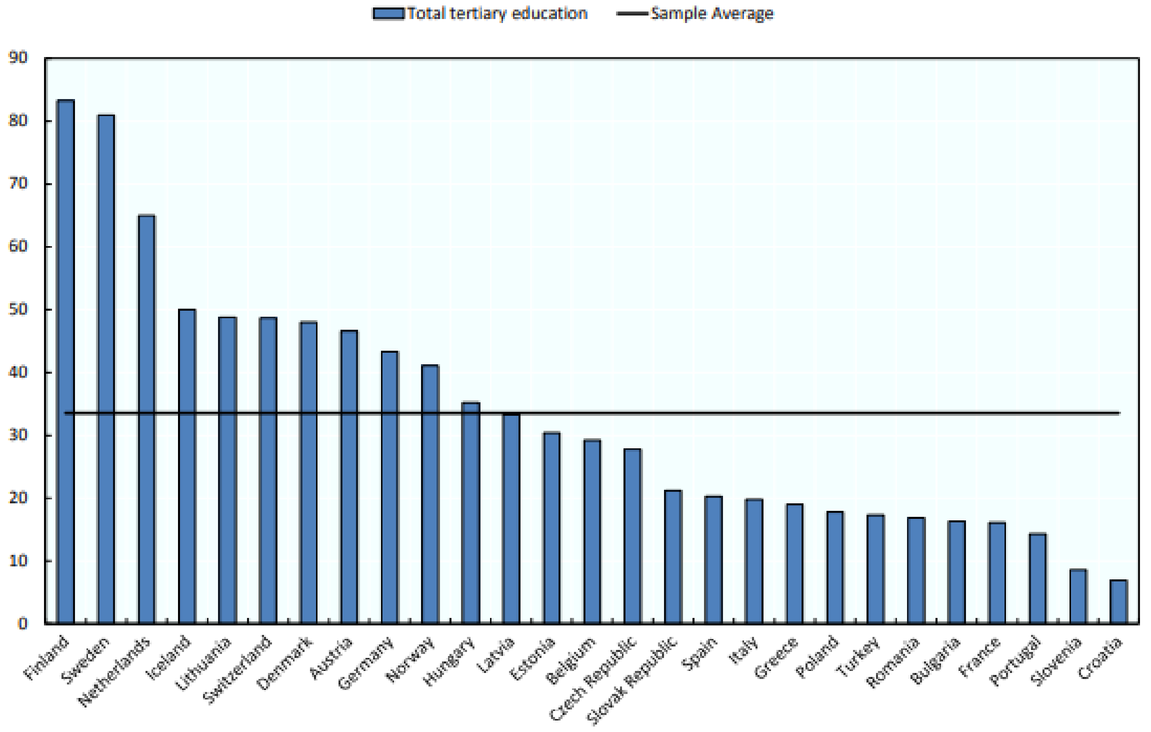

*Source: http://www.oecdbetterlifeindex.org/*

It is obvious that each nation (national government) will weight the factors differently but here the average level was considered. To have a better understood we need to pay attention to the institutional backgrounds.

Globalization is essential in case of HEI, according to the Europe Teaching Rankings 2018 made by the Times Higher Education (2018) it can be found in the European best universities top 10 ranking eight universities from the UK and one French and another Spain. The question is given is the language so determining? Is it a methodological problem or is it real?

Seeing the methodology of this study we can read that the students should rank their institute in 13 performance indicators that are grouped into four main key indicator factors: (1) engagement (2) resources (3) outcomes (4) environment. The survey collected the views of more than 30,000 university students across 10 European countries (not from the Visegrad Countries) on a range of issues relating to their higher education experience. But this survey shows students engagement. One preliminary requirement of HEI globalization what kind of programs they have in English. Figure 4 shows it.

*Figure 4: Percentage of tertiary education institutions offering English-taught programmes at ISCED level 5 or 6, academic year 2013/2014*




*Source: http://www.oecd.org/education/skills-beyond-school/Benchmarking%20Report.pdf*

We need to realize the biggest universities must have an expanded strategy focusing on more than national. The latest hot data about the HEI sector is the Times Higher Education World University Rankings 2019 that includes more than 1,250 universities, making it one of the biggest international league tables to date. In the next table (Table 2.) we collected the V4' universities order. Here the background methodology based on the main roles indicators. The performance indicators are grouped into five areas: teaching (the learning environment); research (volume, income, and reputation); citations (research influence); international outlook (staff, students and research); and industry income (knowledge transfer).

*Table 2: THE ranking across the Visegrad 4 countries*

| **Country (ranking)** | **The best universities in each country (subjects)** | **Indicators** | | | | |
|---|---|---|---|---|---|---|
| | | **Teaching** | **Research** | **Citations** | **International outlook** | **Industry income** |
| Czech Republic (401-500) | Charles University in Prague (17 faculties) | 31.6 | 24.8 | 55.9 | 34.4 | 57.4 |
| Hungary (401-500) | Semmelweis University (medical, clinical and health) | 24.2 | 12 | 66.4 | 36.0 | 77.9 |
| Poland (601-800) | Jagiellonian University (100 professionally focused course areas in the most notable fields) | 22.3 | 15.4 | 50.7 | 34.8 | 35.5 |
| Slovakia (801-1000) | Comenius University in Bratislava (11 different faculties) | 21.9 | 12.1 | 22.8 | 36.4 | 49.6 |

*Source: World University Rankings 2019.*

Taking the world ranking we turned back to our original question: is the English language so important? Unfortunately, we must realize that the academic sphere needs a universal language which (thanking the UK' and the US' territories) is English. But nowadays, the power of the Asian and East areas cannot be retracted. One of the biggest problem in case of talent management is that the teachers and professors are years by year more overwhelmed and exhausted. There are not really divided their main responsibilities, whether teaching or researching is the most important. There are more students and fewer staff. Comparing the selected best Visegrad Countries' universities with the world best universities where the staff' and students numbers' (Table 3.) are compared we can explore whether this is a real problem or the teacher are just complaining. Unfortunately not, the mass education, the less motivated, tired teaching staff faced with the loss of personal education, the changed (organizational) requirements of the market. (Takács-György & Takács, 2017)

*Table 3: The key resource statistics in case of the best universities across the V4*

| **Country** | **The best universities in each country** | **Key statistics** | | | | |
|---|---|---|---|---|---|---|
| | | **Teaching** | **Research** | **Number of Students** | **Percentage of International Students** | **No. of students per staff** |
| Czech Republic | Charles University in Prague | 31.6 | 24.8 | 49236 | 17% | 12.9 |
| Hungary | Semmelweis University | 24.2 | 12 | 10809 | 32% | 9.6 |
| Poland | Jagiellonian University | 22.3 | 15.4 | 42131 | 7% | 11.5 |
| Slovakia | Comenius University in Bratislava | 21.9 | 12.1 | 21376 | 12% | 10.4 |
| United Kingdom | University of Oxford (1st in 2018 World Reputation Ranking 5th) | 91.8 | 99.5 | 20298 | 40% | 11.0 |
| United Kingdom | University of Cambridge (2nd in 2018 WRR 4th) | 92.1 | 98.8 | 18749 | 37% | 10.9 |
| United States | Stanford University (3rd in 2018 WRR 6th) | 93.6 | 96.8 | 15878 | 23% | 7.4 |

*Source: World University Rankings 2019.*

Unfortunatelly, there is no more room to pay attention to other important factors like, the field of sciences (which are more in the focus) or type of universities (public or private), or level of tuition and fees, finally the various national political systems. But as we detailed earlier the well-defined strategy is highly important in the competitions among universities. Here we have collected and measured key strategies using word clouds. For that, we used strategy and mission and vision statements sourced from the nominated universities' websites. We had to realize there was no remark about talent management. Mostly the environmental and institutional background was mentioned. (Figure 5.) We should agree with Bradley (2016) as a limitation that it is not clear what the term 'talent management analytics' means for universities or specifically which set of metrics are strategically important and so should be measured. In this paper, we have chosen just frequently referred indices but it is vital that talent management analytics have to be driven by an underlying rationale or conceptual model that directly links talented individuals, and their roles, to the organization's strategy. Through transparent implementation and universal acceptance of talent management within the university sector are needed not just for judgment of performance evaluation but with the usage of them can increase performance over the long term, and enhance participants' engagement and institutions' reputation.

*Figure 5: Word clouds from the selected universities websites*

| | | | |
|---|---|---|---|
| Word clouds from the selected universities' mission and/or vision statements and core values (with sources) | University of Oxford (https://www.ox.ac.uk/about/building-our-future/vision?wssl=1)   | University of CAMBRIDGE (https://www.cam.ac.uk/about-the-university/how-the-university-and-colleges-work/the-universitys-mission-and-core-values)   | Stanford University (https://ourvision.sites.stanford.edu/vision-initiatives/mission-values)   |
| Charles University in Prague Startegy Plan Educational part (https://www.cuni.cz/UKEN-110-version1-charles_university_strategic_p.pdf)   | Semmelweis University (http://semmelweis.hu/english/mission-and-activities-of-semmelweis-university/)   | Jagiellonian University (http://www.en.uj.edu.pl/about-university/overview)   | Comenius University in Bratislava (https://uniba.sk/en/about/mission-statement/)   |

*Source: Own source used https://www.jasondavies.com/.*

## 3. Conclusion

This paper detailed how important to change the current situation and identify a clear alignment between organizational strategy and how academic talents (students and also professors) are recruited, developed, retained and rewarded. It is also useful that the concepts of talent management have to be applied at all levels into the university hierarchy and must be tailored to specific disciplines. In addition, the HE sector faces new challenges. We have just shortly drafted them here:

New educational methods, new ways of work, new or renewed talent management methods should be applied in HE in order to find the most talented students and to change requirements of organizations towards entering human resource, to identify some potential way of talent management. (Takács-György & Takács, 2017). Teachers and students have to cope with each other, e.g. find and share information which is freely available on the Internet. Acting as new channels of learning, they question traditional approaches to teaching which requires a "rethinking of the education mode". In addition, more and more researchers face the challenge of how to make academic research relevant and accessible to society. On the other hand, it is also challenging how to turn new findings into innovation and sell them to the competitive market. The academic sector should be in hand in hand with the competitive market in both cases: teaching (dual system) and research. Turning research results into products and services innovation require HEIs to be open and receptive to real-world problems, to encourage researchers and students to develop innovative solutions, and to be able to share and use these widely. ... and we arrived back to the reputation. (Gibb et al. 2018)

Last but not least, according to Bradley (2016) universities must move away from traditional collegial structures and adopting more managerial approaches. These approaches should cooperate with corporate models of governance designed to manage the 'business' in the face of increased competition and accountability. Without solving the problem, in this paper we brought some thought-provoking facts, hope that those help to open the participants' minds. Because talent management in the HE sector is much more complex and complicated than in the case of the competitive sector.

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# TRANSFORMATIONAL LEADERSHIP IN CZECH COMPANIES: RELATIONS WITH SUBORDINATES IN THE CONTEXT OF GLOBALIZATION

Štěpán Konečný[1,a,*], Lukáš Mazánek[2,b,*] and Lukáš Vraniak[3,c]

[1,2,3] Brno University of Technology Faculty of Business and Management Department of Management Kolejní 2906/4, 612 00 Brno Czech Republic

[a]konecnys@fbm.vutbr.cz, [b]mazanek@fbm.vutbr.cz, [c]lukas.vraniak@vutbr.cz

*Corresponding author

**Abstract.** The need to overcome the classic leading styles has been already discussed for quite a long time in the managerial journals. Especially the changes of the leading styles, which will allow better identification of subordinates with the leader, sharing the same values, enhance the loyalty, creativity, responsibility and as well the self-working autonomy of the subordinates. Our study is focused on seven factors of transformational leadership which were researched within the sample of 50 Czech companies CEO´s. The aim of the study is to identify the managerial characteristics and behaviour in relation to the subordinates. The research method is based on Multifactor Leadership Questionnaire (MLQ-6S). The research results show that there is much more significant factor than the length of managerial practice, management level or number of subordinates. This factor represents the gender of the leader. Male and female managers significantly differ in the measure of perceived trust and respect by their subordinates. As well, the differences could be found in the way they understand the needs of their subordinates and the way they develop their potential. Those results are partly in keeping with results of other European studies, while the effect of some global trends in the field of transformational leadership could be perceived as well.

**Keywords:** leadership, MLQ, managerial behaviour

**JEL Classification:** M21, M5

## 1. Leadership

In terms of promoting, maintaining and improving organizational competitiveness, leadership becomes a key component in every organization (Day et al, 2014) whether it is a small entrepreneurial firm (Friedman, 2016) or a large corporate (Mazánek et al, 2018). Considering the increasing globalization, rising international trade together with technological progress, we find ourselves in a period when the traditional organizational structure (e.g. diversity within the workforce) changes. Because of this, more and more attention is being paid to the challenge of sustainability of the competitive advantage using the leadership (Burke and Cooper, 2003).

Leadership as a well-known term, but what is the exact definition? Various authors are various meanings by explaining leadership. Northouse (2015) summarize several authors into 3 categories arguing that leadership means:

- behavior leading to common targets;
- tool to maintain groups and increasing competitiveness;
- tool to influence other people or groups.

Also, Hogan and Kaiser (2005) are describing various view angles on leadership. As it is very important field in human sciences, from historical scope is its understanding highly underrated. They are arguing the importance of leadership with following main points:

- Using of leadership helps to organize collective effort, what leads to rapid effectiveness increase aiming to prosperity
- Moral perspective, where wrong leaders cause suffering by their subordinates and companions

Next view sees leadership to play a pivotal role in organizations as it focuses on what mobilizes, motivates and inspires followers, and is now a critical and valuable area to be explored (Dansereau et al, 2013). Leadership brings the answer to the question through which characteristics, behaviors and processes the Leaders can influence successive attitudes and behaviors and thus achieve collective goals (Van Knippenberg and Sitkin, 2013, Mazánek et al., 2017) As Conger and Kanungo (1998) noted, to Burns the difference between transformational and transactional leadership is in terms of what leaders and followers offer one another. Transformational leaders are identifying deep internal needs of subordinates and offer an inspiration through creating a vision supporting intrinsic needs.

On the other hand, transactional leaders are focusing on the resources exchange – leaders are giving to their followers something they want for something what leader wants. Transformational–transactional leadership theory dominates recent researches and many leadership studies are connecting this topic with effectiveness (Judge and Piccolo, 2004)

According to Walumbwa and Lawler (2003) is transformational leadership considered one of the most effective leadership styles. Leaders efficiency is one of the indicators which leadership effectiveness perceived, specifically, in assessing the effectiveness by followers. Within the MLQ questionnaire are subordinates evaluating their leader. Largely it can be considered as an evaluation of leaders' effectiveness, and some MLQ items might, moreover, marginally affect the performance of the whole group

According to You-De (2013) and Mazánek and Konečná (2015) transformational approach leads to trust among co-workers, while transactional approach could be rather applied in the companies, where are the leaders more task or goal oriented. Therefore, according to Dartey-Baah (2015) is suitable to accomplish expected level of performance in the organization effective combination of both of these approaches. Such combination of transactional and transformational leadership then allow to reach ideal approach to leadership, which is need to solve contemporary as well future challenges.

This combination is sometimes called as resilient theory and explains leadership as a style which is strategic in the framework of proactive thinking, oriented to changes and quick adaptation, emotionally intelligent, performance oriented and based on knowledges and support of learning culture in the organization. (Clayton, 2012; Faustenhammer and Gössler, 2011).

*Table 1: Dimensions of MLQ*

| Dimension | Description |
|---|---|
| Idealized influence | Leader indicates whether he/she hold subordinates' trust, maintain their faith and respect, show dedication to them, appeal to their hopes and dreams, and act as their role model. |
| Charisma/Inspiration | Leader can explain clearly the meaning of the task to subordinates and motivate them. He is an example of ethical behavior and supports others by identification with the vision. |
| Intellectual stimulation | Leader encourages the subordinates to search new ways of solving problems and encourages them to creative challenging of existing practices. |
| Individual approach | Goal of leader is to understand individual needs of subordinates and to continually lead them to develop their potential. |
| Conditional remuneration | Leader can clearly express what he expects from subordinates and what they will get if they meet the requirements. |
| Management of exceptions | Leader monitors the potential issues that may arise and corrects these exceptions to keep the current level of performance. |
| Passive leadership | Leader tends to react only when the problem becomes serious. He often avoids decision-making at all. |

*Source: Avolio et al., 1999*

The Multifactor Leadership Questionnaire (MLQ) is the standard instrument for assessing transformational and transactional leadership behavior (Avolio and Bass, 2004). The authors developed this method as a tool for measuring the transaction and transformation style of leadership using following dimension as a background for research:

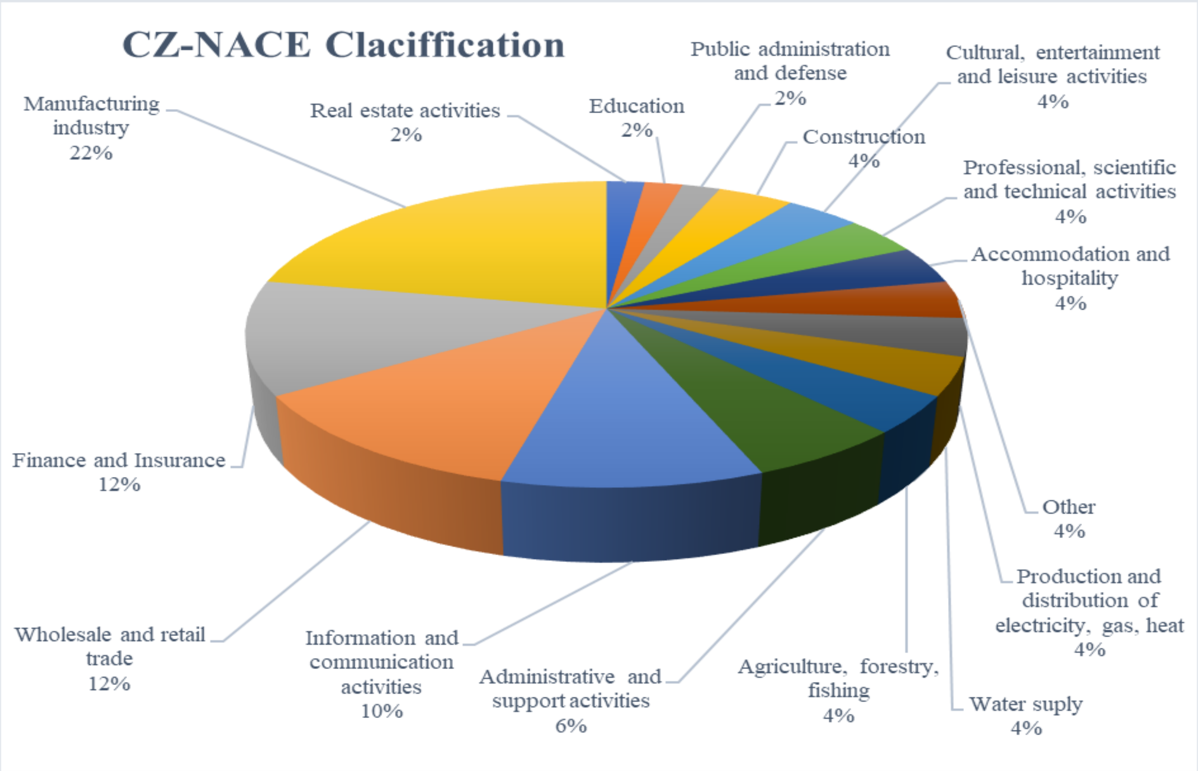
MLQ comes in several versions. Originally it was developed by Bernard (Bernie) Bass and Bruce Avolio, two professors of Binghamton University. MLQ x5 is one of the most frequently used versions broadly used in many subject areas. It measures transactional, transformational and avoidant leadership styles. MLQ x5 comprises 45 items where the first 36 items measure the type of leadership style and the next 9 items examine the effectiveness of the manager. MLQ-6S is another version of the questionnaire comprising 21 items. It measures 7 factors pertaining to transformational, transactional and laissez-faire leadership (Avolio and Bass, 2004).

## 2. Results

There had been conducted quantitative questionnaire survey among the South Moravian (CZ) companies´ CEOs. The sample was randomly selected based on willingness of CEOs to cooperate voluntarily with researchers. During the two-month phase in 2017 (2/2017 – 4/2017) we have obtained 56 questionnaire responds and filtered out the total of 51 valid questionnaire responses.

The sample consists of 51 companies CEO´s (13 women ad 37 men) from various economy sectors (see Picture 1), while most of the respondents were from the manufacturing industry (22%).

*Figure 4: Distribution of sample according to economy classification (CZ-NACE)*




*Source: author's own analysis*

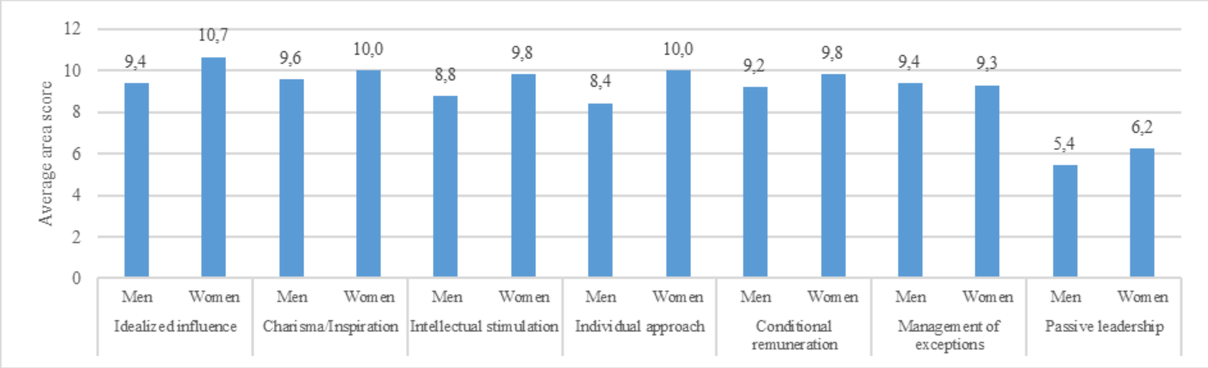
The MLQ-6S questionnaire identifies leadership through 7 factors focused on transformational and transactional leadership. The assessment of each factor is expressed by the sum of three areas in the questionnaire (e.g. Idealized impact factor is summed up with questions 1, 8 and 15). In general, we consider the scores between 9-12 to be high, 5-8 to medium and score to 0-4 to low. Afterwards we have compared the values of the averaged scores in the gender, length of practice, position in management and the number of subordinates.

For Statistical Data Processing we used the Independent Samples t-Test and Analysis of Variance with Scheffe Post Hoc Test in SPSS v. 24

Firstly, we analyzed the differences between men and women. The results show that for four factors the overall score is high, especially for the *Idealized influence, Charisma/Inspiration, Conditional remuneration*, and *Management of exceptions*. The lowest total score (still in the middle range), however, both men and women reached in the *Passive leadership*. Neither men nor women, in their opinion, perceives that they tend to solve a potential problem when it becomes serious or avoid decisions.

Managers and executives perceive in a similar way that they can motivate the subordinate to look for new solutions, clearly define their expectations, and actively intervene in correcting deviations from expected performance. Women managers are more likely to feel more confident and respectful of their employees than employees ($t = -2{,}635$, $df = 47$, sig $<0{,}01$), better understand the needs of individual subordinates and aspire to their potential development more than male counterparts in similar positions ($t = -3{,}048$, $df = 47$, sig $<0.01$) (see Fig. 2)

*Figure 2: Differences between males and female managers*

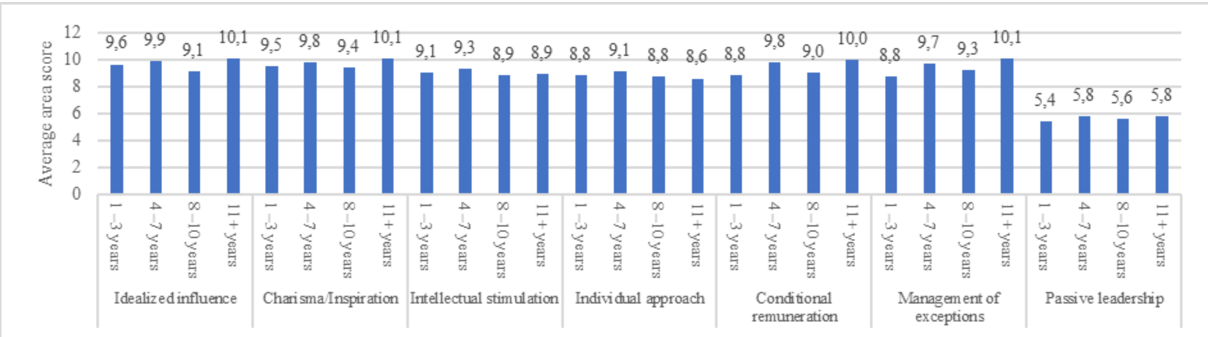



*Source: author's own analysis*

Other differences were found in the length of managers' practice. The total score above 9 points was similar in a group of managers in the factor of *Idealized influence*, *Charisma/Inspiration*, and *Management of exceptions*. To these three have added *Conditional remuneration*, which also shows all the scores in different "high" practice ranges. Thus, we can say that most managers feel competent in building their employees' loyalty, identifying them with their visions, avoiding deviations and making it clear what their employees will get if they meet their requirements.

An *Individual approach* and *Passive leadership* were approached at the edge of the "middle" and "high" scores. When looking at the differences between years of practice, there is a rather interesting drop in *Management of exceptions*, where we see a slight increase in self-rating among older managers and managers, compared to managers and managers in the 1-3-year position. However, as with all other groups, this difference is statistically insignificant (see Figure 3).

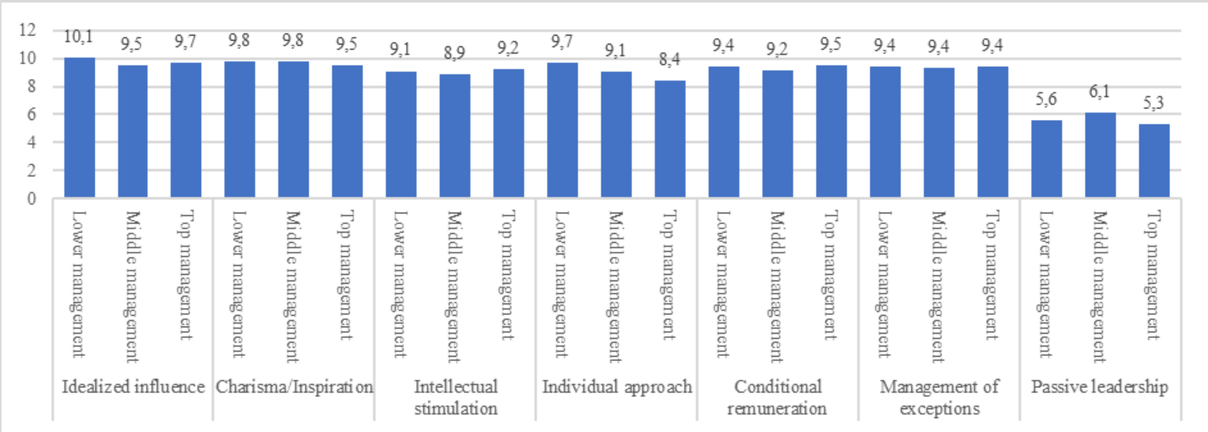
*Figure 3: Differences between length of practice*




*Source: author's own analysis*

Position in management was another of the monitored variables in which we compared the leadership areas. Besides to *Passive leadership*, managers in other areas are not significantly different, but a slight drop in the top Managers' group, which has lower personal access scores, is interesting. They assess themselves so more critically in their own understanding of the needs of their subordinates and their direction towards developing their own potential (see Figure 4).

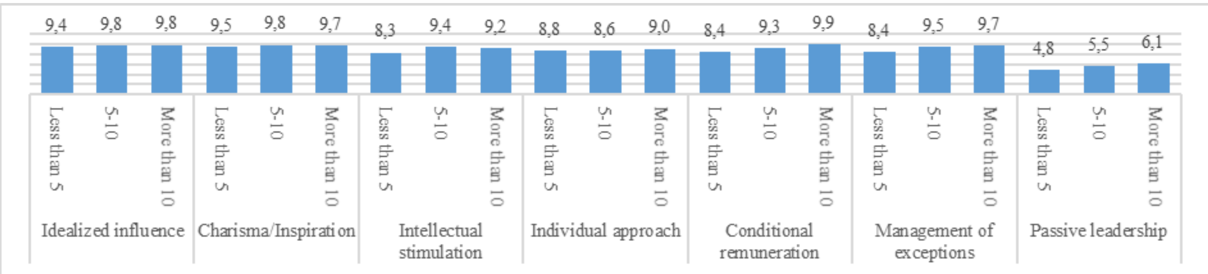
*Figure 4: Differences between position in management*




*Source: author's own analysis*

The last comparison with Czech managers and managers in our study was a comparison of the subordinates count. While in some of the observed leadership factors see differences only minimal, factors such as *Intellectual stimulation*, *Conditional remuneration* and *Management of exceptions* are differences between extreme groups higher than other factors. In all cases, there are differences between the lowest and the highest number of subordinates, when, like the analysis of seniority (number of years in a managerial position), Czech managers with multiple subordinates perceive themselves as people who incite subordinates to artificially call into question existing procedures and search for new ways, a clearly communicated concept of reward for concrete work and problem prediction and their quick solution.

*Figure 5: Differences between number of subordinates*




*Source: author's own analysis*

## 3. Discussion and conclusion

From the above results, Czech managers are evaluating their leadership at a relatively high level apart from *Passive leadership*, which is not much used in Czech conditions. Our results show that differences in perceptions of leadership among Czech managers do not affect the length of their practice, their position in management or the number of subordinates, but most of all whether they are men or women. This could be a sign of stereotyping of gender roles, but in our study, we have achieved relatively interesting results. Although significant differences have not been found in the categories mentioned above, there are several relatively interesting phenomena here. First of all, it is the influence of the level of experience with managers and managers with longer experience, who are better able to predict the development of potential problems and prepare for their more effective resolution. An increasing number of subordinates allow them to allow their subordinates to find new, novel and original solutions, and to communicate more clearly with them what their expectations are and what they can expect from them. On the other hand, with increasing seniority and the process of higher hierarchical positions in management positions, however, according to their self-esteem, they can understand the needs of their subordinates and devote themselves to their development. Additional also previous research studies found out slight differences between the genders in transformational leadership, as a one of most effective leadership styles, furthermore discovered the significantly higher usage of emotional intelligence by female managers (Mandell & Pherwani, 2003). Another past research confirms the fact, that female managers exceeded the male managers in scale of transformational leadership which indicates positive influence on effectiveness itself (Eagly & Johannesen-Schmidt, 2001) A small sample of respondents from the managers and managers from Czech companies seems rather problematic. Although they are quite interesting among some groups, these differences are statistically insignificant. However, we think that on a larger sample of respondents these differences would be more apparent. As another limitation of this research, we see that it is the evaluation of our own leadership by the respondents. It may be distorted by an inaccurate self-perception as a manager, which may not always correspond to the view of surroundings. In further research, it would also be worthwhile to question the immediate subordinates followed with questioning of their managers and compare the degree of possible agreement or disagreement with the various sub-aspects of the leadership of their superiors.

## Acknowledgment

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# GLOBAL APPROACH TO OPERATIONS MANAGEMENT OF RAILWAY TRANSPORT DEVICES IN POLAND

Mieczysław Kornaszewski[1,a,*], Roman Pniewski[2,b]

[1]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[2]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[a]m.kornaszewski@uthrad.pl, [b]r.pniewski@uthrad.pl

*Corresponding author

**Abstract.** The increasing requirements for traffic safety in the railway transport cause that the issue of rational decision making in the management of applied devices operation process become more and more important. The management includes activities necessary for the effective implementation of the operation process and also the ability to the action purpose clarification, the necessary resources preparation, the work plan arrangement and control of their implementation. The implementation each of the indicated functions requires a decision making from a human. The most difficult operational decisions that take into account safety requirements in the railway transport system are those that need to be taken with information considering technical condition of the system facilities as well as the possibility to implementation of maintenance and reparation activities. This is the reason why the exploitation strategies including planning of devices servicing which are used in the railway applications and emergency procedures are so much important. The implementation of tasks in the railway transport system requires the effective management mainly of the operation devices intended for the safe train traffic control. The operation of these devices in the Polish railway system is carried out in accordance with the cyclical service strategy. The length of periods between successive services are fixed regardless of devices operating time. Much more beneficial effects can be obtained in the railway transport system applying the usage strategy according to the technical condition. In this strategy, high operational reliability of the railway devices is required for the human safety.

**Keywords:** railway transport, management, decisions, operation process, safety.

**JEL Classification:** L92, L97, R41, R42

## 1. Introduction

In general, the decisions are often made in an intuitive way which is not always the best solution. The rational approach is definitely better point. It uses the logic principles and increasingly improved resources of computer systems. The management of devices operation is the process in which information changes into decisions. The human has limited possibilities not only in terms of perception but also in information processing. It means that after exceeding a certain amount of information (too fast information flow or too much information at the same time) that person should be supported in the decision-making process, e.g. by the computer system designed in an appropriate way. The diagnostic system is necessary to collect the operational data, while an appropriate IT system is important for their processing and decision support (Ciszewski & Nowakowski, 2016).

## 2. Decision-making process

The decision-making process is a procedural and technological feature of the management process with multiple economic and psychosocial conditions. This procedure can be considered in two ways (Cirovic & Pamucar, 2013).

In the general terms it is a complex process. It consists of: registration and evaluation of information, identification of the decision problem and application of the adopted selection standard, determination and issuance of the decision as well as registration of information about its performance.

In the particular meaning, the decision-making action is only one of many stages in the decision-making process. It means a conscious action of the decision-maker while selecting in non-random way one of the possible options for resolving the decision.

The decision-making process is determined by recognition and determination of the decision situation essence, identification of the alternative options, choice the best one and its implementation. The decision-making process consists of six basic stages: problem definition, goal definition, examination of the selection options, consequences prediction, selection of optimal variant, sensitivity analysis improvement.

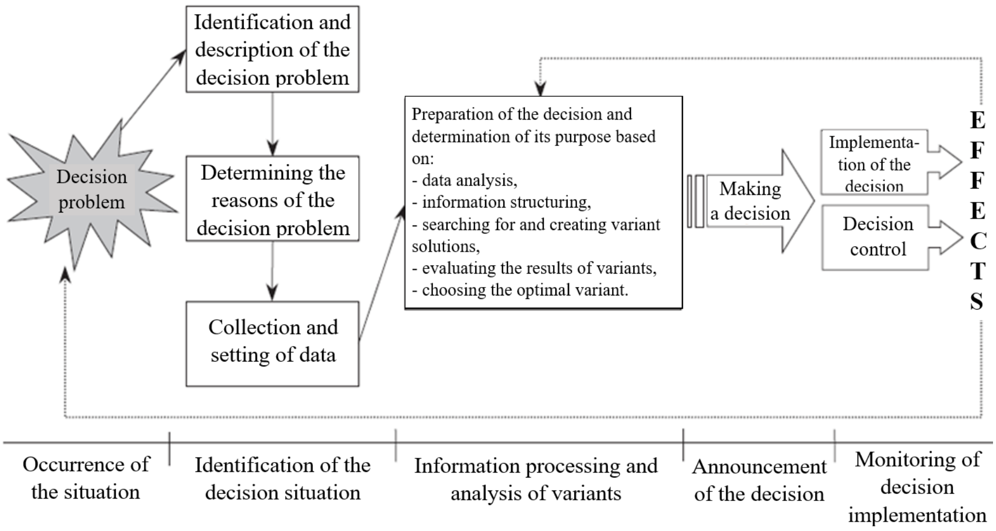
The most important step in the decision-making process is selection of the optimal variant. In case of several alternatives, the decision-maker may determine the preferred way of action by analyzing different options and selecting the best one that achieves the assumed goal. The analysis does not cause significant problems, but it is a labor-intensive method. In more complex cases, when the number of possible variants is high, the best decision is based on methods such as marginal analysis, linear programming, decision trees, cost-benefit analysis, etc. (Rizun & Shmelova, 2017).

## 3. Information-and-decision processes in the technical devices exploitation

If the amount of information is too large, then it exceeds the decision-maker capacity of perception, processing and also executive possibilities. It is not fully used, so that it effects as losses of unnecessary efforts that were put into the process of obtaining this information. However, when the amount of information is too small, the decisions are usually suboptimal (often incorrect). This situation increases losses created during the tasks implementation. Therefore, it seems appropriate to use compromise solutions. This concerns the diagnostic structures creation which enable to make optimal decisions in terms of adopted standard by providing information (Kuznetsov, 2016).

The diagnostic and operational process can be performed with a complexity and dynamics of changes in operational situations. This requires from decision-makers knowledge about the conditions for the implementation of processes in terms of obtaining and processing information as well as making the right decisions (Palo et al., 2014) (fig. 1).

*Figure 1: The course of the decision-making process*



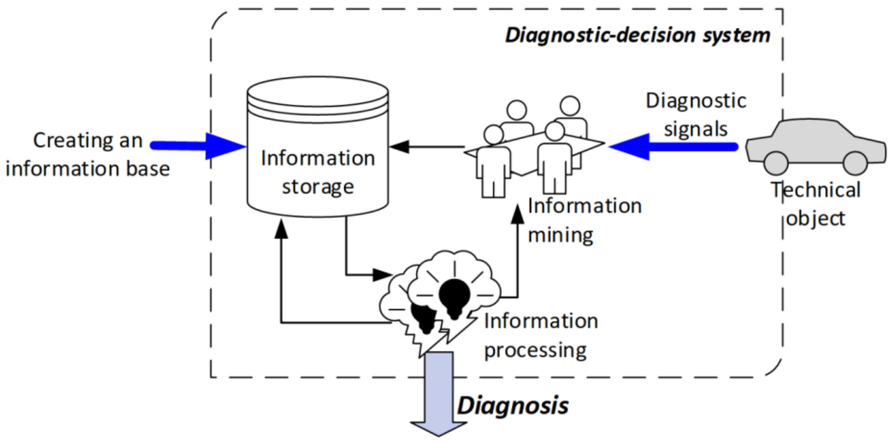

*Source: Cirovic & Pamucar, 2013*

In practice, the managers of the operation process use various criteria. The most important of them are as follow (Consilvio et al., 2015), (Palo et al., 2014):

- technical, when the task implementation by an object or system is conditioned by its technical capabilities,
- economical, when the task implementation by an object is a subject of economic benefits (losses),
- safety, when the task performance by an object is determined by safety considerations (it does not cause dangerous technical states),
- formal and legal, when the task implementation is not contradicting with legal and formal provisions regulating the use of the object.

An exemplary structure of dynamic system action with diagnostic and decision-making rules is presented in fig. 2.

*Figure 2: Diagram of formulating diagnostic and utility decisions process*




*Source: Consilvio et al., 2015*

## 4. Exploitation strategies

The exploitation strategy is a way of operating with technical facilities consisting in the desired technical condition achieving in the operating system. It is a goal whose achievement is a random event due to the lack of information about the conditions where the technical state will be achieved. The system (object, device), where occurs a significant decrease in the assumed efficiency or damage after a long period of system operation, must be ineffective in the further operation process (e.g. excessive: mass, engine power, energy or fuel consumption) (Mikulski, 2002). For this reason, the exploitation strategy should be modified or changed depending on the adopted criterion (Restel & Zajac, 2002), (Dyduch & Moczarski, 2015).

The general rule of the strategy according to service life is the prevention of wear and aging damage. This is achieved by performing maintenance operations at the designated work limits before reaching the limiting level of consumption. The dates and ranges of service and repairs adopted to realization in this strategy are permanent and independent of the device‘s technical condition. The strategy according to technical condition consists in the continuous monitoring of the devices‘ technical conditions and the elaboration of diagnostic informations on this base. This information enable managers to take rational actions in a specific operating system and in its surroundings. The current technical condition of the device is represented by the measured symptoms values of this condition. The correct implementation of this strategy requires effective methods and means of technical diagnostics as well as well-prepared technical staff. In the authorized strategy, no previous achievements of the exploitation strategy according to technical condition are lost. It is creatively modernized. It indicates the manufacturer and person responsible for the product. The manufacturer interested in quality and subsequent sales is responsible for the product from the design through construction, manufacture and operation, to the eventual liquidation of the object. The strategy according to reliability is a good approach to making operational decisions based on the periodic control results of the reliability level (reliability indicators) in terms of devices operated until increased intensity of elements damage occures. It allows to operate the facility until the damage occurs. The increase in demand for modern and more efficient devices causes faster introduction of new equipment solutions to the market by manufactures. These actions reduce time and existence of a specific type of device on the market. The strategy according to economic efficiency concerns such events in which the relative aging of technical devices precedes their physical wear. It also applies to devices that have technical readiness condition but they are withdrawn from using due to unsatisfactory performance or failure to meet the applicable criteria (e.g. safety, ecology) (Kornaszewski, 2013).

## 5. Managing the operation of railway transport facilities in Poland on the example of railway traffic control devices

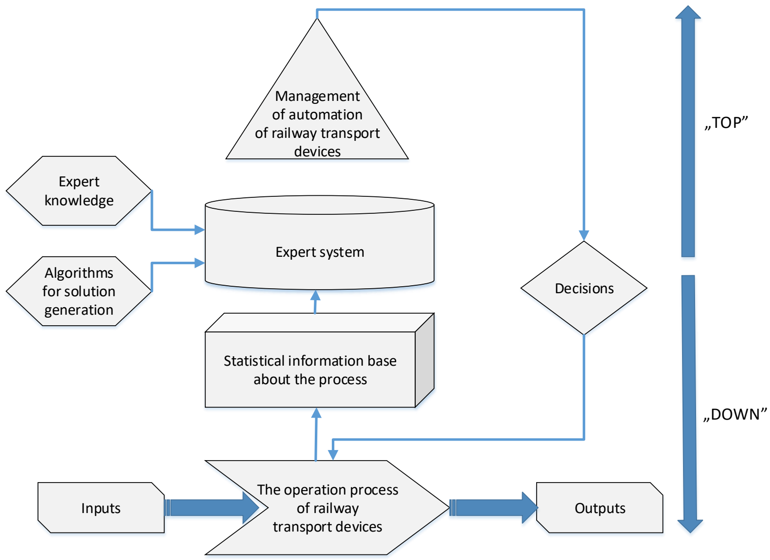
Railway traffic control (RTC) is an element of the railway transport system that significantly influences the safety and efficiency of the people and cargoes movement process (Branishtov et al., 2015). Therefore, the rationalization of service and renewal processes concerns in a special way railway traffic control systems which work often in difficult operating conditions and perform safety functions (Pricevicius et al., 2016).

Management includes activities necessary for the effective implementation of the operation process and the ability to clearly specify the purpose of the action, preparation of the necessary resources, arrangement of the work plan and the course of their implementation control. The operation process of railway traffic control devices refers to the basic company being part of the Polish National Railways, which is the Polish Railways Lines S.A. (PKP PLK S.A.), and narrowing the area of influence – to the Railway Lines Plant. These are units that are directly interested in the operation of various railway traffic control objects. Their purpose is, among others, maintenance, modernization and sharing railway traffic control devices with other rail carriers. The exploitation goal of the Railway Lines Plant is therefore the use of its own operational potential of railway traffic control devices to bring specific benefits to PKP PLK S.A. (fees for access to railway stations and railway lines, etc.), while maintaining safe and efficient of transport process (Jacyna et al., 2017), (Dyduch & Moczarski, 2015). The concept of management can relate only to the processes. They constitute a time-varying sequence of actions triggered by the occurrence of relevant events and serving a purposeful change in the technical condition of railway traffic control devices. It takes place in the operating sections (assembling teams) and in diagnostic teams (people of relevant diagnostics specialties). The management treated as an information-and-decision process is carried out by the director of the Railway Lines Plant, the head of the operation section and the chief engineer of the diagnostic team. The decisions are the result of solving decision problems arising during the operation of the devices. The decision is the information, so the managing process of the railway traffic control devices exploitation is based on the conversion of input to output information (Kornaszewski, 2013). The exploitation of railway traffic control devices at PKP PLK S.A. is carried out in accordance with the applicable simple cyclic handling strategy which is a simplified version of the strategy according to the resurse.

## 6. Decision support systems in the railway transport devices operation

The combination of management information systems with mathematical methods, such as: optimization methods, network methods, computer simulation, reliability theory, operation theory, mass service theory, etc., enabled the construction of a decision support system in the railway transport devices operation (Kuroiwa et al., 2002), (Kuznetsov, 2016).

*Figure 3: The place of the decision support system in the organization of managing the railway transport devices exploitation*



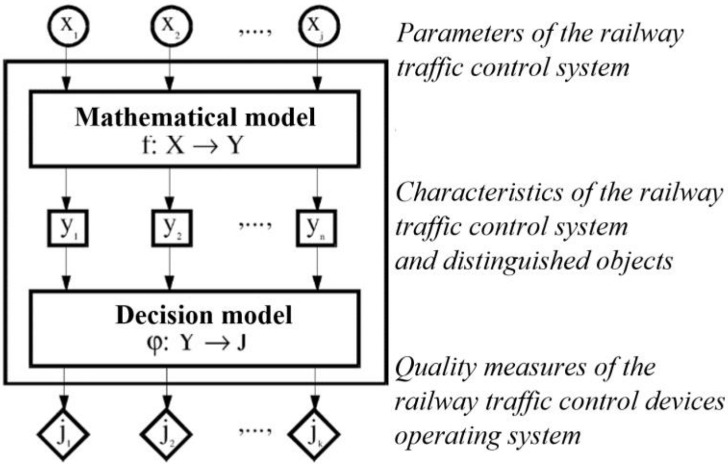

*Source: Dyduch & Moczarski, 2015*

The work of the decision support system in the railway transport devices operation is based on the principle of bottom-up planning („down top”), and then from top to bottom („top down”) - fig. 3. This means that the decisions of the superior level are based on full overview of the operation process state („down top”) and are implemented in the course of this process in accordance with the „top down” principle (Dyduch & Moczarski, 2015). The essence of decision support systems is that real problems must be transformed into mathematical models. The variety of issues occurring in the exploitation of railway traffic control devices makes that decision support systems in this area should be composed of two parts. The first part is the traditional data processing based on algorithmic methods. In the second one there are generated solutions that use knowledge accumulated in the technical and technological characteristics, load characteristics and environmental impact, functions performed in the process of railway traffic, etc. (Sanz Bobi et al., 2008).

## 7. Decision model in the operating system of railway traffic control devices

The decision-making process in the railway traffic control system is implemented in practice through the use of a decision-making model for the operation of railway traffic control devices (Rizun & Shmelova, 2017). The mathematical model construction of the decision making system of railway traffic control devices $MMD_{RTC}$ is reduced to the presentation in the language of mathematics individual elements of the model based on the results of the identification description and the problem system of exploitation of railway traffic control objects.

*Figure 4: Graphic illustration of a mathematical decision model of railway traffic control devices operation system*




*Source: Kornaszewski, 2013*

The mathematical decision model of the railway traffic control devices operation system can be described using the following expression (according to fig. 4) (Kornaszewski, 2013):

$$MMD_{RTC} = \langle X_{RTC}, Y_{RTC}, J_{RTC}, f_{RTC}, \varphi_{RTC} \rangle, \quad (1)$$

where:
$X_{RTC}$ - set of railway traffic control system parameters,
$Y_{RTC}$ - set of railway traffic control system characteristics,
$J_{RTC}$ - set of railway traffic control quality measures,

$f_{RTC}: X_{RTC} \rightarrow Y_{RTC}$ - mathematical model of the railway traffic control system (mapping, relation, function),
$\varphi_{RTC}: Y_{RTC} \rightarrow J_{RTC}$ - decision model of the railway traffic control devices operation system.

The operational parameters are numbers, functions, relations and structures that characterize a given fragment of operational reality, e.g. the structure of the repair cycle, the number of railway traffic control devices included in a given organizational structure at PKP PLK S.A., etc. The operational characteristics are functions and functionalities. Specific arguments of the characteristics are operating parameters. The examples of operational characteristics may be: operating costs, consumption of consumables, reliability of the objects, etc. The operating quality measures are determined by selected operational characteristics for a given decision-making criterion. Examples of such quality measures can be: minimum cost of operating railway traffic control devices for given conditions or maximum reliability of these devices for given time and operating conditions (Kornaszewski, 2013).

# 8. Conclusion

The effectiveness of decision making in the operational process is conditioned by access to information about the course of destructive processes, changes of railway traffic control devices technical condition and threats posed by emerging problems and their consequences (Kuznetsov, 2016). Determination of economic indicators (e.g. the expected value of the profit achieved during the task) which are used in formulating utility decisions based on information about the properties of a railway transport object can be obtained by means of a facility usage measure - effectiveness *($E_F$)*. It is a function of the object useful properties *($P_U$)* achieved in specific conditions of use *($C_U$)* and at a given control stimulation system *($S_C$)* (Kuznetsov, 2016):

$$E_F = f_E(P_U, C_U, S_C). \tag{2}$$

The function $f_E$ can be considered as a usable model of a railway transport facility. The model allows the manager to choose usable properties, conditions and control stimuli, which will ensure the achievement of the required efficiency or near to that. The exploitation strategy according to service life applied in the Polish railways makes it easier to manage the process of railway transport devices operating. The operations are done independently of the actual needs conditioned by the technical condition of the device. The maintenance procedures become more expensive and more inefficient. The decision systems used in the field of railway traffic control devices may collect only a small part of expert knowledge which can be used to solve problems in a given scope (Rizun & Shmelova, 2017). Therefore, they should be created as advisory systems for a narrower group of issues and cooperate with the user in an interactive mode.

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# GLOBALIZATION TRENDS IN THE TOURIST SUPPLY IN THE SILESIAN MORAVIAN REGION

Miroslava Kostková[1,a,*]

[1]Silesian University in Opava School of Business Administration in Karvina

[a]kostkova@opf.slu.cz

[*]Corresponding author

**Abstract:** Tourism is considered an economically significant sector in the world with a distinctly international character. At present, tourism is referred to as tourism with all the features, including the impact of globalization. Its production and consumption takes place in an international context and is often linked to the movement of people, goods, ideas, concepts and information across borders. As a result, many tourist aspects of consumers are transferred to other countries. It is heavily influenced by global trends in leisure and consumption of tourism products. Under this pressure, the tourist offer is globalized. The consequences of globalization lead to the prioritization of regional supply, but with significant elements of the globalization of consumption. The article deals with the trends in the area of tourism supply, gastronomy, accommodation facilities and their comparison with customer preferences on the basis of a survey of the project "Tourism Trends in the Moravian-Silesian Region". A comparison is made with the development trends of tourism in the Czech Republic. In conclusion, an analysis of tourism trends in the Moravian-Silesian Region is presented on the supply side and there are recommendations for entrepreneurial subjects for creation and innovation of the offer.

**Keywords:** Tourism, globalization, tourism trends, supply, consumption, tourism products.

**JEL Classification:** R11, Z3, Z32

## 1. Introduction

Cestovní ruch jako ekonomicky významné odvětví s výrazně mezinárodním charakterem je v současnosti názýváno take turistickým průmyslem, se všemi znaky, mezi které patří internacionalizace a globalizace (Pellešová 2015). Jeho produkce i spotřeba se významně realizuje v nadnárodním kontextu a je spojena s přeshraničním pohybem osob, zboží, myšlenek, konceptů i informací. V důsledku toho se přenáší řada spotřebních turistických aspektů do jiných zemí, spotřeba je silně ovlivňována globálními trendy v oblasti trávení volného času, informačními technologiemi a vývojem v oblasti technologií a výroby. Pod tímto tlakem dochází ke globalizaci turistické nabídky. Jedním z důsledků globalizace v oblasti turismu je také zvýšený zájem o lokální turistické produkty/atraktivity, což vede k větší pozornosti řídících institucí o rozvoj regionální nabídky, jednak pro rozšíření záimu turistů o jiné, než nejvýznamnější národní turistické cíle (v ČR např. Praha, Český Krumlov atd.), ale také v boji s tzv. overtourismem, který v konečném důsledku ničí kulturní a přírodní dědictví.

## 2. Teoretická východiska a metodologie

Světové megatrendy, které souvisí se vzájemným podmiňováním globalizace a lokalizace, informačními a komunikačními technologiemi, ovlivňujícími výběr cílového místa a distribuci produktu, s důrazem na komfort, ulehčení a zrychlení cestování a rozvoj dopravních technologií, prohlubují polarizaci preferencí turistů (Bucher et. al. 2016). Podle Gúčika a kol. (2015) globalizace způsobuje, že čím dál, tím více se cestovní ruch bude odehrávat na netradičních místech. Módním se stane to cílové místo, které bude rozvíjet tematicky zaměřený tržní produkt, s jedním nebo kombinací tří prvků, kterými jsou zábava, zážitek a poznání a cílová místa se budou více zaměřovat na image, jako předpoklad diverzifikace a expanze. Turistické trendy jsou předmětem zkoumání mnoha autorů, například Darcy & Buhalis (2006) hovoří o trendu univerzálního designu, vhodného pro všechny kategorie návštěvníků cestovního ruchu, pro zajištění bezpečnějšího prostředí a snazšího přístupu ke službám. Conrady & Buck (2011) a Goeldner & Ritchie (2014) uvádí zvýšení významu propagování rozvoje ekologického cestovního ruchu a etiky, Kotíková (2013) zmiňuje význam eventů a event marketingu pro podporu rozvoje cestovního ruchu. Gúčik (2010) uvádí megatrendy Světové organizace cestovního ruchu, které budou ovlivňovat mezinárodní cestovní ruch do roku 2020. Podle něj se bude prosazovat zejména zdravotní, ekologický, kulturní, tematický a dobrodružný cestovní ruch. Mezi deset základních trendů, které ovlivní cestovní ruch v nejbližší budoucnosti, patří změny v demografii, péče o zdraví a vzdělávání, změny v preferencích trávení volného času, větší zkušenosti s cestováním, změny životního stylu, rozvoj informačních technologií a dopravy, zájem o udržitelný rozvoj, jistota a bezpečí. Roste význam alternativního ubytování a slevových portálů, které nepřímo ovlivňují cestovatelské zvyklosti. Rostoucím trendem v Evropě podle Botlikové et. al. (2015) je prodlužování léta a trávení dovolené i mimo hlavní sezónu. Hlavním komunikačním nástrojem jsou internetové portály. Filimonau et. al. (2017) hovoří o nezbytnosti manažerského rozhodování o začlenění nových trendů do nabídky, které je rozhodujícím faktorem pro volbu spotřebitele. Zjišťování trendů, které mění cestování, pomáhá manažerům lépe porozumět potřebám zákazníků a zůstat konkurenceschopnými. Rychlé technologické změny mění způsob, jakým spotřebitelé používají, hodnotí a diskutují o produktech cestovního ruchu (Bowen & Whalen 2017). Využití nových technologií (např. pomocí indexu Google trendů) je považováno za užitečné při zlepšování prognózy poptávky po cestovním ruchu (Onder 2017). Podle Palatkové (2011) se rozvíjí cestování mladých, kteří nadšeně cestují do destinací v rámci vlastního rozpočtu, emocionální význam pro ně mají mobilní fotografie. Nová generace cestovatelů Millennials baží po aktivních zážitcích a dobrodružných výletech, podle Forbes (2017), Mertlové (2015) a Jurigové (2016) se významně rozvíjí cestování pro vyhledávání obohacujících zkušeností, roste potravinový cestovní ruch, odpovědný cestovní ruch a ekoturistika, objevují se nové trendy také v destinačním managementu a pořádání eventů.

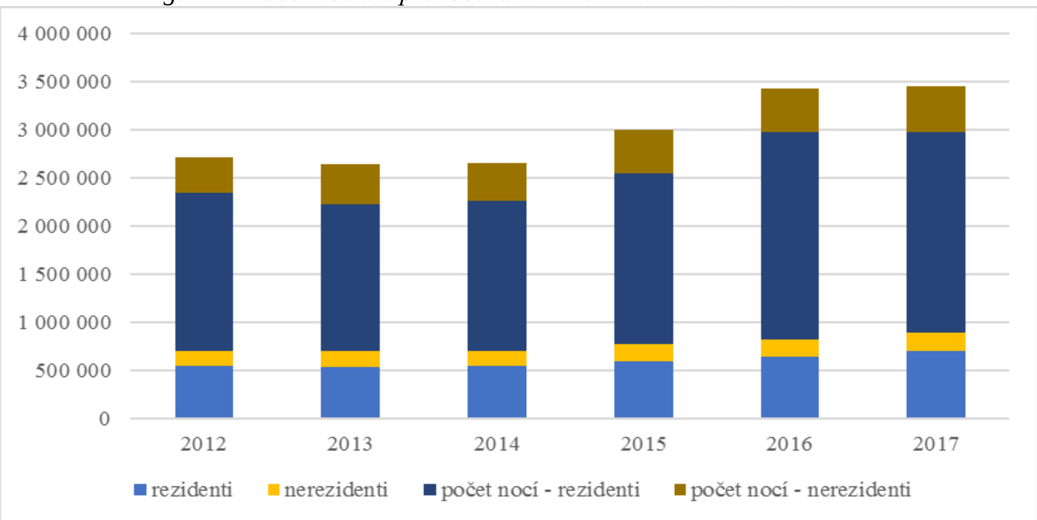
Češi podle statistik ČSÚ cestují nejčastěji po naší republice. Cíle: odpočinek, návštěva příbuzných či známých, chataření a chalupaření. Typický způsob dopravy - osobní motorové vozidlo. Návštěvnost rezidentů roste napříč všemi kraji ČR, počet přenocování v hromadných ubytovacích zařízeních roste výrazněji než zahraničních hostů. Průměrná doba pobytu zůstává na stejné úrovni již několik let. Dlouhodobě se však potvrzuje trend postupného zkracování pobytů (v roce 2000 se host ubytoval v průměru na 4,1 noci, v současnosti je to jen 2,7 noci). Do ciziny Češi jezdí hlavně na dovolenou, ubytovávají se jak v hromadných ubytovacích zařízeních, tak i v soukromí. Nejčastějším dopravním prostředkem na cestách do zahraničí je osobní motorové vozidlo (více než polovina) a letadlo (čtvrtina). Nejvíce se jezdí na Slovensko. Společnost GlobalData v rámci výzkumu „Consumer Trends: Niche Tourism“ zveřejnila, že zájem o tradiční turistiku u Čechů i nadále převažuje, podle výsledků výzkumu 76 % respondentů se na dovolenou vydává kvůli odpočinku a relaxaci, 65 % cestuje za sluncem a mořem, 60 % respondentů vyhledává městskou turistiku a 57 % zajímavé kulturní zážitky. Z netradičních forem turismu roste zájem o gastroturistiku, zdravotně orientovanou turistiku a wellness a různé typy plaveb (4 %). Nejméně vyhledávaným způsobem trávení volného času Čechů je náboženský cestovní ruch a církevní turistika (6 %). (https://www.icot.cz/)

Článek pojednává o globalizačních tendencích, které se pod tlakem poptávky a změny jejich preferencí projevují na straně nabídky cestovního ruchu, konkrétně v gastronomii, ubytování a v nabídce cestovních kanceláří. Zkoumá vývoj trendů cestovního ruchu v rámci institucionálního projektu “Trendy cestovního ruchu v Moravskoslezském kraji”. Průzkum, zaměřený na získání informací o postoji zákazníků ke zkoumané problematice probíhal formou osobního dotazování v období léta 2017, průzkum podnikatelských subjektů z oblasti ubytovacích a stravovacích zařízení a cestovních kanceláří byl realizován od září do prosince 2017. Jednotlivé podniky byly osloveny emailem technikou dotazování formou řízeného rozhovoru. Vzorek respondentů tvořilo 55 restauračních zařízení a 24 ubytovacích podniků Moravskoslezského kraje na straně nabídky. Data byla zpracována pomocí programu SPSS, využita byla metoda exploračního výzkumu, analýzy a syntézy, metoda generalizace a predikce dalšího vývoje.

## 2.1 Současná charakteristika cestovního ruchu v Moravskoslezském kraji

Podle výsledků výzkumu „Příjezdový cestovní ruch do jednotlivých krajů ČR za období 2012-2016“, realizovaném v roce 2017 agenturou MindBridge a.s. je počtem zahraničních návštěvníků Moravskoslezský kraj sedmým nejvíce navštěvovaným krajem v ČR.

*Figure 1: Počet hostů a přenocování v HUZ MSK v letech 2012 - 2017*




*Source: vlastní zpracování podle údajů ČSÚ, 2018*

Výrazně převažují jednodenní návštěvníci (téměř dvě třetiny), a to především ti, kteří přijedou navštívit své příbuzné a známé, nebo na jednodenní výlet a za nákupy. Více než 60 % zahraničních návštěvníků Moravskoslezského kraje jezdí do ČR minimálně 1x měsíčně. Jejich průměrné výdaje jsou o 2 % vyšší než u ostatních turistů. Necelá polovina turistů, kteří přicestovali v letech 2012-2016 využila individuální ubytovací zařízení (54 %), nejčastěji jeho neplacenou formu (50 %). V mezikrajském srovnání je tento podíl vysoký. Moravskoslezský kraj navštěvují ze ¾ hosté bez využití služeb cestovních kanceláří. 93 % zahraničních návštěvníků přijíždí individuálně a 7 % organizovaně. Podíl organizovaných zájezdů je pod průměrem celé ČR. Délka pobytu je ve srovnání s ČR nadprůměrná (Obr. 1). Zahraniční turisté utratí během návštěvy kraje v průměru 1132 Kč na osobu a den. Asi 70 % částky je vynaloženo na nákup zboží a necelá pětina částky na stravování. V porovnání s ostatními kraji a s průměrem ČR jsou tyto výdaje podprůměrné. Na zvyšování návštěvnosti kraje mají svůj velký podíl kulturní, sportovní a společenské eventy, průměrné denní výdaje cizinců se zvyšují až na 1 800 Kč/den. Z hlediska přínosů do veřejných rozpočtů dle výkonnosti kraje za období 2010 – 2015 je podíl Moravskoslezského kraje na přínosech z cestovního ruchu 5,7 %[13].

## 2.2 Projekt „Trendy cestovního ruchu v Moravskoslezském kraji"

Trendy v cestovním ruchu se z pohledu vývoje rychle mění a z pohledu geografické lokalizace se mohou různit, proto jsme se v rámci projektu „Trendy cestovního ruchu v Moravskoslezském kraji" zaměřili na predikci a zjišťování vývoje trendů cestovního ruchu v oblasti nabídky ubytovacích a stravovacích zařízení, do kterého byli zapojeni jak potenciální zákazníci, tak podniky cestovního ruchu. Základem sekundárních informací byly údaje o vývoji turistických ukazatelů z průzkumů a statistické údaje Českého statistického úřadu.

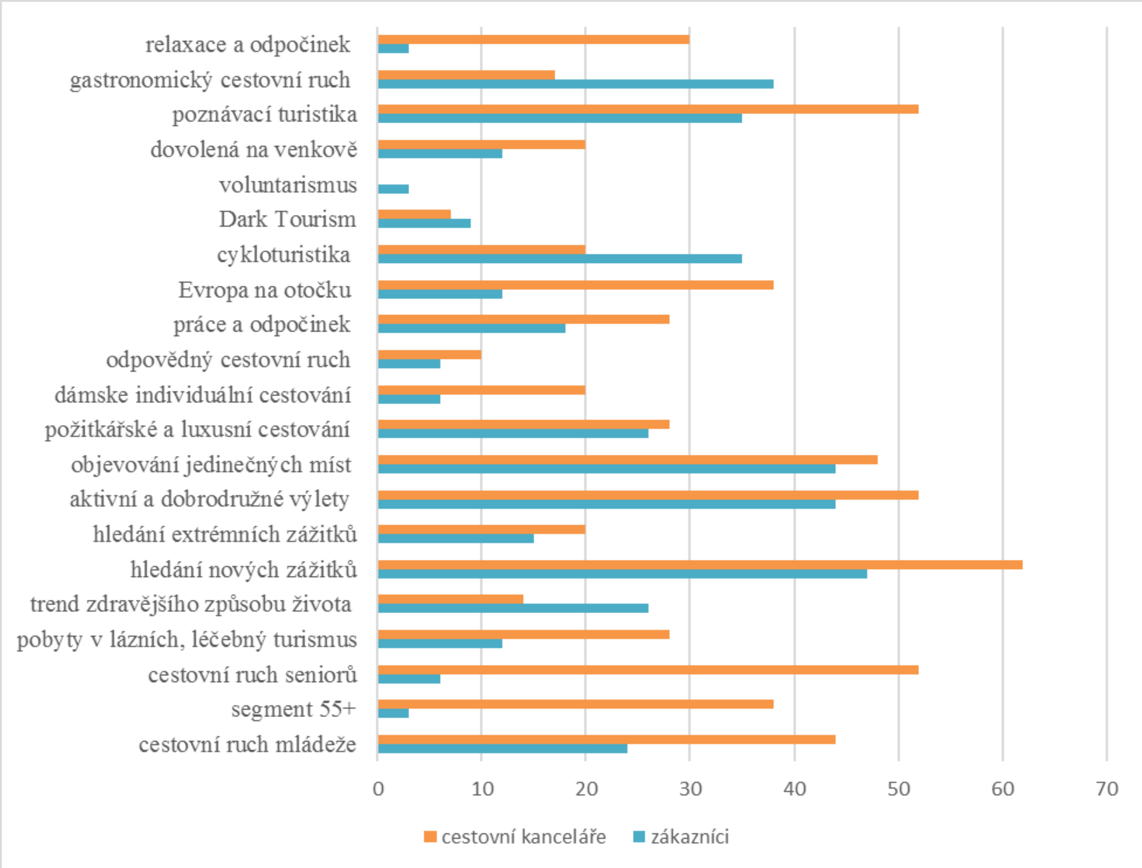
Pro stanovení preferencí zákazníků byla určena kritéria, vycházející z deskripce trendů dle Strategie řízení cestovního ruchu v Moravskoslezském kraji (Hruška 2015) a následně byla provedena komparace. Pro definování vývojových trendů na straně poptávky byl vytvořen reprezentativní vzorek 340 respondentů různých věkových kategorií, vzdělání a pohlaví. Vybrány byly tři oblasti služeb: restaurační zařízení, ubytovací zařízení a cestovní kanceláře/agentury. Cíle bylo zjistit vývoj preferencí k nabídce, vztah respondentů k zavádění novinek do nabídky, vliv kvality a certifikace na poptávku a faktory, ovlivňující opakovaný nákup služby.

Do průzkumu zkoumání trendů na straně nabídky se zapojilo celkem 29 cestovních kanceláří a cestovních agentur, z nich většina patří mezi mikropodniky do 10 zaměstnanců (61 %), 38 % má do 25 zaměstnanců, 1 podnik má více než 50 zaměstnanců. Komparace trendů na straně nabídky cestovních kanceláří a poptávky zákazníků je uvedena v Obr. 2. Jako nejvýznamnější se na straně cestovních kanceláří i klientů projevil trend hledání nových zážitků (významnější v nabídce cestovních kanceláří), zaměření na aktivní dovolenou a dobrodružné výlety a objevování jedinečných míst (podobné na straně nabídky i poptávky). U zákazníků významně přibývá zájem o gastronomický cestovní ruch a cykloturistiku, v rámci globálního trendu zdravějšího způsobu života.

Reprezentativní vzorek segmentu stravovacích zařízení tvořilo 55 podniků v Moravskoslezském kraji (21 podniků s 0-10 zaměstnanci, 27 podniků s 11-25 zaměstnanci, 4 podniky s 26-50 zaměstnanci a 3 podniky s 51-100 zaměstnanci), restaurace a bary různého zaměření a standardu služeb, hotelové restaurace, kavárny, pizzerie, bistra apod.

[13] Podle agentury STENMARK, 2017

*Figure 2: Komparace trendů v oblasti cestování – poptávka zákazníků vs. nabídka cestovních kanceláří*




*Source: vlastní zpracování, 2018*

Cílem průzkumu bylo zjišťování názoru na zavádění moderních trendů do nabídky a znalost faktorů, ovlivňujících nákupní rozhodování zákazníků formou řízených strukturovaných rozhovorů s řídícími pracovníky Zavádění novinek do nabídky a sledování moderních trendů zvyšuje konkurenceschopnost, zlepšuje image a zájem veřejnosti, zvyšuje návštěvnost a tržby (potvrzuje více než 75 % respondentů). Uvedli, že zavádění nových trendů je nutností úspěchu a je potřebné je sledovat a umět se přizpůsobit (76 %). Polovina to považuje za důležité pro odlišení se od konkurence a moderní trendy chtějí do nabídky zavádět i do budoucna (např. zavádění bezlepkových pokrmů, Raw food, speciálních a sezónních menu, nových receptur, pokrmů z lokálních a hlavně čerstvých pokrmů). Účast na veletrzích, výstavách, gastrofestivalech a dalších podobných propagačních akcích jako významnou potvrdilo jen 46 % dotázaných podniků, kterým to přináší zviditelnění a vyšší návštěvnost, dalším efektem je možnost zlepšování a zdokonalování nabídky podniku na základě možnosti porovnání se s konkurencí. Certifikaci kvality považuje větší část dotázaných za přínosnou z hlediska zlepšení image podniku, certifikát poukazuje na kvalitu podniku a použitých surovin k přípravě pokrmů, jde o přidanou hodnotu. Pro opakovanou návštěvu hostů je podle nich (94 %) rozhodující profesionální vystupování personálu, rychlost obsloužení, znalost nabídky a schopnost podat maximum informací a také empatický přístup. Jazykové dovednosti nejsou až tak významné. Nejdůležitější je čistota a pořádek provozu, světelný a tepelný komfort, čistota vzduchu a možnost parkování. Rozhodování o návštěvě restaurace podle respondentů ovlivňuje především dobrá předchozí zkušenost zákazníků, doporučení známých, propagace a dobré reference na internetu (88 %), odpovídající poměr cena/kvalita a přijatelné ceny (82 %), domácí kuchyně (58 %), nabídka poledního menu (76

%), méně významné je poskytování specifické nabídky pro děti, nabídka atraktivních novinek nebo dietních pokrmů (23 %).

Reprezentativní vzorek segmentu ubytovacích zařízení tvořilo 24 podniků v kraji, 38 % zaměstnává do 10 zaměstnanců (10 – 40 pokojů), 33 % do 20 zaměstnanců (10 – 55 pokojů), pouze 1 podnik má 100 zaměstnanců (266 pokojů). Ubytovací zařízení nejčastěji zavádí výhody pro stálé zákazníky, novinky v doplňkových službách, uvědomují si význam nabídky wellness a fitness služeb pro své hosty a pravidelně investují do rekonstrukce celého zařízení. Moderně komunikují s klienty, využívají online reklamu, pečují o webové stránky a spolupracují s prodejními webovými portály. Moderní trendy sleduje a novinky do své nabídky vzhledem k finančním možnostem zavádí 47 % dotázaných podniků, pro 17 % je zavádění novinek do nabídky velmi důležité, pro 14 % novinky nejsou prioritou a drží se osvědčené nabídky. Pro opakovanou návštěvu hostů je dle provozovatelů ubytovacích zařízení rozhodující (podobně jako u cestovních kanceláří) profesionální vystupování personálu (97 %), znalost nabídky a rychlost obsloužení, čistota a pořádek, možnost parkování, pro 82 % je důležité dobré hodnocení na internetu a doporučení známých, na dalším místě je odpovídající poměr cena/kvalita a dostupné Wifi. Mezi významné faktory, ovlivňující návštěvnost je uváděna také nabídka pro děti, možnost ubytování s mazlíčky a možnost výběru z hotelových balíčků. Veletrhů a dalších propagačních akcí se polovina dotázaných zúčastňuje jen jako návštěvník, podobně jako u cestovních kanceláří a restauračních podniků, 24 % restaurací se účastní nepravidelně. Pouze 12 % ubytovacích a 15 % stravovacích zařízení zdůrazňuje důležitost těchto akcí pro propagaci a účastní se pravidelně jako vystavovatelé.

## 3. Conclusion

Na základě analýzy získaných dat lze specifikovat celou řadu nových trendů v cestovním ruchu. Mezi nejvýznamnější trendy cestovního ruchu Moravskoslezského kraje na straně poptávky lze zařadit následující: široké využití internetu a obliba slevových portálů, zájem o extrémní zážitky, aktivní a dobrodružné výlety, objevování jedinečných míst u nás i v zahraničí a významný nárůst zájmu o gastronomický cestovní ruch (obchodní potravinový, příhraniční, gurmánský, gastroturistika, gastrofestivaly, farmářské trhy apod.). Pro opakovanou návštěvu zákazníků hrají významnou roli dobré reference o podniku a kvalitní propagace nabídky na internetu, možnost moderní komunikace s klienty (přes web a mobilní aplikace), velký důraz je kladen na kvalitní personál a flexibilní změnu nabídky vzhledem ke změnám preferencí klientů. Certifikaci kvality považuje větší část respondentů ze strany nabídky i poptávky za přínosnou z hlediska zlepšení image podniku a certifikát je považován za značku kvality podniku. Většina dotázaných podniků souhlasí s názorem, že bez sledování trendů ve spotřebě nelze zachovat konkurenceschopnost, ubytovací zařízení zavádějí moderní trendy do nabídky doplňkových služeb, restaurační zařízení pravidelně vkládají novinky do nabídky jídelních lístků a věnují se přípravě tematických gastronomických akcí, k čemuž využívají školení a kurzy, které pro své členy organizují profesní sdružení. Více než polovina dotázaných sděluje, že sledování trendů a zavádění novinek do nabídky zvyšuje tržby a návštěvnost podniku a kladně působí na spokojenost zákazníků. Analýza zjištěných informací poukazuje na vliv globalizačních trendů na vytváření nabídky cestovního ruchu v Moravskoslezském kraji. Provedený průzkum prokázal, že pro tento region je nutné vycházet z dispozic regionu, jeho atraktivit, dostupnosti a demografického složení obyvatelstva, které se po restrukturalizaci průmyslu v regionu od ostatních částí republiky značně liší. Kraj disponuje dostatečnými ubytovacími kapacitami. Návštěvnost v hromadných ubytovacích zařízeních se zvyšuje a délka pobytu hostů je v průměru o něco vyšší nežli republiková. Výrazně posilují příjezdy návštěvníků, především z blízkého zahraničí, což pozitivně ovlivňuje aktivní propagační kampaň. Zvyšuje se prestiž území, to se lépe propaguje, roste zájem turistů a tím se zvyšuje turistická návštěvnost. Formulování vývojových trendů, s důrazem na nově identifikované trendy může podnikatelským subjektům a také institucím, zabývajícím se plánováním rozvoje cestovního ruchu v kraji sloužit jako doporučení pro směřování tvorby nových turistických produktů a zavádění nových služeb pro zvýšení turistické návštěvnosti Moravskoslezského kraje.

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# EVALUATION OF THE DEVELOPMENT OF RUNNING TIME ON SELECTED LONG-DISTANCE LINES OF RAILWAY IN THE CZECH REPUBLIC

Michal Krajňák[1,a,*], Vojtěch Meier[2,b]

[1] VSB-Technical Univerzity of Ostrava, Faculty of Economics, Department of Accounting and Taxes, Sokolská třída 33, 702 00 Ostrava, Czech Republic

[2] VSB-Technical Univerzity of Ostrava, Faculty of Economics, Department of Management, Sokolská třída 33, 702 00 Ostrava, Czech Republic

[a]michal.krajnak@vsb.cz, [b]vojtech.meier@vsb.cz

*Corresponding author

**Abstract.** Globalization affects a number of economic processes, one of which is also transport. The interconnection of economies, whether from a regional or transnational point of view, increases, among other things, the demands of passenger rail services. It is crucial for passengers how long the journey between two places will take. Due to the development of the infrastructure, the running time gradually decreases and the quality of the services provided gradually increases. The data for the analysis were primarily drawn from the annual reports of the most important carrier in the Czech Republic – České Dráhy. The annual report is a significant accounting document informing about the corporate economic phenomena. The aim of this article is to evaluate the development of running time when using the rail passenger services between selected cities in the Czech Republic between 2009 and 2018. In the article, those cities of the Czech Republic are selected, where the connection is provided by high quality trains. The conclusions of the analysis show that the most significant reduction of running time in the last 10 years occurred between Prague and České Budějovice or Prague and Cheb. Paradoxically, in case of the fastest SuperCity Pendolino connections, running time between Prague and Ostrava was reduced by only 8 minutes. However, SuperCity services remain the fastest links in the country with an average service speed exceeding 118 km/h. On the other hand, line connections that have experienced the highest reduction in running time continue to show the lowest service speed.

**Keywords:** annual report, české dráhy, railways, running time.

**JEL Classification:** C02, L92, M41, R41

## 1. Introduction

Economical and political development after 1989 changed orientation from the east to the west and clearly set gradual incorporation of the Czech Republic into the European structures including necessary interconnection of transport infrastructures of individual countries (Gramblicka & Marek, 2010). The continuing globalization of the economy draws attention to transport issues. Transport plays an important role in connecting economic activities, regions and people. The trend of transport is to increase their speed and comfort. Economic development and the interconnection of not only individual countries of the world but also regions within the republic context are aspects that increase the demand for transport.

Road and rail transport has an important role in the Czech Republic. The aim of this article is to assess the development of travel times between selected cities in the Czech Republic between 2006 and 2018 using the rail passenger transport. The input data for the analysis are drawn down mainly from the annual reports of České dráhy that is the main carrier in the Czech Republic. The assessment of selected aspects of efficiency in this company was done, e.g. by Pospíšil (2013).

The annual report is a document reporting on the company's results for the previous accounting period and on the expected development in the future. An important part of the annual report is the financial statements. The balance sheet, profit and loss statement and notes are the parts of the financial statements. The profit and loss statement reflects both the amount of the profit and the amount of net profit after deduction of the tax liability. The issue of taxation of profits is more dealt with by Kuznetsova et al., (2017). The financial statements are the source of data for financial analysis (Sikorová et al., 2015). In a typical corporate report, the textual narrative represents the great majority of the disclosure - an average of 80 % of an annual report (Lo et al., 2017). For more information about aspects of performance measurement of companies see e.g. Mikušová (2011).

Entities in the Czech Republic usually prepare the financial statements in accordance with Czech accounting regulations. Since 1 January 2016, the Czech Republic has already made steps towards bringing the accounting of business entities closer to International Financial Reporting Standards (Hakalová, et al., 2018). The Czech Republic has long been working on the harmonization of financial accounting (Bartková & Stefanovová, 2016). Therefore, the entities have the option or, in some cases, the obligation to prepare financial statements in accordance with IFRS (Hakalová, et al., 2014). European markets also responded to this fact (Armstrong et al., 2008). More on aspects of accounting harmonization and financial statements e.g. Daske et al., (2008) or Soderstorm & Sun, (2007).

## 2. Development of Travel Time on Railways between Selected Cities in the Czech Republic

Modernization of line sections increases cruising speed. There is a gradual increase in number of sections where trains can travel at a speed of 160 km/h, especially on corridor lines. At present, there are four transit corridors in the Czech Republic – 1st transit corridor: Děčín – Prague – Pardubice – Brno – Břeclav, 2nd transit corridor: Petrovice u Karviné – Ostrava – Přerov – Břeclav, 3rd transit corridor: Mosty u Jablunkova – Ostrava – Přerov – Prague – Pilsen – Cheb and 4th transit corridor: Děčín – Prague – České Budějovice – Horní Dvořiště. Modernization of the 1st transit corridor was completed in 2004 but the modernization of the section between the stations Ústí nad Orlicí and Choceň has not yet been carried out. All remaining corridor tracks include the sections that are not modernized yet. There are no high-speed lines in the Czech Republic, only a few feasibility studies have been carried out, e.g. for the Prague – Brno section (Drábek, 2016).

As indicated in Table 1, due to the gradual completion of the modernization of corridor lines and the increase in line speed, travel time has been significantly reduced over the last 10 years between the largest cities in the Czech Republic.

*Table 1: Development of running times*

| Year | Prague - Ostrava | | Prague - Vsetín | Prague – Brno | Prague – Děčín | Břeclav - Ostrava | Prague – Plzeň – Cheb | Prague - České Budějovice |
|---|---|---|---|---|---|---|---|---|
| Line | - | Ex1 | Ex2 | Ex3 | Ex3 | Ex4 | Ex6 | Ex7 |
| Category | SC | EC, IC, Ex | Ex | IC, EC, rj | EC | EC, Ex | EC, Ex | EC, Ex |
| 2009 | 3h 9m | 3h 51m | 4h 0m | 2h 44m | 1h 31m | 1h 56m | 3h 51m | 2h 40m |
| 2010 | 3h 4m | 3h 50m | 3h 55m | 2h 43m | 1h 29m | 1h 55m | 3h 43m | 2h 39m |
| 2011 | 3h 5m | 3h 46m | 3h 47m | 2h 43m | 1h 30m | 1h 55m | 3h 28m | 2h 40m |
| 2012 | 3h 6m | 3h 40m | 3h 37m | 2h 37m | 1h 29m | 1h 47m | 3h 20m | 2h 40m |
| 2013 | 3h 11m | 3h 41m | 3h 49m | 2h 40m | 1h 29m | 1h 50m | 3h 12m | 2h 40m |
| 2014 | 3h 6m | 3h 36m | 3h 46m | 2h 40m | 1h 29m | 1h 49m | 3h 13m | 2h 28m |
| 2015 | 3h 6m | 3h 29m | 3h 38m | 2h 37m | 1h 28m | 1h 45m | 3h 10m | 2h 29m |
| 2016 | 3h 1m | 3h 24m | 3h 31m | 2h 30m | 1h 31m | 1h 45m | 3h 14m | 2h 32m |
| 2017 | 3h 1m | 3h 20m | 3h 43m | 2h 28m | 1h 33m | 1h 48m | 3h 11m | 2h 0m |
| 2018 | 3h 1m | 3h 22m | 3h 39m | 2h 27m | 1h 25m | 1h 48m | 2h 54m | 2h 2m |
| Distance (in km) | 356 | 356 | 346 | 255 | 129 | 184 | 219 | 169 |

*Source: own processing*

Table 1 shows the development of running times for express train lines operated by České Dráhy, where the connection is secured exclusively by the high quality trains – i.e. express train of higher quality (Rx), Expres (Ex), InterCity (IC), EuroCity (EC), Railjet (rj), SuperCity (SC), or EuroNight (EN). While all services on the long-distance Ex1 line from December 2010 are operated at the commercial risk of the carrier, the other lines mentioned in the above table are operated under the public service obligation. It is notable that Regiojet is also connecting Prague and Ostrava since September 2011 and from 2013 onwards Leo Express enters the market. The impact of the entry of the two carriers into the market was evaluated by, e.g. Tomeš et al., (2016). The 680-Pendolino sets have been deployed on SuperCity services since the start of their operation. On the other lines there are operated vehicles of classical construction dispatched in most cases by České Dráhy, in case of international services EuroCity, Railjet and Expres in cooperation with the Železničná spoločnosť Slovensko (ZSSK), the Österreichische Bundesbahnen (QBB), the Deutsche Bahn (DB) or by the Magyar Államvasutak (MÁV).

On the Ex6 and Ex7 lines, the higher-quality cars were included gradually since 2013 onwards. In the category of high-quality services, the Prague – Cheb line (Ex6 line) was included from the period of validity of the service timetable 2014/2015, in case of the Praha – České Budějovice line from the period of validity of the service timetable 2015/2016. The connection in the Prague – Cheb section is also provided by the SuperCity service from the period of validity of the service timetable 2011/2012, where the nr 680 set is used. However, in the past this connection was not (first in the whole route, then in the Prague – Pilsen section) included in public service obligation, therefore the running time of this service is not included in the table. From the period of validity of the current timetable, it is already included in the public service obligation and its running time is the same as the time of other services in the Expres category. Trains of a higher quality category are currently (year 2018) included in the express train lines R17 (Prague – Brno), R18 (Prague – Olomouc – Přerov – Luhačovice) and R13 (Brno – Břeclav – Olomouc).

# 3. Methods

To achieve the objective of the paper authors used standard positivist economic methodology which also included the scientific methods of description, deduction, comparison, as well as study of other sources and finally synthesizing methods. For specific analysis of dependency between the examined factors, the correlation analysis was used.

For analysis of time series, there is a calculation of absolute increment in *AC* (1), relative increment *RC* (2), the growth factor *CG* (3) and average growth factor AGV (4). To learn more on options of time series analysis, see e.g. Buglear (2013) or Morris (2012).

$$AC = y_1 - y_{t-1}, \tag{1}$$

$$RC = \frac{y_t - y_{t-1}}{y_{t-1}}, \tag{2}$$

$$CG = \frac{y_t}{y_{t-1}}, \tag{3}$$

$$AGV = \sqrt[n-1]{\frac{y_n}{y_{n-1}}}. \tag{4}$$

where $y_1$ is the value of selected indicator in year 1 and $y_{t-1}$ is the value of indicator in the year t-1.

# 4. Results and discussion

Table 1 shows the running times of trains on specific lines. Table 2 shows by how many minutes the running times of the given sections have shortened over the last 10 years. The data are calculated using the relation (1).

*Table 2: Shortening of running time on selected lines (in minutes)*

| | **SC** | **Ex1** | **Ex2** | **Ex3¹** | **Ex3²** | **Ex4** | **Ex6** | **Ex7** |
|---|---|---|---|---|---|---|---|---|
| Shortening | 8 | 29 | 21 | 17 | 6 | 8 | 57 | 38 |

*Source: own processing, Ex3¹ = section of Prague – Brno, Ex3² = section of Prague – Děčín*

The results in Table 2 indicate that the biggest reduction of running time occurred on Ex6 line. The reason is a completed extensive modernization of 3rd transit corridor (especially Cheb – Mariánské Lázně – Stříbro and Rokycany – Beroun). Equally important impact on reduction of running time in this section was achieved by the use of more modern cars with higher operating speeds or by the change in the stopping policy in the Prague-Smíchov – Pilsen section last year, when the higher-quality services pass through this section without stops. Another potential for shortening the running time seems to be in the completion of the Pilsen – Rokycany section. Similar conclusions concerning the development of running time are on Ex7 line. Also, in this case, the modernization of all sections has not yet taken place and in the years to come there is a potential for shortening travel times.

The smallest reduction of running time occurred in the trains of the higher quality of the Ex3 line (Prague – Děčín) and Ex4 line (Břeclav – Ostrava). It is notable that the running time did not significantly decrease even in the fastest category of SuperCity trains. In the case of initiation of the modernization or construction of the re-route of the line in the Choceň – Ústí nad Orlicí section and the increase of the line speed during the passage through the Česká Třebová railway junction, it is possible to expect reduction of travel time on the lines passing through this section (Ex1, Ex2, Ex3).

In case of the analysis of the development of the running time between selected cities in individual years, the relation (2) is used. The results of the analysis are shown in Table 3.

*Table 3: Relative changes*

| **Year** | **SC** | **Ex1** | **Ex2** | **Ex3** | **Ex3** | **Ex4** | **Ex6** | **Ex7** |
|---|---|---|---|---|---|---|---|---|
| 2010 | -0,026 | -0,004 | -0,021 | -0,006 | -0,022 | -0,009 | -0,035 | -0,006 |
| 2011 | 0,005 | -0,017 | -0,030 | 0,000 | 0,011 | 0,000 | -0,067 | 0,006 |
| 2012 | 0,005 | -0,027 | -0,048 | -0,037 | -0,011 | -0,070 | -0,038 | 0,000 |
| 2013 | 0,027 | 0,005 | 0,055 | 0,019 | 0,000 | 0,028 | -0,040 | 0,000 |
| 2014 | -0,031 | -0,023 | -0,013 | 0,000 | 0,000 | -0,009 | 0,005 | -0,075 |
| 2015 | -0,022 | -0,032 | -0,035 | -0,019 | -0,011 | -0,037 | -0,016 | 0,007 |
| 2016 | 0,000 | -0,024 | -0,032 | -0,045 | 0,034 | 0,000 | 0,021 | 0,020 |
| 2017 | 0,000 | -0,020 | 0,057 | -0,013 | 0,022 | 0,029 | -0,015 | -0,211 |
| 2018 | 0,000 | 0,010 | -0,018 | -0,007 | -0,086 | 0,000 | -0,089 | 0,017 |

*Source: own calculation*

On all routes there was a reduction in travel times in 2010 (compared to 2009). The development of running time does not depend only on the type of vehicle or the length of the set, but also on shutout activity on the track or the utillisation of track sections. A similar trend in the development of travel time is on the Ex1 and Ex2 lines, the increase in 2013 occurred due to the reconstruction of the Praha-Běchovice – Úvaly section. In 2017, the running time of Ex2 line was extended to a few minutes due to a change in the stopping regime – new stations Lipník nad Bečvou, Červenka and Mohelnice were added. The problem of the Ex1, Ex2 and Ex3 lines is currently congestion of the Prague – Česká Třebová section that is fully depleted in terms of transport capacity particularly in peak hours due to suburban traffic. The planned reconstruction of the Pardubice and Česká Třebová transport nodes may lead to a prolongation of running times on these long distance lines in the following years.

The change of running times on the Ex3 line in Prague – Brno section copied a similar trend as in case of the Ex1 line. The northern part of the Ex3 line, i.e. the Prague – Děčín section, occurred the change of running time only in minutes for the whole observed period, the same applies to the Ex4 line because most of the sections through which the Ex4 line passes are modernized and the potential for further speed increase without removing the level crossing is not real.

As mentioned before, the most significant reduction of running times were on Ex6 and Ex7 lines. It is expected on Ex6 line in relation to the opening of the Ejpovice tunnel and the finalization of the modernization of Pilsen – Rokycany are expected that the running time will be significantly reduced. In the case of Ex7, the problem is several older sections of 4th corridor, where reconstruction has not yet taken place (e.g. the sections of Sudoměřice – Votice or Doubí u Tábora – Soběslav).

The fastest service remains in 2018 the service of SuperCity category with an average cruising speed of 118,01 km/h. An advantage of the sets that are used for these services is the higher maximum speed in curves, by up to 20% compared to classical sets. A lower number of stops is another reason why this service is the fastest. Cruising speed exceeding 100 km/h is achieved also on Ex1 line in the same section as the services of SuperCity category, on lines Ex3 in Prague – Brno section and Ex4.

Table 4 also implies that an average cruising speed on Ex2 line is approximately 95 km/h because of the fact that a larger part of the section Hranice na Moravě – Vsetín has not yet been reconstructed, furthermore, this route is not considered to be corridor line in the Czech Republic.

*Table 4: Average cruising speed in km/h in 2018*

| | **SC** | **Ex1** | **Ex2** | **Ex3[1]** | **Ex3[2]** | **Ex4** | **Ex6** | **Ex7** |
|---|---|---|---|---|---|---|---|---|
| Speed | 118,01 | 105,74 | 94,79 | 104,08 | 91,06 | 102,22 | 75,52 | 83,11 |

*Source: own calculation, Ex3[1] = section of Prague – Brno, Ex3[2] = section of Prague – Děčín*

Despite the gradual modernization, the trains on Ex6 and Ex7 lines still do not achieve ideal values. The barrier preventing the increase in the cruising speed on the Ex6 lines is a complex and rugged terrain, e.g. in the Stříbro – Mariánské Lázně section that even after a complete modernization does not allow a 160 km/h line speed even for the sets with tilting bodies. The problem with Ex7 line is the delaying of the initiation of a reconstruction of sections that have not yet been reconstructed. According to the original estimates, however, the whole Prague – České Budějovice section was to be completely renovated in 2018. According to the new estimates, this should be the case in 2022. The increasing of cruising speeds and shortening of travel times are factors that affect the attractiveness of rail transport. Equally important factor is also the fare price that is subject to the first reduced rate of 15% from the point of view of value added tax. The field of value added tax is more dealt with by e.g. Krzikallová & Střílková, (2016) or Široký et al., (2012).

## 5. Conclusion

The aim of the article was to assess the development of travel times between selected cities in the Czech Republic between 2006 and 2018 using the rail passenger transport operated by the company České Dráhy. The input data for the analysis were drawn down mainly from the annual reports of the analyzed company. The style and format of the annual report is based on the requirements of the Accounting Act. Owing to the growing globalization of the economy, in the case of requirements of transnational comparison of accounting outputs, accounting only according to national legislation is not sufficient. Therefore, we are increasingly confronted, namely in case of entities that are not limited to domestic territory, with accounting kept in line with the requirements of International Financial Reporting Standards that are an important tool for accounting harmonization in the global context.

The findings from the analysis indicate that the travel times between the selected cities in the Czech Republic have reduced over the last 10 years, which has certainly increased the attractiveness and quality of rail transport. The issue of quality intensifies and has a global nature. Differentiation from the competition is very difficult in the field of transport services (Bieliková & Rypaková, 2014). The increased quality of services was reflected not only by increased cruising speed but also by the introduction of new, more modern air-conditioned railway cars with wi-fi connection or the introduction of additional services. Equally important was the modernization of railway infrastructure. The operator of this infrastructure in the Czech Republic is the Správa železniční dopravní cesty.

A significant reduction of travel times was found on Ex6 line connecting Prague with western Bohemia (called the "Western Express" since the validity of service timetable 2017/2018) and the Ex7 line connecting Prague with southern Bohemia (called "Southern Express" since the validity of service timetable 2017/2018). With these lines, there is a potential for shortening the running times in the future as some sections are not yet modernized. The fastest average cruising speed in the Czech Republic has been reached by the services designated commercially under the brand name SuperCity Pendolino due to the small number of stops on the route and the technical characteristics of the set that allows a higher line speed in selected sections. The Pendolino units primarily operate on the Prague – Ostrava line. In the Czech Republic there are currently two pairs of train services deployed also in the Prague – Cheb or Františkovy Lázně sections, one service runs even outside the Czech Republic to Košice. The growing global character of the economy will in the future generate rising pressures on the construction of high-speed lines, which are not yet in the Czech Republic, unlike in some neighboring countries. In the event of such construction, the reduction of travel times between the largest cities would be very significant.

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# INDUSTRIAL CLUSTERING AS A RESPONSE TO CONTEMPORARY WAVE OF GLOBALISATION. IN SEARCH FOR EVIDENCE FROM POLAND

Jakub Kwaśny[1,a,*], Arkadiusz Mroczek[2,b] and Marta Ulbrych[3,c]

[1]Department of International Economic Relations, Cracow University of Economics, Poland

[2]Department of International Economic Relations, Cracow University of Economics, Poland

[3]Department of International Economic Relations, Cracow University of Economics, Poland

[a]kwasnyj@uek.krakow.pl, [b]mroczeka@uek.krakow.pl, [c]ulbrychm@uek.krakow.pl

*Corresponding author

**Abstract.** The aim of the paper is to examine the effects of clustering industrial activity in some selected regions of Poland. As theoretical considerations suggest, industrial clusters understood as concentration of specific kinds of industry in particular locations generate some positive externalities. The companies belonging to those industries may benefit from the fact that they are spatially concentrated. Globalisation creates conditions, under which those externalities may be especially important. To determine the existence of such externalities, the data on industrial value added per working person, GDP per capita and GDP growth was used as indicators of the condition of economy in particular area (NUTS 3 level). Then it was confronted with the results of own research on industrial clusters to determine whether the latter may be a source of competitive advantage of the area. The existing studies dealing with industrial clusters mainly use case study method or quantitative approach based on one particular cluster. In this paper, a more general approach is used and it tries to identify the influence of clusters on economies on a broader level. The results show, that on one hand, no connection between cluster creating and value added was revealed, on the other hand, the connection with both GDP per capita and GDP growth was shown.

**Keywords:** industrial clusters, externalities, economic growth, value added.

**JEL Classification:** JL16, L60, O14, O18

## 1. Introduction

The aim of this paper is to examine the effects of clustering industrial activity in some selected regions of Poland. This broader, in a way macroeconomic approach, supports the value added of this paper. To explain the research and its results, some literature review is first performed and then the empirical part is described.

The question of industry location and its organisation has been present in literature for decades. Basically, this subject is analysed in the framework of economic geography. This broadly ranging discipline of science seeks to study, describe and explain the location, distribution and spatial organisation of economic activities at different levels (local, regional and national economies). This field of research is particularly interesting today, due to the globalisation of economic activities that has been strongly observed since the 1980s. Paradoxically, the global economy simultaneously exhibits trends towards both increasing globalisation and localisation. Functioning within the global market and coping with the pressure of international competition is a challenge for enterprises, especially small and medium-sized. In this context, the literature identifies, inter alia, location in a geographic cluster of networked companies as a source of competitive advantage. Geographic concentration of companies builds the value of those firms by enabling them to cooperate and to use highly specialized local supply, services etc. And even if it also forces them to deal with strong local competition, it makes them stronger on the broader market. Factors determining production costs are, in theory, sub-divided into two groups. Citing the study of Capello (2009), it can be said, that these factors can be exogenous or endogenous to the local context. The first group includes elements such as the casual local presence of a dominant firm or a multinational company, the diffusion in the area of innovation produced elsewhere or implementation of new infrastructure decided by external authorities. The second set of conditions arise and develop locally and enable the area to initiate a process of self-propelling development (i.e. entrepreneurial ability, local factors of production and the decision-making capacity of local authorities or system of local governance). Interactions between local companies are a form of externalities which are central to all location analyses. According to Henderson (1997), companies cluster together at various locations to receive information spilling over from other firms, to reduce transport costs of interfirm trade and to enhance the diversity of firms and local products available. Awareness of those conditions can be a factor motivating more and more companies to locate in a cluster.

A more in-depth and chronological literature review should begin with the late 19th century. It was then, when Alfred Marshall, in the book *Principles of Economics* (1890) identified and discussed the phenomenon of "the concentration of specialised industries in particular localities". He described them as industrial districts (a historically tied socio-territorial entities). The theory was the first to conceptualize external economies (of agglomeration) as a source of territorial competitiveness. In Marshall’s view, industrial location closely linked to proximity favours the intra-industry collaboration, reduces transport costs of input/output and allows firms to benefit from a more specialized and efficient labour market. Such externalities are called Marshall's or localisation economies.

Marshall’s description of industrial districts was used to support the argument that local agglomerations of industry can produce external economies and efficiency improvement. Naturally, along with progress in economics, the theory of local endogenous development has evolved. During the 1970s, studies on bottom-up processes of district development were especially intensive and brought a notion of diversified-relational space and its importance. This interest was caused, above all, by the emergence of new industrial regions based on high-technology activities. According to Capello (2009) in that period a radical change in the conceptualisation of space took place. It was identified as an economic resource and independent factor of production. Particular space (also referred to as territory) can be a generator of static and dynamic advantages for firms and a key determinant of local production systems’ competitiveness. Research in this area was continued in the following decades by Arrow (the 1960s) and Romer (the 1980s) and became known as the Marshall-Arrow-Romer (MAR) model. This model claims, that the concentration of an industry in a region stimulates knowledge spillovers between companies. It also facilitates innovation in this particular industry within the region, as stated by Beaudry and Schiffauerova (2009).

Meanwhile, to some extend a contrary view was presented by Jacobs (1969), who pointed out that not the concentration of particular industry in a place, but the variety of industries promotes exchange of knowledge and information flow and, consequently, innovation and economic growth. As such diversity is possible only in big cities, this approach is often called urbanisation economies or Jacob's externalities. As a result, some of the scholars' interest was shifted to the role that a city plays in agglomeration economies.

Nevertheless, as Shaver and Scott (2002) wrote, the phenomenon of industrial districts has received increasing attention as an alternative (based on small and medium-sized enterprises) to large corporations in the early 1980. For instance, Eriksson (2011) in his study points out the Becattini research, which expanded the analysis to a broader perspective including social, cultural and institutional foundation of local economy and industry. Becattini (1989) defines industrial districts as "a particular growth type of agglomeration, characterised by a localised thickening of inter-industrial relationships which is reasonably stable over time". Thus a functioning network of firms in a district is an essential element of such a locality.

*Table 1: Selected studies on clusters*

| **Literature approach** | **Key elements** | **Type of externalities** | |
|---|---|---|---|
| Marshall (1890)<br>Industrial districts | Forces that drive agglomeration:<br>-access to natural resources and transportation,<br>-labour pooling,<br>-share of middle suppliers,<br>-knowledge spillovers. | Localisation<br>Agglomeration advantages for companies spatially concentrated and in the same industry or conducting similar types of activities. Companies benefit from co-location due to the creation of a regional stock of specialised inputs. | **Static and dynamic** |
| Jacobs (1969)<br>Jacobs' externalities | Economic diversity is the key to urban prosperity. Different industries complement each other in the creation of innovations through knowledge spillovers across industries. | Urbanisation<br>Agglomeration advantages occur in large cities as a consequence of their rich and diversified economic environment (highly skilled workers, specialised services) and access to advanced infrastructure. | |
| Becattini (1989)<br>New industrial districts | Industrial district as socio-geographic entities which are characterised by active presence of both community of people and population of firms in one naturally and historically tied area. | Localisation<br>Governance structures and external economies in terms of information flow, knowledge spillovers, and links with suppliers and buyers. | |
| Porter (2000)<br>Clusters | The effects of competition on innovation and growth. | Localisation<br>Highly competitive climate induces firms to innovate. Knowledge spillovers take place mainly among firms belonging to the same vertically integrated industry. | **Dynamic and static** |

***Source:*** *Own preparation based on: Komorowski (2016), Lucio et al. (2002) and Pessoa (2011).*

Although the discussion of local industrial systems has a long history, Porter's definition of a cluster is perhaps most often used. According to Porter (2000),"clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standards agencies, trade associations) in a particular field that compete, but also cooperate". The central hypothesis is that a cluster is a system of interconnected firms and institutions whose whole is more than the sum of its parts.

The above, necessarily abbreviated review, leads to a statement that there is strong theoretical support for existence of external economies of scale limited in their industrial scope (see table 1). According to the theories, space is a source of increasing returns and of positive externalities taking the form of localisation economies. Higher growth rates can be achieved by local industrial systems due to their productive efficiency. They provide a reduction in production and transaction costs, higher efficiency of the other production factors and an increase of innovation capacity. Both the traditional and the more recently developed typologies of linkages are described by Nachum and Keeble (2003). The main external linkages, identified by them, include the labour market, external supply of intermediate inputs, interaction with customers, networking, collaboration and competition with firms other than customers or suppliers and collective learning together with creativity. Furthermore, the agglomeration externalities are both static and dynamic. The first type affect productivity of companies through an increase in the efficiency of technologies in use (such as transportation and transaction costs reduction). The dynamic externalities are associated with knowledge flows and diffusion, and thus they can influence the relative well being of regions in the long run, which is stressed, among others, by Pessoa (2011). To clarify this topic further, another reference to Porter (2000) can be made. According to him, clusters affect competition in three ways, through:

- increasing the current (static) productivity of constituent firms or industries,
- increasing the capacity of cluster participants for innovation and productivity growth,
- stimulating new business formation that supports innovation and expands the cluster.

Having said this, it is also worth to mention that not all spatial agglomerations of small firms in the same or similar sectors necessarily form a local industrial system (a cluster). In accordance with Pessoa (2011), it is important to first underline that a key characteristic of a cluster is an interdependence among firms. However, this interdependence is not a sufficient condition for classifying any network of companies as a cluster. For a network of firms to be classified as a cluster, not only a certain common interest is necessary. An additional condition is an inclusive character, that allows non-members to benefit from external economies that spill over to organisations localised under cluster influence. Another issue analysed by many authors, including Callois (2008), is the question of proximity. It is understood traditionally as geographical closeness, but also as a prerequisite for interconnections and relations between companies. Porter (2000) emphasizes that proximity, arising from the co-location of companies, customers, suppliers, and other institutions, amplifies all of the pressures to innovate and upgrade.

Another important issue, discussed by several authors, is the ability of a local economic system to generate conditions for long lasting development. It is connected with finding a specific place in the international division of labour, through an efficient use of resources. Traditionally, close geographic proximity was regarded as critical for the intensification of externalities. Some recent studies point out, however, that external linkages of firms may not always be confined only to their immediate environment. In reply to globalisation of competition, and the need to gain benefits of scale by responding to international demand, firms can extend the geographic scope of their external linkages (Nachum and Keeble, 2003). Admitting this, it is worth to recall the study of Belleflamme et al. (2000). They support more traditional conclusions and suggest that that local agglomeration is even more likely to occur in the global economy. Localisation economies can produce externalities that enable the companies to sell substantial fractions of their output on distant markets.

## 2. Methodology

The first studies on clusters, as the one done by Marshall, were based on observation of reality in the mode that could nowadays be classified as case studies and qualitative research. Combined with more universal concepts, like economies of scale and externalities, they provide an important insight not only into regional economics, but also to development and economic growth theory. Attempts to do more quantitative research have also been made. In an example of this approach the authors (Midelfart-Knarvik and Steen, 1999) were able to show the existence of externalities on a relatively low level of aggregation, that they call "sub-clusters". At the same time they found no evidence on the total industry level they were investigating (Norwegian maritime industry). Also Basu and Fernald (1995) point out at methodological difficulties in measuring externalities based on value added data. Nevertheless, further examples of this kind of studies - based on one strictly defined industry - can be pointed out. In this paper, an attempt of research on a more general level is described, which is more rare to be found in the literature.

The basic idea of this research is as follows. Both qualitative studies and some quantitative analyses point out at the existence of cluster driven externalities at micro level, i.e. that of geographically concentrated and relatively narrowly defined industries. Those externalities could be then visible also at mezo or macro-economic level. That means that those geographic units that are characterized by strong clustering phenomena, could be more economically vivid than others. Even if it would be too much to expect that clustering is the main reason behind economic success of a place, it should at least play its part in it.

In order to perform the study, 25 NUTS 3 areas from all the five southern regions of Poland (Podkarpackie, Małopolskie, Śląskie, Opolskie, Dolnośląskie) where chosen as the objects. The objects are different in structure, industrialization and economic history, they include both big cities as well as periphery areas and In total they represent about 1/3 of Polish economy. All of this makes them appropriate for statistical research.

Then a database was created in which the data on the clusters existing in those areas was stored. Each cluster was marked according to the industry it belongs to and for all of the clusters the number of belonging companies was also stored. This was recognized as important, as it represents, to some extent, the variety of intra company interactions and the range of possible choices of subcontractors etc. In other words, the more companies belong to a cluster, the more importance was ascribed to it. The total number of companies belonging to all the clusters in each area was also calculated, to show clustering activity of the areas. This number is here referred to as "the cluster factor". In total, 75 clusters, with 3170 companies, were found, and big differences between areas in this field were revealed, as the number per each ranged from 0 to 14. The clusters were classified according to their main industry, to: agriculture, manufacturing and design, ICT, construction and leisure and health industry. The main source of the information were websites of the formal associations of entrepreneurs, and the companies - cluster members, as well as local authorities. It is necessary to admit, that the research that was performed probably did not reveal all the geographic concentrations of companies, but the results can be considered informative enough. First of all, because of some European grants that used to support cluster initiatives, a lot of possible clusters materialized formally by creating associations, for which the data was collected. In spite of this, it should be assumed, out of caution, that the data base does not consists all of the economically active clusters. Nevertheless, it still forms a reliable research sample, as there should not be any systematic error in it. The study also uses secondary data collected from the Central Statistical Office of Poland (GUS) on Gross Value Added (GVA) per worker, Gross Domestic Product per capita (GDP) and GDP growth for NUTS 3 areas. The method used is correlation analyses, which was technically performed by MS Excel Data Analysis Toolpack. For the 25 areas (objects) the correlation of the "cluster factor" with the GVA per worker ( GVA p.w.), GDP per capita (GDP p.c.) and GDP growth was calculated. Further correlations for widely defined industries were also checked. This procedure was executed to test the three following hypotheses. There is a relation between industrial clustering in a region and: 1) GVA per worker, 2) GDP per capita level and 3) GDP growth.

## 3. Results

The input data for the analyses is shown in the Table 2. For each area the cluster factor was presented, together with the three corresponding variables described above.

*Table 2: The main variables for correlation analyses (GDP in thousands of PLN, GVA for Polish average =100)*

| **Area** | **Bielski** | **Bytomski** | **Częstochowski** | **Gliwicki** | **Jeleniogórski** | **Katowicki** | **Krakowski** | **Kraków** | **Krośnieński** | **Legnicko-głogowski** | **Nowosądecki** | **Nowotarski** | **Nyski** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cluster factor | 218 | 0 | 0 | 263 | 10 | 630 | 100 | 348 | 7 | 41 | 13 | 36 | 0 |
| GVA p.w. | 102,5 | 97,4 | 90,6 | 116,7 | 102,9 | 111,1 | 82,2 | 109,1 | 64,6 | 151,7 | 67,9 | 67 | 85,4 |
| GDP p.c. | 49,32 | 34,61 | 39,9 | 56,26 | 37,66 | 63,15 | 34,94 | 76,28 | 27,59 | 67,86 | 29,46 | 26,5 | 28,43 |
| GDP growth | 22,62 | 13,56 | 15,89 | 29,41 | 16,94 | 26,58 | 17,79 | 36,29 | 10,8 | 28,28 | 12,46 | 10,82 | 11,65 |
| **Area** | **Opolski** | **Oświęcimski** | **Przemyski** | **Rybnicki** | **Rzeszowski** | **Sosnowiecki** | **Tarnobrzeski** | **Tarnowski** | **Tyski** | **Wałbrzyski** | **Wrocław** | **Wrocławski** | |
| Cluster factor | 58 | 0 | 0 | 64 | 756 | 92 | 51 | 35 | 0 | 99 | 338 | 11 | |
| GVA p.w. | 99,9 | 93,2 | 61 | 107,5 | 85,2 | 111 | 78,2 | 73,7 | 113,1 | 97,2 | 112,8 | 106,5 | |
| GDP p.c. | 43,51 | 36,12 | 24,64 | 41,06 | 41,7 | 43,76 | 34,3 | 30,58 | 59,42 | 34,5 | 76,98 | 47,62 | |
| GDP growth | 19,03 | 14,79 | 8,476 | 16,21 | 20,89 | 17,72 | 14,53 | 13,3 | 22,76 | 14,34 | 41,44 | 26,71 | |

*Notes: GVA and GDP data for 2015, GDP growth for 2005-2015*
*Source: Own preparation based on GUS data.*

The main results are presented in the Table 3. They have been calculated with the usual 95% level of confidence (alpha = 0,05).

*Table 3: Pearson correlation coefficients of "cluster factor" and the variables*

| | **GVA per worker** | **GDP per capita** | **GDP growth** |
|---|---|---|---|
| $R^2$ (correlation) | 0,20 | 0,49 | 0,53 |
| t-stat | 0,99 | 2,69 | 2,99 |
| t- stat rejection area | ≤-2,064, 2,064≥ | ≤-2,064, 2,064≥ | ≤-2,064, 2,064≥ |
| p-stat | 0,33 | 0,013 | 0,006 |
| p-stat rejection area | above 0,05 | above 0,05 | above 0,05 |
| H1 | Rejected | Accepted | Accepted |

*Note: GVA, GDP data for 2015, GDP growth for 2005-2015 period*
*Source: Own calculation based on GUS data.*

In short, the results show that there is no correlation between the "cluster factor", that shows the level of clustering activity in the area, and GVA per worker. At the same time, the correlation between clustering and GDP per capita exists. The coefficient may be assessed as mild, yet it is statistically significant, as the tests show. The same is true for the GDP growth, with even better significance test results.[14]

## 4. Discussion

Empirical studies on clusters usually use value added data to explore possible externalities generated by those concentrations of companies. They often focus on one particular cluster and strictly defined industry, which may be called a micro approach. These papers contribute to the understanding of the way that clusters work. In order to investigate broader consequences of clustering, like its overall influence on total economic performance, more macro oriented research is necessary. As a rule, the main objective of economic policy is the general improvement, which should not be limited to one particular cluster or industry. The results of this study show, that in the cases under investigation, no proof for positive externalities, understood as higher GVA, noticeable on the macro level, was found. And this is despite the fact, that both previous studies, as well as the understanding of the theory suggest, that such effects could be found.

On the other hand, the relations of clusters with GDP per capita and GDP growth were shown. Therefore, it can be stated that there is a connection between economic activity and clustering. Clusters seem often to be parts of a vivid economic landscape. Not generating extra GVA, they do not produce any additional profit margin for their economies. Yet, what the GDP represents is the size of the economy, which includes also the volume of sales of its companies. So one of the ways to understand the results is to suggest, that clustering may improve competitiveness through the amount of sales, even if not profitability.

## 5. Conclusion

The study shows, on one hand, a correlation of clustering activity with GDP per capita and GDP growth. On the other hand, no correlation of this activity with added value per working person was detected. The fact that clusters tend to be parts of a vivid economic landscape was this way shown. Yet, if there is a mechanism through which cluster activity improves economic performance of a region, it is not connected with higher value added.

The obvious limitation of the study is the database of clusters that was created. A broader one, possibly based on all regions of Poland, could improve reliability. And, in contrast, a method of data gathering based on high degree of industrial specialization would be also useful, though more costly and complex. Due to the fact, that the study was performed using data for Poland, with its specifics, probably a study for a country with a different economic structure would also bring interesting results.

[14] What may be also useful is that at the preparation phase of this research another version of "cluster factor" was taken into consideration. It indicated the per capita ratio of this factor, but it also brought no statistically significant results in case of relation to GVA per worker.

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# MANAGEMENT ACCOUNTING IN RUSSIAN MID-SIZED COMPANIES: RESULTS OF AN EXTENDED SURVEY-BASED STUDY

Pavel Lebedev[1,a,*]

[1]IEDC Bled School of Management, Presernova cesta 33, Bled 4260, Slovenia

[a]p.lebedev@inbox.ru

*Corresponding author

**Abstract.** The recently adopted set of Global Management Accounting Principles presented a global framework for management accounting—including core principles, reference to main areas of practice, and a competence model. This study provides insight into the current state of management accounting practices in mid-sized private Russian companies in comparison to the global framework. The survey-based study was conducted during a two-year-long project. 756 representatives of financial and economic departments from 231 companies and organizations were surveyed. It is often suggested that management accounting in Russian companies serves the role of an internal adviser. As the results of the research conducted show, this is a rather idealistic position reflecting wishful thinking. The results of the research demonstrate that from the point of view of practices prevailing in companies today, the current understanding of management accounting in Russian mid-sized companies is currently corresponding to the level at which management accounting in the countries with developed market economies had been twenty to thirty years ago. As illustrated by the results of the research, the current understanding of management accounting, and management accounting and controlling practices in the companies studied, both have a strong operational focus with an almost invisible strategic agenda and an insignificant contribution to the value creation and stewardship.

**Keywords:** management accounting, controlling, mid-sized companies, emerging markets, Russia.

**JEL Classification:** L20, M41, M49, O52

## 1. Introduction

The last decades were marked by a rethinking of the role of management accounting and controlling both at the levels of its “philosophy” and understanding by the professional community as well as a re-evaluation of corporate practices (Horváth et al., 2015; Johnson & Kaplan, 1987; Kaplan, 1984; Langfield-Smith et al., 2017). At an international level and as a result of the collaboration of two global professional bodies – the American Institute of CPAs (AICPA) and the Chartered Institute of Management Accountants (CIMA) – the Global Management Accounting Principles were created in 2014 to guide best practice. Intended to be universally applicable, the four core principles were formulated; and guidance was provided as to how those principles could be applied across 14 key activities of the management accounting function along with guidance about the core competencies required of management accounting professionals to help organizations create, execute, and refine their strategies (The Chartered Institute of Management Accountants, 2014). Although businesses around the world are increasingly adopting similar management accounting practices (Shields, 1998), development of management accounting in various countries follows its own path and pace, being determined by national peculiarities of a socio-cultural, historical, legal, political, and economic nature, which requires more systematic evidence (Luther & Longden, 2001; Shields et al., 1991). In Russia, management accounting is still an emerging concept; and only recently has conversation within the profession become more inclusive of global topics (Lebedev, 2014). An existing combination of similarity trends and (existing) de-facto diversity opens up plenty of research directions (Chenhall & Langfield-Smith, 1998). One of them is an in-depth examination of what constitutes a national concept of management accounting and accounting practices and an evaluation of how different they still are from "global" approaches and what is in common between them. Comparative evidence on management accounting practices between and within nations could be helpful in creating a well-informed understanding of the development and prospects of the domain of management accounting in a global and interconnected world (Bhimani, 2006).

This study aims to provide a deeper insight into current understandings of management accounting within a country-specific context, answering the question: "What is the current state of management accounting practices in midsized private Russian companies?" comparing the current situation to the best practices suggested by The Global Management Accounting Principles.

Management accounting helps organizations make better decisions by extracting value from information—a process which is guided by the Global Management Accounting Principles. They describe the fundamental values, qualities, norms, and features to which management accounting professionals should aspire. They are comprised of the following four principles:

- Communication provides insight that is influential (P1);
- Information is relevant (P2);
- Impact on value is analyzed (P3);
- Stewardship builds trust (P4). (The Chartered Institute of Management Accountants, 2014).

The principles should be consistently applied to the following 14 main practice areas of the management accounting function: cost transformation and management; external reporting; financial strategy; internal control; investment appraisal; management and budgetary control; price, discount, and product decisions; project management; regulatory adherence and compliance; resource management; risk management; strategic tax management; treasury and cash management; and internal audit (The Chartered Institute of Management Accountants, 2014).

## 2. Method

The survey-based study was conducted during 2015-2016 as a joint project in a cooperation with the Center for Financial Management and Education of the National Guild of Professional Consultants of Russia, where I serve as a Director of the Center. A professional body, association, or similar reputable organization in good standing is recommended to be employed as a project sponsor in the case of survey studies in developing economies

(Lebedev, 2015)—to ensure credibility, status, and response rate. The National Guild of Professional Consultants of Russia is a professional body for management consultants, which – for almost two decades – has contributed to the development of advisory, education, and consultancy initiatives in Russia. During a period of 2 years, participants in seminars (of both open and corporate programs) in the field of management accounting, controlling, and financial management were surveyed. In total, 756 representatives of financial and management accounting departments from 231 companies were surveyed. 522 questionnaires representing 167 companies were found to be valid for processing.

The project followed a five-stage framework (Brownell, 1995; Lebedev, 2015; Smith, 2003) adapted for survey-based studies conducted in the context of emerging markets to provide a basis for the research project management, planning, and successful implementation. The five-stage framework suggests main steps to be undertaken in the course of survey-based research as well as a checklist of questions to be addressed while planning and executing each of the stages. Research was initiated in 2014. The early stage was focused mainly on consultations with members of the professional community during practice conferences, seminars, and consulting projects. A preliminary questionnaire structure was then developed which was later refined in light of the Global Management Accounting Principles as it presented the latest global best-practice framework of the profession. The final structure of the questionnaire is disclosed in Table 1.

*Table 1: Structure of the questionnaire*

| Questionnaire section | Research question / Focus area |
|---|---|
| 1. General information | General information about the company |
| 2. The essence of management accounting | What is the current understanding of the terms “management accounting” and “management accounting practices”? How is it consistent with The Global Management Accounting Principles? |
| 3. Management accounting practices in use by companies | What is the current state of management accounting practices in midsized private Russian companies? How is it compared to The Global Management Accounting Principles? |
| 4. Contribution of management accounting practices to the company’s performance | How do the management accounting practices in use contribute to the overall success of the companies? Are management accounting practices consistent with the principles declared by The Global Management Accounting Principles? Do they support each other? |
| 5. Selection of management accounting practices in companies | What factors influence the selection of management accounting practices? |

*Source: Author’s work*

This report focuses solely on the results obtained from Sections 3 and 4 of the questionnaire. It illuminates how each principle of management accounting is applied in each practice area of management accounting, thus providing an insight on a) the state and intensity of management accounting practices and b) the extent to which management accounting principles are applied across practices.

Only duly-filled-out questionnaires, reflecting the opinions of representatives of medium-sized companies, were processed. As the main criterion for classifying the company as a medium-sized business, its revenue was used. Companies with revenues of 1 to 10 billion rubles were included. This corresponds to the classification which leading Russian banks use to classify companies. For statutory purposes, Russian legislation suggests that medium-sized enterprises are enterprises with revenues of up to 2 billion rubles (approximately 31 million euros)[15]. This approach correlates with an approach used by major banks in classifying their clients.

For example, Sberbank, a leading Russian bank, accounting for one third of the Russian banking system and managing 28.6% of aggregate banking assets as of August 1, 2015, provides services to over 137 million retail clients and over 1.1 million corporate clients in 22 countries in which it is present (Sberbank, 2017). Ever since 2015, to qualify as being a "large business," a client must satisfy the criterion of having an annual revenue within a range of 1 to 10 billion rubles (15 to 156 million euros) (Sberbank, 2016). Similar criterion for a client to qualify as a midsized company is applied by another leading Russian bank, VTB, which holds a market share of corporate loan portfolios amounting to 16%; while its share of funds raised from corporate clients amounts to 23%. VTB considers businesses to be midsized when their revenues are within a range of 1 to 10 billion rubles (15 to 156 million euros) (VTB, 2016).

To address the research questions, the following approach to the operationalization of management accounting principles was taken. 14 sub-sections of the questionnaire were developed, corresponding to each of the practice areas of management accounting. The definition of each practice area was adopted from the Global Management Accounting Principles to reconcile respondents' understanding of what each practice area consists of. Each subsection was divided into 4 parts, corresponding to each of the four management accounting principles. In each part, statements of best practice as to how the principles could guide the practice were suggested.

A Likert scale, ranging from 0 to 5 (with 0 being included), was offered to respondents for them to evaluate the extent to which certain practices were being applied in their companies. Responses could range from 0 ("The practice is non-existent in our company") to 5 ("The practice is fully implemented in our company"). In Table 2, an extract from the questionnaire is presented, providing an example of an application of the principle of "Communication provides insight that is influential" to the practice area "Cost transformation and management."

*Table 2: An extract from the questionnaire*

| **1. Cost transformation and management** | | | | | | |
|---|---|---|---|---|---|---|
| The exercise of cutting waste while preserving or enhancing value generation. It involves the sustained identification and reduction of waste across the organization while freeing up resource[s] to invest in customer[-]focused innovation that will drive future value for stakeholders[.] | | | | | | |
| **1.1. Communication provides insight that is influential** | | | | | | |
| Cost targets are discussed and developed in conjunction with colleagues and business partnerships to gain buy-in. They are refined over time | 0 | 1 | 2 | 3 | 4 | 5 |
| Plans for the execution of approaches are agreed upon with relevant employees and business partnerships | 0 | 1 | 2 | 3 | 4 | 5 |
| Cost plans are broken down into components appropriate to the various stakeholders | 0 | 1 | 2 | 3 | 4 | 5 |
| Reports are produced on how well cost management approaches are rolled out across the organization | 0 | 1 | 2 | 3 | 4 | 5 |
| The drivers of costs are analyzed and discussed with relevant employees and business partnerships so that those drivers can be effectively managed in future | 0 | 1 | 2 | 3 | 4 | 5 |

*Source: Adapted from The Chartered Institute of Management Accountants, 2014*

[15] At an official rate of the Russian Central Bank as of 01.01.2017, at which time 1 EUR = 63,8111 RUR.

Seminar participants who qualified for participation were asked to fill out the questionnaire. Several incentives or other supportive measures were introduced to ensure participation. Depending on the context and circumstances, participation included one or several of the following: a prize-draw among participants, a discount of 10% for the next seminar or event, and/or distribution of certificates of completion conditional on the return of filled-in questionnaires. The questionnaires were distributed at the end of each educational event, and enough time was provided for participants to complete the survey. In some cases, the survey was offered online as a follow-up communication within three days following the completion of the educational event.

The possibility of completing the questionnaire online, however, was offered to all participants; some of them, who were not able to complete it right after the educational event, preferred this option. In total, over the course of 2 years, 756 questionnaires (representing 231 companies) were collected. Of these, 522 questionnaires (representing 167 companies) were considered valid for analysis.

The following approach was used for data analysis:

- Firstly, at the level of the individual questionnaire, average scores were calculated for each management accounting principle within each area of practice (as a sum of all scores for each practice statement under each area of practice, divided by the number of these practice statements);
- Secondly, average scores were calculated for each management accounting principle within each area of practice for all valid questionnaires based on data obtained at Step a);
- Thirdly, integrated scores were calculated for each area of practice and for each principle of management accounting as a sum of scores obtained at Step b). For each respective area of practice, this indicates the state and intensity of management accounting practices. For each respective management accounting principle, it indicates the extent to which management accounting principles are applied across practices.
- Finally, the results obtained in Step c) were compared to the maximal score corresponding to the "best-practice case." This equals a score of 70 for each management accounting principle. (Each principle can potentially be applied to each of 14 management accounting practices with a maximal score of 5.) Likewise, it equals a score of 20 for each management accounting practice area. (Four management accounting principles can potentially enforce each management accounting practice with a maximal score of 5.)

## 3. Results

In Table 3, a summary of the results of the study is presented.

*Table 3: Study results quantified*

| Management accounting practice areas | Management accounting principles[16] | | | | **Integrated score** | **Max. score ("best practice")** |
|---|---|---|---|---|---|---|
| | P1 | P2 | P3 | P4 | | |

[16] For the legend, please refer to Section 1.2.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. Cost transformation and management | 4 | 5 | 2 | 3 | **14** | **20** |
| 2. External reporting | 0 | 3 | 1 | 1 | **5** | **20** |
| 3. Financial strategy | 1 | 1 | 1 | 0 | **3** | **20** |
| 4. Internal control | 0 | 0 | 0 | 0 | **0** | **20** |
| 5. Investment appraisal | 1 | 0 | 1 | 1 | **3** | **20** |
| 6. Management and budgetary control | 4 | 1 | 0 | 2 | **7** | **20** |
| 7. Price, discount, and product decisions | 2 | 2 | 0 | 0 | **4** | **20** |
| 8. Project management | 1 | 1 | 1 | 0 | **3** | **20** |
| 9. Regulatory adherence and compliance | 4 | 4 | 1 | 3 | **12** | **20** |
| 10. Resource management | 2 | 2 | 0 | 2 | **6** | **20** |
| 11. Risk management | 0 | 0 | 0 | 0 | **0** | **20** |
| 12. Strategic tax management | 1 | 1 | 1 | 1 | **4** | **20** |
| 13. Treasury and cash management | 2 | 2 | 0 | 0 | **4** | **20** |
| 14. Internal audit | 0 | 0 | 0 | 0 | **0** | **20** |
| **Integrated score** | **22** | **22** | **8** | **13** | **65** | **X** |
| **Max. score ("best-practice")** | **70** | **70** | **70** | **70** | **X** | **280** |

*Source: Author's work*

## 3. Discussion

The results of the research demonstrate that from the point of view of practices prevailing in companies today, the current understanding of management accounting in Russian mid-sized companies is currently corresponding to the level at which management accounting in the countries with developed market economies had been twenty to thirty years ago. The key focus of management accounting is aimed at information support (22 points) and transfer of information to users ("communications" also received 22 points). It should be noted that the maximum possible score could be 70 points, which would mean a profound and balanced use of all management accounting practices under consideration. Creation of value and protection of assets (in order to ensure sustainable operation of the company) received, respectively, only 8 and 13 points out of 70 possible, which indicates that these topics are not yet significant in the corporate agenda. The integrated assessment of all 4 principles of management accounting was only 65 points, whereas the maximum value corresponding to best management practices could be 280 points. Accordingly, 65 points also included an integrated assessment of all areas of practice, with an analogue of a maximum value of 280 points. Altogether. it indicates that management accounting (in general) is ascribed relatively low importance.

The two most intensively used areas of practice were the following: cost management (14 points out of 20 possible) and management compliance with regulatory requirements (12 points out of 20). The first clearly demonstrates the common desire of many companies to search for a "magic pill" and easy ways to achieve their goals. Meanwhile, the second is due to historical features and the high role of regulation of economic activity—which forces companies to pay close attention to compliance with various requirements, norms, and regulations.

Areas of practice such as managerial and budgetary control lag far behind (7 points out of 20), as does efficient management of resource usage (6 points out of 20). This is a rather unexpected result, as it could be assumed that – given the traditionally large number of mentions in business and academic literature, at conferences, and on the agendas of the consulting and professional communities – these areas of practice might have receive more points. Our explanation is that it is due to the fact that it was quite difficult for respondents to relate these areas of practice to certain principles of management accounting. This clearly illustrates the lack of strategic focus and fragmented management accounting practices of mid-market Russian companies.

The thesis formulated above is also confirmed by the fact that the areas of practice which (one way or another) are related to the company's strategy – financial strategy, investment analysis, and strategic tax management – received a total of only 3–4 points. Particular attention is called to such areas as internal control, risk management, and internal audit, which did not score points at all.

## 4. Conclusion

It is often suggested that management accounting in Russian companies serves the role of an internal adviser. As the results of the research conducted show, this is a rather idealistic position reflecting wishful thinking. The desired goal, in this case, is formulated and articulated in the relatively artificial environment of the academic and consulting community, as well as in the rare public relations attempts of individual companies to present to the general public the results of their implementing certain "best-practice" instruments.

Russian companies still have a long way to go in developing management accounting and controlling systems up to a level consistent with good management practices. Success will depend first of all on the understanding and acceptance – by all participants of this process – of best practices and management principles for the purpose of generating long-term value creation. Beyond this greater context and aim, individual instruments or even functional principles – be they management accounting principles or marketing activity principles – do not make much sense.

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# EU MILK AND DAIRY MARKET CHANGES AND IMPACT OF GLOBALISATION TRENDS

Jiří Mach[1,a,*], Marek Dvořák[2,b] and Pavla Hošková[3,c]

[1]Dept. of Economics, FEM CULS Prague, Czech Republic

[2]Dept. of Management, FEM CULS Prague, Czech Republic

[3]Dept. of Statistics, FEM CULS Prague, Czech Republic

[a]mach@pef.czu.cz, [b]dvorakmarek@pef.czu.cz, [c]hoskova@pef.czu.cz

*Corresponding author

**Abstract.** The results of time series analyses show that the foreign dairy market for the EU28, whether within (intra) or outside (extra) the EU, is largely influenced by seasonality. The influence of the seasonal component was also observed in foreign trade of Germany, which, together with Italy, are the largest importers of milk on the intra-EU market. German exports to the EU countries have been slowly declining since 2012, while exports outside the EU have increased significantly since 2009 (an average of 452 thousand kg per month in 2014). Concerning the development of milk and dairy products trade throughout the EU, imports from non-EU countries are rather steady, while exports outside the EU are steadily increasing, even though there are some barriers (market protection in Switzerland or Canada, embargo on import to Russia, etc.) of exports. The Netherlands is a major exporter of butter on intra-EU markets where the value of butter exports almost doubled between periods before 2009 and post-quota abolition in 2015. With regard to exports of butter outside the EU, the Netherlands together with France and Ireland also have the highest share. In the coming years, global demand for dairy products is expected to grow, which is likely to help both primary producers and milk processors to maintain or increase their existing capacities.

**Keywords:** dairy market, foreign trade, milk export, EU production.

**JEL Classification:** F14, Q13, Q17

## 1. Introduction

Na jaře 2015 byly v EU zrušeny mléčné kvóty, které platily od 80. let minulého století. Farmáři od té doby mohou produkovat mléko bez omezení. Problematikou predikce následného stavu, reformou CAP s dopadem do mléčného sektoru a liberalizací mezinárodního trhu s mléčnými výrobky se zabývalo velké množství autorů, např. Burrell (2004), Elumalai a Sharma (2005) nebo McKenzie (2014).

To, co předvídat nešlo, bylo ruské embargo na dovoz mléčných výrobků ze zemí EU, které s poklesem poptávky z jiných částí světa, zapříčinilo výrazný pokles cen v členských státech. Rovněž došlo následně v roce 2016 k výraznému zvýšení cen másla, jež bylo ovlivněno globálním nárůstem poptávky po této komoditě, zejména v Číně. Přes výrazné změny a investice do čínského mléčného průmyslu, které byly nastartovány již v 90. letech, musí stále tento nejlidnatější stát velké množství mléčných výrobků dovážet (Delman, 2003). Ukazuje se, že se zvýšila závislost EU na světovém trhu s mléčnými výrobky, protože velká část zvýšené produkce musí být vyvezena mimo EU. Větší účast na světovém obchodu s mlékem a mléčnými výrobky však přináší větší zranitelnost vůči šokům na světových trzích s mlékem. Stejně tak změny v dodávkách mléka do EU budou mít dopad na světové ceny mléčných výrobků (Chatellier, 2016). Bojnec a Ferto (2014) analyzovali exportní konkurenceschopnost mléčných výrobků v zemích Evropské unie (EU-27) na trzích uvnitř EU (intra-EU), mimo EU (extra-EU) a na celosvětovém trhu s využitím indexu zjevných komparativních výhod (RCA) v letech 2000-2011. Jejich výsledky naznačily, že přibližně polovina zemí EU-27 měla konkurenceschopný vývoz v určitém segmentu mléčných výrobků. Výsledky se lišily podle úrovně zpracování mléka a pro trhy v rámci EU a mimo EU, a to v průběhu analyzovaných let. Otázkou je, zda by producenti v EU mohli být konkurenceschopní i v době, kdy by ceny mléka a mléčných výrobků byly tlačeny příliš nízko.

Weber a kol. (2013) konstatují, že sezónnost se stává stále důležitější pro vývoj mezinárodních cen mléka a mléčných výrobků v důsledku vyššího podílu výroby mléka na bázi pastevního využívání travních porostů. Lze také prokázat, že časová zpoždění, se kterými se mění ceny mezi různými úrovněmi výroby a zpracování mléka, se liší. V rámci dodavatelského řetězce mléka a mléčných výrobků tedy existuje asymetrie cen. Pro Českou republiku (ČR) může mít přebytek nabídky na trhu s mlékem významný dopad na sousedy a regionální obchodní partnery (Visegrádské země - V4). Podle Zdráhala (2015) jsou zvýšené objemy mléka a mléčných výrobků, které byly vyvezeny nebo dovezeny, zaznamenány především v souvislosti s přistoupením zemí V4 k EU. Dále sleduje rostoucí zahraniční obchod s hlavními producenty zemí EU-15 (Německo, Francie, Itálie atd.).

Rozvoj vzájemného zahraničního obchodu mezi visegrádskými zeměmi není reciproční; Polsko se stalo významným vývozcem do ČR, Slovenska a Maďarska. S výjimkou Polska, ostatní země V4 vyvážejí jen málo mimo EU. Navíc, po konfliktu na Ukrajině a následně po hospodářských sankcích uložených EU, se v srpnu 2014 Ruská federace rozhodla zakázat dovoz potravin a zemědělských produktů z EU. Rusko ale bylo druhou největší destinací zemědělsko-potravinářských produktů z EU. V případě mléčných výrobků se 10 procent exportu dostalo do Ruska (Bližkovský, 2016).

V této souvislosti vidíme značné investice do ruského potravinářského sektoru. Pritchard (1996) na příkladu amerického a australského sektoru výroby mléka ukazuje, že při konsolidaci mléčného průmyslu hrají značnou roli družstva producentů mléka, které mohou svojí strategií - ve světle nových podmínek pro akumulaci kapitálu - zmírnit dopady přímých vstupů nadnárodního kapitálu. Dále zdůrazňuje význam specifických regulačních kontextů při určování výsledků restrukturalizace a poukazuje na složité vztahy mezi národním a nadnárodním kapitálem v agro-potravinářských systémech. Z těchto výsledků vyplývá, že ani po zrušení ruského embarga nemusí dojít k opětovnému obsazení tohoto trhu za strany EU na úroveň před embargem.

Hlavním cílem tohoto článku je zjistit, zda se vývoz mléka v rámci EU i mimo ni skutečně změnil po zrušení kvót a jaké faktory ovlivňují a jaké země přispívají ke změnám ve směrech toků vývozu a dovozu mléčných výrobků. Autoři se také chtějí zabývat problémem sezónnosti obchodu s mléčnými výrobky a problémem překážek mezinárodního obchodu.

## 2. Metodika a zdroje dat

Tento článek analyzuje měsíční údaje o obchodu s mléčnými výrobky se zaměřením na vývoz a dovoz mezi státy EU (intra-EU) a všemi zeměmi mimo EU (extra-EU) od ledna 2004 do prosince 2017. Byla použita databáze Eurostatu podle Standardní klasifikace mezinárodního obchodu (SITC). Hlavní tři skupiny mléčných výrobků byly:

- **Skupina 022** - Mléko a smetana a mléčné výrobky jiné než máslo nebo sýr,
- **Skupina 023** - Máslo a jiné tuky a oleje získané z mléka, a
- **Skupina 024** - Sýry a tvaroh.

Ke zkoumání změn v zahraničním obchodu po zrušení kvót byly údaje rozděleny do tří období: **1. období** - od ledna 2004 do prosince 2009; **2. období** - leden 2010 až prosinec 2014 a **3. období** - leden 2015 až prosinec 2017. Rozdíly mezi skupinami byly statisticky vyhodnoceny s využitím analýzy rozptylu. Analýza rozptylu obecně hodnotí diference průměrů sledovaného znaku mezi skupinami, které jsou určeny sledovanými faktory. Jinak řečeno, tato metoda umožňuje vyhodnotit průkaznost rozdílu mezi průměry $m > 2$ nezávislých výběrových souborů, přičemž v rámci jediného výpočtu lze souběžně vyhodnocovat průměry získané podle většího počtu třídících kritérií (Seger a Hindls, 1995). Testuje se nulová hypotéza $H_0$: $\mu_1 = \ldots = \mu_m$ (průměry ve všech uvažovaných souborech jsou shodné). Alternativní hypotéza pak tvrdí, že existuje alespoň jedna dvojice průměrů, která se sobě nerovná. Bude-li se uvažovat o modelu, ve kterém se hodnoty znaku třídí podle dvou kritérií (v tomto případě měsíc a rok), pak testové kritérium F je definováno jako:

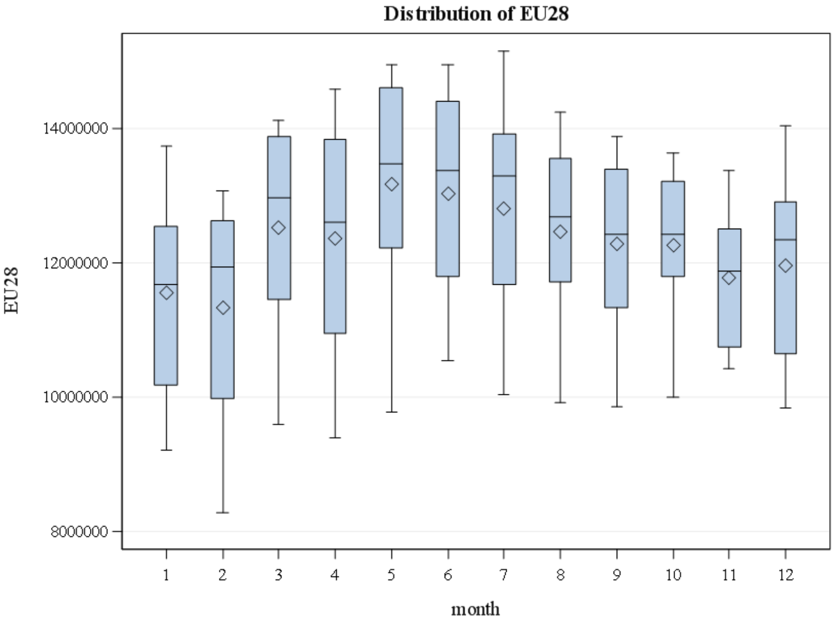
$$F = \frac{s_1^2}{s_r^2}, \tag{1}$$

kdy rozptyl $s_1^2$ měří společný vliv sledovaných faktorů a rozptyl $s_r^2$ hodnotí náhodné kolísání znaku. Rozptyl $s_1^2$ se pak následně rozkládá na rozptyly vztahující se k jednotlivým kritériím, podle nichž se naměřené hodnoty rozdělují. Statistika F má za platnosti nulové hypotézy F-rozdělení o ($m$-1) a $m$($n$-1) stupních volnosti. Pokud $F > F_\alpha$ (kritická hodnota F-rozdělení pro zvolenou hladinu významnosti $\alpha$ a dané stupně volnosti), pak zamítáme hypotézu o statisticky nevýznamném rozdílu obou rozptylů, což bude znamenat i zamítnutí hypotézy o shodě průměrů (Anděl, 2007). K vyhledání skupin zemí s největšími změnami v obchodu s mlékem byla použita tzv. clusterová analýza. Tento postup dělí jednotky tím, že měří jejich podobnosti v homogenních podsouborech (clustrech). Jeden cluster obsahuje statistické jednotky, které jsou navzájem podobné, zatímco jednotky obsažené v jiných clusterech se liší od jednotek prvního nebo jiného seskupení. Pro analýzu dat byl použit statistický program "SAS". V tomto programu bylo použito Tukeyho seskupování k rozdělení konkrétních zemí do clusterů. Stejné písmeno (tj. A, B, C ...) představuje průměry, které se statisticky významně navzájem neliší.

## 3. Výsledky a diskuse

Analýzy ukazují, že dovoz mléka a mléčných výrobků (nikoliv másla a sýrů) na vnitřním trhu EU (intra-EU) je sezónní, objem dovozu se zvýšil zejména mezi dubnem a červencem (viz obrázek 1).

*Figure 1: Sezónnost dovozu mléka (022) na trhu intra-EU (ve 100 kg)*




*Source: Vlastní zpracování na základě dat Eurostatu*

U vývozu mléka v EU28 (intra-EU) byla zaznamenána rovněž sezónnost, ale ne tak silná. Důvodem může být to, že některé země EU dovážejí na evropský trh více, než vyvážejí (čistí dovozci). Autoři také vypočítali sezónnost údajů v hodnotě eura (€). Průběh sezónnosti v obou případech (dovoz a vývoz) byl téměř identický jako výsledky sezónnosti pro hmotnost (kg). Pokud jde o celou EU28, od roku 2004 do roku 2009 se roční hodnoty vnitřního dovozu zvyšují, v období od roku 2010 do roku 2014 dochází ke stagnaci a od roku 2015 dochází k opětovnému růstu. Pokud se týká jednotlivých hráčů na trhu EU, empirické výsledky ukazují, že Německo a Itálie hrají rozhodující roli v dovozu mléka na vnitřním trhu EU z hlediska objemu. Ačkoli obě země snížily objem dovozu mléka ve 3. období (po zrušení kvót), zůstávají stále klíčovými dovozci. Společně s Belgií a Nizozemskem představují zhruba 50% veškerého dovozu mléka, smetany a mléčných výrobků uvnitř EU (skupina 022), jak je uvedeno v tabulce č. 1. Dále je možné sledovat vývoj hodnot dovozu v € - Itálie v posledním období dováží relativně levné mléko a mléčné výrobky jako je např. odstředěné sušené mléko (OSM) (0,62 EUR / kg), Německo více dováží zpracované produkty (smetana, jogurty) za průměrnou cenu dovozu 0,79 EUR / kg.

*Table 1: Měsíční průměry intra-EU dovozů mléka (skupina 022)*

| | | **1. období** | **2. období** | **3. období** |
|---|---|---|---|---|
| **BE** | mil. kg | 106,2 | 124,2 | 156,7 |
| | mil. € | 86,1 | 112,2 | 110,7 |
| **DE** | mil. kg | 204,4 | 253,0 | 197,8 |
| | mil. € | 118,5 | 152,2 | 156,7 |
| **IT** | mil. kg | 222,1 | 241,3 | 208,1 |
| | mil. € | 123,6 | 151,4 | 129,2 |
| **NL** | mil. kg | 139,6 | 149,9 | 140,3 |
| | mil. € | 119,8 | 131,1 | 116,0 |

*Source: Vlastní zpracování na základě dat Eurostatu*

Úroveň dovozu mléka se ve 3. období zvýšila (v kg i v €) v Rakousku, České republice, Spojeném království, Irsku, Lucembursku, Polsku, Rumunsku a v Chorvatsku. Bulharsko zvýšilo dovozy v objemu, avšak nikoli v hodnotě.

Stejné země, které dováží mléko, jej také vyváží. Pouze Itálie není jedním z hlavních vývozců (ve 3. období pouze 42 mil. kg měsíčně) a v tabulce č. 2 byla předstižena Francií. Čtyři země uvedené v tabulce 2 představují více než 50% celkového vývozu mléka v rámci EU. Průměrné snížení vývozu mléka ve 3. období bylo mezi těmito zeměmi nižší (-4,5% objemu) než snížení dovozu mléka (-14%). Výjimkou je Belgie, kde se zvýšil jak dovoz, tak vývoz (ačkoli dovoz pouze objemově) o 26%, resp. o 1%. Také cena dovozu je nižší (0,71 € / kg) než cena vývozu (0,91 € / kg), což naznačuje možnost vyšší přidané hodnoty ve vyvážených produktech. Stejnou situaci lze pozorovat také v Nizozemsku, kde průměrná cena dovozu činila ve 3. období 0,83 EUR / kg a cena vývozu byla 1,15 EUR / kg. Dochází k nárůstu vývozu ostatních zpracovaných mléčných komodit (sýrů a másla), jak bude uvedeno níže. Podle Vöneki a kol. (2015), v období kolem roku 2012 byli nejkonkurenceschopnějšími vývozci tekutého mléka Německo a Polsko, u sýrů to bylo Nizozemsko, Německo, Polsko, Dánsko a Francie a u másla Nizozemsko, Irsko, Belgie a Dánsko. Také se zde projevuje snadnost dovozu a vývozu uvnitř EU. Knight a kol. (2007) uvádějí, že při průzkumu potravinových řetězců ve Francii se vnímání image „produkt-země původu“ u členů vertikály více soustředilo na konkrétní otázky důvěry v integritu výrobních, certifikačních a regulačních systémů než na stereotypní vnímání obrazu konkrétní země. Jelikož v případě mléčných výrobků, které jsou standardizovány, nehrozí nějaký výrazný kvalitativní posun v rámci jednotlivých zemí EU, je tento obchod mezi jednotlivými zeměmi zcela bezproblémový.

*Table 2: Měsíční průměry intra-EU vývozů mléka (skupina 022)*

| | | **1. období** | **2. období** | **3. období** |
|---|---|---|---|---|
| **BE** | mil. kg | 112,9 | 130,1 | 131,3 |
| | mil. € | 93,7 | 115,5 | 119,2 |
| **DE** | mil. kg | 353,6 | 343,9 | 336,4 |
| | mil. € | 248,5 | 282,9 | 259,9 |
| **FR** | mil. kg | 154,8 | 178,5 | 164,4 |
| | mil. € | 137,0 | 172,1 | 147,8 |
| **NL** | mil. kg | 76,3 | 81,5 | 78,7 |
| | mil. € | 60,9 | 85,6 | 90,4 |

*Source: Vlastní zpracování na základě dat Eurostatu*

V případě másla (skupina 023), které lze skladovat v obdobích nadprodukce, jsou změny ve 3. období u vývozu uvedeny v tabulce č. 3. Nizozemsko je největším vývozcem másla na vnitřním trhu EU v obou obdobích – 1. a 3. Objem vývozu másla se v Nizozemsku téměř zdvojnásobil. V prvním období Nizozemsko a Irsko vedly ve vývozech másla, těsně je následovala Belgie. V posledním období byly první dvě země rozděleny do dvou specifických clusterů (A a B), zatímco ve skupině C byly Německo a Belgie a skupinu D tvořila Francie a Velká Británie. Zde je potřeba konstatovat, že mezinárodnímu obchodu jak na intra- tak na extra-EU úrovni dominují velké nadnárodní společnosti. Jak uvádějí Bernard a kol. (2018), drtivá většina výrobních firem vyváží produkty, které nevyrábějí. Tři čtvrtiny vyvezených produktů a 30% vývozní hodnoty belgických výrobců pochází ze zboží, které firma nevyrábí, tzv. Carry-Along Trade (CAT). Počet výrobků CAT výrazně zvyšuje produktivitu podniků, zatímco produkované výrobky, které jsou vyváženy, zvyšují tuto produktivitu jen mírně.

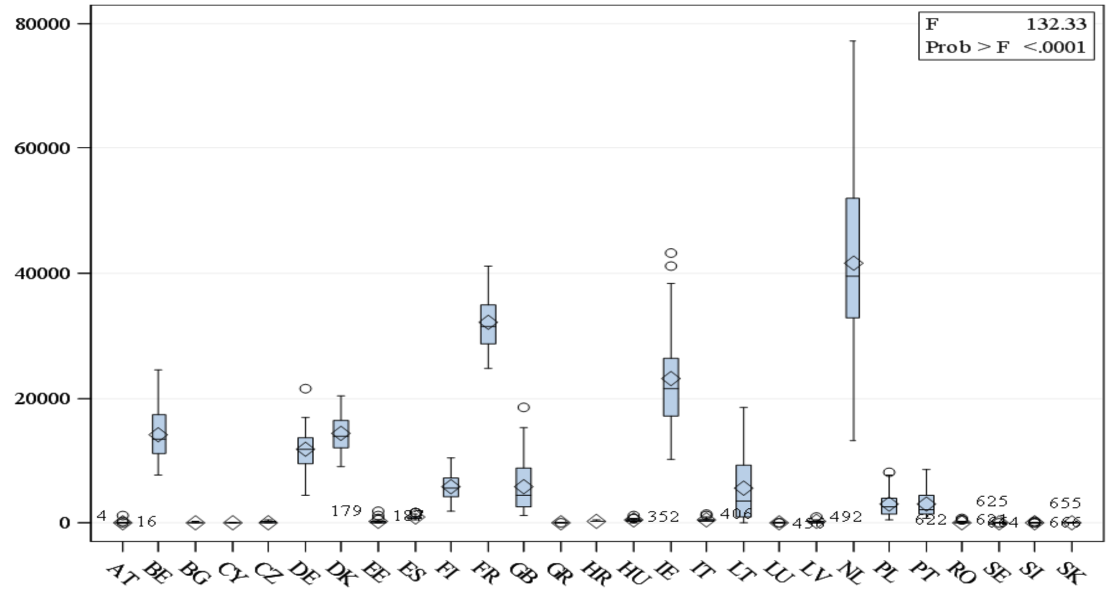
*Table 3. Clustery hlavních intra-EU vývozců másla (023) - (měsíční průměry ve 100 kg)*

| **1. období** | | | | | | **3. období** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Tukeyho seskupení** | | | **Průměr (ve 100 kg)** | **N** | **Země** | **Tukeyho seskupení** | | **Průměr (ve 100 kg)** | **N** | **Země** |
| | A | | 99522 | 72 | NL | A | | 186137 | 36 | NL |
| | A | | | | | | | | | |
| B | A | | 93548 | 72 | IE | B | | 138954 | 36 | IE |
| B | | | | | | | | | | |
| B | | | 85455 | 72 | BE | C | | 114949 | 36 | DE |
| | | | | | | C | | | | |
| | C | | 59934 | 72 | DE | C | | 105305 | 36 | BE |
| | | | | | | | | | | |
| | D | | 40558 | 72 | DK | D | | 51377 | 36 | FR |
| | D | | | | | D | | | | |
| | D | | 37836 | 72 | FR | D | | 41769 | 36 | GB |

*Source: Vlastní zpracování na základě dat Eurostatu*
*Pozn.: Hodnoty a země se stejnými písmeny nejsou statisticky významně rozdílné; N=počet měsíců*

Nejvyšší podíly na vývozu másla mimo EU (extra-EU) byly také zjištěny u Nizozemska, které následuje Francie a Irsko. Zatímco vývozy z Nizozemska a Irska se poprvé snížily ve 2. období a poté se zvýšily ve 3. období, ve Francii se vývozy neustále zvyšovaly (v každém období 2,1; 2,6; resp. 3,2 mil. kg másla). Jak je znázorněno v obrázku č. 2, ve 3. období byl vývoz také důležitý pro Dánsko, Belgii a Německo s více než 1 mil. kg másla vyvezeného měsíčně z EU za každou zemi, která tvořila jeden sdílený cluster.

*Figure 2: Clustery hlavních extra-EU vývozců másla (023) - (měsíční průměry ve 100 kg; 3. období)*




*Source: Vlastní zpracování na základě dat Eurostatu*

Ceny másla v EU obecně podléhají velkým změnám. Podle modelů Chantreuila a kol. (2008) lze očekávat, že do roku 2020 ceny másla poklesnou o 9 až 14 % dle různých scénářů, které použili oproti základním předpokladům pro rok 2020. Tuk je poměrně přebytkový na světových trzích ve srovnání s bílkovinami, což s sebou nese problémy s nalezením možností vývozu másla. Další alternativou pro použití nadprodukce mléka je jeho zpracování do exportovatelného sýra. Během 3. období vzrostl vývoz sýrů a tvarohů (skupina 024) téměř u všech významných producentů. Pouze ve Francii došlo k poklesu v rámci EU ve 3. období, ale tento pokles byl kompenzován zvýšením vývozu mimo EU.

*Table 4: Intra-EU dovozy másla a sýrů ve vybraných zemích EU-12 (měsíční průměry v mil. kg)*

| | | **1. období** | **2. období** | **3. období** |
|---|---|---|---|---|
| **CZ** | butter (023) | 1,0 | 1,6 | 1,9 |
| | cheese (024) | 4,7 | 6,9 | 7,6 |
| **SK** | butter (023) | 0,4 | 0,9 | 1,3 |
| | cheese (024) | 1,5 | 2,9 | 4,1 |
| **RO** | butter (023) | 0,4 | 0,5 | 0,9 |
| | cheese (024) | 1,2 | 2,9 | 4,7 |
| **HU** | butter (023) | 0,3 | 0,5 | 0,6 |
| | cheese (024) | 2,4 | 3,3 | 4,3 |
| **BG** | butter (023) | 0,2 | 0,4 | 0,7 |
| | cheese (024) | 0,3 | 1,1 | 1,9 |
| **EE** | butter (023) | 0,05 | 0,08 | 0,1 |
| | cheese (024) | 0,2 | 0,4 | 0,6 |
| **LT** | butter (023) | 0,04 | 0,1 | 0,2 |
| | cheese (024) | 0,3 | 0,8 | 0,9 |
| **LV** | butter (023) | 0,08 | 0,2 | 0,1 |
| | cheese (024) | 0,7 | 1,3 | 1,2 |
| **PL** | butter (023) | 0,4 | 1,1 | 1,3 |
| | cheese (024) | 1,9 | 4,6 | 6,6 |

*Source: Vlastní zpracování na základě dat Eurostatu*

Téměř všechny země ze skupiny EU-12 zvýšily svůj dovoz mléčných výrobků ve 3. období. Výjimkou je Lotyšsko (LV), kde se dovozy mléčných výrobků s přidanou hodnotou v posledním období snížily. To odpovídá zjištěním Vöneki a kol. (2015), který rozdělil členské státy na skupiny podle obchodní bilance a využití kvót. Všechny země uvedené v tabulce č. 4 (s výjimkou Polska) plně nevyužily kvóty na mléko; některé z nich měly od roku 2010 do roku 2013 negativní obchodní bilanci mléčných výrobků (Rumunsko, Bulharsko, Maďarsko a Slovensko). Na druhé straně zjištění Smutky a kol. (2016) potvrzují celkové kladné saldo zahraničního obchodu pro Českou republiku (agregace komodit HS04 - mléčné výrobky) v letech 2005 až 2013. Potvrzuje to také zjištění autorů tohoto článku, kteří vypočítali celkovou obchodní bilanci mléka mezi ČR a zeměmi EU (intra-EU) od roku 2014 do roku 2017. Pozitivní saldo se výrazně snížilo v roce 2017, kdy to bylo přibližně 31 milionů EUR. (ve srovnání s rokem 2015 a 2016 - oba roky cca 69 mil. EUR).

## 4. Conclusion

EU vyváží přibližně 12% své mléčné produkce ve formě různých mléčných výrobků. Tento podíl se bude pravděpodobně dále zvyšovat, jelikož produkce EU roste rychleji než domácí spotřeba. Výsledky ukazují, že zahraniční trh s mléčnými výrobky pro EU28, ať již v rámci EU nebo mimo ni, je do značné míry ovlivněn sezónností. Trend dovozu mléčných výrobků ze zemí mimo EU je obecně poměrně vyrovnaný, zatímco vývozy mimo EU neustále rostou, a to i přes snížení vývozních cen a ruské embargo. Přesto musí být část zvýšené produkce absorbována na trhu EU, což vysvětluje zvýšení objemu dovozu a vývozu uvnitř EU. Po zrušení kvót se objem dovozu mléka zvýšil jak v objemu, tak v hodnotě v Rakousku, ČR, Spojeném království, Irsku, Lucembursku, Polsku, Rumunsku a v Chorvatsku. Vzhledem k tomu, že každý z hlavních dovozců (DE, NL, IT a také BE) může po zrušení kvót dovážet levnější mléko, je schopen rovněž vyvážet zpracované produkty na trhy mimo i uvnitř EU. Zvláště země EU-12 zvýšily dovoz mléčných výrobků s vyšší přidanou hodnotou (máslo a sýry). Německo a Itálie hrají rozhodující úlohu v objemu dovozu mléka na trhu uvnitř EU. Trvalý strukturální přebytek v mléčných tucích se částečně řeší prostřednictvím zvýšené produkce sýrů, která snižuje ceny sýra. Mezi hlavními producenty sýrů je Nizozemsko významným vývozcem mimo EU, ale spolu s Německem hraje také důležitou roli v rámci vývozu uvnitř EU. Nizozemsko pak spolu s Francií a Irskem mají největší podíly na vývozech másla mimo trh EU.

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# ROMANIAN TOUR OPERATORS IN THE GLOBALIZATION AGE

Marin-Pantelescu Andreea[1,a,*], Rakoș Ileana-Sorina[2,b] and Tirau Adrian[3,c]

[1]The Bucharest University of Economic Studies, Romania

[2]University of Petroșani, Romania

[3]1 Decembrie 1918 University, Alba-Iulia, Romania

[a]marindeea@yahoo.com, [b]nihilsinedeo_68@yahoo.com, [c]tirauadrianioan@gmail.com

*Corresponding author

**Abstract.** Globalization (meaning operation at international scale) interconnects people, capital flows, equipment and machine all over the world. No other activity more than tourism is under the umbrella of globalization. With the increased number of international tourism destinations, tour operators are becoming a powerful element of the distribution channel. The tour operators necessity to operate globally (assembling travel packages) find them involved in transactions, movement of people, and investments. The intention and the materialization of *bulk acquisition*, by which tour operators actually buy in advance all kind of tourism services (accommodation, seats in airplanes, food and beverage, entertainment) give them the responsibility for their sale and in this scenario the competition is on one hand with the market, and on the other hand with yourself as a tour operator with high obligations regarding staff, stakeholders and customers. In 2017, the largest leisure travel company TUI AG generated approximately 18.54 billion Euros in revenue, and employed 66,577 members worldwide. Thomas Cooks Group revenues rose in the 2017 to just over 10 billion Euros, and employed 22,000 people. Romanian holiday package market is estimated at one billion Euros annually. In Romania, the most important tour operators in terms of revenues are Christian Tour (with revenues of 60 million Euros), Happy Tour, Paravion, Paralela 45, and Vola.ro. The first 30 tour operators in Romania have cumulative revenues exceeding 500 million Euros. Taking in considerations the facts and figures at international and national levels, the present paper analyses and forecasts the Romanian tour operators market, providing future development perspectives for the Romanian tour operators.

**Keywords:** tour operators, tourism, forecast, globalization.

**JEL Classification:** L83, Z32, F6

## 1. Introduction

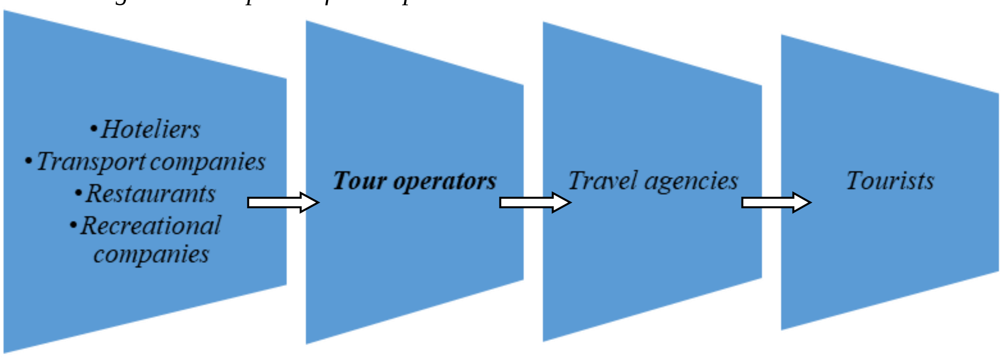
Tour operators play an important role in the tourism industry because they take part in the distribution chain linking tourists to tourism services providers (hoteliers, carriers, animators). Tour operators buy airline seats (on regular flights or charter flights) from hotels accommodation, dining and entertainment, then sell them separately, either individually or in touristic packages.

Tour operators are holiday package makers, which they sell directly to end-users, or indirectly via retail travel agencies. Due to the fact that tour operators buy in bulk transportation, accommodation, food and entertainment services long before the season's start (summer or winter), they can get extremely advantageous prices.

Tour Operators add to the touristic package cost a commission of approximately 20-25%. The sale price of the touristic package includes the tour operator's commission.

The ability of the tour operator to create a tourist product of various services at a lower price offers a comparative advantage and stability on the tourist market. If a tourist buys the same touristic services separately the price will be higher. In this way the importance of the tour operator is demonstrated along with his ability to deliver access services to different destinations and information and conciliations.

*Figure 1: The place of tour operators in the tourism distribution channel*




*Source: made by the authors*

The distribution chain of the package can be short and it consists of tourism providers (hoteliers, carriers, etc.), tour operators and tourists. Or it may be long and it is made up of tourism providers (hoteliers, transporters, etc.), tour operators, travel agencies and tourists (Fig.1). Liberalization of transport and the free movement of goods, people and money flows in the era of globalization have allowed the expansion of international travel agents' networks.

Taking into consideration all the above mentioned, this paper analyzes and forecasts the tour operators market in Romania and offers perspectives for improvement of their situation.

## 2. The stage of knowledge in the field of tour operators

Reference works in the field of Tour Operators bring to their forefront their importance in the era of globalization (Coles & Hall (2008), Chao et al., 2004, Antonescu & Stock, 2014) and how to obtain as much profit as possible, (Holloway (2002), Huang et al., 2009, Kamal et al., 2016, Aguiar-Quintana et al., 2016). Tour operators play a key role in shaping and guiding tourist flows to tourist destinations. The image of the destination, the satisfaction at the place of destination creates loyalty from the tourists who return to the tour operator every time that has created the holiday package most satisfying to their tastes and desires (Wu, 2016). Ivanov & Webster (2013) investigates the relationship between globalization and tourism. On one hand, globalization stimulates incoming and outgoing tourism; on the other hand, the level of globalization of a country is not related to the contribution of tourism to the welfare of the population.

The involvement of tour operators in sustainable tourism was highlighted by research conducted by Goffi et al. (2018). They surveyed 204 tour operators across continents (Europe, Asia, America and Africa) to assess their involvement in creating sustainable tourism. The results have shown that tour operators in Asia and Africa are more concerned about sustainability (environmental protection for future generations) than their European partners. Also, smaller tour operator agencies specializing in nature-based tours and cultural tourism have intense concerns about sustainable tourism. The environment requires protection from senior managers involved in economic activities, the image of the company being significantly improved if it is dedicated to actions that promote sustainability (Topor et al., 2017). In conclusion, tour operators can earn a significant profit even if they are oriented towards sustainable tourism.

People feel happy when travelling, they feel "worthy of taking a vacation" after a year of work, this deserved reward requires attention and loyalty to the tour operator that satisfies their wishes beyond expectations. The tourist experience never ends, it continues long after tourists return from vacation, memories of the soul, watching holiday pictures, sensations, tastes, smells. The tour operator's role in choosing the best options for tourists does not end even though it is in direct interconnection with the tourist experience and the satisfaction of the tourist (Pantelescu & Ioncică, 2012).

The world's largest tour operators as revenue and market share are TUI Group (present in 180 countries through 220 different brands and with 67,000 employees and over 20 million customers and 1,600 retailers, revenue 18.3 million Euros in 2017); Thomas Cook Tours (present in 19 countries, with 22,000 employees, serving over 19 million customers, 9 million Euros in 2017); DER Touristik Group (operates in 14 countries with famous brands Dertour and Kuoni - specializing in luxury tourism and employs 10,100 employees in total, with over 7.1 million customers annually, revenue of 4.9 million Euros in 2017).

The largest tour operators in Romania, based on net turnover, net profit, labor productivity and commercial profitability, are: Christian Tour, Happy Tour, Parallel 45, Vola.ro and Cocktail Holidays (Table 1).

*Table 1: Economic indicators of tour operators in Romania, 2017*

| | **Net turnover euro** | **Net profit euro** | **No. of employees** | **Work productivity Euro / employee** | **Commercial profitability %** |
|---|---|---|---|---|---|
| Happy Tour | 3542063 | 1194997 | 83 | 42675 | 33.74 |
| Christian Tour | 6083659 | 862095 | 222 | 27404 | 14.17 |
| Paralela 45 | 6949649 | 461661 | 196 | 35457 | 6.64 |
| Vola.ro | 5388446 | 334541 | 81 | 66524 | 6.21 |
| Cocktail Holidays | 973087 | 48231 | 45 | 21624 | 4.96 |

*Source: calculated by the authors according to the financial and accounting data from the Profit and Loss Account, the Ministry of Public Finance, Romania, 2018, 1 euro = 4.7 lei, the labor productivity is the net turnover divided by the number of employees and the commercial profitability is calculated by dividing the net profit to turnover.*

To begin with, we analyze the net turnover of tour operators in Romania. Thus, Paralela 45 with 7 million Euros, Christian Tour 6 million, Vola.ro 5.4 million, Happy Tour 3.5 million, and Cocktail Holidays almost 1 million Euros.

If we analyze the net profit, the first place is Happy Tour with 1.2 million euros, followed by Christian Tour (862 thousand Euros), Paralela 45 (462 thousand Euros), Vola.ro (334 thousand Euros) and Cocktail Holidays (48 thousand Euros) .

As regards the number of employees, most of them belong to the tour operator Chirstian Tour (222 employees), followed by Paralela 45 (196 employees), Happy Tour (83 employees), Vola.ro (81 employees), and Cocktail Holidays (45 employees). The most productive travel agency in Romania is Vola.ro, with a work productivity of 66.5 thousand euro/employee, followed by Happy Tour, Paralela 45, Christian Tour, and Cocktail Holidays. Commercial profitability (or sales profitability) points to 33.74% first, followed by Christian Tour (14.17%), Paralela 45 (6.64%), Vola.ro (6.21%) and Cocktail Holidays (4.96%). Commercial profitability typically increases on the basis of profit growth as a result of cost reduction, as turnover cannot record very significant increases in a highly competitive market.

## 3. Methods

We will then analyze the demand for tour operator services in Romania and we will make a forecast using the average dynamic index method. The question is, "How many people are relying on tour operators in Romania? "," How many people are relying on tour operators in Romania to buy holiday packages for domestic tourism, for outgoing tourism, for incoming tourism and what is the trend for the coming years? "The volume is extremely important for tour operators because the more they have the more rewarding it is for travel agencies that reach as many end-users as the turnover and, implicitly, the revenue increases for the tour operator. Selected statistical data from Tempo-online platform created by the Romanian Institute of Statistics will be used. Calculate the rate of evolution in the chain (indicating year-to-year changes), the average dynamics index (prediction required), the average annual growth rate (indicating changes over the five years of analysis) and the average of the data series total tourists taking part in tourist activities organized by Romanian Tour Operators (Table 2).

*Table 2: Number of tourists taking part in tourist events organized by Romanian Tour operators*

<table>
<tr><th rowspan="2">Years</th><th colspan="3">Types of touristic activities</th><th rowspan="2">Total</th><th rowspan="2">$R_{i/i-1}$ %</th><th rowspan="2">$\overline{R}$ %</th><th rowspan="2">$\overline{y}$</th><th rowspan="2">$\overline{I}$</th></tr>
<tr><th>Incoming tourism</th><th>Outgoing tourism</th><th>Domestic tourism</th></tr>
<tr><td>2013</td><td>118712</td><td>466683</td><td>401726</td><td>987121</td><td>-</td><td rowspan="5">+11.44</td><td rowspan="5">1241664</td><td rowspan="5">1.1144</td></tr>
<tr><td>2014</td><td>217705</td><td>709977</td><td>374667</td><td>1302349</td><td>+31.93</td></tr>
<tr><td>2015</td><td>253507</td><td>506183</td><td>430832</td><td>1190522</td><td>-8.59</td></tr>
<tr><td>2016</td><td>74125</td><td>541037</td><td>590500</td><td>1205662</td><td>+1.27</td></tr>
<tr><td>2017</td><td>105310</td><td>746928</td><td>670428</td><td>1522666</td><td>+26.29</td></tr>
</table>

*Source: Romanian National Institute of Statistics, 2018, Tempo-online*

## 4. Results

Based on the analysis of the statistical data and the calculations we can state that at the level of 2017 a number of 1,522,666 persons have purchased at least one tourist service offered by a tour operator in Romania. For the incoming activity, the number of tourists who participated in activities organized by the Romanian tour operators was 105,310 persons, for the outgoing activity, 746,982 tourists went abroad through a tour operator and for spending the holiday in 670,428 tourists used a tour operator in Romania. The volume of tourist services sold by Tour Operators in Romania thus increased on average, during the period 2013-2017, 1,241,664 persons purchased tourist services from Romanian tour operators. Shopping tours through tour operators have experienced year-to-year fluctuations. Thus, in 2014 compared to 2013 there was an increase of 31.93% in the number of tourists buying holidays through tour operators, in 2015 as compared to 2014 we witness a decrease of 8.59% in the number of holiday buyers from tour agencies (being the year of big bankruptcy in the Romanian tour operator industry, tour operators such as Mareea, Omnia Turism, Genius Travel, Prestige Tours remained insolvent and left behind total damages of over 20 million Euros).

In 2016 the tour operator market in Romania recovered slightly and the number of tourists buyers increased by 1.27% and in 2017 the market recovered and it is known to have had a 26.29% increase in sales in holidays sold by tour operators to tourists. The average annual rate was positive (11.44%), which means that the total number of tourists who took part in holidays offered by tour operators in Romania increased by 11.44% in the period 2012-2017. If we look at the structure of the activities of tour operators (incoming, outgoing and domestic tourism activities), we can see that the most foreign tourism was sold (holidays of Romanians abroad through tour operators), then domestic tourism (holidays spent by Romanians in Romania tour operators), and tour operators also come with a significant number of foreigners in the country (incoming tourism).

*Table 3: Data series adjustment. Total number of tourists taking part in tourist activities organized by Romanian Tour operators*

| **Years** | **yi** | $\tilde{y}_i = y_{i-1} * \overline{I}$ | $(y_i - \tilde{y}_i)^2$ |
|---|---|---|---|
| 2013 | 987121 | 987121 | 0 |
| 2014 | 1302349 | 1100092 | 40907945765 |
| 2015 | 1190522 | 1225992 | 1258099618 |
| 2016 | 1205662 | 1366300 | 25804567044 |
| 2017 | 1522666 | 1522666 | 0 |
| Total | | | 67970612427 |

*Source: calculated by the authors using the method of adjusting the average dynamic index*

$$\sigma = \sqrt{\frac{679700612427}{5}} = 116594$$

$$v = \frac{\sigma}{\overline{y}} \cdot 100$$

$$v = 9.39\%$$

*Table 4: The forecast of the evolution of the total number of tourists taking part in tourist activities organized by Romanian Tour operators*

| **Years** | $\tilde{y}_i = y_{i-1} * \overline{I}$ |
|---|---|
| 2018 | 1696927 |
| 2019 | 1891132 |
| 2020 | 2107562 |

*Source: calculated by authors using the average dynamic prediction method*

## 5. Discussion

There is a steady increase in the number of tourists taking part in touristic events organized by tour operators in Romania in 2020, over 2,107,562 people will buy tourist packages through Romanian tour operators. The trend observed following the forecast is a favourable one for Romanian's tour operators performing in the current context of globalization. The coefficient of variation (v) has a value below 10%, which means that the forecast is as close as possible to reality. From 1.7 million tourists to 1.9 million tourists and finally 2.1 million tourists serviced annually, Romanian tour operators will have a growing market and a strong competition, especially by liberalizing international exchanges of people, goods, services and liquidity. Currently, 1.5 million tourists buy tourist services from tour operators in Romania with a steady growth trend for the next 3 years.

## 6. Conclusion

The article researched the tour operators' market in Romania and made a forecast of the total number of tourists that will purchase tourist services through Romanian tour operators.

People feel happy when they travel, they feel "worthy of a vacation" after a year of work, this deserved reward requires attention and loyalty to the tour operator that satisfies their wishes beyond expectations.

The largest tour operators in Romania, based on net turnover, net profit, labour productivity and commercial profitability, are: Christian Tour, Happy Tour, Paralela 45, Vola.ro and Cocktail Holidays. After net turnover the first place is Paralela 45 with 7 million euro, Christian Tour 6 million euro, Vola.ro 5.4 million euro, Happy Tour 3.5 million euro, and Cocktail Holidays almost 1 million euro. After net profit, the first place is Happy Tour with 1.2 million Euros, followed by Christian Tour (862 thousand Euros), Parallel 45 (462 thousand Euros), Vola.ro (334 thousand Euros) and Cocktail Holidays (48 thousand Euros).

At the level of 2017, 1,522,666 people acquired at least one tourist service provided by a tour operator in Romania. For the incoming activity, the number of tourists who participated in activities organized by the Romanian tour operators was 105,310 persons, for the outgoing activity, 746,982 tourists went abroad through a tour operator and for spending the holiday in our country (domestic tourism) 670,428 tourists used a tour operator in Romania.

In 2020, over 2,107,562 people will buy tourist packages through Romanian tour operators. The tendency observed following the forecast is a favourable one for Romanian tour operators who act in the current context of globalization.

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# SOCIO-ECONOMIC DEVELOPMENT OF THE CITIES OF THE TRANS-SIBERIAN RAILWAY OF RUSSIA

Mironova Marina[1,a,*], Sholudko Alexander [2,b] and Kuznetsova Nataliya [3,c]

[1]Associate Professor, PhD (Geography), Department of Regional Economics and Geography, Faculty of Economics, Peoples' Friendship University of Russia (RUDN University), Moscow, Russia

[2] Associate Professor, PhD (Economics), Department of Regional Economics and Geography, Faculty of Economics, Peoples' Friendship University of Russia (RUDN University), Moscow, Russia

[3] Undergraduate student in Urban studies, speciality "Urban informatics", Institute of design and urban studies, Saint-Petersburg National Research University of Information Technologies, Mechanics and Optics (ITMO University), Saint-Petersburg, Russia

[a]mironova_mn@pfur.ru, [b] sholudko_an@pfur.ru, [c] nataliya.kuznetsova95@yandex.ru

*Corresponding author

**Abstract.** Globalization affects the development of cities. Concentration of economic activity in the largest cities and its decline in small ones is typical for Russia. There are economic shifts, which determined dynamics of number, migration and employment structure of the population in Russian cities. Typology of these cities by population and leading city-forming functions was made. It was revealed that small towns with narrow industrial and transport specialization account for almost a half of the cities; the largest and million-people cities with multifunctional economic structure account for a quarter of the cities. Population change trends of different city types have been determined. Scales and specificity of changes in cities industrial sector were estimated with the help of balance method. In cities along the Trans-Siberian Railway (Transsib), the number of engineering and food industries decreased, and the number of petrochemical and construction materials industries grew. Correlation between the change of industrial functions and the number of population in different types of cities was defined. Tendencies of social and economic development of the largest city were traced on the example of Irkutsk city. In Irkutsk, there was a steady city growth due to young female population inflow together with increasing of the role of urban services functions. In the municipal budget, the share for education expenditures was high and it is still growing now, while the share for the health expenditures is decreasing. Revealed features of the economic development of Transsib cities coincide with trends, which are general across whole Russia.

**Keywords:** Russia, types of cities, Transsib, city population, city-forming industrial functions, Irkutsk.

**JEL Classification:** R120, R23, J45, L16

## 1. Introduction

Both in post Soviet Russia and all over the world the concentration of economic activity in the largest cities is noted, with a decrease in small economies under the influence of globalization. In the cities, there are shifts in industrial functions and services. This problem was reflected in the process of identification of demographic features, migrations and employment patterns in the world's cities (Narayana, 2010; Lee, 2015; Gollin et al, 2016; Venables, 2017) and in Russian Federation (Kolomak, 2014; Golubchikov et al., 2014; Wiśniewski, 2017), including the development of individual cities (Belkova, 2012; Lobodanova, 2014; Loginov, 2012; Nefedova et al., 2016) and analysis of the transformation of the country's industry (Rodionova & Kokuytseva, 2011; Chasovsky, 2015). It seemed interesting to explore the cities of Transsib and determine whether the changes in them coincide with all-Russian and world trends. The theoretical and methodological basis was founded on the works that contributed to urban planning (Lappo, 1997; Fujita et al., 2001; Collier & Venables, 2017). The information basis of the work includes the data from the People's Encyclopedia "My City", the Catalog of Russian Organizations, the Federal Service for State Statistics in the Irkutsk region, the Internet portals "Made by Us" and the cities of the Trans-Siberian Railway, etc.

The purpose of the study is to identify the key patterns of development in different types of cities along the Trans-Siberian Railway in 1990-2015. Economic-statistical, typological and balance methods were used, as well as method of comparative-historical analysis.

## 2. Results

Among the cities of the Transsib, the largest part (59%) comprises small towns and medium cities, but 25,6% of the total amount belong to larger cities (Table 1).

*Table 1: Types of cities of the Trans-Siberian Railway - population in 2015*

| **Type** | **Population, thousand people** | **Number of cities, units** | **Percentage of the total , %** |
|---|---|---|---|
| Small towns | до 50 | 17 | 43,6 |
| Medium cities | 50-100 | 6 | 15,4 |
| Big cities | 100-250 | 3 | 7,7 |
| Large cities | 250-500 | 3 | 7,7 |
| Largest cities | 500-1000 | 5 | 12,8 |
| Million-people cities | >1 000 | 5 | 12,8 |
| Total: | | 39 | 100,0 |

*Source: Authors' elaboration based on People's Encyclopedia "My City"; Lappo, 1997.*

About half of the cities of Transsib were founded during the years of the construction of the railway in the late 19th - early 20th centuries or appeared during the years of Soviet industrialization and development of Siberia and the Far East of the country - mainly in the 1930s (Lappo, 1997). Those cities are located on the transit of raw materials and finished products, near natural resources, which attracted the creation of new cities around the emerging industries and the influx of residents. So, as per the Catalog of Russian organizations, Petrovsk-Zabaikalsky is formed on the basis of the iron foundry, Yurga - mechanical engineering, Anzhero-Sudzhensk - due to the development of coal mining industry. During the Great Patriotic War of 1941-1945 many plants were transferred from the western parts of the country to the Urals and Siberia (to Tyumen, Omsk, etc.), which caused the diversification of their industry and the strengtheningt of the dominance of industrial city-forming functions. But, as a rule, the larger the city was, the more actively it developed and increased the growth of population. (Nefedova et al., 2016). The development of the cities of the Trans-Siberian Railway slowed down in the postwar years as a whole.

The most noticeable changes in these cities occurred only after 1991 - in the post-Soviet period.The maximum decrease in the population in 1992-2015 was registered in small towns and medium cities: in the city of Petrovsk-Zabaikalsky (-39.4% in 2015 as compared to 1992), the minimum – in Mariinsk (-4.5%). The population decline in medium cities is lower than in small towns: the largest in Anzhero-Sudzhensk (-30.7% over the period), less - in Belogorsk (-10.4%). Ambiguous dynamics of population in big cities: negative population growth in Achinsk and Pervouralsk (-12.4% and -7.7% respectively), positive – in Ussuriisk (6.4%). Population growth is observed in all large cities (the highest increase - + 19.1% in Ulan-Ude), the largest cities (+ 43.4% - Tyumen) and million-people cities (+ 20% - in Krasnoyarsk).

The decrease in the population number affected 3/4 of the cities of the Trans-Siberian Railway, which is directly related to the change in their main city-forming function - industry. Therefore, to date, the economy of different types of cities is characterized by the following features. According to the information portal of Russia and the cities of Transsib, it is established that in modern small towns and medium cities there is a narrow specialization with leading city-forming transport, logistics and industrial functions (most important are mechanical engineering, chemical and timber industries). In the largest cities and million-people cities – there is a multifunctional economy with several city-forming functions. They often have the status of administrative centers of the subjects of the Russian Federation (Yaroslavl, Kirov, Yekaterinburg, Tyumen, Irkutsk, etc.), financial, scientific, cultural, educational and other functions are also presented there.

## 2.1 Transformation of city-forming industrial functions

After the collapse of the Soviet Union many Russian enterprises made a loss and were liquidated due to bankruptcy, as their level of production did not allow them to produce goods in the appropriate quantity and quality with open competition with foreign ones (Rodionova & Kokuytseva, 2011; Chasovsky, 2015). In this regard in the cities of Transsib in 1990-2015 some enterprises were closed down and others appeared, having influenced the transformation of their industrial specialization.

Almost all enterprises that ceased their activity in these cities belong to the manufacturing industry: mechanical engineering (28.2%), food (25.6%) and light industry (12.8%). The smaller number is closed in the 1990s, the bigger number is closed in the large cities in 2000-2009 (36%), mainly machinery plants. Enterprises of small and medium cities passed through a long procedure of bankruptcy, 16% of them ceased operations in 2011-2013 (in Birobidzhan, Taishet, Zima, Pervouralsk). However, in the period 1990-2015, 1.7 times more enterprises opened than closed, which indicates the strengthening of industrial functions in the cities along the Trans-Siberian Railway. The overwhelming majority of the plants are petrochemicals (23.4% of all new ones), production of construction materials (20.3%), food industry (18.8%) and mechanical engineering (9.3%). According to the Catalog of Russian organizations a splash in their appearance was noted from 2011 (39%), the smallest number was opened in 2002-2006 (17.2%) and mainly in small and medium cities, for example, in Taishet and Kansk.

The role of the construction materials and petrochemical industry has increased noticeably (Table 2). The assortment of new construction materials (for example in Perm, Yaroslavl, Chita, etc.) indicates the activation of housing construction, related to the increased consumer demand of the population, the proximity of the markets for the sale of products. Thus, plants of dry building mixtures in Tyumen and Omsk, large-panel housing construction in Omsk and Novosibirsk, thermal insulation, roofing and facade materials in Tyumen, ceramics in Novosibirsk have been opened. The petrochemical industry actively developed on the basis of local or transit raw materials and, as a rule, increased production, without changing the existing composition of the industry of the cities of Transsib. In total, 4.3 times more enterprises opened than closed, about half - in Omsk and Perm. They produce products of organic synthesis, plastics, tires, pharmaceuticals, lubricating oils, etc. according to the News Business Portal "BusinessLife"

*Table 2: Change in the number of enterprises in industries in different types of Trans-Siberian cities in 1990-2015.*

| Type of city | Number of industrial enterprises, units. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **construction materials** | | **food** | | **petrochemical** | | **mechanical engineering and metalworking** | |
| | **opened** | **closed** | **opened** | **closed** | **opened** | **closed** | **opened** | **closed** |
| Million-people cities | 6 | - | 5 | 2 | 9 | 1 | 7 | 3 |
| Largest cities | 6 | - | 1 | - | 2 | 1 | 4 | 3 |
| Large cities | - | - | 3 | - | 1 | - | - | - |
| Big cities | - | 2 | 1 | 6 | 1 | 1 | - | 3 |
| Medium cities | 1 | - | 1 | 1 | 2 | 1 | 1 | 1 |
| Small towns | - | - | 1 | 1 | 1 | - | 1 | 1 |
| | **pulp and paper and woodworking** | | **light** | | **chemical and waste processing** | | **black, non-ferrous metallurgy** | |
| Million-people cities | 2 | | 1 | | | | 1 | |
| Largest cities | 1 | | | | 1 | | 2 | |
| Large cities | | | | 1 | 1 | | | |
| Big cities | | 2 | | 4 | | | | |
| Medium cities | 1 | | | | | | | |
| Small towns | | | | | 2 | | 1 | 1 |

*Source: Authors' elaboration based on the Catalog of Russiam Organizations; BusinessLife; List of Destroyed Enterprises and "Made by Us".*

The food industry and mechanical engineering are characterized by unstable development and the largest changes in the number of closed and open plants. The new food production is connected with the expansion of the range of products using local agricultural raw materials. The largest in the region meat processing complex "Buryatmyasprom" and the shop for bottling ultrapasteurized milk at "Milk of Buryatia" company were are opened in Ulan-Ude, the shop for processing turkey meat "Ruscom -Agro" company and the bread-baking plant "Khlebodar" - in Omsk, the line for bottling yoghurts "Siberian Milk" - in Novosibirsk. As per the Catalog of Russian organizations closure of factories and plants is caused by the desire of producers to transfer branches closer to the mass consumer, that is why "Coca-Cola" and "Carlsberg" from Krasnoyarsk and Novosibirsk moved to the central regions - Moscow and other.

Among all closed mechanical engineering plants, a third relates to instrumentation engineering industry (in Irkutsk, Krasnoyarsk, Khabarovsk). They produced television sets and equipment that were not in demand after the collapse of the Soviet Union in comparison with imports, and were mostly liquidated like others in the country. Although some are reprofiled such as instrument-making plant in Krasnoyarsk. New mechanical engineering plants specialize in complex high-tech products, often for defense purposes, most of which are financed by state (in Sverdlovsk, this is the production of metal processing machines at machine-tool plant "Ural", in Perm - the turning machining centers of "Joint Technology Company"), according to the List of destroyed enterprises and News Business Portal "BusinessLife".

## 2.2 Trends in the development of industry in different types of cities

In different types of cities, there have been various changes in the branches of manufacturing industry (Table 2). More than half of the closed food industry enterprises are concentrated in big cities, mainly Achinsk (confectionary factory, meat processing plant, brewery, etc.), as well as others: small town - Slyudyanka ("South Baikal" Fishery Plant), in medium cities - Kansk (Kansk Liquor Factory). The industry is developing more in million-people cities - Omsk and Novosibirsk (41.6% of its new enterprises), as well as large and big cities - Ulan-Ude, Chita. The rapid development of production of building materials most affected large cities and million-people cities with the most obvious positive dynamics of the population - they revived 86.7% of the production of this profile. New workshops and petrochemical industries were opened mainly in million-people cities (70%), most of them in Omsk (31%), where this specialization is traditional. As per News Business Portal "BusinessLife" these are polypropylene plants "Polyom" and "Titan" in Omsk, production of composites "Scientific and Production Association Gelar" in Krasnoyarsk, production of gypsum-polymer "Gipsopolymer" in Perm, etc. The enterprises of mechanical engineering basically appeared in million-people cities (75%) (Ekaterinburg, Perm, etc.), therefore in them and in large cities this branch is most preserved, but it is already represented by other enterprises (for example, ultrasonic medical devices in Omsk). More than 50% of closed enterprises was concentrated in the the largeк cities by population (for example, bicycle factory "Velozavod" and mechanical engineering plant in Perm , shipbuilding enterprise "Dalzavod" in Vladivostok) according to the Catalog of organizations in Russia. Among the cities of Transsib with castling in mechanic engineering 36% are large cities and 27% - million-people cities.

Other industries are characterized by fewer closed and open enterprises, but changes also affect the large, largest million-people cities. In general, the positive balance in woodworking, metalworking, metallurgy and waste processing was noted with a decrease in the role of light and mining industries. Many of the smallest cities in terms of population radically changed their industrial functions, but for some, the liquidation of the plant meant a crisis (Lobodanova, 2014, Wiśniewski, 2017). First and foremost, these are small towns and medium cities towns with enterprises of the coal mining and chemical industry, ferrous metallurgy (Table 2). Thus, in Petrovsk-Zabaikalsky a metallurgical plant was closed, in Anzhero-Sudzhensk unprofitable coal mines, which explains the maximum reduction in their population among the cities of the Trans-Siberian Railway.

In Achinsk there are no more factories for woodworking and production of construction materials, clothing, footwear, confectionery; new enterprises did not appear, the largest remaining enterprises are the alumnious prosessing factory and the oil refinery, which indicates the narrowing and changing of its industrial functions. Larger cities are also examples of transformation of industry. In Ussuriysk population increase due to the opening of a waste processing plant and an enterprise for the production of sewer pipes was recorded.

The appearance of furniture factories in Krasnoyarsk, a shoe factory in Novosibirsk and a feed mill plant in Omsk contributed to the diversification of industry and the growth of population in them according to the Internet portals "Made by Us".

### 2.3 Changes in the current structure of economic activity in Irkutsk

Irkutsk is one of the largest cities of Transsib (more than 600 thousand people). Its main city-forming function is the manufacturing industry (89% of the shipped products) and electricity generation. The most important enterprises are Irkutsk hydroelectric power station and power sales company "Irkutskenergo", oil products factory "Irkutsknefteprodukt", aircraft repair plant, etc. The city is an important transport hub. (Belkova, 2012). The structure of enterprises on the year 2015 comprises: construction (17%), trade (13%), food industry (10%), but we should particularly mention scientific institutions (17%) and mechanical engineering (7%).

Changes in the city-forming function affected two branches and most affected the dynamics of the city's population. In 1991 its population increased sharply due to labor migration from the small settlements of the region, which felt the crisis and unemployment in the country to a greater extent. Later, the outflow of the population was fixed by 2008 (due to the closure of two large plants of mechanical engineering - radio receivers and cardan shafts) and in 2008-15 – increase in population (7.7%), when, firstly, the re-profiled Baikal-optika company was put into operation, and then in 2012 the Pribaikalsk "Metalwork Plant" (metalworking) was opened (Table 2).

The development of the Irkutsk economy and changes in the population are also connected to the positive dynamics of the urban service functions. The structure of employment shows its economic profile. The high share of employed in the manufacturing industry is practically constant (12% in 2015), but the most representative branches are various services: education (15.2% of employees), public administration and security (13.3%), healthcare (12.9%), transport (11.3%), trade (9.1%). During 2009-2015 minor changes took place: the reduction of workers in construction (from 10 thousand people in 2009 to 6.6 thousand in 2015) and a significant increase in trade (by 6.5 thousand people)) which shows a trend shift in economic activity to the tertiary sphere with a high return of capital, that coincides with trends in the Russian Federation and other countries with resource exports. (Golubchikov et al., 2014; Gollin et al., 2016). A significant proportion of migrants that have arrived, mainly young people, under age 30 (91.8% in 2012 and 79.7% in 2015) and women (from 60% up to 100% in 2012-15) due to the greater number of jobs created in healthcare, education, trade, etc. according to the Federal Service for State Statistics in the Irkutsk region.

At the same time the public sector began to play an important role in the development of the city economy, in which financing is growing at the expense of the city budget. The municipal targeted programs are implemented on the basis of subventions and interbudgetary subsidies from the federal center, directed mainly to the spheres of education, healthcare and housing and communal services. According to the Official website of Irkutsk in the total expenditure of the Irkutsk budget, the largest share belonged to the education sector and it grew (from 38.3% in 2005 to 53.5% in 2015). Expenditures for this sector in current prices increased almost 4.5 times. The most obvious growth was in 2007 (by 26.8 percentage points), and then a sharp decrease in 2012 (by 19.9 percentage points). Although the share of health care, housing and communal services in the structure of budget expenditures gradually decreased, the volume of spent funds increased (without taking into account inflation), which contributed to the employment of the population.

## 3. Conclusion

In the post-Soviet period there is a tendency to increasing the population in the larger cities along the Trans-Siberian Railway due to labour migrations. The intensification of industrial activities, the expansion of city-forming functions and their transformation - the development of production of building materials, petrochemistry and food industry, with significant changes in mechanical engineering and degradation in metallurgy and light industry were observed. The increasing role of urban service functions, especially the sphere of social services, as places of labor application, has been revealed. Smaller mono-profile cities experienced degradation due to the closure of city-forming industrial enterprises and outflow of population. The revealed trends on the whole correspond to the general patterns of population dynamics and economy in the Russian cities (Nefedova et al., 2016, Wiśniewski, 2017; Kolomak, 2014) and many other countries of the world (Lee, 2015; Gollin et al, 2016; Venables, 2017).

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# GLOBALIZATION EFFECTS IN THE MULTIPLIER ANALYSIS - CASE OF SLOVAKIA

Veronika Mitkova[1,a,*]

[1]Institute of Economics, Faculty of Social and Economic Sciences, Comenius University in Bratislava

[a]mitkova@fses.uniba.sk

*Corresponding author

**Abstract.** The paper deals with the constrained multipliers for Slovakia extending the unconstrained analysis by taking into account the limitations of the supply response to changes in the demand side of the economy. The analysis is based on the Slovak social accounting matrix with seven sectors: agriculture, mining and extraction, textiles and clothing, light manufacturing, heavy manufacturing, utilities and construction and services, account of one representative household, savings and investments account, general government and the rest of the world account. In this paper, the general formula for the constrained multiplier is derived. Moreover, the analysis allows choosing exogenous demand components among government, investments or rest of the world. The effect of globalization may be perceived as the unconstrained demand of the rest of the world sector toward the Slovak economy production. It is proved that the unconstrained SAM multipliers overstate the impacts of linkage effects in the economy. The limited supply reaction shows the greatest differences in the services, utilities and agricultures sectors. The research proves that the services sector has the highest multiplier value meaning that an exogenous shock in demand for services sector in volume of 1 mil. USD leads to a total increase of output by 2.75 mil. USD. This multiplier considers the total effect of all rounds and linkages in the economy as well as the constrained supply reaction.

**Keywords:** social accounting matrix, multiplier analysis, globalization, Slovakia, demand shocks.

**JEL Classification:** E160

## 1. Introduction

The paper is based on the multiplier analysis which main idea is to capture the input and output flows in the production sectors; the input-output analysis; and enlarge them by linkage effects to the whole economic system including production factors, government and the rest of the world as endogenous sectors. The exogenous shock is implemented to the system and the total effects on production sectors, GDP and income are examined. The response of the supply side in the economy may be assumed unconstrained; with fixed prices, so that any changes in demand will lead to changes in output in the supply side of the economy. In this model, the exogenous change is demand do not affect the structural relationships between sectors, households, government and the rest of the world. Based on the work of Breinsinger, Thomas and Thurlow (2009) the general formula for unconstrained multiplier was derived and applied to seven sectors' economy in Mitkova (2018).

If the assumption of unconstrained supply response is omitted, the more realistic constrained multiplier analysis is developed. The model is suitable in cases of limited, scarce resources or impossible substitutes cases. As Haggblade, Hammer and Hazell (1991) stated, the unconstrained model overestimates the multipliers, i.e. in agriculture almost a factor ten. As the nature of the model is closely related to the input-output analysis, it is so called semi-input-output model. This kind of model was successfully adopted for analysis of large investments projects by Zbranek, Fischer and Sixta (2016). The model was modified such that it permanently updates coefficients and achieves the stability. Chen, Dietzenbacher, Los, et al. (2016) modeled a stimulus package on China's GDP by the semi-closed input-output model enriched by modern consumption theories. A social valuation metrics was developed on the social accounting methodology by McBain and Alsamawi (2014). Kubala, Labaj and Silanic (2015) use the Leontief model to identify the key industries in the Slovak economy by Chenery-Watanabe coefficients and Rasmussen multipliers. Duarte, Langarita and Sanchez-Choliz (2017) used the social accounting multipliers to model the electricity industry in Spain, Ferreira and Fachinello (2015) the forest sectors for the Amazon area and Seung (2014) the Alaska and rest of the United States spillover effects. A global multiplier matrix was decomposed to divide the impact of exogenous injections on microeconomic level in Vietnam (Civardi, Pansini, and Lenti, 2010).

The rest of the paper is organized as follows: In the methodology chapter the model is developed and introduced. This model comes from the unconstrained model, which is also mentioned on this section. In the next part the dataset of the social accounting matrix for the Slovak Republic is shortly described, identified are the most influential sectors of the economy. In the Results chapter the multiplier analysis is performed and outcomes are stated, which are discussed in the last part of this paper.

## 2. Methodology

The unconstrained multiplier, derived in previous research (Breinsinger, Thomas and Thurlow, 2009 and Mitkova, 2018) assumes fixed price set leading to changes in output as a reaction in changes in demand side of the economy. This assumption requires unlimited supply in each production sector, which is mostly unrealistic prerequisite. The input coefficients are fixed meaning the demand shocks have no influence to the structure and relationships among sectors. For simplicity the linkage effects are assumed to be linear. The model has final form $\mathbf{Z} = (\mathbf{I} - \mathbf{M})^{-1}\mathbf{E}$

Where:

**E** - matrix of exogenous component of demand,
**M** - coefficient matrix derived from the social accounting matrix by dividing each column through by its column totals,
**Z** - matrix of total demand for each commodity.

This model was developed further by Breinsinger, Thomas and Thurlow (2009) to the constrained multiplier model for two sectors; we extended the model for *n* sectors in matrix form. The constrained multiplier model enriches the unconstrained one by dividing sectors to endogenous and exogenous. Sectors that can change the production level – the supply response is unconstrained, are treated as exogenous and the sectors with the supply constraints or fixed level of output as the endogenous sectors. All other previous assumptions regarding input coefficients and linkage effects hold.

Let:

$E_i$ exogenous component of demand, $i = 1,2,\dots,n$
$X_{ij}$ gross output of each activity, $i, j = 1,2,\dots,n$
$Y_j$ total household income (equal to total factor income), $j = 1,2,\dots,n$
$Z_{ij}$ total demand for each commodity, $i, j = 1,2,\dots,n$
$a_{ij}$ technical coefficients, $i, j = 1,2,\dots,n$
$b_i$ share of domestic output in total demand, $i = 1,2,\dots,n$
$c_i$ household consumption expenditure shares, $i = 1,2,\dots,n$
$v_j$ share of value-added or factor income in gross output, $j = 1,2,\dots,n$

Total demand of sector $Z$ is composed of intermediate demand, final demand and exogenous demand:

$$\sum_{j=1}^{n} Z_{ij} = \sum_{j=1}^{n} a_{ij}X_{ij} + c_i \sum_{j=1}^{n} Y_j + E_i \qquad i = 1,2,\dots,n \tag{1}$$

The gross output $X$ is a part of the total demand:

$$\sum_{j=1}^{n} X_{ij} = b_i \sum_{j=1}^{n} Z_{ij} \qquad i = 1,2,\dots,n \tag{2}$$

The household's total income $Y$ depends on shares on factors in each sector:

$$\sum_{j=1}^{n} Y_j = \sum_{j=1}^{n} v_j X_{ij} \qquad i = 1,2,\dots,n \tag{3}$$

Than (1) may be written as

$$\sum_{j=1}^{n} Z_{ij} = b_i \sum_{j=1}^{n} a_{ij}Z_{ij} + c_i b_i \sum_{j=1}^{n} v_j Z_{ij} + E_i \qquad i = 1,2,\dots,n \tag{4}$$

Let's divide matrices of demand **E** and total demand **Z** to endogenous (EN) and exogenous parts (EX) as follows:

$$\mathbf{E} = \begin{cases} E_i = \mathbf{E}_{EX} & i = 1,\dots,l \\ E_i = \mathbf{E}_{EN} & i = l+1,\dots,n \end{cases}$$

$$\mathbf{Z} = \begin{cases} Z_{ij} = \mathbf{Z}_{EN} & j = 1,\dots,k \\ Z_{ij} = \mathbf{Z}_{EX} & j = k+1,\dots,n \end{cases}$$

and group the endogenous terms on the left-hand side

$$\sum_{j=1}^{k} Z_{ij} \left( 1 - b_i \sum_{j=1}^{k} a_{ij} - c_i b_i \sum_{j=1}^{k} v_j \right) = E_i + b_i \sum_{j=k+1}^{n} a_{ij} Z_{ij} + c_i b_i \sum_{j=k+1}^{n} v_j Z_{ij} \tag{5}$$

$i = 1, \dots, l$

$$\sum_{j=1}^{k} Z_{ij}\left(1 - b_i \sum_{j=1}^{k} a_{ij} - c_i b_i \sum_{j=1}^{k} v_j\right) - E_i = b_i \sum_{j=k+1}^{n} a_{ij} Z_{ij} + c_i b_i \sum_{j=k+1}^{n} v_j Z_{ij} \tag{6}$$

$i = l + 1, \dots, n$

re-written in matrix form:

$$(\mathbf{I} - \mathbf{M}^*)\begin{pmatrix}\mathbf{Z}\\ \mathbf{E}\end{pmatrix}_{EN} = \mathbf{B}\begin{pmatrix}\mathbf{Z}\\ \mathbf{E}\end{pmatrix}_{EX} \tag{7}$$

where $\mathbf{M}^*$ is the coefficient matrix derived from the SAM by dividing each column through by its column totals, adjusted. **B** is the matrix of coefficients at exogenous variables.

Than the multiplier is

$$\begin{pmatrix}\mathbf{Z}\\ \mathbf{E}\end{pmatrix}_{EN} = (\mathbf{I} - \mathbf{M}^*)^{-1}\mathbf{B}\begin{pmatrix}\mathbf{Z}\\ \mathbf{E}\end{pmatrix}_{EX} \tag{8}$$

A change in an exogenous demand in unconstrained sector leads to a final change in total demand in this sector, including forward and backward linkages. In the constrained sector the demand changes lead to proportion changes in domestic and rest of the world production.

## 3. Dataset

A dataset for this analysis was built a social accounting matrix (SAM) (Pyatt, Round, 1979 and Defourny, Thorbecke, 1984) on International Food Policy Research Institute standards. Data for Slovakia and the rest of the world were used from the Global Trade Analysis Project (GTAP) dataset (Aguiar, Narayanan and McDougall, 2016) for the latest available year 2011. The monetary values are in millions of USD. The SAM structure with values may be found in Mitkova (2018). The commodities and activities sectors are assumed to be identical, as it is usual in computable general equilibrium models; meaning that by one activity is produced one commodity. The original dataset consists of 57 production sectors; these were aggregated to seven new sectors relevant for our analysis: agriculture, mining and extraction, textiles and clothing, light manufacturing, heavy manufacturing, utilities and construction, services. The sectoral aggregation consists of Slovakia and the rest of the world (ROW). Factors are labor and capital; the labor includes all kinds of workers: clerks, service or shop workers, agricultural, unskilled, technicians, assoc. professionals, official and managers; capital factor incorporates land, capital and natural resources. One aggregated household is assumed, since there is no need for disaggregation for purposes of this research. The GTAP database contains detailed tax structure not desired for this research, therefore all tax yields are assigned to the general government sector.

## 4. Results

In this research, the exogenous shock in volume of 1 million USD increase in export in each sector is modelled. Our goal is to find out the effect of the increased demand under two different circumstances. Scenario 1 describes economy with endogenous demand of regional government, savings-investments and the rest of the world. The second scenario represents the effect of globalization and we assume the demand of the rest of the world is exogenous. Three total multipliers are used in this paper. The output multiplier is a sum of all linkage effects in each sectors of the economy. The GDP multiplier combines capital and labor effects generated in each sector as a reaction to increased export demand. The income multiplier equals to the households' multiplier since there is only one representative household. It is assumed that an increase in export of the country leads to overall increase in output, GDP and households' income and that the globalization's effect enlarges the multipliers values differently in each industry in contrast to the endogenous economy. The first scenario assumes completely exogenous demand and unconstrained supply in each sector of the economy. The values of the multipliers are shown in the Table 1. The increase in agriculture export increases the rise in the sector of agriculture by 1.026 mil USD and in the services sector by 0.5 mil USD. Other sectors increase production even this increase is considerably smaller. The linkages in Slovak economy do not allow to output decrease in any sector. The overall effect is summarized in the output multiplier which value is 1.989. The export increase in agriculture leads to labor income rise by 0.313 and capital income rises by 0.348; production factors have similar income from the agriculture sector production. These effects are represented by the GDP multiplier increase by 0.662. The income multiplier rises by 0.524 (includes only one representative household with the same value of multiplier).

*Figure 2: Scenario 1 results*

| | AgrC | ExtrC | TextC | LMfgC | HMfgC | UtilC | SerC |
|---|---|---|---|---|---|---|---|
| AgrA | 1.026 | 0.028 | 0.060 | 0.070 | 0.056 | 0.125 | 0.164 |
| ExtrA | 0.008 | 0.193 | 0.005 | 0.011 | 0.021 | 0.019 | 0.013 |
| TextA | 0.011 | 0.003 | 0.554 | 0.010 | 0.007 | 0.015 | 0.018 |
| LMfgA | 0.115 | 0.026 | 0.063 | 0.974 | 0.083 | 0.159 | 0.157 |
| HMfgA | 0.227 | 0.057 | 0.129 | 0.309 | 0.981 | 0.369 | 0.332 |
| UtilA | 0.087 | 0.029 | 0.052 | 0.078 | 0.077 | 1.197 | 0.156 |
| SerA | 0.515 | 0.129 | 0.284 | 0.377 | 0.303 | 0.658 | 1.909 |
| AgrC | 1.424 | 0.040 | 0.083 | 0.097 | 0.078 | 0.173 | 0.227 |
| ExtrC | 0.044 | 1.038 | 0.025 | 0.061 | 0.113 | 0.101 | 0.068 |
| TextC | 0.023 | 0.007 | 1.169 | 0.022 | 0.015 | 0.031 | 0.038 |
| LMfgC | 0.166 | 0.038 | 0.092 | 1.413 | 0.120 | 0.230 | 0.228 |
| HMfgC | 0.362 | 0.091 | 0.205 | 0.493 | 1.563 | 0.588 | 0.529 |
| UtilC | 0.094 | 0.032 | 0.056 | 0.085 | 0.083 | 1.293 | 0.169 |
| SerC | 0.543 | 0.136 | 0.299 | 0.398 | 0.319 | 0.693 | 2.012 |
| lab | 0.313 | 0.094 | 0.248 | 0.231 | 0.192 | 0.380 | 0.491 |
| cap | 0.348 | 0.102 | 0.159 | 0.267 | 0.205 | 0.528 | 0.575 |
| hous | 0.524 | 0.156 | 0.335 | 0.394 | 0.315 | 0.708 | 0.841 |
| gov | 0.266 | 0.065 | 0.197 | 0.202 | 0.207 | 0.277 | 0.295 |
| s-i | 0.156 | 0.046 | 0.084 | 0.119 | 0.093 | 0.225 | 0.263 |
| row | 0.577 | 0.889 | 0.719 | 0.679 | 0.700 | 0.498 | 0.442 |

Total multiplier effects by type of multiplier

| | AgrC | ExtrC | TextC | LMfgC | HMfgC | UtilC | SerC |
|---|---|---|---|---|---|---|---|
| Output | 1.989 | 0.466 | 1.146 | 1.831 | 1.528 | 2.540 | 2.749 |
| GDP | 0.662 | 0.196 | 0.408 | 0.498 | 0.397 | 0.908 | 1.066 |
| Income | 0.524 | 0.156 | 0.335 | 0.394 | 0.315 | 0.708 | 0.841 |

*Source: own calculations*

The results obtained for the Slovak mining and extraction sector suggest that export increase in this sector leads to negligible changes in other sectors. Low values of multipliers indicate that this change results almost solely in the multiplier for the rest of the world. Other sectors increase their outputs as a reaction to export rise in own sector. There may be seen the cross-connection between light manufacture and heavy manufacture sectors. Relatively strong impact has an export rise in either of sector to services sector; the multiplier value exceeds value of 0.28 (except of mining and extraction sector). The services sector is very sensitive to increase in external demand for this sector output with value of output multiplier 1.909. A one million USD increase in services sector leads to 1.9 million USD increase in services output. Such result is typical for developed economies since economy can export services with ease in contrary to mining and extraction sector. The above-mentioned conclusions result in output multiplier values as follows: the highest is the services multiplier (2.749), the utilities and construction (2.54), the agriculture (1,989), and the light manufacture (1.831). The output increase of sectors of the heavy manufacture (1.528) and textiles and clothing (1.146) exceeds one million of USD. Only the mining and extraction sector does not reach output increase in value more than the initial shock. Concerning to the GDP multiplier, neither sector except for services reaches multiplicative effect on GDP in value of 1 million USD. Strong income effect occurs in the services, utilities and agriculture sectors where the initial shock of the export rise results in more than half million USD.

*Table 3: Scenario 2 results*

| | AgrC | ExtrC | TextC | LMfgC | HMfgC | UtilC | SerC |
|---|---|---|---|---|---|---|---|
| AgrA | 1.202 | 0.299 | 0.278 | 0.277 | 0.270 | 0.276 | 0.298 |
| ExtrA | 0.036 | 0.236 | 0.039 | 0.044 | 0.055 | 0.043 | 0.034 |
| TextA | 0.048 | 0.061 | 0.600 | 0.054 | 0.052 | 0.047 | 0.047 |
| LMfgA | 0.792 | 1.069 | 0.907 | 1.771 | 0.905 | 0.743 | 0.676 |
| HMfgA | 1.264 | 1.653 | 1.419 | 1.528 | 2.239 | 1.263 | 1.126 |
| UtilA | 0.263 | 0.301 | 0.271 | 0.286 | 0.291 | 1.349 | 0.291 |
| SerA | 1.267 | 1.285 | 1.219 | 1.261 | 1.214 | 1.305 | 2.485 |
| AgrC | 1.668 | 0.415 | 0.386 | 0.384 | 0.374 | 0.383 | 0.414 |
| ExtrC | 0.195 | 1.270 | 0.212 | 0.238 | 0.296 | 0.230 | 0.183 |
| TextC | 0.102 | 0.128 | 1.268 | 0.115 | 0.111 | 0.099 | 0.099 |
| LMfgC | 1.149 | 1.550 | 1.315 | 2.568 | 1.312 | 1.077 | 0.980 |
| HMfgC | 2.013 | 2.633 | 2.260 | 2.434 | 3.566 | 2.011 | 1.793 |
| UtilC | 0.284 | 0.325 | 0.293 | 0.309 | 0.314 | 1.458 | 0.315 |
| SerC | 1.335 | 1.354 | 1.284 | 1.329 | 1.280 | 1.376 | 2.618 |
| lab | 0.704 | 0.695 | 0.734 | 0.690 | 0.665 | 0.716 | 0.790 |
| cap | 0.784 | 0.772 | 0.701 | 0.779 | 0.733 | 0.903 | 0.908 |
| hous | 1.183 | 1.170 | 1.156 | 1.168 | 1.115 | 1.276 | 1.346 |
| gov | 0.620 | 0.610 | 0.638 | 0.619 | 0.636 | 0.582 | 0.566 |
| s-i | 0.380 | 0.390 | 0.362 | 0.381 | 0.364 | 0.418 | 0.434 |
| row | 1.679 | 2.584 | 2.090 | 1.974 | 2.037 | 1.447 | 1.286 |

Total multiplier effects by type of multiplier

| | AgrC | ExtrC | TextC | LMfgC | HMfgC | UtilC | SerC |
|---|---|---|---|---|---|---|---|
| Output | 4.872 | 4.903 | 4.734 | 5.221 | 5.025 | 5.025 | 4.957 |
| GDP | 1.487 | 1.467 | 1.435 | 1.469 | 1.398 | 1.620 | 1.698 |
| Income | 1.183 | 1.170 | 1.156 | 1.168 | 1.115 | 1.276 | 1.346 |

*Source: own calculations*

The second scenario depicts the globalization effect and assumes exogenous rest of the world demand. The same exogenous shock is assumed, a one million USD export increase in each sector of the economy. The results have to be interpreted in light of the model constraints, the unlimited supply reaction of all sectors in the economy are quite overdeveloped. Table 2 depicts the multiplier values in the same structure as in previous scenario. It may be seen that the heavy manufacture and services sectors are strongly influenced by export increase in whichever sector resulting in more than one million USD output increase. The total output multiplier is the highest in the light manufactures sector (5.221) indicating the robust connection to the rest of the world demand. The globalization effect results either in higher values of multipliers as it was expected but also in thicker cooperation among the sectors of the Slovak economy – there is an increase in multipliers' values in sectors others than the increased export sector. The heavy manufactures and services sectors are very sensitive to any changes in the other sectors export leading to high values of output multipliers (more than 1.1 each). The strongest effect in income arises for the capital owners in the utilities and services sectors with more than 0.9 million USD increase. The labor income and capital income in other sectors increases nearly equally among sectors, with approximate 0.7 million USD increase.

## 5. Discussion

The semi input-output model based on the social accounting matrix of Slovakia for year 2011 was firstly used to identify the strong industries in the Slovak economy (Mitkova, 2018). Main part of the GDP arises from the services sector (more than 50%) which includes trade sub-sector. Concerning to the intermediate demand, heavy and light manufactures and services account in total for more than 80%. 75% of the total export is from the heavy and light manufactures. Households' consumption is composed mostly on services and agricultures while government consumption almost solely on services. The highest rate of investments is in the utilities sector and 33% in heavy manufactures. The strong orientation of Slovak economy towards the automotive industry is proved by these results since it is a part of light manufactures. Kubala, Labaj and Silanic (2015) states that in 2010 the automotive production directly and indirectly comprises almost 10% of Slovak economy production. Zhang, Kinnucan and Gao (2016) prove that for the automotive industry, the benefits accrue primarily to counties in which the auto plants and their suppliers are located which is partly in contrast with our findings.

The effect of increased export demand in each industry was modelled and the results of the two simulations prove that the globalization effect raises not only the total output effects in each sector of the economy but also tighten the linkages and cooperation among industries.

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# CENTRAL AND EASTERN EUROPE METROPOLISES IN THE CONTEXT OF GLOBALIZATION

Arkadiusz Mroczek[1,a,*]

[1]Department of International Economic Relations, Cracow University of Economics, Poland

[a]mroczeka@uek.krakow.pl

*Corresponding author

**Abstract.** Countries of Central and Eastern Europe (CEE) have become parts of the world economy and their role is constantly developing. Big cities of the region are being included into the international metropolitan network. From a theoretical point of view, metropolises are the hubs of globalization and this process is most visible exactly in the big cities. Therefore, the aim of the paper is to examine the position of CEE metropolises in the context of globalization in the region. Some literature study is performed to explain the role of big cities in contemporary economics and metropolisation process. In the empirical part, a taxonomic approach based on Hellwig's development pattern is adopted. The available Eurostat data (NUTS 3 level) on a range of socio-economic characteristics is used. The results show that metropolises of CEE are ahead of their countries in the process of closing the gap between the west and the east. Their positions are relatively much closer to the most developed cities of the EU than the positions of the non-metropolitan parts of their countries. In spite of some concerns, this relatively strong performance of those metropolises should be perceived advantageous for the CEE countries. Under the conditions of contemporary globalization, strong metropolitan areas are necessary for gaining competitive advantage.

**Keywords:** metropolises, Central and Eastern Europe, metropolisation, taxonomy.

**JEL Classification:** F60, O18, R19

## 1. Introduction

From a spatial point of view, a metropolis is a big central city together with its suburbs, that form a complex of diversified districts. High economic division of labour is one of its main characteristics (Angotti, 1995). It allows metropolises to perform high order economic, but also political-administrative, social and cultural functions (Parysek & Mierzejewska, 2006). In fact, the role the city plays is more important to obtain a metropolitan status, than its demographic or physical size. Therefore some more features of metropolises should be mentioned. One of them is the fact that metropolises can be seen as connected with each other by links that are created by flows of information (Förster & Mainka, 2015), money, people, goods and services, etc. Putting emphasis on this kind of inter-city connections is also essential for P.J. Taylor and GaWC research network, which conducts big scale studies on city relations in the globalized world (Taylor, 2004). This attitude, often referred to as "a global city approach" emphasizes both the interdependence and specialization of cities that is enabled by unrestricted flows of factors mentioned above (Roberts, 2005).

The reason why connections between cities play an important role, is that they are the places where most of the vital assets and socio-economic process tend to focus. Historically, cities have always been the places of capital accumulation (Garza, 1999). Cities never were, nor are today, any kind of passive recipients of change on any scale. They are the places, where those processes actually arise and take place. The cities are spaces, where "creative destruction" takes roots (Boudreau et al. 2007). They provide socio-spatial milieu that enables flexible coordination of wage and industrial relations, together with consumption mode and political power. The most intensive intercorporate networking takes place there, which leads to earliest introductions of new technologies and production systems (Cho, 1997).

Clustering of activity in cities leads to economic disparities between them and other areas. Some evidence show, for example, an existence of urban wage premium, which one of the studies estimates at 21% (Laszkiewicz, 2016). This is an incentive that encourages potential employees to become parts of large metropolitan labour markets. On the other hand, it leads companies to concentrate their most demanding activities also in these areas, offering more well paid jobs there. This process of "cumulative causation" is widely discussed in the literature (Krugman, 1997). Basically, concentration of population and activities in and around large cities can be referred to as metropolisation (Fuguitt et al.,1988). However, in contemporary literature the emphasis is put on something more than that, and relations between globalization and metropolisation are made visible. By some authors, metropolisation is understood as the "urban counterpart of globalization" (L’Hostis, 2009). Or it is described as "higher stage of urbanization", not based primarily on concentration of population, but on focusing of importance in the knowledge based economy (Viturka et al., 2017). Metropolisation of a city is possible, when it is able to create and develop new activities, when it is capable of attracting, adapting, and changing due to its internal diversity and stock of capital (Gaussier et al. 2003). It is true that metropolisation means spatial fragmentation and discontinuity, that it creates "porosity", but it also increases resilience of economies (Pessoa et al., 2015). Critical assets, activities and processes tend to cluster in metropolises. They are the most diversified, fast changing and the most economically advanced parts of economies. As such, they play a reinforcing role for those economies. They are necessary for modern services and advanced industries to flourish. Big metropolitan areas turn into "new building blocks" of economies (Short, 2012). Vibrant metropolises are also a chance for countries of Central and Eastern Europe (CEE) to achieve their ambitious aim of closing the gap between them and the more advanced members of the EU. Therefore the aim of the paper is to examine the position of CEE metropolises in the context of globalization in the region. The question, if the cities from the region are relatively more advanced economically, than their countries, will be also dealt with.

## 2. Methods

The authors of most of the studies dealing with urban topics prefer to use functional than administrative approach towards delimitation of the city boundaries. Also here, large metropolitan areas - not only city cores - will be taken under consideration. Those areas will be sometimes referred to as "cities" or "objects" (of the study) for convenience purpose.

The first step to study European metropolises is to prepare the list of those objects. This is not an obvious procedure and different studies tend to use diverse criteria in this subject matter. One of such examples is the Urban Audit report provided by Eurostat that includes 52 "principal metropolises". As the authors point out, their choice was made to study the actual metropolises, so the most important and developed cities in other words (RWI, 2010). This choice is not appropriate for this study, as it excludes the cities that are not "metropolitan enough". Therefore, the decision was made to rely on a simple demographic criterion and study all the cites that met it. The Eurostat provides a list of 268 metropolitan NUT3 level areas in Europe defined as cities and their commuting zones that comprise at least 250 thousand inhabitants (Eurostat, 2013). However, this number of objects seems to be far too big for this kind of study and it is hard to consider the smallest areas comparable to the biggest ones. So, the list was narrowed to the metropolitan areas inhabited by at least one million people plus four smaller capital cities from CEE, which together made 87 objects to study.

Having the objects chosen, a statistical comparison of them was planned to be made. A synthetic measure - Hellwig's development pattern - was used as the basic method. It is a taxonomic approach that allows to rank the objects under consideration according to several different features, that do not need to be of the same kind nor unit. Basing on the literature review, six indicators were chosen at first for which the data could be found in the Eurostat database. Those indicators can be also called features of the objects under consideration, or diagnostic variables. They are presented in the table 1.

*Table 1: The initial diagnostic variables*

| Symbol | Description | Unit |
|---|---|---|
| X1 | Gross Domestic Product in Purchasing Power Parity | % of the EU average |
| X2 | Employment in: financial and insurance activities; real estate activities; professional, scientific and technical activities; administrative and support service activities | % of total employment |
| X3 | Gross Value Added in: financial and insurance activities; real estate activities; professional, scientific and technical activities; administrative and support service activities | % of total GVA at basic prices |
| X4 | Number of patents | Per 10 000 inhabitants |
| X5 | Unemployment rate | % |
| X6 | Employment rate | % |

*Source: Own preparation*

The Eurostat allows to download data directly for the metropolitan areas mentioned above and this opportunity was taken. In just several cases, for the number of patents and unemployment, it was necessary to add values from general regional database[17]. As the latter were also provided at NUT3 level, this did not disturb the integrity of the total data. This way all the missing values were filled in and there was no empty records, which makes the results more reliable. The most up to date data came from 2015, except the number of patens (X4), which was only available for 2012.

After collecting the data, the procedure was to first eliminate the unnecessary variables and to normalise the values in order to make them comparable. Then it was necessary to calculate the synthetic measure for each city and in the end to compare the groups of cites. As the same was then performed for the member states, it allowed to draw some conclusions on the condition of cities in comparison to their countries. The basic idea in constructing a synthetic

[17] Unemployment data for several cities with no values in the Eurostat were taken directly from the German Federal Statistical Office website.

measure is to use several variables, of which everyone should have a high informational value. To control for it, at first the variability coefficient for each variable was calculated. As in each case it was above 20%, none of the variables was disqualified at this step (Murawska, 2010). Another useful fact is that if two variables are strongly correlated, it means that they provide almost the same information. One of such variables can be then eliminated. The correlation coefficients for the variables are shown in the table 2.

*Table 2: Coefficients of correlation for the initial diagnostic variables*

| Variables | X1 | X2 | X3 | X4 | X5 | X6 |
|---|---|---|---|---|---|---|
| X1 | - | 0,81 | 0,56 | 0,60 | 0,53 | 0,45 |
| X2 | 0,81 | - | 0,76 | 0,39 | 0,39 | 0,45 |
| X3 | 0,56 | 0,76 | - | 0,23 | 0,12 | 0,16 |
| X4 | 0,60 | 0,39 | 0,23 | - | 0,38 | 0,48 |
| X5 | 0,53 | 0,39 | 0,12 | 0,38 | - | 0,84 |
| X6 | 0,45 | 0,45 | 0,16 | 0,48 | 0,84 | - |

*Source: Own preparation based on the Eurostat data*

As there is no exact number above which the correlation should be considered too high, here it was decided to use 0,7 as the border value. The correlation of X1 with X2, X2 with X3 and also X5 with X6 is above this rate. X2 was then eliminated because of high correlations with two other variables, and X6 was also chosen for elimination because of the lower data availability. This way the final group of variables comprises of X1, X3, X4 and X5. In case of all the variables, except X5, the higher levels are desirable. For the unemployment rate - the lower levels are positive. To make this variable useful it was developed the way that higher levels would also be positive. It was done by deducting the rate of each object from the highest level noted. This way the greatest difference was the biggest number, being also the lowest level of unemployment.

The next step was to normalise the data, in order to make the influence of all features equal. It was made by using the equation:

$$z_{ij} = \frac{x_{ij} - min\, x_{ij}}{max\, x_{ij} - min\, x_{ij}}, i = 1,2 \dots n, j = 1,2 \dots 4 \qquad (1)$$

where:

$z_{ij}$ - value of j-feature for i-object, after normalisation,
$x_{ij}$ - value of j-feature for i-object, before normalisation.

The normalised values range from 0 to 1, where 0 is the worst score and 1 is the best.

In the following stage, a synthetic measure of development for each object was calculated. This measure can be verbally described as the sum of the distances of the object under consideration to the best object for each variable, formally (Krakowiak-Bal, 2005):

$$d_i = 1 - \frac{c_{i0}}{c_0}, i = 1,2 \dots n, \qquad (2)$$

where:

$$c_{i0} = [\sum_{j=1}^{n} (z_{ij} - z_{oj})]^{\frac{1}{2}}, \qquad (3)$$

$$c_0 = \bar{c_0} + 2SD, \quad \bar{c_0} = \frac{1}{n}\sum_{j=1}^{n} c_{i0} \tag{4}$$

and:

$d_i$ - Hellwig's development pattern synthetic measure,
$c_{i0}$ - Euclidean distance of each $z_{ij}$ from $z_{0j}$ (benchmark of development),
SD - standard deviation.

The final results for each object lie basically between 0 and 1, where 1 is the highest possible score, i.e. the benchmark of development. Only the extremely low results can be lower than 0. In other words, the closer the score of a particular city to 1, the better rank this city was able to gain. Then, in order to compare the results, the cities were divided into three groups. The first group was formed by the cities from Western and Northern Europe (together with Scandinavia, the number of them was 49). The second was made up by the cities from the south of the Union (Portugal, Spain, Italy and Greece, 21 cities) and the third by the cities from the CEE (17 cities). This approach was convenient to illustrate the situation of the CEE cities.

To be able to draw final conclusions, the arithmetic mean of the Hellwig's synthetic measure of development for each group was calculated, which allowed to compare them. After that, all the procedure was performed for the countries of the EU grouped the same way. The data came from the same Eurostat database, which allowed to use the values not for the entire countries, but for the non-metropolitan areas - the remaining parts of the countries. Except for the number of patents, which was only available for the entire economies. In the end, it was possible to compare the results of the metropolises with the results of the countries.

## 3. Results

The total scores of the metropolitan areas under consideration are presented in the table 3. The closer this result is to 1, the closer the particular city is to the ideal type. The cities are divided into three geographical areas and ordered according to the declining score.

*Table 3: Final scores of the metropolitan areas (benchmark = 1,0)*

| **Western and Northern Europe** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| München | 0,96 | Köln | 0,77 | Malmö | 0,69 | Bremen | 0,58 | Manchester | 0,43 |
| Stockholm | 0,92 | København | 0,77 | Bristol | 0,69 | Strasbourg | 0,54 | Glasgow | 0,42 |
| Düsseldorf | 0,90 | Grenoble | 0,75 | Toulouse | 0,67 | Leeds | 0,54 | Newcastle upon Tyne | 0,41 |
| Frankfurt am Main | 0,87 | Mannheim | 0,73 | Wien | 0,66 | Nantes | 0,52 | Leicester | 0,40 |
| Stuttgart | 0,87 | Antwerpen | 0,73 | Rennes | 0,63 | Brescia | 0,51 | West Midlands | 0,39 |
| Nürnberg | 0,86 | Hannover | 0,72 | Berlin | 0,63 | Bordeaux | 0,50 | Lille - Dunk. Valenciennes | 0,39 |
| Helsinki | 0,83 | London | 0,72 | Göteborg | 0,60 | Marseille | 0,49 | Liverpool | 0,38 |
| Paris | 0,83 | Amsterdam | 0,71 | Rotterdam | 0,60 | Dresden | 0,48 | Cardiff | 0,35 |
| Hamburg | 0,79 | Lyon | 0,71 | Nice | 0,59 | Montpellier | 0,45 | Stoke-on-Tr. | 0,35 |
| Brussel | 0,79 | Utrecht | 0,70 | Ruhrgebiet | 0,59 | Rouen | 0,43 | **Mean** | **0,63** |

| Southern Europe | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Milano | 0,72 | Barcelona | 0,40 | Catania | 0,20 | Palermo | 0,10 | Sevilla | -0,06 |
| Torino | 0,56 | Bilbao | 0,36 | Valencia | 0,17 | Alicante/ Elche | 0,10 | **Mean** | **0,24** |
| Roma | 0,54 | Athina | 0,27 | A Coruña | 0,17 | Murcia - Cartagena | 0,03 | **Distance to Western and Northern Europe** | **0,39** |
| Madrid | 0,46 | Bari | 0,22 | Oviedo - Gijón | 0,15 | Málaga - Marbella | -0,01 | | |
| Lisboa | 0,43 | Porto | 0,21 | Napoli | 0,13 | Thessaloniki | -0,03 | | |
| **Central and Eastern Europe** | | | | | | | | | |
| Bratislava | 0,59 | Riga | 0,48 | Vilnius | 0,37 | Brno | 0,29 | Ostrava | 0,06 |
| Bucuresti | 0,55 | Budapest | 0,48 | Zagreb | 0,35 | Lódz | 0,23 | **Mean** | **0,37** |
| Warszawa | 0,53 | Tallinn | 0,45 | Poznan | 0,31 | Gdansk | 0,21 | **Distance to W. and N. Europe** | **0,26** |
| Praha | 0,53 | Sofia | 0,41 | Kraków | 0,30 | Katowice | 0,14 | | |

*Source: Own preparation based on the Eurostat data*

The arithmetic mean of scores for the western and northern cities is vastly above the means for southern as well as central and eastern cities. What is worth to note is that the latter is remarkably higher than the first. The distance of the mean score for the CEE cities to the western and northern cities equals 0,26. The same distance for the southern cities amounts 0,39. It should be admitted that under the scheme used in this study the CEE cities are better developed than the southern cities.

In the table 4 the results of the same procedure for the non-metropolitan areas of the countries are presented. Comparing them with the previous ones allows to make a relative assessment of the state of the cities.

*Table 4: Final scores of the non-metropolitan areas (benchmark = 1,0)*

| Western and Northern Europe | | Southern Europe | | Central and Eastern Europe | |
|---|---|---|---|---|---|
| Finland | 0,78 | Italy | 0,67 | Croatia | 0,46 |
| Netherlands | 0,71 | Spain | 0,63 | Slovenia | 0,44 |
| France | 0,70 | Greece | 0,49 | Latvia | 0,31 |
| Denmark | 0,69 | Portugal | 0,42 | Slovakia | 0,29 |
| Germany | 0,66 | Malta | 0,27 | Estonia | 0,26 |
| Belgium | 0,66 | - | - | Bulgaria | 0,16 |
| Sweden | 0,66 | - | - | Czech Republic | 0,15 |
| Ireland | 0,66 | - | - | Romania | 0,15 |
| Austria | 0,59 | - | - | Lithuania | 0,14 |
| United Kingdom | 0,52 | - | - | Hungary | 0,12 |
| - | - | - | - | Poland | 0,08 |
| **Mean** | **0,66** | **-** | **0,50** | **-** | **0,23** |
| **Distance to Western and Northern Europe** | **-** | **-** | **0,16** | **-** | **0,43** |

*Source: Own preparation based on the Eurostat data*

Also this time the mean score for the western and northern countries is higher than for the other. The mean for southern countries is, however, higher than for the CEE countries. The distance of the CEE mean score to the mean score of the most developed countries is by 0,17 longer than in case of the metropolitan areas.

## 4. Conclusion

The comparison of synthetic indicators for the metropolitan and non-metropolitan areas of the CEE performed in this study shows, that the cities are relatively more developed than their countries. Both types of areas are less developed than their counterparts in the west and north of Europe. But the cities from CEE are more developed than those from the south of the continent. Non-metropolitan areas of the CEE remain still less developed than this kind of areas in the south. All that leads to a conclusion that the metropolises of CEE are ahead of their countries in the process of closing the gap between the west and east of the EU.

The results also show that the metropolises are the places where globalization transformed the structures of economies in the most profound way. What is worth to emphasise, is not the fact that the structures of the metropolitan economies in CEE can be referred to as more advanced, than the remaining parts of their countries. This metro to non-metro relation appears everywhere. The important thing shown in this study is, that the cities are much more advanced in reaching the western level, while their countries remain relatively behind.

One of the limitations of the study is the lack of most up to date data on the European level. In case of labour market it may be assumed that the newest data would work in favour of the CEE. Nevertheless, the general distance of CEE cities to their western counterparts is still great. So shortening this distance can be perceived as an objective of a first importance. And any kind of economic policy to reduce metro to non-metro divergence should be considered exceptionally cautiously. As it was shown in the introductory part, under the highly competitive conditions of contemporary globalization, strong metropolises are the necessary condition for any national economy to grow.

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# REGIONAL AIRPORTS UNDER THE LEGAL AND ECONOMIC REGULATORY FRAMEWORK OF THE EU: BENCHMARKING OF PIEŠŤANY, PARDUBICE AND PARMA AIRPORT

Alena Novák Sedláčková[1,a], Denisa Švecová[2,b,*]

[1]University of Žilina, Univerzitna 1, 010 26 Žilina, Slovakia

[2]University of Žilina, Univerzitna 1, 010 26 Žilina, Slovakia

[a]alena.sedlackova@fpedas.uniza.sk, [b]denisa.svecova@fpedas.uniza.sk

*Corresponding author

**Abstract.** International legal airport regulation (the basic regulatory Framework) is followed by the same legislation throughout the world for all of the airports which are a part of ICAO Member States falling under the Annex 14/Vol I. The specific category within the world is represented by the regional airports (with the annual throughput up to 3 million passengers), which, regardless of the state of their location, are facing several problems related to the ability of maintaining themselves, furthermore, they are unable to break-even which causes other additional problems. This paper pursues the actual state of regional airports within Europe and the legislation regulating the airports funding, while focusing on Slovak, Czech and Italian small regional airports as Piešťany, Pardubice and Parma that fall under the same "criteria" in terms of the EU Regulations in connection with the importance of subsidization, airport infrastructure, market position, number of passengers carried (up to 200,000) and type of operations. The paper also provides the analysis of current situation at abovementioned airports with regard to the economic – operational and financial indicators calculation and their subsequent comparison, in order to answer the question whether the argumentation of Slovak Ministry of Transport and Construction of SR about the state support of air transport impracticability is really justifiable, since there are several appropriate schemes of airlines and small airports support, based on the European regulatory framework, as the small regional airports funding can be considered as a long-term European problem.

**Keywords:** international airport, regional airport, Piešťany airport, Pardubice airport, Parma international airport, economic-operational indicators, benchmarking.

**JEL Classification:** L 93

## 1. Introduction

Airports are a complex organization which have many interacting parts, airlines, passengers, ground handling companies, security, fire and police services, etc. (Diana, 2010; Humphreys & Francis, 2002; Wyman, 2012). According to Morrell (2010), the potential for airports to bring considerable benefits to their surrounding areas is one reason why many European airports remain in public ownership. Currently, the trend is full of partial privatization of airports and even where the airports remain in public ownership, they have often been corporatized (Wiltshire, 2017).

The orientation of regional airports on their business is highlighted by new Guidelines on State Aid to airports that set airport´s business models differentiation for the regional airports in order to adapt to new market environment. After 2020, that is considered to be the end of "Reference period", the regional airports should not be provided with an operational aid from the state anymore and should be funded by themselves, instead (Guidelines on state aid to airports and airlines (2014/C 99/03). Keeping the existence of regional airports represents an important aspect of social cohesiveness, development and the competitiveness accretion within the EU. Unlike the other countries, in SR any state aid for regional airports in connection with required notification to European Commission has not been utilized and any national development program concerning the regional airports operation has not been propounded so far; subsequently, Slovakia ranked among the countries that acceded new regulations without the offensive approach.

## 2. European regulatory framework of regional airport´s funding: Help or complication?

To understand the issue of regional airport´s funding and its problems, it is necessary to define the key term, i.e. "regional airport". Commission Regulation (EU) 2017/1084 of June 2017 amending Regulation (EU) No 651/2014 as regards aid for port and airport infrastructure, notification thresholds, in Article 1, paragraph 153, defines the "regional airport" as "an airport with average annual passenger traffic of up to 3 million passengers" (Commission Regulation (EU) 2017/1084, 2017). As for Slovakia, funding of modernization or construction of the regional airports infrastructure from the public resources, considering the state budget, and limitedness to the EU legislation in relation to state subsidization constitute one of the biggest problems of every Slovak regional airport. According to Kazda et al. (2017), the argumentation of Ministry about the state support of air transport impracticability cannot be accepted, since there are several appropriate schemes of airlines and small airports´ support, based on the European regulatory framework. "Small" regional airports´ funding is a long-term EU problem and there were several approaches established by the EU related to adjustment of those issues (Tomová and Martišová, 2014). The current legislation is represented by Commission Regulation (EU) 2017/1084.

## 3. Benchmarking and economic analysis of Piešťany, Pardubice and Parma International Airport

We focused on the three chosen airports concerning their operational-technical characteristics and actual ownership structure: **Piešťany Airport** is an international, public airport of regional nature, serving spa town of Piešťany, Slovakia, located in the region with the highest number of sunny days and it is well equipped for operation during the night or bad weather conditions. The Airport is operated by Letisko Piešťany a.s. Currently, there are no regular flights from the airport, partly caused by its location – only 90 kilometers from Bratislava airport; and the Airport is used mainly for flights by companies with business and manufacturing interests in his region. The ownership in 2016 was divided as follows: Trnava Self-Governing Region (59.3%), the Ministry of Transport and Constraction of SR (20.65%) and the Town of Piešťany (20.04%).

**Pardubice airport** is an integral part of the transport in East Bohemia region, Czechia as well as transport within Europe. The Pardubice Airport is operated by East Bohemian Airport a.s. (EBA), with the ownership structure divided between the Statutory City of Pardubice – The Municipality of City Pardubice (66.0%) and Pardubice Region (34.0%). Airport is stated as public international one, but also serves as reserve military airport with civil air traffic. **Parma Airport** is public airport located 2.4 km northwest of Parma, in Italy. The Airport´s operator is Società Gestione Aeroporto Parma S.p.A. and it is stated as civil public one that serves the Parma, Emilia – Romagna region. The ownership structure of SO.GE.AP company is: Meinl Bank Aktiengesellschaft (52.81%); Parma Aeroporto Srl (18.79%); Chamber of Commerce of Parma (5.65%); Municipality of Parma (5.65%); Unione Parmense degli Industriali (5.38%); Province of Parma (4.06%) and others with less than 2% (7.65%).

Since all three chosen airports fall under the same "criteria" in terms of the EU Regulations in connection with the importance of subsidization, their infrastructure, market position and type of operations, in order to understand the actual economic situation at the airports, we performed the economic-operational indicators´ analysis on the basis of their calculation for the period of years 2014-2016 with the use of numbers and figures as stated in the Business plan of Piešťany Airport and Annual reports of Pardubice and Parma International Airport. In accordance with Klieštik (2009), Rahman et al. (2017), Križanová et al. (2016) and Laplace (2009), we analysed the following indicators: cost structure, revenue structure, cost effectiveness and operational-performance indicators as well.

The airports have similar operational-technical parameters and legal aspects, but we have to write, that these airports operate in totally different economic, social, historical and also political-mental environments as well as in conditions that synergically and reversely affect the airports' utilization and potential development. We have needed to use the partial research results of Tomová and Materna (2017), Klieštiková and Mišanková (2016), Žáčik and Novak (2016) and Turiak et al. (2014). At Piešťany Airport, all three shareholders agreed on importance of an Airport for the further growth and development of the region, in addition, the issues and problems related to economic situation were negotiated during further general meetings of shareholders in 2017 and 2018 (Business plan of Piešťany Airport, 2016/2017). Pardubice Airport succeeded in business negotiations continuance with the Ryanair and the construction of the new terminal began in the second quarter of 2016 by EBA a.s. company. At Parma International Airport (alike the other airports), the impacts of economic depression appeared in the last five years with the effect on the Airport´s performance and financial situation.

### 3.1 Benchmarking of cost structure indicators, cost effectiveness and revenue generation indicators for Piešťany, Pardubice and Parma International Airport

To provide information about the costs structure, as a cost item, we decided to choose labour costs for all aforesaid airports for the years 2014, 2015 and 2016 and consequently, the proportion of labour costs to total operating costs was calculated and expressed in percents. To analyse the efficacy of the Airport´s costs usage, as a non-financial output, we chose the number of movements for the years 2014, 2015, 2016; and consequently, the proportion of total operating costs to number of movements (i.e. costs per 1 movement of an aircraft) was calculated and expressed in EUR (Table 2).

*Table 2: Economic – operational indicators for Piešťany, Pardubice and Parma International Airports for the years 2014, 2015 and 2016*

| | **Period (Years)** | **Labour costs (EUR)** | **Total operating costs (EUR)** | **Labour costs proportion to total operating costs (%)** |
|---|---|---|---|---|
| **Piešťany Airport** | 2014 | 476,888 | 1,031,871 | 46.215 |
| | 2015 | 463,721 | 1,172,618 | 39.546 |
| | 2016 | 484,666 | 1,132,655 | 42.790 |
| **Pardubice Airport** | 2014 | 867,915.7 | 1,572,261 | 55.201 |
| | 2015 | 683,732.9 | 972,112.5 | 70.335 |
| | 2016 | 540,736.1 | 989,243.9 | 54.662 |
| **Parma Airport** | 2014 | 1,038,240 | 5,515,661 | 18.823 |
| | 2015 | 1,130,601 | 5,423,313 | 20.847 |
| | 2016 | 1,548,736 | 5,699,760 | 27.172 |

*Source: own table based on Annual Reports of Piešťany, Pardubice and Parma Airport, 2016.*

Table 2 indicates that the amount of labour costs within the Piešťany Airport was on the increase between the years 2015 – 2016 that signifies that the Airport was expending more financial means on its employees, which had an impact on the increasing amount of total operating costs; on the other hand, compared to the period of 2014 – 2015, the labour costs had declining tendency, and, in the following year, decreased by more than 13,000 EUR.

This had an impact on the labour costs proportion to total operating costs: in 2014, the ratio of labour costs accounted for 46.215 percent while in the following year, the ratio decreased by 6.667 percent and in 2016 it increased to almost 43 percent. As far as the Pardubice Airport´s costs are concerned, it is obvious that the amount of total costs decreased in 2016 by 3.5 percent in comparison to the previous year; on the other hand, as the positive, we can consider the ratio of company´s costs drop to its subtle increase in revenues. Furthermore, in 2016, the company adopted the austerity measures which contributed to airport´s economic stability – by the end of year 2015, the reorganization was executed with the aim of increasing the labour productivity which became evident in the following year; and thanks to the reorganization, the labour costs dropped by 21 percent compared to 2015. The amount of labour costs was on the decrease between the years 2014 – 2016 that signifies that the Airport was expending less finances on its employees, which was reflected in the decreasing amount of total operating costs; on the other hand, compared to the period of 2014 – 2016, the labour costs had declining tendency, as in 2014 their amount equalled 867,915 EUR and, in the following year, decreased by more than 184,183 EUR and in 2016 by 327,179 EUR (when compared to 2014). This had an impact on the labour costs proportion to total operating costs: in 2014, the ratio of labour costs accounted for 55.201 percent while in the following year, the ratio increased by 15.134 percent and in 2016 it decreased to almost 55 percent. It is obvious that the amount of labour costs at Parma International Airport was on the increase between the years 2014-2016, which had an impact on the increasing amount of total operating costs, especially between 2015 – 2016 period; on the other hand, compared to the period of 2014 – 2015, the total operating costs had declining tendency, as in 2014 the amount of total operating costs equalled 5,515,661EUR and, in the following year, decreased by more than 92,400 EUR. This had an impact on labour costs proportion to total operating costs: in 2014, the ratio of labour costs accounted for 18.823 percent while in the following year, the ratio increased by almost 2 percent and in 2016 it increased to almost 27.2 percent.

As Table 3 shows, the amount of total operating costs at Piešťany Airport was on increase between the years 2014-2015 and also the number of movements had a rising tendency, which was reflected to costs per one movement of an aircraft: in 2014 the costs reached almost 520 EUR and in the following year, it increased up to 584 EUR. When compared to Piešťany Airport, at Pardubice Airport the amount of total operating costs was on the decrease between the years 2014-2016 and also the number of movements had a dropping tendency, which was reflected to costs per one movement of an aircraft: in 2014 the costs reached almost 719 EUR and in the following year, it decreased to approximately 708 EUR. On the other hand, in 2016, the situation at the Airport changed and regardless of the declining number of movements, total operating costs increased, which was reflected to the costs per one aircraft movement that rose by almost 100 EUR. At Parma Airport, costs per one movement of an aircraft in 2014, reached almost 786.3 EUR and in the following year, it increased up to 912.094 EUR and in 2016, the costs reached 1078.887 EUR. On the other hand, in 2014, the situation at the Airport changed due to the economic crisis and the number of movements decreased by 1,070 in 2015 when compared to year 2014 and furthermore, it was reflected on the considerably higher costs per one movement in 2016.

*Table 3: Economic – operational indicators for Piešťany, Pardubice and Parma International Airports for the years 2014, 2015 and 2016*

| | **Period (Years)** | **Total operating costs (EUR)** | **Number of movements (EUR)** | **Costs per one aircraft movement (EUR)** | **Total operating revenues (EUR)** | **Total operating revenues generated by one movement (EUR)** |
|---|---|---|---|---|---|---|
| **Piešťany Airport** | 2014 | 476,888 | 1,031,871 | 46.215 | 293,103 | 147.362 |
| | 2015 | 463,721 | 1,172,618 | 39.546 | 278,776 | 138.902 |
| | 2016 | 484,666 | 1,132,655 | 42.790 | 237,465 | 195.123 |
| **Pardubice Airport** | 2014 | 867,915.7 | 1,572,261 | 55.201 | 1,679,587 | 767.636 |
| | 2015 | 683,732.9 | 972,112.5 | 70.335 | 764,657.6 | 556.520 |
| | 2016 | 540,736.1 | 989,243.9 | 54.662 | 1,170,963 | 948.917 |
| **Parma Airport** | 2014 | 1,038,240 | 5,515,661 | 18.823 | 2,365,587 | 337.218 |
| | 2015 | 1,130,601 | 5,423,313 | 20.847 | 1,764,657 | 296.781 |
| | 2016 | 1,548,736 | 5,699,760 | 27.172 | 1,560,963 | 295.469 |

*Source: own table based on Annual Reports of Piešťany, Pardubice and Parma Airport, 2016.*

The amount of total operating revenues at Piešťany Airport was on the decrease between years 2014-2016 that signifies that the Airport was generating less finances on its other operating activities. Between 2014-2015 the number of movements had a rising tendency, but in 2016 the amount of cargo as well as number of passengers and movements fell rapidly due to unfavourable economic conditions at the Airport which almost led into the liquidation of company in 2016. Regardless of the declining number of movements, total operating revenues, which were generated by one movement, rose by 56.221 EUR in 2016 when compared to 2015. At Pardubice Airport, the amount of total operating revenues was on the decrease between years 2014-2015 that signifies that the Airport was generating less financial means on its other operating activities. Between 2014-2016, the number of movements had a dropping tendency, but in 2016 the amount of total operating revenues rose by 406,305 EUR that was reflected to higher total operating revenues which were generated by one movement and reached almost 950 EUR, that represents more than 390 EUR increment in revenues generated by one aircraft movement when compared to the situation in year 2015. At Parma

International Airport, the amount of total operating revenues was on the decrease between years 2014-2016 that signifies that the Airport was generating less financial means on its other operating activities and between 2014-2016, the number of movements had a dropping tendency, that was reflected to decreasing number of total operating revenues which were generated by one movement – in 2014, they reached 337.218 EUR, in 2015 dropped to 296.781 EUR and in the following year equalled to 295.469 EUR that represents the diminution by almost 42 EUR when compared to the year 2014.

## 3.2 Benchmarking of operational-performance indicators for Piešťany, Pardubice and Parma Airports

This subchapter involves the benchmarking of chosen airports based on performance and operational indicators represented by the number of passengers carried, number of movements and amount of cargo carried, achieved for the period of years 2014, 2015 and 2016 (Table 4).

*Table 4. Operational performance indicators for Piešťany, Pardubice and Parma International Airport for the years 2014, 2015 and 2016.*

| | Period (Years) | Number of pax carried (-) | Amount of cargo carried (tonnes) | Number of movements (-) |
|---|---|---|---|---|
| **Piešťany Airport** | 2014 | 912 | 16.200 | 1,217 |
| | 2015 | 2,030 | 164.311 | 2,007 |
| | 2016 | 1,956 | 4.584 | 1,989 |
| **Pardubice Airport** | 2014 | 150,056 | 101 | 2,188 |
| | 2015 | 59,260 | 159 | 1,374 |
| | 2016 | 31,174 | 142 | 1,234 |
| **Parma Airport** | 2014 | 205,403 | 0 | 7,015 |
| | 2015 | 187,017 | 0 | 5,946 |
| | 2016 | 191,967 | 86.702 | 5,283 |

*Source: own table based on Annual Reports of Piešťany, Pardubice and Parma Airport, 2016*

As Table 4 indicates, number of passengers carried at ***Piešťany Airport*** had an increasing tendency within the period of years 2014-2015, while in 2016, it dropped slightly to 1,956. ***Pardubice airport*** fell sharply in number of checked-in passengers within the regular and charter flights in 2016, as a result of complicated „Russian "situation in 2015, non-existence of other contractor and Western-Europe markets connections that led into the decreasing number of passengers which plunged to its minimum level and in 2016 the Airport fell sharply in number of checked-in passengers: the number did not exceed the 31,200. In 2016, the decreasing tendency within ***Parma International Airport***´s operational performance activities continued as expected, and it became evident through dropping number of civil aircraft movements that declined markedly. In parallel with the number of aircraft movements, also the number of passengers was dropping and only 187,017 passengers were carried in 2015. Regardless of the impacts of economic depression as well as the international conflicts that appeared in the last five years with the direct effect on ***Piešťany Airport***´s performance, the recovery can be observed through an increment in operating revenues of the Airport over first half-year of 2015 compared to the same period in 2014 and also through increasing tendency of aircraft´s movements at the Airport. As for ***Pardubice Airport*** – in 2016, there were dropping number of civil aircraft movements and also the number of passengers carried. This unpleasant situation was caused mainly by the fact that all regular flights including destinations from Russia were revoked, as a result of the crisis in Ukraine. In 2016, the decreasing tendency within ***Parma International Airport***´s operational performance activities continued as expected, and it became evident through dropping number of civil aircraft movements that declined markedly – as in 2014 there were more than 7,000 movements at the Airport, while in the following year, the number decreased by more than 1,000 movements and in 2016 continued in the decreasing tendency. In 2016, Piešťany Airport failed in making an agreement with the particular travel agencies, Health spa Piešťany and aviation airliners in relation to charter flights revival from Russia, Israel and Germany. Compared to 2015, the amount of cargo as well as number of passengers carried fell sharply. As for Pardubice Airport, in 2016, the amount of cargo carried remained almost static, only with slight fluctuations. In 2016, Parma International Airport succeeded in increasing amount of cargo.

## 4. Conclusions

The orientation of regional airports on their business is highlighted by new Guidelines on State Aid to airports that set airport´s business models differentiation for the regional airports in order to adapt to new market environment. In Slovakia, funding of modernization or construction of the regional airports infrastructure from the public resources, taking into consideration the state budget, and limitedness to the European legislation in relation to state subsidization constitute one of the biggest problems of every Slovak regional airport. By performing our research, we also affirmed that the argumentation of Ministry about the state support of air transport impracticability is not justifiable, since there are several appropriate schemes of airlines and small airports´ support, based on the EU regulatory framework. However, according to results of our calculations and benchmarking, Pardubice and Parma Airports have been over a long period, at relatively balanced economic conditions while Piešťany have been facing an unfavourable economic and financial situation that in 2016 almost led into the company´s liquidation. This begs the question whether the state support of Slovak regional airports and air transport as well, is really sufficient...

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# SOCIAL AND HEALTH REALITY IN SLOVAK REPUBLIC AS A RESULT OF GLOBALISATION

Mária Nováková[1,a,*], Eduard Burda[2,b] and Silvia Capíková[3,c]

[1]Faculty of Law, Comenius University in Bratislava, Slovak Republic

[2] Faculty of Law, Comenius University in Bratislava, Slovak Republic

[3]Faculty of Medicine, Comenius University in Bratislava

*[a]maria.novakova@flaw.uniba.sk, [b]eduard.burda@flaw.uniba.sk, [c]silvia.capikova@fmed.uniba.sk

*Corresponding author

**Abstract.** There is no doubt, that the priority of the highest representatives of the state is to create such instruments and measures , which will assure - but also increase, the quality of health care and social care for the citizens. However, despite of their enormous efforts, the alarming trend of decrease of quality of health care and social care can be identified. The objective and subjective causes of this phenomenon can be differentiated. A great challenge is the marketization and globalization of healthcare. As a result of globalization, positive effects such as migration of ideas, knowledge and technologies used in health care or higher standards of legal protection of rights of patients can be identified. Besides, free movement of labour force opened the door to brain drain of healthcare professionals, causing serious shortage in supply in the national health system in Slovakia. The core of the paper is the analysis of the most prominent problems of failure of health care and social care, which arose not only as a result of globalisation as the objective cause. The ambition of the authors is to offer the complex insight into the problem and unravelling, explanation and finding solutions for subjective causes of failure of both systems of care.

**Key words:** health care, social care, patient, client

**JEL Classification: I 15, I 38**

## 1. Introduction

The main aim in choosing the topic was the effort to uncover the causes of lowering the level of quality of health and social care. We initially perceived this negative trend only as a consequence of the globalization process. In the longer term of investigation and analysis the different layers of the identified problem, other relevant social facts have arisen and began to discourage our hypothesis. We started looking for answers to questions as follows:" Why do not patients have health and social care tailored to their individual needs if it is guaranteed by law, what causes a chronically problematic relationship of practice and law regulation that implies that there are two different worlds increasingly diverging from each other?". Processing the topic we have chosen the deductive model. Initially we dealt with a general institute, instruments and measures, consecutively we dealt with the application of the law into practice. In the optics of the chosen methodology, we continued along the path of legal hermeneutics. The aim of our effort was to achieve an objective understanding of the interpreted social facts, their meaning and spirit of the given situation under given conditions.The main purpose of this paper is the attemption to combine the theoretical knowledge with the practical analysis of selected social realities, which influence the unpredictability of the direction of globalization development. This article presents an overview of the most important challenges Slovakia is facing in delivering health and social services to its citizens.

## 2. The social and health dimension of globalization

Globalization is a complex evolving process in which the attributes of freedom and freedom of movement (capital, goods, services and persons) are dominant. A typical feature of the phenomenon of globalization is the tendency towards the absence of any boundaries or obstacles. From multiple angles of understanding of globalization (economic, political, ecological, etc.) we have tried to analyze the health and social angle. In the context of people´s mobility we can differentiate between several categories, namely the mobility of health workers, patients´ mobility and mobility of potential patients, e.g. tourists, migrants, asylum-seekers, etc. (Hejdukova & Kurekova, 2016).

The mobility of healthcare workers can be seen as internal (interregional) and external (cross-border). Internal mobility causes a reduction in the availability of health care and social welfare, especially in regions with high level of unemployment. In the case of internal mobility due to inequality in social opportunities, health workers go to more developed regions, but there is no "brain- drain" abroad. However, internal mobility may be a problem for further development of a particular region. External mobility of healthcare workers has a very negative impact on the availability and quality of providing health and social care in the country. Despite the long-term existence of this negative phenomenon may be seen the long-term unreliability and inability of the relevant government´s representatives, regardless of political metamorphoses over the last twenty-five years, to react dynamically and flexibly to the internal social problems that have arisen. Their delayed responses, non-systemic measures and uncoordinated approaches only deepen the negative impacts on the health and social care system. A major problem is almost the systematic activity of several mass media which try to induce a feeling in society that "nothing works in the Slovak Republic" which is not true despite many reservations, especially in comparison with foreign countries, which are considered to be developed countries (e.g., the real availability of health care in the UK is considerably more difficult for an ordinary person than in Slovakia.). As a result of inducing this feeling in society, a significant part of the young generation has the desire to move abroad. Given the universality of medical education and the acute lack of healthcare workers, even in „old" countries of the European Union, doctors and other healthcare professionals are one of the groups most at risk of external mobility.

## 3. Healthcare

After the fall of the iron curtain in 1989, Slovakia and its economy opened to international enviroment and full impact of globalization processes, with european integration as a catalytist. Turbulent development in the following decade brought amount of new and crucial problems. Substantial changes in organization and performance of healthcare system with highlighting of individual responsibility for own health (Laiferová, 1999), privatization of the formerly state property, establishement of economic interest groups also in healthcare

Sopóci, 2001). The issue of health protection and providing health care is not legally codified. The regulation is highly fragmented, unclear, causing interpretative lack of clarity to receivers, not only to laymen, but also to experts. Frequent amendments cause legal uncertainty and disrupt one of the pillars of the rule of law.

The continuity of non-systemic changes remains same when taking measures to eliminate the risks caused by the financial subdimension of the health sector. Initially latent problems have been demonstrated to be excessively major in the short term. It can be noted ,without any exaggeration, that the „health care field is laid by land mines“. Enormous chaos in solving internal social problems has a negative impact on the availability and quality of provided healthcare, the employment of health workers, the education system, and ultimately the patient's safety. Although there has been progress towards western European outcome standards, there is much to be done – while the costs of health care will continue to rise, i tis unclear that the present political, policy-making and implementation systems can deliver either efficiency or responsiveness to patients´wiew. (Lawson et al., 2012)

### 3.1 Availability and quality of healthcare

Although a move toward universal health coverage is the central theme of global health policy today, even if such a movement succeeds, billions of people will have access to care of such low quality that it will not help them—and indeed often will harm them, stated the current report by The National Academies of Sciences, Engineering, and Medicine (2018). Quality performance of health systems is studied also at the international level by organizations such as WHO, the World Bank, OECD, Health Consumer Powerhouse, with use of different sets of quality indicators.

Various definitions of the term „quality“ can be found in the literature, however, „*quality in health care is referring to whole system of health care including the legislative and executive bodies mainly responsible for creating a general framework for accessible level of providing health care as well as all health care providers, health care professionals, health care facilities providing the services to specific patients and customers*.“ (Kostičová & Badalík, 2009, 9)

Legally-based principles which ensure the protection of health and providing the healthcare can be perceived as utopian. Although the practice begins unobtrusively, but all the more aggressively to follow only one, specifically, the commercial imperative. There is an excessive pressure put on the elimination of social rights and protection laws. The economic dictate of the health insurance companies is evident in all areas of health care. Socio-economic imbalance and gaps between rich and poor patients are starting to deepen. Very negative is the fact that in the Constitution of the Slovak Republic and in the regulation the citizens are guaranteed the right to health protection, but the level of this protection is not established. The level of health protection depends on the organization and financing of the healthcare system. When financing the healthcare system, layman has impression that initially must be taken into account generating profit from public funds in favor of business entities, and subsequently the remainder is redistributed to provide healthcare. The organization and financing of the health system itself can be described as a cyclically confusing process. When setting up an organization, the method of attempt- mistake- cancellation apllies. It can be illustrated with a countless examples and there is an unprecedented lack of legal liability.

In 2004, there was a health care reform that allowed health insurance companies as a business entities to make a profit from public health insurance. However, the reform legislation has failed to establish a mechanism to regulate profits appropriately. Subsequently, in 2007 a law was adopted and insurance companies could no longer make a profit. Negative action causes a negative reaction and one of the health insurers refered the case to the Constitutional Court of the Slovak Republic, which decided in its favor. The decision of the Constitutional Court of the Slovak Republic was also confirmed by the Arbitration Court in Frankfurt am Main. For the Slovak Republic, this meant paying compensation of more than € 22 mil. Euros. The unsuccessful attempt is replaced by another, namely the creation of the Company for the introduction of a unitary public health insurance system, which was about to transform to an insurance company. The total cost of establishment, as well as individual project proposals, are unfortunately unknown to the public. In 2017, the Ministry of Health of the Slovak Republic cancelled the project of one insurance company and searched for a legal way how to limit the profit of health insurance companies, this lasts up to now. Legal liability has ended in the virtual space. Unfortunately, the fundings that could be used to improve the provision of health care were wasteful and irretrievably withdrawn from the healthcare system.

A striking example of absolute incompetence is the organization and financing of health care. Liquidation payment mechanisms for health care providers tend to lead to bankruptcy. The provision of health care is a service of public interest and the government is obliged to provide it. When providing state aid, health care providers will begin to restructure through a non-standard economic tool, such as deleveraging process. It is necessary to underline, that the risk-taking policies of the government are disincentive.

From the legal point of view seems to be quite interesting solution to this situation in redirecting the flow of public health insurance (recalling that obligatory by law) to a single public health insurance company operating without any ambition of generating profits, while other private insurance companies would not be either abolished or purchased or the property rights or proprietary rights would not be limited, only they would be forced to refocus the business activities in other segments (e.g. optional health insurance or other types of insurance). An even more appropriate solution would be to promote the right to health care to the necessary public service constitutionally, which would eliminate or at least substantially reduce the provision of health care from the range of business activities, more specifically finance in the health sector would only serve to cover the costs (including „good“ salaries of health workers), or to extend and improve the provision of health care (however, such a solution would currently require a lot of financial input so as the right to property would not be damaged, but this still remains „sci-fi“).

### 3.2 Lack of qualified health professionals

Labour force mobility as a result of globalization has also been affected by the health sector.The World Health Organization (WHO) estimates that the world faces a global shortage of almost 4.3 million doctors, midwives, nurses, and other healthcare professionals. A global undersupply of these threatens the quality and sustainability of health systems worldwide. This undersupply is concurrent with globalization and the resulting liberalization of markets, which allow health workers to offer their services in countries other than those of their origin. (Aluttis et al., 2014)

Sociological theories of medicalization suggest, that the international marketization of medical recruitment is a key site where the uneven global development of capital is at work. There is need to understand migration of healthcare professionals as an aspect of uneven global development, rather than a delimited issue of manpower services management. (Bradby, 2014)

Migration of health professionals copies with the economy. The inequality in social chances and the vision of "social lifting" as two other relevant factors that may condition mobility cannot be excluded. „Push“ and „pull“ factors of brain drain of healthcare professionals are broadly studied. (Aluttis et al., 2014) (Kostičová et al., 2010) Not only the remuneration and social security system, but also the working conditions, are an impetus for the departure of healthcare workers abroad or even from the healthcare system. Problems associated with inadequately created personal norms, which are still unfulfilled result in exceeding of the legal limits of timeless work, are demonstrably highlighted.

A particular problem is the responsibility of starting health care professionals, especially doctors, for acts performed within their employments, but they are not certified for independent work yet, therefore, the acts are to be performed under the supervision of certified colleagues. However, the level of this supervision is questionable, because many medical actions are carried out by these doctors themselves, and supervision is based on prior consultation or control of the patient's condition and the carrying out of the medical treatment after that act. It is particularly problematic to bring criminal liability.

In this case, the sanction for two negligent crimes is considered, either for the offense of killing under § 149 of Act no. Act No. 300/2005 Coll., Criminal Code as amended (hereinafter referred to as "CC" or "Criminal Code) or the offense of bodily harm under § 157 or 158 CC. For these offenses, either life or health impairment in the extent of injury to health or serious injury is required to take responsibility. Such a consequence must at least partially (but necessarily) contribute the medical act "non lege artis" (in the case of "lege artis" act, such a consequence would not come). Who is responsible for such an offense? Not certified doctor? Or whoever supervises him? In the case of negligent crimes, cohabitation is indeed not possible. However, it is possible to establish that for some result more people have their share of guilt, or that only one person is responsible for the result. Although each case requires a special approach, we can still give some general opinions. (Tóth & Pagáčová, 2010)

The criminally liable person would be only non-medical practitioner without a person who supervised him only if he acted beyond the orders he had received from the supervisor (e. g. performing a medical act to which he has not been allowed or in relation to a patient he has not been allowed to treat or has acted in contrary to the givne instructions ). Such permissions or instructions may have either nature of completely specific orders or the nature of the rules how to proceed in a specific type of case., depending on how well a doctor is involved in the team or related case. Only a person who supervised non-certified doctor (non-certified doctor would not be criminally liable) would be criminally responsible in case the non-certified doctor acted in accordance with instructions from the supervisor or if the supervisor let him without adequate supervision required for patient's condition and the estimation of non-certified doctor´s ability. If a non-certified doctor is on duty alone or without the supervision for his actions resulting from inadequate experience (not due to inattention) is criminally responsible a person, who established him on duty, whereby the non-certified doctor is responsible only if he could and should have been aware that his ability may not be sufficient to solve the case and at the same time would have the opportunity to wait for more experienced colleague due to patient status. If the supervisor neglected his duties and the result was also due to a badly performed act of non-certified doctor, who should have managed the acts in respect of his knowledge and experience, both the non-certified doctor and the supervisor will be criminally liable.

In the criminal assessment of the acts of non-certified doctors, we also have to deal with the offense of bodily harm under Section 162 of the Criminal Code stated in the first paragraph:“Whoever acts, despite not having the required professional qualifications of health professional or other health worker, the medical care and inappropriate curative act, or incorrect indication of medicines, treatment or medical devices and due to negligence is result:

- immediate life threatening ,
- bodily harm or,
- curative act, or incorrect indication of medicines, treatment or medical devices without consent and such an act is health threatening , shall be punished by imprisonment for six months up to three years.

This offense with primarily threatening effect aims mainly to sanction of medical acts performed by laymen, however performing by doctors is also not excluded if their qualifications are essentially different from the nature of the medical act (e.g. knee surgery performed by the ophthalmologist). In the case of non-certified doctors, in order to commit this crime, besides other mandatory features of this crime, the act performed without the direct supervision is necessary and at the same time the act is obviously above the capability of non-certified doctor. However, this crime will be negligible for doctors in practice, as it gets at law enforcement authorities likely at stage of bodily harm crime or manslaughter crime. Regarding the criminal liability of health establishments as legal entities, since 1st of July 2016, there is established criminal liability of legal persons in Slovakia, but it does not apply to one of the abovementioned crimes since these do not occur in the exhaustive calculation of the crimes covered by the criminal liability of legal persons.

## 4. Social care

Every individual may find himself in an unfavorable life situation, consequently an economically active member of society changes his status on a socially stigmatized and socially excluded. If due to sudden injury or disease human being finds in condition of severe or permanent reduction of the body's functional ability, requires inevitably care within the health care system. Depending on the type and extent of the health damage, an adequate form of healthcare is provided to the disabled person. Afterwards there is often a loss of self-sufficiency. Disability is directly linked to special needs and dependence on the help of another person. A disabled person needs another form of care- social care. Providing social care, the status of the patient changes to the status of the client. The healthcare system and social welfare system is neither follow-up nor interconnected and coordinated. There is a vacuum between finishing the provision of health care and initiating social care provision, which deepens the impasse of the disabled person and his relatives. There is a lack of the orientation in the material, personal and territorial scope of social legislation. They have no experience of what authorities to contact or what kind of assistance to ask for. There are not even isolated cases, where disabled people have to cope with the reluctance and impatience of the employees of authorities. Under the influence of such unpleasant circumstances, disabled people also suffer from suicidal tendencies. Entering the social welfare system is significantly more complicated than entering the health care system. Social care is not provided without delay, but presumes administrative action by the disabled person or other person on whom the disabled person is dependent. For disabled people, but also for their relatives, who are not yet emotionally balanced with a permanently unfavorable social situation, it represents enormous bureaucratic, time and financial burden.

## 5. Conclusion

„*Globalization processes influence health through multiple social pathways: from health systems and financing reforms to migration flows and internal displacement; via trade and investment treaties, labour market 'flexibilization', and the spread of unhealthy commodities; or through deploying human rights and environment protection treaties, and strengthening health diplomacy efforts, to create more equitable and sustainable global health outcomes*." (Labonté, 2018) As one of results of globalization, especially rural regions of Europe are facing many problems with regional differeces in delivering social services to its citizen. (Manthorpe & Livsey, 2009) Although globalization removes spatial, technical, economic, but above all legal, barriers, its boundlessness causes unpredictable social tensions and political instability. The counterweight should be the creation of effective instruments for regulating globalization. It is imperative to cope with growing socio-economic inequalities. This paper has discussed several issues around this problem.Organizational, economic, technical, material, personal, and legal problems results in reducing the level of quality of health care and its availability. There is no rigorous analytical activity on setting up a minimum network of healthcare providers. As pointed out by Nemec, Spacek and de Vries, the Slovak solution to the issue of physical access was largely based on an interesting coordination tool: the 'minimum network of provider. While the initial interpretation of a minimum network as an assurance for general access to healthcare services, it slowly changed into a cutback making the minimum network an upper limit for healthcare. (Nemec et al., 2015) In practice, chronically resonate unresolved issues of the coexistence of healthcare provision and social care. Both systems of care for people with disabilities should be interconnected and coordinated. Not only is the symbiosis of these systems lacking, but their latent antagonistic position can be negatively evaluated, as well as the under -cash flows "flowing" from different sources. This undesirable phenomenon also supports an enormously institutionalized and formalistic approach to social policy, including its instruments. Gunter and van der Hoeven highligted that on the national level, governments need to invest in education and training, adopt core labour standards, provide and improve social protection and tackle rising national inequality. (Gunter & van der Hoeven, 2004) The globalization itself is not an evil, rather, it should be seen as the uneven feature of recent times, the process sui generis that needs to be managed and responded in the right way.

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# NON-DESTRUCTIVE QUALITY CONTROL OF FOREST SEEDS IN GLOBALIZATION: PROBLEMS AND PROSPECTS OF OUTPUT INNOVATIVE PRODUCTS

Arthur I. Novikov [1,a,*], Tatyana P. Novikova [2,b]

[1]Voronezh State University of Forestry and Technologies named after G.F. Morozov, Russian Federation

[2]Voronezh State University of Forestry and Technologies named after G.F. Morozov, Russian Federation

[a]arthur.novikov@vglta.vrn.ru, [b]novikova_tp.vglta@mail.ru

*Corresponding author

**Abstract.** The technology of production of a forest seed material with the set qualitative signs and technical means for its implementation shall provide allocation from it at the earliest stage of processing of the color seed races, which are a basis for the subsequent reforestation by aerial seeding, and receiving forest cultures with the improved hereditary properties. At the global level, a mandatory procedure for forest regeneration by the lessee has been defined, which determines the demand for quality forest seeds. To obtain them, expensive special technological complexes with high energy and material intensity are currently used. In this regard, the possibility of integrating the two functions: non-destructive quality control, and separation in a single portable device seems to be extremely promising because it will save potential customers money, time and resources to buy expensive seed or transporting seed in their own centers, deciding global challenge testing of forest seeds at the location of the customer. There are practically no such multifunctional and mobile devices on the world market. The study allows to consider the main ways and problems of bringing innovative developments of this type to the target markets, as well as the possibility of creating and improving reliable protocols of non-destructive quality control of forest seeds.

**Keywords:** non-destructive quality control, reforestation, quality forest seed grading, direct sales, indirect sales, innovative products, rapid analyser.

**JEL Classification:** L15, M31

## 1. Introduction

In silviculture practice, low soil germination of forest seeds obtained by standard technology (Novikov, 2000, 2001) is quite often observed, which is due to the destructive impact of the working elements of the sorters and a quantitative approach to the process that does not take into account the quality indicators of reproductive material. The possibility of two functions integration: non-destructive quality control and grading in one portable device is extremely promising, because it will save money, time and resources for the purchase of expensive seeds or transport their own in the seed centers, solving the problem of testing forest seeds at the customer location.

## 2. Methods

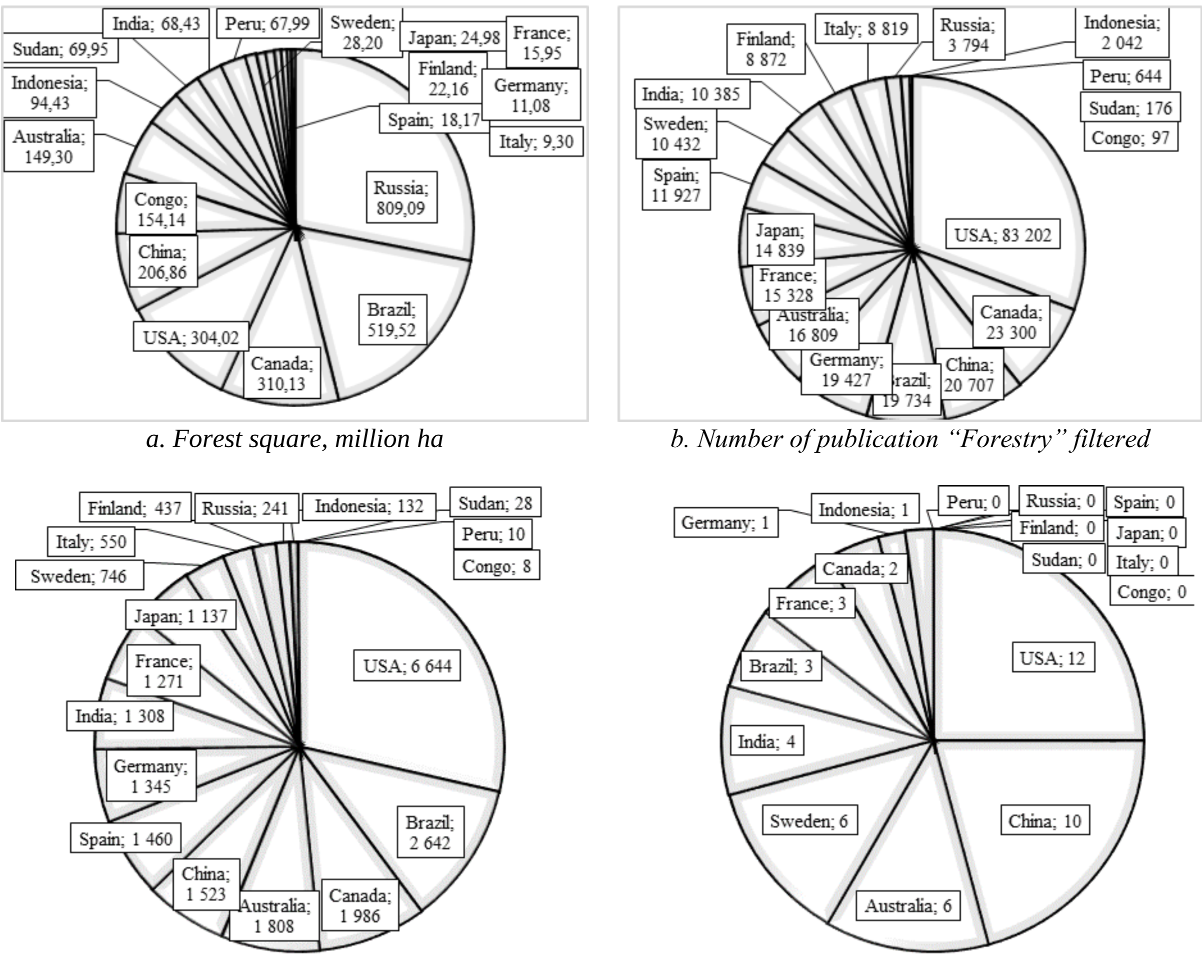
Web of Science platform (Clarivate Analytics) was used to assess the scientific potential in the field of non-destructive quality control of forest seeds. With the help of analytical tools, the platform calculated the potential number of publications in the field of forestry, further refined the search for the key field "SEED?", then refined by the key field "NON?DESTRUCTIVE AND NON?INVASIVE". The countries with the largest forested area and the countries with the largest number of indexed publications were searched.

## 3. Results

### 3.1 Globalization

The Figure 1 shows a comparison between the total forest area and the number of studies related to forestry, in particular forest seed production, using non-destructive quality control.

*Figure 1: Comparison of global scientific potential in forest seed production*




*a. Forest square, million ha* *b. Number of publication "Forestry" filtered*

*c. Number of publication "Seed" filtered* *d. Number of publication "Non-destructive" filtered*

*Source: Authors based on the data from WoS*

The pie chart shows that there is no direct relationship between total forest area and scientific capacity in forest seed production. The level of globalization of forest seed production is quite high. It is possible to accentuate the main trends of development:

- improvement of a balanced management system between the state seed production (Gebauer et al., 2002) and "farmer seed production" (O'Neill et al., 2001).
- improvement of the mechanism of transition to selective logging (Haurez et al., 2016), leaving a contour seed trees (for example, to pines of 30-40 trees per hectare) (Melekhov, 1966), allows to obtain phenotypically and genetically superior seed progeny in the natural renewal of the forest;
- development and improvement of reliable protocols for testing seed germination and viability (Garcia de Santana et al., 2012; Ribeiro-Oliveira & Ranal, 2014);
- improvement of approaches to studying the problem of "seed dispersal" (Haurez et al., 2016) or "seed predation" (Conlisk et al., 2012) in interactions with fauna.

In the framework of the development of reliable protocols for the testing of forest seeds stands out the question of the inclusion in the protocols of the method of non-destructive quality control. The use of optical radiation for non-destructive diagnosis and analysis of forest seeds has been studied by many scientists (Dumont et al., 2015; Farhadi et al., 2015; Farhadi et al., 2017; Farhadi et al., 2016; Olesen et al., 2011; Rahman & Cho, 2016; Tigabu et al., 2005, A; Tigabu et al., 2005, B), came to the conclusion about the possibility of determining the indicators of viability and geographical location by the seed coat color. However, all these studies were carried out in the laboratory on stationary spectrometers.

Let us consider a possible scenario for the introduction of an innovative product to the market. At the initial stage, it is necessary to form a design center for forestry instrument-making, which has all the standard functions in combination with the ability to carry out sales operations. As an example of the project implementation by the design center, we will choose a device – a rapid analyzer of forest seeds.

The design of the device is based on the hypothesis of the breeding value of the color seed races according to L.F. Pravdin (Pravdin, 1960), which consists in significant differences in the morphology of chromosomes in the karyotypes of forest cultures of different geographical forms and varieties by the color of seeds.

## 3.2 Uniqueness

The uniqueness of the proposed device is to use to determine the quality indicators and counting the seeds of the same optical scheme with a microprocessor, in the compactness of the photodetector circuit due to the original layout of optical fibers and diffraction gratings. The device allows in the visible and near-infrared spectral ranges to solve the problem of determining the quality of seeds, realizing the inherent function of non-destructive quality control. In the design of the dosing and grading systems of the device, the principles of minimizing the injury of the seed material are laid down. In addition, the modular principle of formation of electronic systems of the device (Achkasov et al., 2012; Novikova, 2014) allows, if necessary, to upgrade it for solving research problems, and for use in forestry by the operator of secondary qualification.

### 3.3 Competitive advantages

Competitive advantages of an innovative product are: relatively low cost; the lower limit of which is due to foreign components; low power consumption, due to the mobile application; low energy consumption due to specific forest seed production; originality of technical solutions, due to preliminary patent research; low level of competition in the sectors of forestry.

### 3.4 Target consumer segments

Target market segments for the innovative product are represented by the following options: large pulp and paper and timber enterprises engaged in the development of cuttings of the main use; forest land tenants and representatives of small-scale forestry business, legally obliged to carry out reforestation; organizations subordinated to the state forestry structures of the countries. The volume of effective demand projected in 10-15 % of subventions of funding government and private sector firms to conduct forest rehabilitation works.

### 3.5 Strategy of innovative product promotion on the market

The project aims to develop a unique and quite complex of the device. Taking into account the relatively small team of the design center, the financial situation and some other internal factors affecting the choice of the distribution channel at the initial stage, it is advisable to choose a direct channel as the main channel.

Nevertheless, taking into account the potential of the selected market segment, the real achievable volume, the existing competition in the field of production and sales of high-tech optical separators, in the future we do not exclude the possibility of implementing an indirect distribution channel. In the latter case, we will focus on the search and selection of retailers and dealers specializing in the supply of forestry equipment. Obviously, the involvement of intermediaries will provide a more effective marketing of innovative products.

The strategy is a profitable value proposition that completely solves the problems that arise in the processing of seeds for reforestation in the location of the customer. The strategy is based on the analysis of problems of forest seed production in terms of pre-sowing seed treatment on the quality basis, the proposed technical solution.

To attract buyers, it is necessary to work out all the functions of the selected direct distribution channel. For example, for sales promotion will be used Internet resources and related promotional tools, various specialized conferences, exhibitions, advertising campaigns, etc.

The design center of forestry mechanization has extensive professional relations with representatives of forestry in the field of environmental monitoring of the Russian Federation, which will provide additional advertising for the analyzer. The choice as the target group of professionals will allow to realize if necessary the function of adaptation of goods.

Much attention should be paid to the organizational function, establishing and maintaining communication with potential buyers. The design center is ready to implement both a transactional sales model and a consulting one. It is necessary to analyze the efficiency of the selected distribution channel.

Depending on the source of revenue for the proposed project, it is advisable to choose a product business model, according to which the main source of revenue is a one-time sale of products to the consumer (income from one-time transactions) or Express processing of seeds at the customer's site. Another revenue stream may be revenue from maintenance payments (replacement of nodes in case of damage, replacement of depleted laser sources, etc.), as well as one-time or regular income in the form of percentages from sales of the analyzer (analyzer modules) and its use to obtain sound seeds, retailers and dealers in the case of choosing an indirect distribution channel.

## 4. Discussion

During the development of the rapid analyzer design project, the main risks of bringing an innovative product to the market were revealed.

a) *Risks of feasibility of the proposed scientific and technical approaches.*

During the technical analysis of the project, the following risks may occur: the lack of approved design and estimate documentation of the required quality (minimized by the implementation of all necessary procedures at the design stage with the involvement of highly qualified third-party specialists); the use of outdated product production technology (minimized by the use of advanced technological solutions based on nanotechnology); the use of unapproved and unreliable technologies (minimized by the results of the use of fundamentally similar, proven over many years of practice technologies in the field of forestry); the use of technologies that do not meet environmental and other norms and standards (minimized by environmental, genetic and biotechnological examinations carried out directly by employees of the design center and industry laboratories).

b) *Risks of non-receipt of the planned results (inexpediency of implementation of the proposed scientific and technical solution).*

The results of preliminary laboratory tests using university scientific centers for collective use, the results of spectrometric (Novikov & Saushkin, 2018) and biometric (Novikov, 2018) studies of reproductive material are minimized.

c) *Risks associated with the legal protection and use of the results of intellectual activity.*

The results of pre-project patent studies in countries with developed principles of forest management (Sweden, Finland, CIS, Brazil, Thailand, Australia, Spain, China, Japan) are minimized, showing a sufficiently low value of a balanced F-measure with a sufficiently high level of search accuracy.

d) *The risks of production.*

Are manifested in the form of volatility of the foreign exchange market and, as a consequence, the rise in the cost of electronic and optical components for products (minimized by the use of components of domestic production).

e) *Risks of entering the market of an innovative product created using the planned research results.*

Are manifested in the presence of restrictions for penetration into the target market:

- legal and regulatory changes in the form of forest management regulations (minimized by the presence of enshrined in the laws of many countries the provision that the failure of citizens, legal entities engaged in the use of forests, forestry regulations and forest development project in terms of forest reproduction is the basis for early termination of lease agreements of forest sites, contracts of sale of forest plantations, as well as for the forced termination of the right of permanent (indefinite) use of forest sites or the right of gratuitous use of forest sites);
- economic (minimized by the presence of annual government subventions and levies from the tenants of forest land for the purposes of reforestation).
- marketing in the form of re-evaluation of the sales market (minimized by conducting comprehensive marketing research at the design stage of research, taking into account direct and indirect sales, carrying out appropriate promotional activities).

f) *Environmental risk*

Are appeared in the form of a potentially existing possibility of causing damage to the environment through the accidental release of pollutants or unplanned pathological depletion of natural resources. Are minimized by: a clear prediction of the environmental consequences of the planned projects (environmental impact assessment of the project); development and implementation of environmentally friendly and resource-saving technologies (energy system of the analyzer excludes the use of internal combustion engines and can be based on batteries produced using environmentally friendly technologies, excludes injury to biological objects through the development of advanced technology of processing of reproductive material); incentives for enterprises that are environmentally friendly (participation in the events of the “Green Wave” convention on biological diversity, involving the planting of trees); administrative and legal deterrence of unscrupulous entrepreneurs-consumers of forest products (regulated by the law of the country); wide application of environmental education and promotion.

## 5. Conclusion

The global technology of production of forest seeds with the set qualitative signs and technical means for its realization shall provide allocation from it at the earliest stage of processing of the color seed races which are a basis for the subsequent grading on quantitative signs and receiving forest cultures with the improved genetic properties.

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# AN ANALYSIS OF THE SAFETY OF LEVEL CROSSINGS IN POLAND

Waldemar Nowakowski[1,a,*], Tomasz Ciszewski[2,b] and Zbigniew Łukasik[3,c]

[1]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[2]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[3]Kazimierz Pulaski University of Technology and Humanities in Radom, Faculty of Transport and Electrical Engineering, Malczewskiego 29, 26-600 Radom, Poland

[a]w.nowakowski@uthrad.pl, [b]t.ciszewski@uthrad.pl, [c]z.lukasik@uthrad.pl

*Corresponding author

**Abstract.** Intersections of railway tracks and public roads, called level crossings, belong to the most crucial places with regard to ensuring safety. Such a situation occurs not only in Poland, but also in other EU countries. That is why, there is ongoing work aimed at determining causes of accidents and methods leading to increasing traffic safety on the level crossings. These actions should ultimately reduce the number of occurring threats and accidents, thus improve safety. The authors of this article, on the basis on the law in effect today, have brought up the problem of the use of the level crossings in respect of ensuring safety. An analysis of accidents on the level crossings has been conducted, considering the up-to-date Level Crossing Protection Systems (LCPS). As a result of the analysis a series of actions improving safety has been proposed, among others: raising the category of level crossings and building new grade-separated junctions, education aiming at promoting safety culture in society, increasing the level of monitoring drivers' and pedestrians' behaviour on the level crossings, automatic accident notifications sent to competent authorities, introducing additional traffic signs informing about the level crossings. All this actions can make level crossings safer and help people use them correctly.

**Keywords:** railway safety, level crossings, occurring threats, safety culture.

**JEL Classification:** R41, R42, L92, L98

## 1. Introduction

One-level road-railway junctions are called level crossings, because of the crossing traffic they are treated as places especially dangerous (Gailiene et al., 2013), (Nedeliakova et al., 2014), (Nowakowski et al., 2017). The most important factors causing the occurrence of hazardous events on the level crossings are (UTK, 2017):

- not respecting the traffic law by road users,
- a lack of trust in the technical efficiency of safety devices (e.g. a long time of shutdown) and resulting from this attempts to bypass protections by drivers,
- work discipline of workers directly related to managing the railway traffic,
- turning on or off too early safety devices on a level crossing,

- insufficient visibility of the incoming train,
- incomplete and illegible marking of the vehicles.

That is why there have to be actions taken in order to increase the level of safety on the level crossings.

## 2. Ways of ensuring traffic safety on the level crossings in Poland

The level crossings in Poland can be divided into categories, each category is related to an appropriate level of technical equipment, which serves warning the road users about a hazard caused by an incoming train. Equipping vehicles with various types of safety devices influences the costs that need to be covered in order to implement and maintain them (Ciszewski & Nowakowski, 2017), (Ciszewski & Nowakowski, 2018), (Puz, 2013). In Poland, one distinguishes the following level crossing and pedestrian crossing categories (Mikulski & Młyńczak, 2011):

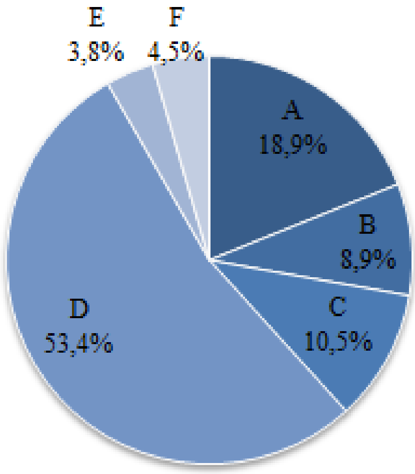
- Category A – level crossings on which the traffic is managed by:
  - licensed railway workers, holding necessary qualifications,
  - with the help of hand signals or crossing systems or devices equipped with barriers closing the whole road width;
- Category B - level crossings on which the road traffic is managed by level crossing protection systems, equipped with road traffic lights and barriers closing the road traffic in the direction of:
  - the entry of the level crossing or
  - the entry and exit of the level crossing;
- Category C – level crossings on which the traffic is managed by the level crossing protection systems equipped only with the road traffic lights;
- Category D – level crossings that are not equipped with systems nor traffic safety devices;
- Category E – level crossings equipped with:
  - crossing systems or
  - barriers or labyrinths;
- Category F – level crossings or pedestrian crossings located on internal roads, equipped with barriers permanently closed, opened when needed by the users.

The level crossing category depends mostly on the maximum speed of trains on a given railway line and on the road and railway traffic volume. Researches concerning the traffic volume are conducted in Poland in specific periods of time (between 1 and 5 years).

## 3. Issues concerning the safety devices operation on the level crossings in Poland

According to the state dated end of 2016, in Poland there were 13.188 level and pedestrian crossings operating (Fig. 1). The biggest group consisted of the category D level crossings with the amount of 7.047 (53,4% of all level crossings). The second biggest vehicle category were category A level crossings - 2.491 (18,9% of all level crossings), and the third biggest category was category C - 1.380 (10,5% of all level crossings). The number of the category B level crossings was 1.169 (8,9% of all level crossings), whereas the number of the category F level crossings was 594 (4,5% of all level crossings). There were 507 category E pedestrian crossings, which consisted 3,8% of the total number. The amount of the level crossings and pedestrian crossing has been reduced by 196 pcs comparing to last year.

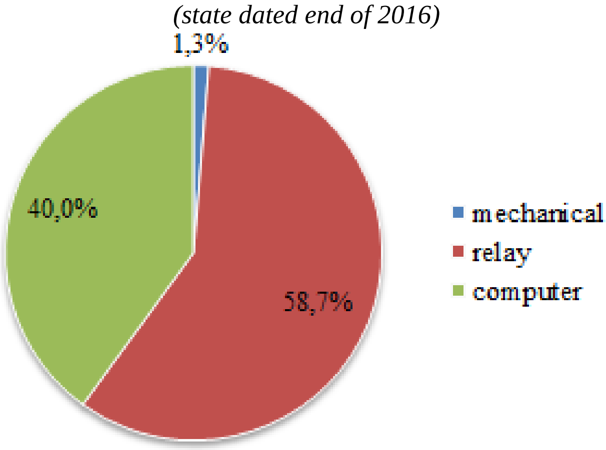
*Figure 1: The equipment structure of the level crossings in Poland for various categories (state dated end of 2016)*




*Source: own preparation based on (UTK, 2017)*

Traffic safety devices on the level crossings are made with the help of many technologies, starting from the oldest mechanical ones, ending on computer ones (Fig. 2). There are ongoing works which aim at improving equipment of the level crossing in Poland, taking into consideration new technologies, in comply with the European standards in this field.

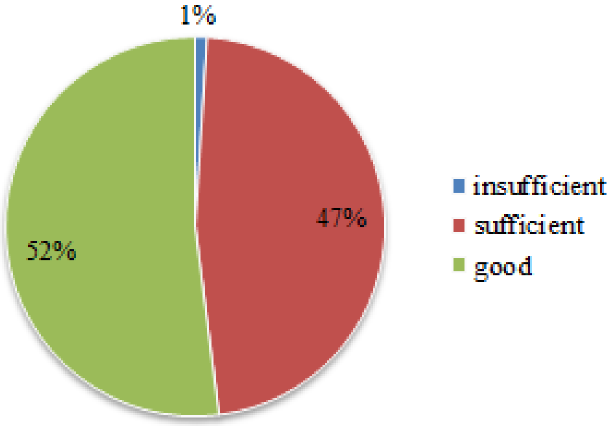
*Figure 2: The equipment structure of the level crossings in Poland considering technologies (state dated end of 2016)*




*Source: own preparation based on (Kuziemski, 2017)*

Additionally, operational processes force the necessity to ensure the traffic safety devices efficiency on the level crossings (Fig. 3).

*Figure 3: Technical status of the traffic safety devices on the level crossings in Poland (state dated end of 2016)*

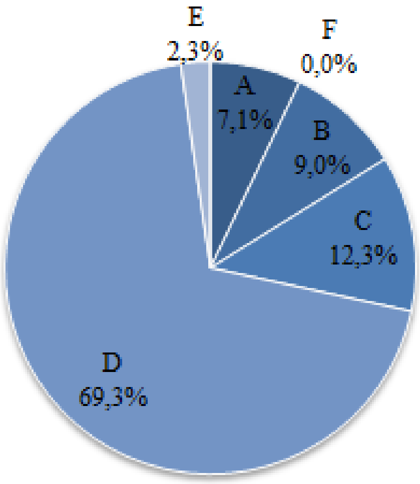



*Source: own preparation based on (Kuziemski, 2017)*

## 4. An analysis of accidents on the level crossings in Poland

Accidents that take place on the level crossings constitute a significant part of the total number of all accidents. For example, in 2016 it was 36,5% of the total amount. Additionally, one needs to consider the fact that these accidents pose a threat to life and health, safety of cargo transported in road and rail vehicles and may generate social costs caused by breaks and traffic restrictions. In 2016, as a result of the level crossing accidents 48 people died and 39 people were severely injured (UTK, 2017). Delays caused as a result of failures of devices on the level crossings caused delays of heavy haul trains - 13.496 minutes in total and 35.305 minutes in case of the passenger trains (Kuziemski, 2017). From the total amount of events, almost 70% of accidents happened on the level crossings not equipped with the level crossing protection systems. The accurate percentage share of accidents considering the category of the level and pedestrian crossings have been presented in the Fig. 4.

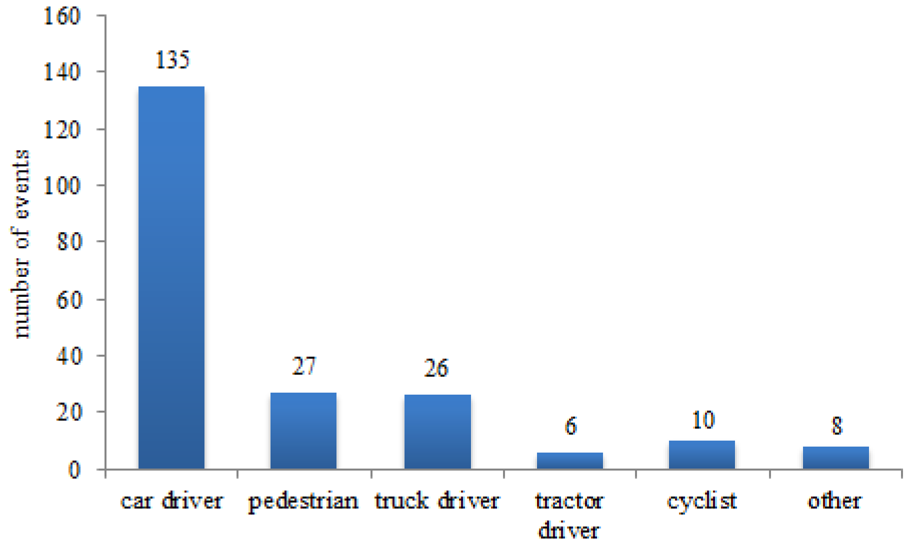
*Figure 4: The percentage share of accidents on the level and pedestrian crossings divided into categories (state dated end of 2016)*




*Source: own preparation based on (UTK, 2017)*

Figure 5 presents the structure of given groups of users and ascribed to them number of events that occurred in Poland in 2016 on the level and pedestrian crossings.

*Figure 5: Road users taking part in events on the level and pedestrian crossings (state dated end of 2016)*




*Source: own preparation based on (UTK, 2017)*

The largest group of road users participating in accidents constitute car drivers - 63,7%, then pedestrians - 12,7% and truck drivers - 12,3%, tractor driver, cyclist and others - 11,3%.

## 5. Methods of improving safety on the level crossings

A basic tendency, compliant with the EU trend where it comes to improving railway safety is introducing grade-separated junctions or raising the vehicle category (Vilotijevic et al., 2018). Such trend is characteristic for the developed railway systems and thus should be chosen by the railway in Poland. Contemporary law does not help solving the problem because it obliges the railway infrastructure administrator to maintain a proper technical condition of the level crossing. This rule does not take into account the fact that the accident problem on the level crossings is a common problem of the railway and road transport systems. Law changes are necessary as they would allow to use financial resources of the public road administrator in maintaining and modernizing level crossings (Ben Aoun et al., 2010). Issues related to this concern the part of railway infrastructure administrators when creating local spatial management plans. It might influence the integrity of various means of public transport and taking into account building or modernization of the level crossings when on the planning stage.

Another important activity connected to improving safety on the level crossings is a broadly defined education aimed at raising culture safety of the society. Polish national events promoting safe behaviour of the people on the level crossings are of great importance. Nevertheless, it is obligatory to broaden the education on children and teenagers through introducing safety issues on the level crossings in the core curriculum. Because of the fact that road users are the main source of accidents on the level crossings, an emphasis should be put on this problem in training centres for drivers.

A very interesting solution may be increasing the level of monitoring drivers' behaviour on the level crossings, sending automated accidents notifications to the appropriate services, or using extra road markings informing about the level crossings (Bester & Toruń, 2014), (Hoic & Vlasic, 2014), (Lewiński & Perzyński, 2010). Modern safety systems of the level crossings allow constant monitoring of the drivers and registering offences (Ku, 2010), (Salmane et al., 2015). The awareness of the inevitability of penalty will discourage the drivers to break the traffic law. Also, it would be important to introduce automated accident notifications sent to the services because it is a key factor where it comes to saving lives of people injured in an accident.

## 6. Conclusion

One-level road-railway junctions called the level crossings are the source of hazard for life and health of people and cargo transported in the road and rail vehicles. In order to ensure the right safety level of the level crossing users, these places are equipped with different safety devices which serve warning road users about dangers resulting from an incoming train. Nevertheless, level crossing accidents consist a vast percentage of the total number of all accidents. Hazardous events on the level crossings usually arise due to the improper behaviour of the road users, but also because of failures of safety devices or errors committed by the railway staff. The easiest solution to improve safety would be to separate traffic by re-building the level crossings into grade-separated junctions. Often it is impossible because of the high costs or the lack of space. In this article a series of actions aimed at improving safety has been mentioned, e.g.: education where it comes to promoting the safety culture among the society, increasing the level of monitoring the behaviour of drivers on the level crossings, automated notifications forwarded to the right services, introducing additional road markings informing about the level crossings.

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# LEGAL OPPORTUNITIES FOR THE DEVELOPMENT OF SOCIAL ENTERPRISES HUMAN POTENTIAL IN BULGARIA

Petar Parvanov[1,a], Vladislav Krastev[2,b], Irina Atanasova[3,c,*]

[1]South-West University, Faculty of Economics, Department of Economics, Bulgaria

[2]South-West University, Faculty of Economics, Department of Economics, Bulgaria

[3]South-West University, Faculty of Economics, Department of Economics, Bulgaria

[a]petarparvanov@gmail.com, [b]vladislav_swu@law.swu.bg, [c]irina_atanasova@yahoo.com

*Corresponding author

**Abstract.** The social economy of Bulgaria is becoming more and more important for the economic development of the country. The legal regulation of the opportunities for the development of the social enterprises human potential is of utmost importance for their stable economic functioning. However, there is no unified legal framework in Bulgaria concerning the possibilities for the development of the social enterprises human potential; although in this respect the Bulgarian legislation will be gradually synchronized with the European one. Social enterprises are a compensation mechanism in terms of limited resources to resolve a number of social problems of the state. However, it is necessary to adopt a special law on the social entrepreneurship and a number of regulations, as it is the practice in the other European countries. In this way, conditions for the institutions will be created to perform effectively, the energy of the civil society, the state and the businesses will be mobilized, which will lead to the increase of the social capital in society. The paper provides a comparative analysis of the current Bulgarian and European legislation opportunities for the development of the human potential in the context of the social economy.

**Keywords:** social economy, social enterprises, human potential, legal opportunities.

**JEL Classification:** L31, J24

## 1. Introduction

The social economy of Bulgaria is becoming more and more important for the country's economic development. Social enterprises are a compensation mechanism in terms of limited resources to resolve a number of social problems of the state. Social entrepreneurs create value- they provide goods and services that are neither supplied on the market nor addressed by the government. Some of the value that social entrepreneurs create is therefore not incorporated in market transactions directly: instead their objective is to generate positive external effects for the community from their activities (Estrin et al., 2016). North (1990) stresses the importance of market supporting institutions for economic performance, and since then, institutional economists have highlighted the rule of law as the fundamental aspect of institutions (Acemoglu & Johnson, 2005). Analyzing human capital in relation to social entrepreneurship highlights a broader insight, namely the need to acknowledge heterogeneity among entrepreneurs, their preferences, and the varying returns they seek - when investigating the effects of human capital

## 2. Human capital and human potential

The variety of approaches in the economic sphere leads to the diversity of interpretation and understanding of the main economic concepts, including the concept of „capital“. According to F. Brodel, „**The word capital** (from caput – „head“ in Latin) appears in the XII - XIII century and means property, accumulation of goods and money or money that bring profit“ ( Brodel, 2003). This concept has gradually evolved into economic thought over the centuries as the term „capital“ consists of more and more new meanings that include land, money, means of production, etc. However „Capital“ does not lose its fundamental meaning this must be means (in every sense of the word) that give additional (surplus) value to the owner of the capital (Kyoseva, 2009). The expanding view of the concept „capital” leads to the differentiation of different types of capital within an income-generating resource. There is an economic capital that originates directly from economic activity; social capital, insofar as economic activities create a common good for all possible consumers, networks, relationships, and so on; human capital, which belongs to the personality, but it flows into the social capital of the community from which the individual is a part. In this sense, the personality itself has human capital that has a potential for development. As one of the main researchers of social capital states, "By analogy with the notion of material capital and human capital - means and qualifications that increase individual productivity, the notion of „social capital“ characterizes those aspects of social organization - networks, norms and social trust – which facilitate the coordination and the mutually beneficial cooperation“ (Putnam, 1995). Social capital is therefore defined as a public good (good for all). It is all that is public. Among other major researchers of social capital, are: P. Bourdieu and D. Coleman. Marc Grannoter states that economic behavior is a social structure (Nedelchev, 2004). As it became clear, **human capital** is the sum of the knowledge and the skills of an individual, that are formed and developed during their life, nevertheless if they are acquired in a formal or informal way. Through the application of their human capital, very individual contributes to the formation of the social capital. Among the main researchers of human capital and its theory, which in the recent years is considered to be one of the main factors of economic activity, are Jacob Mincer, Gary Becker, Theodor Schultz, Robert Gibson. However it should be considered that the development of **human potential** is cumulative depending on the accumulated development of human personality; all that the individual has acquired as knowledge, skills and competences in their personal and professional way, which is viewed as human capital, as well as the environment in which they develop, since every individual is limited by their habits and their actions. A certain individual may or may not develop their human potential (Poniciakova & Gogolova, 2015) at a given employment as their development may be positive or negative, as well as complete or partial (Zahariev, 2011).

## 3. Social Enterprise as a concept. Legal Frameworks for the establishment and operation for Social Enterprises (SE)

As it is used in the academic literature, the term **social entrepreneurship** covers a broad range of activities and initiatives that fall along a continuum, including more generally speaking non-conventional entrepreneurial initiatives (Galera & Borzaga, 2009). Such initiatives can be undertaken by individuals, non-profit organizations, public agencies or non-profit organizations in partnership with for-profit enterprises in an attempt to balance corporate profit with a commitment to social responsibility. Social enterprises are a relatively new and expanding field of study.

There is a large number of definitions for social enterprises, which are sometimes conflicting. The comparative reviews of various definitions identify different schools of thought, most of which agree on the broad definition of social enterprises: Social enterprises could be private for-profit, non-profit and hybrid organizations with a social mission that use business approaches to achieve their objectives. The report of the International Centre of Research and Information on the Public, Social and Cooperative Economy (CIRIEC) indicates that the status of the social economy and the social enterprises are legally defined in a number of countries in the EU. More than two thirds of the EU states have adopted laws on the legal regulation of these processes. The different countries have various definitions for the social enterprises, which may vary and they exist in various forms -private companies, cooperatives, associations, voluntary organizations, charity organizations, etc.

A precise definition of the social enterprise, shared at an EU level, does not exist yet. In Europe the concept made its first appearance in the early 1990s. A social enterprise definition was developed by the British government in July 2002 (DTI (2002). Social Enterprise). According to this definition: „A social enterprise is a business with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or in the community, rather than being driven by **the need to maximize profit for shareholders and owners“.**

Social enterprises can theoretically select any of the legal forms provided for by law in its country of operation and use any flexibility that is provided in the law to adapt the legal form to its social or environmental mission. The legal form chosen is irrelevant to the status of social enterprise: what matters is that as structured, the entity fulfills the components for social enterprise that are generally accepted in its particular country of operation (Triponel & Agapitova, 2017).

**In the United States** social enterprises can take various legal forms, including sole proprietorship, corporation, partnerships, limited liability company, non-profit and for profit organization. Noteworthy is that no new legal frameworks have been introduced in the last 50 years to regulate the growing business activities of service-producing nonprofit organizations (Kerlin, 2006). By contrast, **in Europe** the policy and legal context appears to be much more conducive to the development of social enterprises as welfare actors, given also the more institutionalized nature of the phenomenon dealt with. Legal frameworks reflect the specific legal tradition, welfare regime model, and main social and economic issues dealt with at national level; Many operate in the form of social cooperatives, some are registered as private companies limited by guarantee, some are mutual, and a lot of them are no-profit-distributing organizations like provident societies, associations, voluntary organizations, charities or foundations. The existing models of the social enterprise **in the EU member** states are based on the following basic approaches for the legal regulation of their activity (Atanasova, 2017): **countries, which have a separate legal framework** of the social enterprise (a separate law) /Lithuania, Finland/; **countries, which do not have s special law** and a requirement for a specific organizational form for a social enterprise, but they have a certain type of legal entity, performing social entrepreneurship activity. The legislation of the above mentioned countries provides number of promotional measures for their activity/ Italy-social cooperatives, Portugal-social cooperatives for mutual assistance, Greece-social cooperatives with limited liability/; **countries** in which for the purposes of the social enterprise, **a new type of legal entity is created** /England, France/; **countries** in which there is no obstacle social entrepreneurship to develop under different legal forms, provided that these carry out business with social objectives /Germany, Sweden, Belgium/. The countries in Central and Eastern Europe are missing/ with the exception of Lithuania and Poland/ special regulations of the social entrepreneurship.

**In Bulgaria** social entrepreneurship solves one of the most difficult and serious social problems. It develops new social models of active social assistance, includes isolated economic and social groups in society. The social enterprises in Bulgaria are still unused business model. Currently the social enterprises are mainly non-governmental organizations registered in accordance with: the Bulgarian Law on the non-profit entities as non-government organizations with private or public benefits or foundations; the Commercial Law; the Law on cooperatives; the Law for the crafts. Their activities are in different sectors with various subject of activity: delivery of social services, provision of employment of people with disabilities, mediation in finding work of unemployed individuals, provision of health services, activities in the field of education and other. In the realization of these activities, the main objective is not the production, but the achievement of a particular social effect for the individuals themselves. The legal status of the registered social enterprises in Bulgaria, according to the Bulgarian National Statistical Institute in 2015 is: associations - 7%, Limited liability companies - 4%, non-government entities - 16%, cooperatives-15%, non-profit entities - 8%, foundations - 24%, foundations with public useful activities - 9%.

*Table 1: Social enterprises in Bulgaria*

| **Legal statute and registration** | **Participation in the economic activity** | **Social aim for public interest** | **Distribution of profits** | **Restrictions at the distribution of profits** | **Freezing of assets** | **Autonomy/organizational independence** | **Incorporated management** | **Average number** |
|---|---|---|---|---|---|---|---|---|
| **BULGARIA** | | | | | | | | |
| **Non-profit entities** | some | yes | yes | Yes-by presumption | Not defined | Autonomous | Encouraged but not required | 36000 (2013) |
| **Compnies, owned by non-profit entities** | yes | yes | yes | Yes | Not defined | Fully owned subsidiary | Encouraged but not required | 85 (2013) |
| **Labor productivity cooperatives** | yes | yes | Yes - except for the agricultural cooperatives | The levels are defined in the contract | The levels are defined in a cooperative agreement | Not defined | Autonomous | 251, including 30 specialized cooperatives for people with |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | disabilities (2013) |
| **Specialized enterprises and cooperatives of people with disabilities** | yes | yes | yes | The levels are defined in the contract | Not defined | Autonomous | Yes-restricted to members | 125 |

*Source: The data is provided by the Bulgarian national statistical institute, www.nsi.bg*

Due to the high rates of social entrepreneurship development in the Republic of Bulgaria, the issue concerning the social enterprise becomes more and more tangible. The Bulgarian legislator also takes the appropriate action to resolve this problem by setting criteria that each company/enterprise should cover in order to be a social one. The social enterprises seek to serve and protect the interest of the society by assisting primarily its most vulnerable members. The Bulgarian law states that a social enterprise is „a business activity, developed by a non-profit legal entity with a pronounced social effect on individuals from vulnerable groups in order to improve their standard of living, provide employment, services and / or other forms of support, so they can overcome their social exclusion"(Petrova et al., 2002). According to the Bulgarian law, „social enterprise" is defined as a social economy operator, whose primary objective is to achieve a measurable social impact rather than generating profits in favor of owners or shareholders. For example, in the case of distribution of profits between shareholders and owners, a social enterprise must have put in place predetermined procedures and rules for such distribution, so not to affect the achievement of its primary objective. An enterprise can also be defined as „social' when more than 50% of its profits are invested in achieving social goals such as helping socially vulnerable groups and / or isolated individuals; environment protection; social innovation activities and others. An enterprise can be defined as social when 30% or more of the staff are employed because of they belong to a socially vulnerable group. Currently, the „Law on Enterprises of the Social and Solidarity Economy" is being drafted by the Ministry of Labor and Social Policy. The aim of this law is to „create a legal environment to facilitate the functioning of the social economy subjects (Kicheva, 2017) and to legitimize the role and functions of the social enterprise as a new subject within the social economy". The development and adoption of such a law is vital for individuals from vulnerable groups because it will facilitate their inclusion in the social enterprises and their subsequent realization in the labor market. These are individuals under 29 and over 55, disabled people, parents of children with disabilities, refugees (Parnavov et al. 2017), homeless, dependent, prisoners and victims of domestic violence. Last but not least, it is worth mentioning the preparation of a single „Register of Social Enterprises" as it is difficult to establish exactly what the number of social enterprises in Bulgaria is, but according to an unofficial data their number is about 4700.

## 4. Possibilities for the development of the human potential

Presently, in the European Union, as well as in the Republic of Bulgaria due to the demographic crisis and the aging population, the labor market is starting to experience increasing difficulties in finding highly specialized workers. This negative trend is particularly evident concerning the Bulgarian labor market. The increasingly aging population and the growing migration of young people beyond the borders of our country make employers face the global problem with the shortage of a qualified staff. There is an opportunity to integrate socially vulnerable groups and individuals in isolation. It is widely believed that these people are incapable of caring for themselves, and they do not contribute to the development of our society. It is this preliminary attitude towards socially vulnerable groups and individuals in isolation, which is one of the main prerequisites for their exclusion from the labor market. However they constitute a relatively large percentage of our society and are human capital that should not continue to be neglected. The social enterprise can provide an appropriate environment for the realization of their human potential, but financial incentives for the state and society as a whole are also needed for this purpose. According to the Report - social enterprises in Bulgaria, established under the Operational Program "Human Resources Development" - the main purpose of the social enterprise is to have a significant social effect on individuals from vulnerable groups. The main purpose of such legal entities is to improve the standard of living of vulnerable groups by giving them employment and moral support. Part of the concept of „smart, sustainable and inclusive growth“ is namely the development of more jobs and improved living standards, including greater efforts to integrate vulnerable groups into the labor market, as stated in the The EU 2020 Strategy for Smart, Sustainable and Inclusive Growth. The social enterprise with its specificities is an appropriate means for its realization. It is explicitly stated in the Europe 2020 Strategy that social enterprises will play an important role in achieving smart, sustainable and inclusive growth, with a focus on human and social cohesion. The social enterprise provides suitable conditions for the professional integration of individuals from vulnerable groups in the social economy. The main activity of social enterprises is related to the provision of social, health and educational services (Krastev & Krasteva, 2017). The main objectives for these entities are to provide psychological support and motivation (Moravčíková, 2015), as well as social and professional integration of individuals from vulnerable groups. In this regard, the sustainable realization of these individuals on the labor market and the utilization of their human potential requires the provision of quality education (Batalov et al., 2012) services and an appropriate working environment. Vocational training, directly related to the workplace, which is carried out in accordance with the requirements of the Law on Professional Education and Training Such training, according to Art. 20 and Art. 21 of the this law, may be carried out by vocational training centers providing vocational training to persons over 16 years of age and information and vocational guidance centers. The Vocational Training License or the Vocational Guidance License is issued by the National Agency for Vocational Education and Training. The possibility of training, qualification and re-qualification of the employees in social enterprises is provided in the **draft „Law on Enterprises of the Social and Solidarity Economy”**.

## 5. Conclusion

The legal regulation for the opportunities for the development of the social enterprises' human potential is of utmost importance for their stable economic functioning. One of the main unsolved issues remains the fragmented and the incomplete legal framework for the social enterprises. The adoption of a special law and a system of regulations is necessary to form the institutional framework of the social entrepreneurship. It is of high importance, as well to codify and promote best practices. It is necessary and of crucial importance to coordinate the efforts of the state, the non-government entities, the civil entities, the representatives of the private sector, and the representatives from the academic community, who are relevant to the multiplication of social capital in society. In this way, conditions will be created for the institutions to perform effectively; the energy of the civil society, the state and the businesses will be mobilized, which will lead to the increase of the social capital in society.

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# IMPACT OF GLOBALIZATION ON THE STRUCTURE OF ACCOMMODATION CAPACITIES IN THE BORDER AREA OF THE FORMER SUDETENLAND

Karolína Pavlů[1,a,*], Sylvie Kotíková[2,b]

[1] Technical University of Liberec, Faculty of Economics, Department of Marketing and Trade, Studentská 1402/2, 461 17 Liberec 1, Czech Republic

[2] Technical University of Liberec, Faculty of Economics, Department of Economics, Studentská 1402/2, 461 17 Liberec 1, Czech Republic

[a]karolina.pavlu@tul.cz, [b]sylvie.kotikova@tul.cz

*Corresponding author

**Abstract.** This article focuses on the tourism of the Liberec region and the identification of the changes in tourism of the region over the last six years. The researched region is former Sudetenland border region, on which the impact of globalization forces on the position of the negatively historically defined territory within the tourism industry will be demonstrated. The aim of the article is to define the structure of the influx of visitors to the region as well as relation between national structure and the development of the types of accommodation. Based on data from the Czech Statistical Office and the CzechTourism, the Index of the Internationalization of Tourism in the region was quantified. That illustrated an increasing proportion of foreign tourists to the total number of visitors of the region. Simultaneously, it was found, that there is a relationship between the influx of French tourists and the development of accommodation in the two-star category. The research discovered preferences of Slovak, Polish and German tourists to choose accommodation providing higher standards of service. Interestingly, tourists from the Netherlands, generally preferring campsites, are almost not searching for this at all, which may indicate an inadequate level of this accommodation. This article also deals with the amount of travel expenses for two selected national tourist groups of Germans and Poles. Both groups spend an identical proportion (28%) of their accommodation expenditure, which corresponds to the finding of a preference to accommodation type in the region.

**Keywords:** border regions, globalization, internationalization, tourism.

**JEL Classification:** Z3, F5, F6

## 1. Introduction

Tourism has become a very dynamic sector in recent years, which deserves attention. This is an important factor in the internationalization of the regions, which, thanks to globalization forces and general trends of deregulation, is becoming more important. Worldwide tourism is becoming a special sector of economics for its undeniable impact on economic growth (Tomic et al, 2012). From the point of view of global competitiveness, where a plethora of products and destinations are offered, each region, in addition to natural and cultural preconditions and good infrastructure, must increasingly offer a combination of better quality services in order to gain a competitive advantage (Huo, 2017). Globalization as a process has a strong influence on the development of tourism, but it also applies the other way around. Along with the development of tourism in the world, new tourist destinations are emerging in recent decades. Nevertheless, competition among tourist destinations is no longer geographically limited as it has been in the past, but happens globally (Duernecker & Vega-Redondo, 2017). Border regions are areas of special interest for all countries. One reason is the reduction of regional disparities of the core-periphery type, where economically strong regions have a central location, and peripheral rural areas in the economic indicators behind them are lagging behind more or less (Hewlett & Brown, 2018). This thesis can be appropriately implied in the analyzed Czech Republic, where 38.1% of the tourism goes to Prague and Central Bohemia and the remaining 62% can be divided among other regions, while it reaches 4.7% in Liberec (CzechTourism, 2018). In these border regions, socio-economic processes are affected by additional factors, such as national borders, socio-economic and ethno-cultural influences of neighbouring countries. Border regions have considerable potential for development in many areas especially true for tourism as a rapidly growing industrial sector (Badulescu & Badulescu, 2017). The relationship between national borders and the development of tourism is complex, as borders affect tourism in many ways, especially in terms of their openness (Stoffelen, 2017). Physical boundary may be a hindrance to tourist flows or can be overlooked almost without notice. Border permeability and barrier effects caused by borders, such as the movement of persons and goods, directly affect tourism flows and the development and distribution of tourist infrastructures in the border regions (Antošová et al., 2017). Space permeability, political situations and socio-cultural cohesion also influence the potential for cross-border partnership and development. Cross-border areas are affected by their cross-border visitors. In the case of the analyzed region mainly Polish and German visitors that stay mostly shortly. The main themes include shopping, visiting natural and cultural monuments, visiting relatives and acquaintances. The Liberec region is adjacent to the territory of the Republic of Poland and also to the Free State of Saxony, all together representing a border zone region. Border regions should be the focus of economic policy, because it is a territory with high influence of neighbouring states including ethno-cultural influences. These areas have considerable potential for tourism (Rio at al., 2017). Antošová (2016) also defines Liberec as a region on a mountain landscape and rural landscape with favourable and average perceptions in the Czech Republic. Furthermore, this region is called Rich Sudetes, and this definition is based on the original ethnic boundary extension of the original German population in the settlement zone along the northwestern and northeastern Czech border (Vaishar at al., 2017). According to the National Strategic Plan, Czech rural border areas are defined as areas with a low dynamic growth, which is also confirmed by classification of Rich and Poor Sudetes: There exist historically developed regions on both sides of the borders that can be defined as marginal, economically underdeveloped, barely accessible by different means of transport and also sparsely populated (Bushel et al.)

## 2. Metodology

The purpose of the contribution is identification of the changes in tourism of the region over the last six years, based on data from the Czech Statistical Office (2018) and the CzechTourism agency (2018). The aim of the article is to define the structure of the influx of visitors to the region as well as relation between national structure and the development of the types of accommodation. Based on the obtained data, there will be identified links between the development of accommodation capacities and the number of tourists divided by national composition via the interdependence determination method. Using the correlation analysis method, the value of the correlation coefficient *r* will be determined. That indicates the strength of interdependence between the aforementioned indicators, as shown below.

$$r = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2}} \qquad (1)$$

*X* stands for the amount of accommodation facilities and *Y* is number of non-residential tourist by country. Another indicator interpreting the structure of the influx of visitors to the region is constructed indicator of internationalization of tourism (*INT)*. It is calculated as the ratio of the number of foreign to total amount tourists. Domestic and foreign tourists are included in the total number of tourists. See equation (2)

$$\text{INT} = \frac{FT}{TT} \qquad (2)$$

*FT* is the number of foreign tourists and *TT* shows the value of the total number of tourists in the region. Consequently, a comparative method is used to compare the consumer behaviour of two major source markets - Polish and German tourists on the territory of the Liberec region.

## 3. Tourism infrastructure in the Liberec region

Tourism infrastructure is referred to as all material and technical facilities created by the state and tourism organizations in order to exploit tourism potential, including the hotel and house systems, goods, amusement and recreation parks, transportation vehicles, architectural works, etc. Tourism infrastructure is one of the important factors to attract tourists to a country or a tourist destination services (Long & Nguyen, 2018). It also includes building facilities, which exist only because of tourism activities. The structure of accommodation in Liberec region is disclosed in table 1.

*Table 1: Number of accommodation capacities by category*

| | **Beds/year** | | | | | |
|---|---|---|---|---|---|---|
| **Accommodation type** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** |
| Hotel, motel, botel 4x | 2232 | 2353 | 2318 | 2728 | 2896 | 2856 |
| Hotel, motel, botel 3x | 8056 | 7869 | 7726 | 8180 | 8011 | 7481 |
| Hotel, motel, botel 2x | 1401 | 1375 | 1232 | 1137 | 1135 | 1053 |
| Hotel, motel, botel 1x | 731 | 727 | 623 | 796 | 731 | 728 |
| Guesthouse | 12842 | 12373 | 10711 | 11430 | 11798 | 11478 |
| Camp | 1742 | 1751 | 1939 | 1813 | 1862 | 1959 |
| Cottage settlement | 4560 | 4776 | 4608 | 4316 | 4510 | 4376 |
| Tourist hostel | 2738 | 2816 | 2601 | 2420 | 2415 | 2452 |
| Other accommodation | 11990 | 11675 | 10693 | 10673 | 10056 | 9456 |
| Total | 46441 | 45863 | 42607 | 43651 | 43560 | 41782 |

*Source: own processing based on CSO (2018)*

In the Liberec region there is no accommodation facility of the highest five-star category. This corresponds to the general trend of tourism in the border regions that there is no need for this type of accommodation capacity due to local demand. The highest possible type of accommodation capacity is in a four-star category. On the basis of used data, the growth of this type of accommodation capacity was observed, with the exception in 2014, when there has been a significant decline in these capacities. This decline was followed by a sharp increase in capacity, which has ever-increasing tendencies. On the contrary, accommodation capacities in the three-star category recorded a decrease of 8% in the monitored years. Almost identical number of accommodation facilities in one star category is interesting. Camps can see a steep decline in 2012-2015, but this type of accommodation has been steadily growing over the past two years.

The number of tourists in the Liberec region has increased by 24% in the last five years. The largest increase of tourists was recorded in 2015. In comparison to 2014, the Liberec region visited 120658 more tourists. The number of domestic tourists visibly exceeds the number of foreign tourists. However, while researching index of internationalization of the region, which was the purpose of research of this paper, proved increasing proportion of foreign tourists to the total number of visitors of the region. Measurement of internationalization has become important in recent years with regard to the topic of globalization under discussion. Several methods and approaches are used to measure internationalization (Dororrenbacher, 2000).

In most cases, internationalization measurements are applied to manufacturing companies. In this case, the principle of measurement was focused on economic subjects in tourism, respectively businesses providing accommodation services in the region. Internationalization in the Liberec region between 2012 and 2017 shows a rising trend until 2016, with a fall in 2017, see Table 2.

*Table 2: Number of guests in accommodation facilities and INT*

| **year** | **total guests** | **residents** | **non- residents** | ***INT*** |
|---|---|---|---|---|
| 2012 | 753932 | 583505 | 170427 | 3,42 |
| 2013 | 752732 | 592863 | 159869 | 3,71 |
| 2014 | 700144 | 556774 | 143370 | 3,88 |
| 2015 | 820802 | 655249 | 165553 | 3,96 |
| 2016 | 863520 | 691027 | 172493 | 4,00 |
| 2017 | 935566 | 739491 | 196075 | 3,77 |

*Source: own processing based on CSO (2018)*

Liberec region is most visited by tourists from neighbouring countries - Poland and Germany. The number of tourists from Germany reached nearly 100 thousand in 2017, while only less than 35,000 Polish tourists in the same year. Both markets are predicted to grow further (CzechTourism, 2018). Another major source market is tourists from Holland, even though their number has fallen by 10% over the last five years. Similarly Russian tourists' numbers are decreasing. The growth is registered by tourists from Slovakia with increase of 37% since 2012. The largest drops in the number of foreign tourists in Liberec region were recorded in 2014 and 2015 as shown in the table 2. In the interregional comparison, this fact points even more to the increase of regional disparities between the peripheral Liberec region and other parts of the republic. Because in this period there was a 5.3% increase in the volume of tourism in the Czech Republic (CSO, 2018)

*Table 3: Number of non – residents by count*

| Country | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|
| Belgium | 2528 | 2244 | 2607 | 2725 | 2317 | 2141 |
| Denmark | 4477 | 4474 | 4474 | 3598 | 2947 | 2976 |
| France | 2697 | 2369 | 2369 | 1807 | 1816 | 1851 |
| Italy | 2635 | 2479 | 1742 | 1643 | 1782 | 1837 |
| Germany | 84852 | 78477 | 72550 | 84068 | 90391 | 96592 |
| Holland | 11048 | 10313 | 9360 | 11326 | 9255 | 9981 |
| Poland | 20853 | 20412 | 19082 | 24744 | 27886 | 34142 |
| Austria | 2544 | 2510 | 3573 | 2136 | 2366 | 2604 |
| Russia | 5026 | 4952 | 3117 | 3385 | 2480 | 2841 |
| Slovakia | 8425 | 8174 | 7614 | 8832 | 10474 | 11508 |

*Source: own processing based on CSO*

Observing a correlation analysis of two indicators - number of tourists by country and number of accommodation capacities, interesting links to the development of the number of accommodation capacities were discovered. This method discovered preferences of Slovak, Polish and German tourists to choose accommodation providing higher standards of service. The correlation coefficient in the context of Poles and the accommodation in the three-star category signals a strong dependence (0,84) and for the four-star category almost 100% dependence (0,96). The same applies to Slovak tourists, which reached values of 0,78 (three-star category) and 0,98 for a four-star category. For German tourists, the value of the three stars is 0,70 and again correlation index shows very strong dependence on the four-star category (0,91). Another coefficient shows that tourists from the Holland, which generally prefer campsites, are almost not searching for this area at all (the correlation coefficient reached -0,48). This might indicate an inadequate level of this type of accommodation. Simultaneously it was found that there is a significant relationship between the influx of French tourists and the development of accommodation in the two-star category in the Liberec region, when the correlation coefficient value reached 0,6.

Polish and German tourists are significant visitors to the region. The region should focus on them because they are from neighbouring countries and these segments have an advantage in the transport accessibility of the region. The number of Polish tourists in the territory of the Liberec region increased in 2017, compared to 23,1% with 34323 tourists compared with 2016 and the assumption is that this number will increase further. Polish tourists spend on average 3,70 days in the region, the average daily cost per person is 1439 CZK. Most (41,6%) of this amount is issued for transport and by half less (27,2%) is issued by Polish tourists for accommodation. Accommodation is preferred in three-star hotels, four-star hotels or boarding houses with breakfast. These types of accommodation seek 57, 4% of Polish tourists. Most Polish tourists arriving into the Liberec region are aged 60 and over (8,1%), in the other age groups it is the same 3%. The most common reason to visit is the proximity of the region, financial accessibility, culture, gastronomy and easy communication (CzechTourism, 2018).

Most stays are organized individually (83,5%) and the main reasons for the visits are:

- recreation, leisure, vacation – 32,6%
- visiting relatives and acquaintances – 27,2%
- business trip – 21,9%

In the number of stays in the Liberec region is the highest repeated visits (34.5%), many Poles visit the area for the first time (20.1%) and 16.6% visit the region at least once a year.

The number of German tourists in the territory of the Liberec region in 2017 was 969522 with an increase of 7.3% compared to the previous year. The increase was not as remarkable as that of Polish tourists, but the Germans stayed there for longer time (4,30 days). Also, their daily expenses are higher than 1,700 CZK / person / day. They spend most on accommodation (28%), purchase of goods (27.5%), catering in restaurants (19.6%). As in the case of Polish tourists, individual routes (83.8%) prevail, 68.0% prefer accommodation in a hotel, motel or boarding house, but also in a campsite - 1.4% (as opposed to Poles where this accommodation did not appear) and in other - 5.1%. The main reasons for the visit are: (CzechTourism, 2018)

- recreation, leisure time, holiday - 47.0%
- visiting relatives, known - 16.7%
- Business trip - 15.2%

Some 41% visit the territory of the Liberec Region several times a year and 18,1% of German tourists visit this region at least once a year. Compared to Polish tourists, the age segment is 30-44 years old – 35,1% and 45-59 – 31,6%. The main purpose of the visit is for both segments recreation and leisure. Polish visitors are more likely to visit the region due to visiting relatives - 27% and for work reasons (21%). For German visitors, these reasons are much less common. German tourists spend almost 300 CZK more per day when they visit the region than Polish tourists and their stay is one day longer. In contrast to Polish visitors, Germans also choose accommodation in camps and other types of accommodation.

## 4. Conclusion

The research examined the structure of collective accommodation capacities in the territory of the Liberec region and its development in 2012-2017. The research found out that the development of accommodation facilities in the four-star category has a growing character in all years under review, with the exception of 2014, where there has been a significant decline in these facilities. However, this decline has been followed by a sharp increase in these capacities and has an increasing tendency. On the contrary, accommodation capacities in the three-star category recorded a decrease of almost 8% in recent years. An increasing trend was found for accommodation capacities in the camp site category. The second indicator was the structure and numbers of foreign tourists, when most foreign tourists arrived in the region from neighbouring countries - Germany and Poland. A very significant segment is followed by tourists from the Holland, Slovakia, Russia, Austria and also from France. The total number of foreign tourists in the region has growing tendencies in the examined years. This trend can be seen in the calculation of the index of internationalization of tourism in the region, which is around 4%.

In the assessment of dependencies, there is evidence of a correlation between the development of the number of two-star category accommodation facilities and the structure of arriving tourists from France. The results showed significant significance, respectively impact of the structure of arriving tourists on the level of accommodation capacity. Number of accommodation establishments and tourist arrivals structure revealed a significant link to the development of accommodation capacities in the two-star category and the number of tourists from France. It was also found that tourists from Poland, Slovakia and Germany prefer accommodation in a higher category of accommodation facilities.

This article also deals with the amount and structure of travel expenses for two selected national tourist groups of Germans and Poles due to the geographic location of the region. Both groups spend an identical proportion (28%) of their accommodation expenditure, which corresponds to the finding of a preference to accommodation type in the region. An important finding is the age structure of tourists from these two countries and the region should work with this information. German tourists dominate 30-44 years - 35.1% and 45-59 - 31.6% and for Polish tourists the largest segment is 60 years or more. It would be good to create interest in these tourists for repeated visits to the region in the future as this segment has great potential in the future for several reasons. Aging of population will in the short term have positive effect. Although this population will have impact on increased demand for health and medical services, they will also show special interest in cultural activities and services typical for this type of tourism.

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# GLOBALIZATION AND FOOD SECURITY IN CENTRAL AND EASTERN EUROPE

Ján Pokrivčák[1,a], Eva Bieleková[1,b,*] and Andrej Cupák[2,c]

[1]Department of Economic Policy, Faculty of Economics and Management, Slovak University of Agriculture in Nitra, Slovakia

[2]National Bank of Slovakia, Bratislava, Slovakia

[a]jan.pokrivcak@uniag.sk, [b]eva.bielekova@uniag.sk, [c]andrej.cupak@nbs.sk

*Corresponding author

**Abstract.** This paper analyses the current situation and recent development in food security in Central and Eastern European Countries (CEECs). According FAO, food security can be defined as a situation, when all people have availability and access to sufficient, safe and nutritious food that meets their dietary needs for a healthy life. This paper focuses on indicators falling under four pillars of food security: availability, access, utility, and risk. Food security indicators for all CEECs are described and their development in time is evaluated. The paper specifically focuses on demand for food and demand for quality of food. Demand elasticities for food and their development over time is a good indicator of access to food for different segments of the population. Access to food depends on food prices and incomes, which are significantly affected by the Common Agricultural Policy of the European Union as well as development of prices on the global commodity markets. In many CEECs access to food has been improving. However, demand for quality of food is still a problem due to income limitations for low-income segments of the population in all CEECs. This is specifically an issue to be dealt with as diet quality is strongly linked to health. The paper uses Household Budget Survey data for selected countries of CEE.

**Keywords:** food security, health, EU accession, CEECs.

**JEL Classification:** D12, I12, O52, Q18

## 1. Introduction

The number of undernourished people is increasing since 2014. In 2016, more than 815 million people in the world were estimated to be undernourished (FAO et. al., 2017). Most food insecure people live in developing countries, but rising food prices, economic stagnation or dietary inadequacy affect also households in developed and transition countries. In Central and East European countries (CEECs), agricultural production and food consumption have been strongly affected by the EU accession and adoption of the Common Agricultural Policy (CAP). This caused convergence of prices to EU levels, increased support to farmers, changes in sanitary and phytosanitary regulations and restructuring of wholesale and retail sectors (Dries & Swinnen, 2004; Bojnec & Fertő, 2016). The rising and volatile food prices and stagnating incomes create difficulties in food security for individuals and households that are spending high share of their income on food (Cupák et. al., 2015). On the other hand, middle- and high-income individuals and households can exhibit food insecurity too. Here, food insecurity may originate from the income's variability, changes in household composition due to migration of members (marriage, migration for work, etc.) (Nord & Brent, 2002); or may appear among single-parent households, households with lower education, with occurrence of chronic disease, smoking or gambling problems, etc. (Olabiyi & McIntyre, 2014). Other groups vulnerable to food insecurity in developed countries are the marginalized and socially excluded groups: ethnic, racial or religious minorities, rural to urban migrants, economic migrants, etc. Research shows that for example in USA, insecurity is rather a result of persistent structural and racial inequalities than a result of food shortages (Elsheikh & Barhoum, 2013); marginalization and segregation of Roma people in CEE region affect their incomes and reduce their access to sufficient food and diet diversity (Ciaian et al., 2018).

## 2. Methods and data

The World Food Summit (WFS, 1996) defined food security existing "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". Following dimensions of food security are recognised: food availability, food access, utilization and stability. This paper focuses on indicators falling under these four pillars of food security and analyses the current situation and recent development in food security in CEE region. The group of CEECs represent the following countries: Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Republic of Moldova, Romania, Slovakia, Slovenia, Republic of Macedonia and Ukraine. For analysing different food security indicators, we used data from FAO database (Food balance sheets and Suite of Food Security Indicators). Data on share of food and non-alcoholic beverages consumption is retrieved from Household Budget Survey (HBS), Eurostat. HBS was carried out in 1994, 1999, 2005, 2010 and 2015. Data on countries' GDP per capita in PPP is retrieved from Eurostat, information on the EU trade from UNCTADstat database.

## 3. Results and discussion

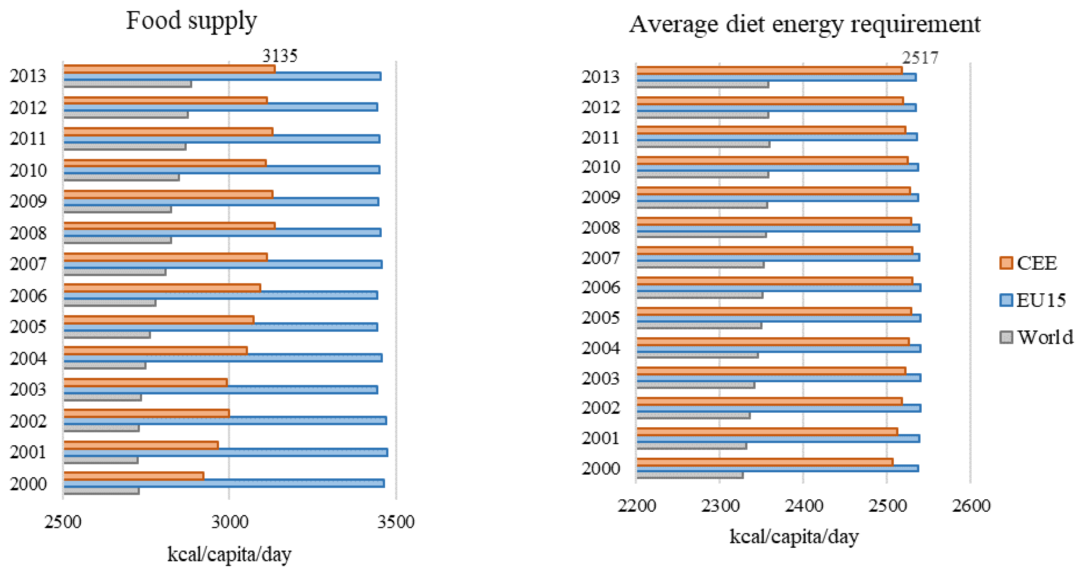
In the following chapters, we evaluate the current situation of food security.

### 3.1 Availability

Availability refers to the physical existence of food that is within reach of individuals and households. In that respect, available food (i.e. food supply) is on national level consisting of domestic food production, net trade and stocks; on household level food is available either from local markets or self-production. Food production is affected by climate changes and depends on countries' water resources. Due to its geographical location, Europe is currently not significantly affected by extreme weather changes, although the trend of last decades is a gradual rise in temperature, which may lead to a more significant change in food supply in the future. On the other hand, according UNCTAD data, as EU is the biggest importer of food in the world, the effect of climate change on its food supply and hence on food prices is transmitted through foods traded. The other important factor influencing food supply in Europe is the Common Agricultural Policy. Its instruments regulate both components of the food supply: food production and trade. Food availability in EU is not endangered. The food supply in CEECs does not reach in average the level of EU15 countries (see Fig. 1), but it exceeds the minimal dietary energy requirements by ca. 60 % and average diet energy requirements

(ADER) by more than 25 %. However, there are regional differences with minimum levels recorded in Republic of Moldova (105 % of ADER, average of 2014-2016) and maximum levels in Poland (138 %) and Lithuania (141 %).

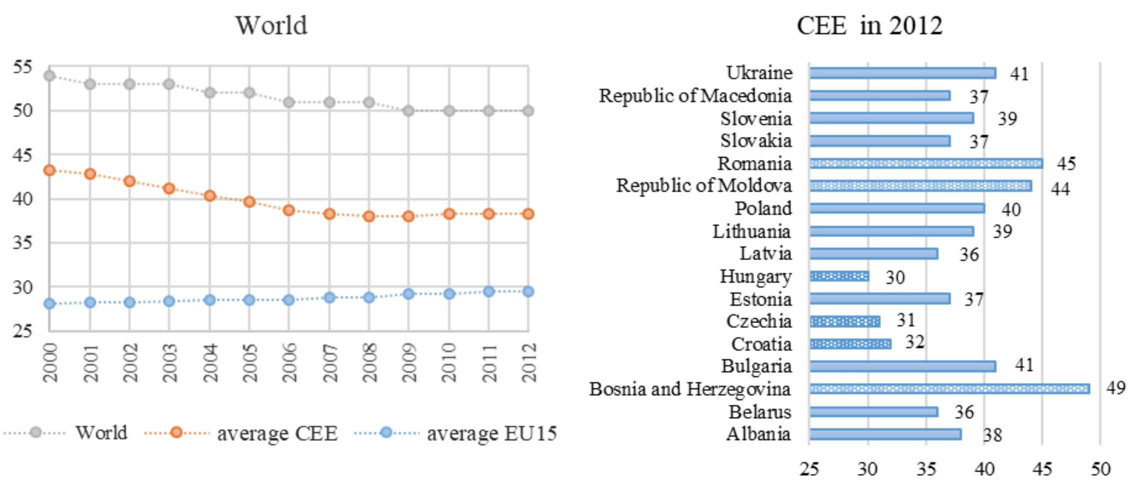
*Figure 1: Development of food availability*




*Source: FAOSTAT (2018)*

Great variability exists also in the availability of individual food products among CEECs. Data from FAO Food Balance Sheets show that in 2011-2013 the fish and seafood supply of Albania, Bosnia and Herzegovina and Macedonia formed only ca. 9 % of the fish and seafood supply of Lithuania; the fruits and vegetable supply of Slovakia and Czechia was only 29-34 % of the fruits and vegetable supply of Albania, etc. In comparison to EU15, there is a shortage in fish and seafood (–49 %), meat (–30 %), fruits (–25 %) and milk (–17 %) supply in CEE. The lower availability of fruit and vegetables may be significant, as it can be attributed to cardiovascular diseases and cancer, and the fish and seafood deficiency may hinder its capacity to aid to prevention of arteriosclerotic and thrombotic diseases (Pomerleau et al., 2005).

*Figure 2: Share of dietary energy supply derived from cereals, roots and tubers*



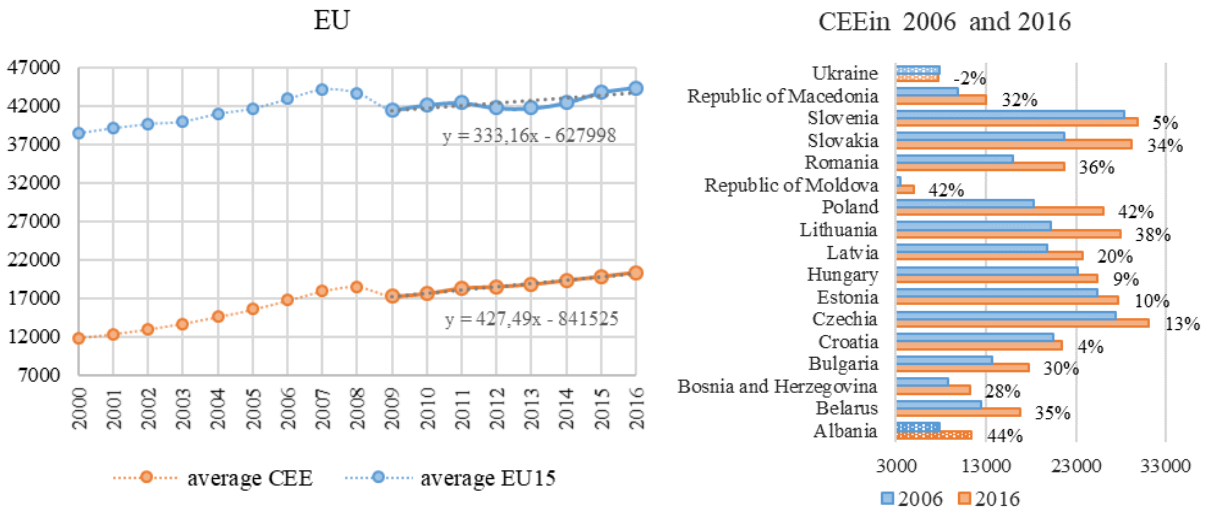

*Source: FAOSTAT (2018)*

Dietary diversity in the CEE region is inferior compared to EU15 especially in Bosnia and Herzegovina, Romania and Republic of Moldova (see Fig. 2). FAO measures diet diversity of food supply as a share of cereals, roots and tubers on total dietary energy consumption of an individual or a household. Diet diversity is commonly used as a proxy for quality of diet. Diets more dependent on starchy staples are more monotonous (Rathnayake et. al., 2012) because they are lower on fruits and vegetables, animal products, pulses and oil. In Fig. 2, we see that dietary quality of CEECs is improving, but the share of starchy foods is still larger than in EU15.

### 3.2 Access to food

The food being available does not mean that it is also accessible for the population. The ability to access food has two levels: economic and physical access. Availability and quality of infrastructure facilitating the functioning of markets determine the physical access to food. Economic access of an individual or a household is in particular associated with its purchasing power (i.e. income) and food prices (FAO et al., 2013).

*Figure 3: Gross domestic product per capita (in PPP)*




*Source: Eurostat (2018)*

As it is evident from Fig. 3, incomes in CEE region reach only a half of EU15 incomes, but since the 2008, incomes in CEE are growing faster than in EU15. Higher incomes are in general related to lower share of incomes spent on food represented by lower income elasticities on food than on manufacturing products and services, which leads to lower vulnerability to price variation (Laborde et al., 2013). In many CEECs, access to food expressed by the change of per capita income has been improving with exception of Ukraine, which economic growth was hindered by the financial crisis in 2008 and the economic crisis of 2014-2015.

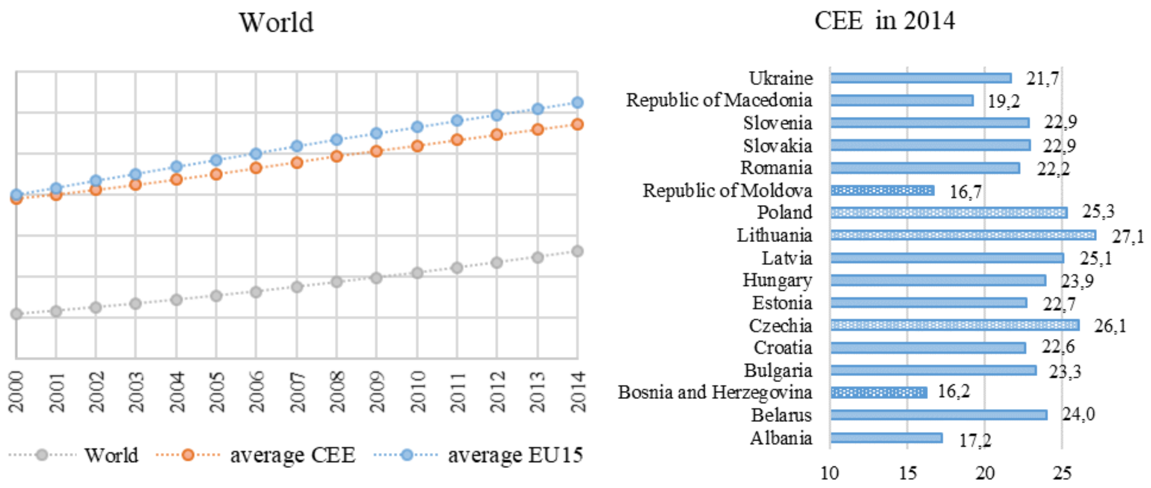
### 3.3 Utilization

Food utilization has two aspects. At first, it follows the levels of malnutrition of children under five years of age: wasting, stunting, underweight and overweight, which are considered approximations of nutritional status of the entire population. The second aspect of food utilization is monitoring indicators reflecting good quality and health and hygiene condition.

Prevalence of stunting of children under the age of five has globally declined in recent years, prevalence of wasting is above the global nutrition target. FAOSTAT data for EU are only fractional (available for 9 of the CEECs). In 2014, the problem of undernourishment of children under 5 was particularly severe in Albania (wasting – 9.4 %; stunting – 23.1 %; underweight – 6.3 %); its numbers are above the world averages. The most improved situation was in Belarus (wasting – 2.2 %; stunting – 4.5 %; underweight – 1.3 %).

Further major nutritional problems are overweight and obesity (see Fig. 4). According WHO, overweight and obesity are contributing to 9-12 % of deaths in the EU15 countries and to 16-20 % of deaths in the member states that jointed the EU in 2004 and 2007 (WHO, 2014). Obesity rates in EU are on the rise for adults and children. In low-income households, there is a greater probability of child overweight and obesity and lesser probability that they are breastfed. Not breastfed infants born to obese mothers of low socioeconomic status are more likely to have bad eating habits (WHO, 2014). From the introduced information is clear that obesity is most common in lower socioeconomic groups, but increasingly, overweight and obesity reach high-income households too. The reason of arising of such energy imbalances are shifts in the availability, affordability and advertisement of highly processed foods with high content of sugar, fats and salt, and decline in physical activity due to sedentary lifestyle (FAO et. al., 2017).

*Figure 4: Prevalence of obesity in the adult population*

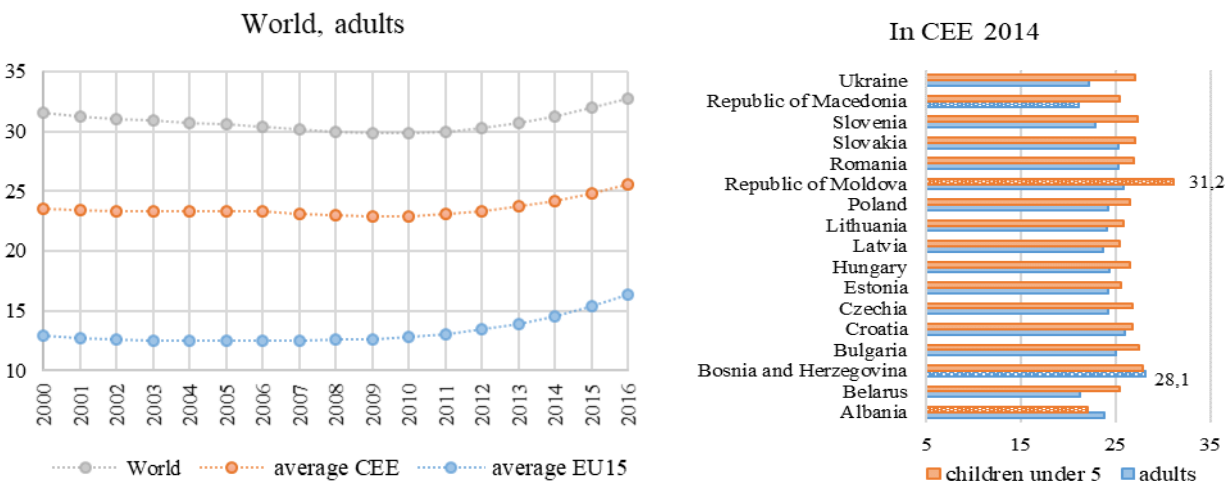



*Source: FAOSTAT (2018)*

While undernourishment is not a problem in Europe in average, micronutrient (vitamin and mineral) deficiencies are relatively common. Diets in Europe have shifted to more-energy-dense and nutrient-poor diets, which has reflected in an increase of prevalence of micronutrient inadequacy. The highest prevalence of micronutrient inadequacy of European adults was recorded in vitamin C, vitamin D, folic acid, calcium and selenium; results for CEE region were similar but with greater prevalence of intake inadequacy of calcium and folate (Roman et al., 2011; Novaković et al., 2013).

Children and women are especially vulnerable to anemia. It can originate in a diet low on iron, folate, riboflavin, and vitamins A and B12. Prevalence of anemia among women of reproductive age is globally persistent; in Europe, the situation worsens (see Fig. 5). Anemia of mothers is one of the leading causes of anemia of children. Globally, anemia of children is on decline (–9.8 % from 2000-2016), but CEECs are stagnating in the fight against it. In 2014, anemia of children in Republic of Moldova increased up to 31.2 %; in other CEECs – with exception of Albania, which approached the level of EU15 countries (12.5 %) – the average level of anemia of children reached 26.6 %.

*Figure 5: Prevalence of anemia among women of reproductive age (15-49 years)*



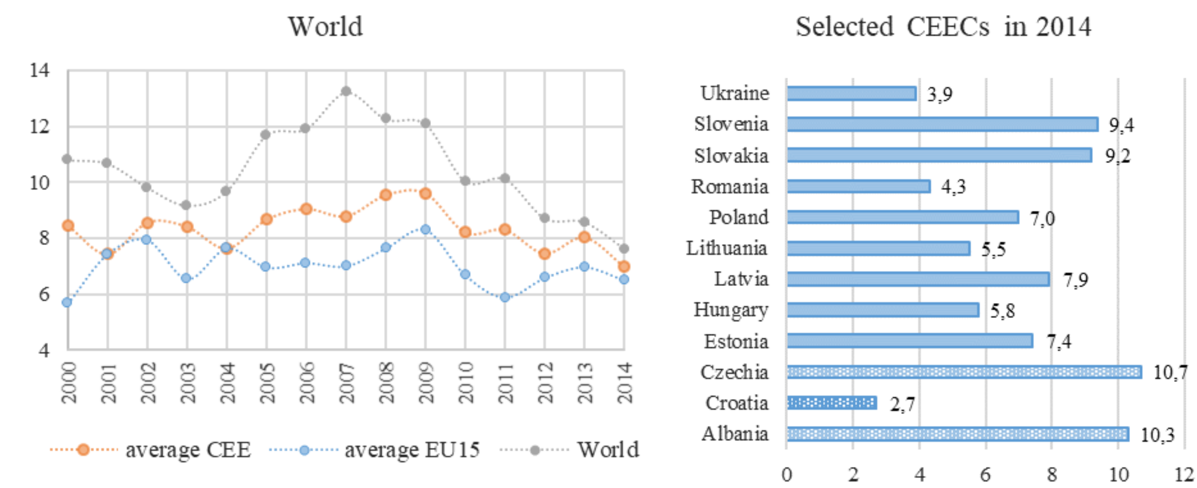

*Source: FAOSTAT (2018)*

In the light of these information, it is desirable to increase the awareness of the population in Europe and especially in CEECs about the importance of consuming a varied diet, as education has a significant impact on the demand for food diversity. To improve households' access to food and to stimulate demand for food diversity, income-oriented policies could be used especially for low-income households (Cupák et. al., 2016).

## 3.4 Stability

Stability of food and nutrition involves indicators measuring the extent and exposure of the previous three dimensions of food security to risk over time. The stability of food security can be affected by weather conditions, political instability and economic factors. Factors of instability are transmitted to households and farmers predominantly through food prices.

*Figure 6: Domestic food price volatility index*




*Source: FAOSTAT (2018)*

Price volatility affects consumers and farmers by reducing the ability of prices to reallocated economic resources, causing greater incidences of high or low prices, inducing incorrect investments decisions, etc. High volatility of food prices can negatively affect the ability of low-income households to access food, as their share of expenditure spent on food is high. Volatility of consumer food prices reflected by FAO Domestic food price volatility index is depicted in Fig. 6. Until the financial crisis in 2008, price volatility has been globally increasing, and it is on decline since. However, according current studies, it is expected that food prices will be higher and more volatile in the future (Wang et al., 2018). EU was less marked by price changes in comparison to global development, but volatility in CEECs was higher as the effects of food price volatility are mitigated due to lower share of food expenses in the household budget. Because of increasing incomes and CAP, the share of household expenditure on food in EU and in some CEECs in last 20 years is on decline.

# 4. Conclusion

In the present paper, we assessed the situation in four pillars of food security in CEE region. EU in general has a stable food security environment. In CEE region, the state of food security is improving, but relative high disparities exist among countries. Availability of food in CEECs in average does not reach the level of EU15, but it exceeds the average diet energy requirements (ADER) by more than 25 %. Dietary quality of CEECs is improving, but their diets show signs of greater monotony than diets in EU15, as the share of dietary energy supply derived from cereals, toots and tubers in CEECs is greater. Access to food in CEE is improving due to the rise of incomes per capita. Regarding utilization of food, there is a lack of fish and seafood and fruits in the diet of CEECs, which poses a threat, as their consumption is aiding to prevention of arteriosclerotic and thrombotic diseases, respectively, cardiovascular diseases and cancer. While undernourishment is not an issue in CEE region (with exception of Albania), micronutrient deficiencies are relatively common. Anemia of mothers is one of the leading causes of anemia of children. In Europe and CEE region, prevalence of anemia among women is on the rise; anemia of children is persistent. Growing incomes in the CEE region are helping to increase the availability of food and lead to a decline in the share of income being spent on food, and so, less spending on food reduces the price vulnerability of households. Current situation of food security in CEE region is stable, but there is an expectancy the food prices being more volatile in the future, which may eventuate in changes of food security of CEECs.

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# CORPORATE SOCIAL RESPONSIBILITY AMONG SMALL AND MEDIUM-SIZED ENTERPRISES IN HUNGARY

Regina Zsuzsánna Reicher[1,a,*]

[1]Associate professor, Óbuda University, Keleti Faculty of Business and Management, Budapest, Tavaszmező street 15-17, Hungary

[a]reicher.regina@kgk.uni-obuda.hu

*Corresponding author

**Abstract.** In our days the so-called Corporate Social Responsibility (hereinafter referred to as CSR), which is applied so often in business life, can be described, first of all, with a business attitude. Although several larger global companies aim to build in the value-oriented company management into their everyday management practices, the aforementioned attitude still prevails among the leaders of small and medium-sized enterprises (SMEs) in spite of changes and improvements. The objective of the article is to introduce a novel CSR programme, which offers deeper insight into the current CSR trends and directions and leads from the business-oriented CSR towards a more value-oriented CSR. For generation Y, and generation Z it is more and more important factor in the job search if the would-be employer regards corporate social responsibility important. The voluntary contribution of the youth gives a significant basis for CSR programme and it is also a serious opportunity for the employers. In the fights during the current structured unemployment - which is a global problem - the companies face serious challenges for obtaining and retaining new staff. Author´s former research concluded that the members of generation Y changes their workplaces 3-4 times more often than the representatives of generation X. Their loyalty is weak; their employee attitude cannot be described with allegiance. The CSR activity, a well-elaborated programme can be a serious appeal for the new generation.

**Keywords:** CSR activity, Generation Y, structured unemployment

**JEL Classification:** J11, M 51, M14, O15

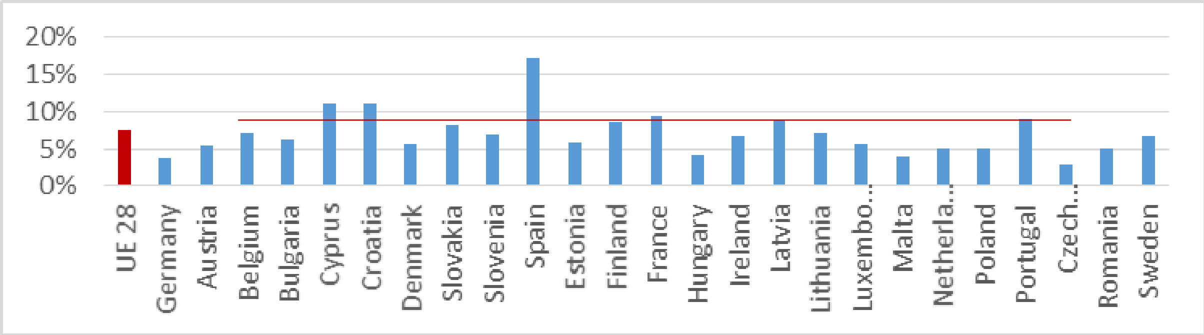
## 1 Introduction

The White Paper published by the European Committee in March 2017 argues that the impact of globalisation should be summarised in a document based on facts, clear and straightforward for everyone. It should be done in order to turn the impacts to our advantage. Many European people are worried that the globalisation may lead to job losses; social injustice as well as lower environmental, health and data protection standards. The younger generation also feels that their relations to people living in other countries may contribute to the improvement of their quality of life.

The unemployment rate in the European Union seems to decline after its peak in 2010-2014. The unemployment rate of EU28 was 7,6% in 2017; this value, however, did not include the data of Greece, Italy and the United Kingdom. The unemployment was the highest

– almost 20% - in Spain. Malta and Hungary are the most successful with their current 4,0-4,2% rates compared to the years of global crisis. (http://en.eustat.eus/)

*Figure 1: Unemployment rate (ages 16 to 74) by country 2017*




*Source: http://en.eustat.eus/*

It is obvious, however, that the structured unemployment has led to serious issues in Europe. It is very difficult for the unemployed to find jobs, while the companies struggle with serious skills shortages. The researcher economists have examined the problem from different approaches in order to explore the reasons and make recommendations to the European states to successfully cope with this issue. (Schubert & Turnovsky, 2018)

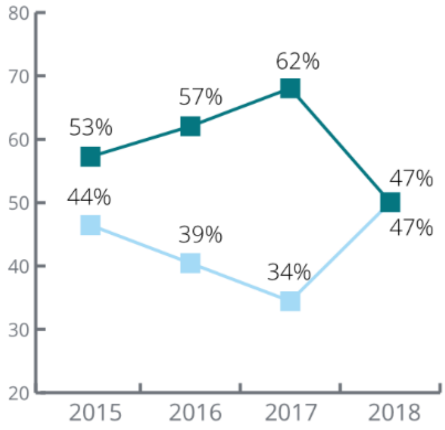
According to Valuch et al, who examined the Hungarian historical conditions from the points of sociology and politics, the Hungarian members of generation Y were born after 1982 and their lives have been enormously affected by the explosive development of information technology, globalisation as well as the drastic transformation of the educational system. (Róbert & Valuch, 2013) The Hungarian characteristics of generations are discussed in detail in our previous paper. (Kolnhofer-Derecskei et al., 2017) From the research regarding generation Y it could be concluded that the members of this generation are more mobile both in choosing a workplace and a place to live. (Ng & Parry 2016) The members of generation Y are less tied to their workplaces than generation X; besides finding a good job, they are also attracted to the high level of welfare and they long for active community and social life. (Twenge, 2010)

They also choose their workplaces totally differently than generation X used to. The members of generation Y collect information and try to learn as much as possible about the company where they apply to. It is predestined in their socialisation process, because they carry out even their purchases like this and for them – as digital natives – searching for information comes naturally. (Zhitomirsky-Geffet & Blau 2016)

The mission of the company; the working conditions, the community within the company where they have to work are important factors for them. They are more committed to environmental protection and they expect the companies to show social responsibility (Grebitus et al., 2017).

According to the survey of Deloitte carried out in 2017, almost half of the members of generation Y and Z think that the corporate management is not committed to support the improvement of society. In their opinion the companies should pay attention to creating jobs, innovation, career and life fulfilment of their employees as well as the positive impact on society and environment. (Deloitte 2017)

*Figure 2: Their leaders are committed to helping improve society*




*Source:Deloitte*

Of course, they can see that their own employers give priority mostly to generating profit, selling products and services as well as to finding new methods to increase efficiency. They would consider much more important if their employers paid more attention to the issues of employment and creating new jobs as well as to questions affecting the whole society, like education, health, mass communication, etc.

*Figure 3: Employers are "out of step" with millennials' priorities*


*Source: Deloitte*

When looking for jobs, it is important for the representatives of generation Y that their workplace is a trusted brand and they also check whether the organisation they apply to do any kind of social or pro bono activity. For them the opportunities of alternative working arrangements, green workplace and conditions of commuting are also more highlighted. They are looking for ergonomically comfortable workplaces; employers offering challenges and inspiring environment. (Stankiewicz, & Łychmus 2017)

More and more companies start to recognize that their enterprise (the world of business, profit and work) is not a hermetically closed area but it is closely connected and is in constant interaction with its environment (natural and social). (Lindgreen 2009) Starting from this, the objectives and values of companies managed by responsible and committed leaders would include – apart from maximising profits – social, human rights and environmental aspects for sustainable growth. (Lichtenstein et al., 2004) The stakeholders of a company are persons or groups affecting the operation of the organisation and vice versa. The organisation involves the stakeholders and they harmonize their interests in order to decrease risks and increase advantages. (Peloza & Shang 2011) The stakeholders are the shareholders, investors, employees, consumers, competitors, suppliers, civil society, government and the corporate environment. In our days, when the HR experts of companies cope with serious challenges to find and retain the suitable employees, it is inevitable that the corporate and HR professionals know those criteria, which might be important for future employees.

There are several areas of corporate social responsibility, but basically, it can be divided into internal and external corporate activities. The internal activities may include those actions, which enhance the emotional connection of employees to the company and increase the value of company image. Organisation of trainings, communication of the secure job, actions related to change management, etc. belong to this area. The external corporate dimensions strengthen the brand value, client relations and client image of the company. The activities related to environmental protection, joint campaigns with partners and suppliers, activities organised in the micro-environment of the company or in smaller settlements, etc. can be listed here. (Lim, et al. 2018).

## 2 Method

The research consists of three main parts. The first step is the review of interviews made with corporate professionals on the basis of secondary data, in which the CSR strategies of the companies from the current Hungarian SME sector are examined. The other question is how the company image is enhanced with the help of CSR activities and whether these opportunities are used for enhancing the loyalty of employees and for attracting new employees. The next step of the research is a focus-group survey with the members of generation Y and Z, who are already actively present on the labour market and with those, who are still in higher education. The third phase is a large-sample questionnaire survey among the members of our university, which may also contribute to the recruitment activities of companies in partnership with the university.

## 3 Result

The present article discusses the results of expert interviews. Interviews were conducted with the representatives of five companies. Two of these companies are also in close partnership with the other two schools of the university, therefore the students in the engineering and economics courses are also targeted in the recruitment. The other three companies are not partnering the university, but they are advertising vacancies for areas which belong to the profile of our university. They are looking for IT graduates, engineers and managers. Four out of the five companies are considered medium-size enterprises on the basis of European Union classification. The number of their employees is between 50-85. The fifth company is a small-scale enterprise with 35 employees. All the five companies cope with workforce issues and would need expansion. Only one of the companies has a separate marketing department, but the other four companies also employ marketing experts. Mostly the mid-level executives deal with human resource management, but two companies have separate HR professionals. Recruitment is carried out mostly with the help of head-hunter companies.

All of my respondents were aware of the concept, content and business opportunities of CSR. Four of the companies, however, saw this business opportunity mostly in one internal CSR activity, namely the environmental protection duties, like for example reducing waste emission or decreasing the use of different resources in the course of producing their products. It should be added, however, that this activity was rather the inherent result of experiments aiming to achieve cost efficiency. Only one leader mentioned that the employees could participate in a healthy life program and go to regular trainings. The proper ratio of work-family-recreation trio was not considered important by any of the companies. Coping with serious changes in the life of the company, which usually also severely affect the employees, were not included in CSR activities, either. In their opinion, these changes often impose such volume of operative tasks in everyday life that simply there is no time to prepare employees and to consider the interests of those groups, which are the most intensively affected by these changes.

Out of external CSR activities, two executives mentioned the participation in the life of the local community. The admitted that they had “stolen” the idea from the multinational companies they are supplier partners with. Both executives, however, reported about very positive outcomes and improved image as the result of ‘Word of Mouth’ both in professional circles and among their employees. None of the enterprises consider the selection of partners or suppliers as a CSR opportunity, although the business partners also affect the evaluation of a company, therefore their selection should not be made only on the basis of raw business aspects. The area of human rights was also brought up by every enterprise, but they rather regard it as a legal issue than a CSR opportunity. The position of companies regarding global environmental protection was very interesting. In theory, all the interviewees clearly regard this area as CSR and give it high priority. It was revealed during the interview, however, that the implementation was not so straightforward according to the executives. Three of them mentioned significant investments in order to make progress in this area. Two of them wholeheartedly supported it in theory but had no capital to launch programs of this type. One of the interviewed executives realised by the end of the conversation that they practically covered this area when the company organised community work and cleared a green field on the outskirts of the small settlement with the help of the employees because that area had become an illegal waste dumping place in the recent years.

Following the conduction and analysis of interviews a small working group was formed with a representative from each of the five companies in order to develop a year-long programme as a result of which each company could find a new area for itself to include it in their CSR portfolio.

The main objective was to concentrate on those areas, which had not been covered by any of the companies and the support of which could be related to a group of employees. A timetable was attached to the program and responsible persons were named. The list of optional programmes was sent to the executives and marketing professionals of each company and they could choose from the suggested programmes. According to their choices the program consisted of the following elements:

- Self-study groups could be organised together with the inhabitants on the small settlement; the company provided the venue and part of required equipment or facilities. For this the recreation activities of employees should have been mapped with the help of a simple survey. This information can be useful later when the loyalty needs to be increased in order to retain employees.

- In the frame of team-building, the dog-owner employees could form joint teams and take part in the Hard Dog Race competition, which is a 12-km obstacle race with own dog in teams of 6 people. It was possible to enter the race with dogs from shelters waiting for adoption in order to drive the attention of the internet community to the hard-working, hero dogs.
- Drawing competition was announced for kids of the employees titled "Where does your mum/dad work?" The children's drawings were evaluated by a jury of three people in each company and, of course, the audience, the employees could also vote.
- Family day was organised where people could take part in five-a-side football tournament. The most important representatives of bigger partners were also invited to this event. There was joint catering at the event and the best employees were also awarded at this forum. The winners of the drawing competition were announced here, if the company organised one. It was also suggested to the companies to make a little exhibition to introduce the everyday life and work of the company to the family members.
- We suggested to place a comment box somewhere with an important provision: a notice board should have been placed above the comment box saying that all the comments would be read and answered in 5 days. However, this has only positive impact if these rules are really observed by the management.
- It was also recommended to share some issues related to the everyday operation with the employees and ask their suggestions on a special platform to solve these. This would start the role of a future suggestion box. The proposals should be connected to a deadline, then the managers dealing with the issue should gather and examine the ideas received. Later the employees can make suggestions in their own areas, related to their own work for rationalizing if they are encouraged to do so. The creative and useful suggestions can be awarded with money, if it is possible, but the employees should definitely receive feedback, especially regarding the long-term impact of their suggestion on the operation of the company. In this way, the employees could be more easily involved in crisis situations and embrace the solutions.
- The general alternative for this was the suggestion box, where anybody and anytime could drop any idea or suggestion, which they consider advantageous for the company, would improve the working conditions, etc.

# 4 Conclusion

On the basis of the interviews it can be concluded that the SME sector is still not aware of many areas of CSR activities. Especially the environmental protection is a highlighted area. These activities are considered from economic perspective and the company executives do not regard these as value-creating areas. The actors of the Hungarian SME sector struggle with labour shortages, and as a result of this, the solution of operative tasks and the fight for everyday existence consumes their energies. They all agree that integrating some elements of CSR into the image of the company would offer serious possibilities. They can feel the necessity of change and that innovative solutions should be brought into this area, too, because the lack of money cannot hamper the development of the company. As the result of the cooperation, all the executives reported about improved work morale. The employee turnover decreased. New partners were involved into the work. New and simple suggestions were received from the suggestion box, which may lead to 3 million HUF savings on annual level for one of the companies. The joint work resulted in new ideas and proposals for expanding CSR activities in each company; it launched a common thinking among the employees of the companies which has been unprecedented before. One of the companies contacted the employees of the foreign partner companies and introduced an "exchange kid" programme in the summer. Some employees of the other company went to the Bátor Tábor (therapeutic recreation camp for children) and volunteered to help. The companies organised fundraising for small pet shelters and took the dogs for a walk when they handed over the donations. There were several ideas dropped in the suggestion box, which had not any or hardly any costs but a lot of benefits.

The corporate social responsibility enhances the loyalty of employees, partners and clients to the organisation. It integrates the company tasks into the policy of sustainable development considering economic, social and environmental aspects. With the help of this, it increases the conditions of long-term value creation and ensures the financial success. Many researchers report about linear relations between CSR and employee attitudes. Some researchers have concluded that the CSR activity perceived by the employee exponentially increases the organisational pride, the local patriotism. The organisational pride has positive and linear impact on job satisfaction and emotional connection. The perceived CSR exponentially raises the job satisfaction and emotional responsibility indirectly through the organisational pride. (Zhou et al., 2017) Examining the workplace choices and retention of the new generation, the impact of CSR cannot be neglected by the employers.

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# CLUSTER ANALYSIS OF ENTREPRENEURSHIP IN POLAND AT NUTS 3 LEVEL

Elżbieta Rogalska[1,a,*]

[1]University of Warmia and Mazury in Olsztyn, Department of Microeconomics, Poland

[a] ela.n.rogalska@gmail.com

*Corresponding author

**Abstract.** Globalisation process has significantly changed the importance of the main determinants of long-term growth. Currently growth process is not only dependent on "traditional" factors such as supply of labour force, availability of financial capital and level of technology, but intangible factors such as quality of human capital or level of entrepreneurship are becoming important drivers of international competitiveness. The current paper concentrates on this last factor in regard to Polish economy. The article is based on the assumption that the level of entrepreneurship is especially important for growth at regional level. Therefore, the main aim of the research is to analyse similarities between Polish NUTS 3 regions in this regard. In the research, data available in Statistic Poland (Local data bank) were applied. The research was done for the years 2010 and 2015. The period was restricted with the availability of data. In the analysis five diagnostic variables were applied, therefore the subject of the research was considered as a multiple-criteria problem. In the study, the Ward's clustering method was applied, which enabled to group the NUTS 3 regions into homogeneous classes. The research confirms significant disparities in the case of level of entrepreneurship at NUTS 3 level. It can be seen that these disparities are also stable in time, which can confirm relatively low effectiveness of regional policy that is aimed at reducing differences in regional growth potential.

**Keywords:** cluster analysis, entrepreneurship, NUTS 3, Poland.

**JEL Classification:** C38, R11

## 1. Introduction

The growth potential of developed economies in the reality of global competition is not so dependent on the "traditional" economic factors as it used to be in the era of industrial economy in XX century. In the case of relatively developed countries, last three decades has confirmed that availability of relatively well educated labour force, relatively high supply of financial capital and availability of technology are not sufficient for keeping long them dynamic growth. I has been especially seen on the example of Southern European economies. Currently the economies are much more dependent on intangible factors such as good institutions, very widely defined quality of human capital and especially level of entrepreneurship (Balcerzak and Pietrzak, 2016; 2017; Sibirskaya et al., 2016; Pietrzak and Balcerzak, 2016a; 2016b; Hadad and Cantaragiu, 2017; Shakirtkhanov, 2017; Petrenko et al., 2017; Ribau et al., 2017). The current article concentrates on this last factor in regard to Polish economy at regional level.

The presented research is based on the assumption that the level of entrepreneurship is especially important for growth at regional level. As a result, the main aim of the article is to analyse similarities between Polish NUTS 3 regions in this regard in the years 2010 and 2015. The research period was restricted by the availability of data at regional level form Statistic Poland (Local data bank). The level of entrepreneurship was treated here as a multiple-criteria phenomenon. Therefore, Ward's clustering method was applied, which enabled to group the NUTS 3 regions into homogeneous classes.

## 2. Research methodology

Most of economic phenomena cannot be effectively described with a single variable, but they usually have multidimensional character, where the scientific problem consists of a set of aspects describing different properties of the phenomenon, which additionally can be characterised with many variables (Balcerzak et al., 2017; Stanickova, 2017; Meluzin et al., 2017, 2018a, 2018b). In that case the taxonomic methodological approach is especially effective and commonly applied in social-sciences, which can be seen on the example of research on a level of socio-economic development and quality of life (Kuc, 2017a, 2017b; Bartkowiak-Bakun, 2017; Miłek, 2018), a level of international competitiveness (Cheba and Szopik-Depczyńska, 2017; Kruk and Waśniewska, 2017) or applications of multiple-criteria methods in decision making process (Cano et al., 2017; Zemlickienė et al., 2018).

In the case of economics the issue of classification and grouping of objects into homogenous subsets is a common problem, especially in regard to comparative research both at national and regional level. Among the most popular methods used in that field, one can find hierarchical clustering methods (agglomeration methods), where a hierarchy of objects is created due to their similarity. The process of hierarchy analysis starts with the lowest level, where all objects are treated as separate.

From analysed objects groups are created, the number of which decreases as part of transition to a higher level of the hierarchy, when the number of objects is increased within groups. Finally, at the last level of the hierarchy, all objects form one common group. In the case of social-sciences, especially in economics Ward's method is one of the most popular methods in the group (Ward, 1963). In that method clusters are formed on the basis of criterion of minimizing the sum of the squares of distance between objects, which are included in a single cluster (Mačerinskienė and Aleknavičiūtė, 2017; Miłek, 2018).

## 3. Results

The objective of the article is to analyse similarities between Polish NUTS 3 regions in regard to entrepreneurship conditions for the years 2010 and 2015. The research was based on the data form Statistic Poland (Local data bank, https://bdl.stat.gov.pl/BDL/start). The Ward's method enabled to establish the hierarchical structure for the phenomenon.

The research was based on a set of diagnostic variables given in Table 1, which were selected based on previous studies and literature review (Rogalska, 2017; 2018a; 2018b; Pietrzak et al., 2017).

*Table 1: Set of disgnostic variables*

| Variable | Description of the variable | Character for Entrepreneurship |
|---|---|---|
| $X_1$ | Number of entities included in the REGON registration per 10 thousand inhabitants | Stimulant |
| $X_2$ | Share of commercial law companies in the number of economic entities | Stimulant |
| $X_3$ | Share of companies with foreign capital in the total number of commercial law companies | Stimulant |
| $X_4$ | Gross value of fixed assets in enterprises per capita | Stimulant |
| $X_5$ | Capital expenditures in enterprises per capita | Stimulant |

*Source: own work.*

In the first stage of the research, the data was standardised with application of classic standardisation based on average and standard deviation. The applied Ward's procedure enabled to obtain dendograms for the both years of the research, which show hierarchical structure of NUTS 3 regions in regard to entrepreneurial conditions (Figures 1 and 2).

The method allowed to identify clusters of NUTS 3 regions similar to each other. The division of regions into 6 groups was proposed, which is given in tables 2 and 3.

*Table 2: Cluster Analysis for the year 2010*

| Subregion | Class | Subregion | Class | Subregion | Class |
|---|---|---|---|---|---|
| łódzki | 1 | katowicki | 2 | kaliski | 3 |
| warszawski wschodni | 1 | tyski | 2 | grudziądzki | 3 |
| oświęcimski | 1 | legnicko-głogowski | 2 | inowrocławski | 3 |
| bytomski | 1 | bydgosko-toruński | 2 | świecki | 3 |
| częstochowski | 1 | sieradzki | 3 | chojnicki | 3 |
| sosnowiecki | 1 | skierniewicki | 3 | elbląski | 3 |
| lubelski | 1 | ciechanowski | 3 | ełcki | 3 |
| rzeszowski | 1 | ostrołęcki | 3 | warszawski zachodni | 4 |
| białostocki | 1 | radomski | 3 | bielski | 4 |
| kielecki | 1 | siedlecki | 3 | gorzowski | 4 |
| koniński | 1 | krakowski | 3 | zielonogórski | 4 |
| leszczyński | 1 | nowosądecki | 3 | poznański | 4 |
| pilski | 1 | tarnowski | 3 | koszaliński | 4 |
| wałbrzyski | 1 | nowotarski | 3 | szczecinecko-pyrzycki | 4 |
| nyski | 1 | rybnicki | 3 | m. szczecin | 4 |
| włocławski | 1 | bialski | 3 | szczeciński | 4 |
| gdański | 1 | chełmsko-zamojski | 3 | jeleniogórski | 4 |
| słupski | 1 | puławski | 3 | wrocławski | 4 |
| starogardzki | 1 | krośnieński | 3 | opolski | 4 |
| olsztyński | 1 | przemyski | 3 | m. st. warszawa | 5 |
| m. łódź | 2 | tarnobrzeski | 3 | m. kraków | 6 |
| piotrkowski | 2 | łomżyński | 3 | m. poznań | 6 |
| płocki | 2 | suwalski | 3 | m. wrocław | 6 |
| gliwicki | 2 | sandomiersko-jędrzejowski | 3 | trójmiejski | 6 |

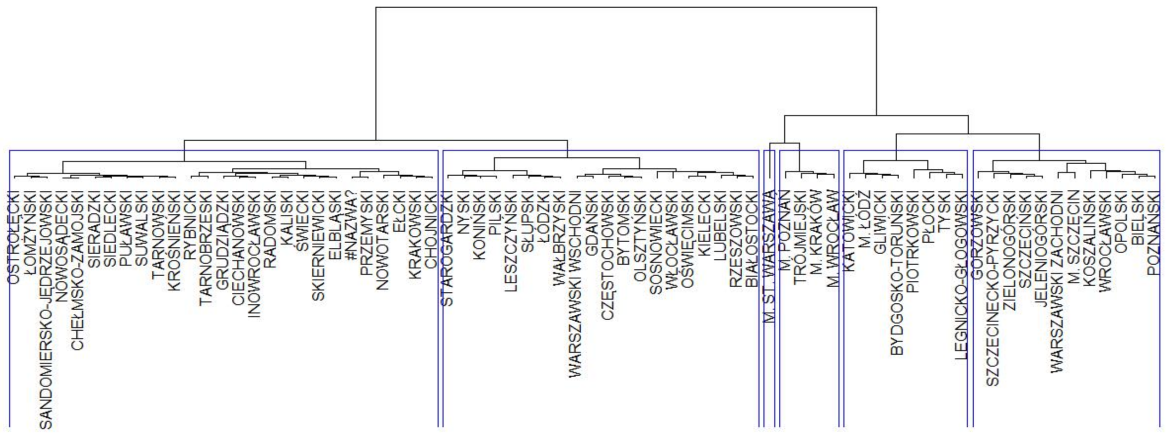
*Source: own estimation based on Statics Poland (Local data bank).*

*Table 3: Cluster Analysis for the year 2015*

| Subregion | Class | Subregion | Class | Subregion | Class |
|---|---|---|---|---|---|
| łódzki | 1 | ostrołęcki | 3 | lubelski | 4 |
| bialski | 1 | siedlecki | 3 | rzeszowski | 4 |
| przemyski | 1 | nowosądecki | 3 | tarnobrzeski | 4 |
| leszczyński | 1 | tarnowski | 3 | białostocki | 4 |
| pilski | 1 | nowotarski | 3 | kielecki | 4 |
| szczecinecko-pyrzycki | 1 | chełmsko-zamojski | 3 | kaliski | 4 |
| wałbrzyski | 1 | puławski | 3 | koniński | 4 |
| nyski | 1 | krośnieński | 3 | świecki | 4 |
| słupski | 1 | łomżyński | 3 | gdański | 4 |
| starogardzki | 1 | suwalski | 3 | olsztyński | 4 |
| m. łódź | 2 | sandomiersko-jędrzejowski | 3 | m. st. warszawa | 5 |
| piotrkowski | 2 | grudziądzki | 3 | m. kraków | 5 |
| płocki | 2 | włocławski | 3 | m. poznań | 5 |
| gliwicki | 2 | inowrocławski | 3 | m. wrocław | 5 |
| katowicki | 2 | chojnicki | 3 | trójmiejski | 5 |
| sosnowiecki | 2 | elbląski | 3 | warszawski zachodni | 6 |
| tyski | 2 | ełcki | 3 | bielski | 6 |
| poznański | 2 | radomski | 4 | gorzowski | 6 |
| legnicko-głogowski | 2 | warszawski wschodni | 4 | zielonogórski | 6 |
| opolski | 2 | krakowski | 4 | koszaliński | 6 |
| bydgosko-toruński | 2 | oświęcimski | 4 | m. szczecin | 6 |
| sieradzki | 3 | bytomski | 4 | szczeciński | 6 |
| skierniewicki | 3 | częstochowski | 4 | jeleniogórski | 6 |
| ciechanowski | 3 | rybnicki | 4 | wrocławski | 6 |

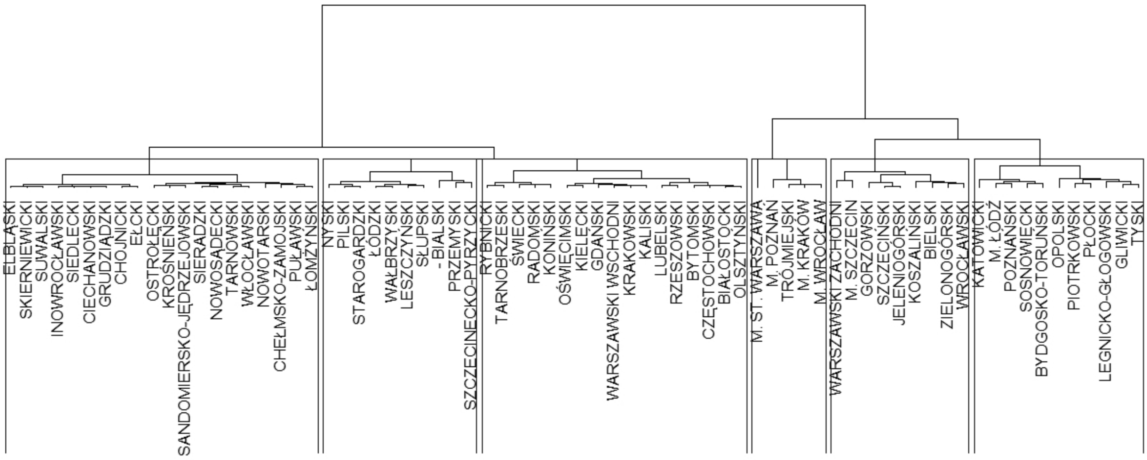
*Source: own estimation based on Statics Poland (Local data bank).*

*Figure 1: Cluster Analysis for the year 2010*




*Source: own estimation based on Statics Poland (Local data bank).*

*Figure 2: Cluster Analysis for the year 2015*




*Source: own estimation based on Statics Poland (Local data bank).*

In order to obtain information on the differences between the clusters in regard to the relative level of the analysed phenomenon the average values of diagnostic variables for each cluster were estimated, which are given in table 4 and 5. The results show that the NUTS 3 regions with the best conditions for entrepreneurship can be found in clusters 6, 5 and 2, which are mostly situated in Western part of Poland and are dominated by big municipal centres such as Warsaw, Wrocław, Poznań, Kraków and Gdańsk-Gdynia-Sopot.

*Table 4: Average values for the diagnostic variables in given clusters in the year 2010*

| **Class** | **x1** | **x2** | **x3** | **x4** | **x5** |
|---|---|---|---|---|---|
| 1 | 938 | 5,33% | 17,67% | 24112 | 2214 |
| 2 | 970 | 7,45% | 17,31% | 50922 | 4389 |
| 3 | 745 | 3,96% | 14,42% | 18567 | 1636 |
| 4 | 1157 | 6,63% | 31,92% | 34579 | 2780 |
| 5 | 2025 | 20,12% | 29,98% | 143642 | 11564 |
| 6 | 1589 | 13,19% | 20,71% | 65106 | 4670 |

*Source: own estimation based on Statics Poland (Local data bank).*

*Table 5: Average values for the diagnostic variables in given clusters in the year 2015*

| **Class** | **x1** | **x2** | **x3** | **x4** | **x5** |
|---|---|---|---|---|---|
| 1 | 939 | 5,98% | 21,50% | 26858 | 2536 |
| 2 | 1052 | 9,48% | 15,87% | 67536 | 6422 |
| 3 | 781 | 4,68% | 12,08% | 24918 | 2433 |
| 4 | 938 | 6,93% | 13,49% | 31697 | 3493 |
| 5 | 1883 | 19,51% | 19,80% | 101554 | 8180 |
| 6 | 1245 | 8,70% | 28,46% | 47042 | 4195 |

*Source: own estimation based on Statics Poland (Local data bank).*

# 4. Conclusion

The objective of the article was to analyse similarities between Polish NUTS 3 regions in regard to conditions for entrepreneurship, which was considered as the multiple-criteria phenomenon. The research was done with application of the Ward's clustering method for the years 2010 and 2015.

The conducted research confirms significant disparities in the case of level of entrepreneurship at NUTS 3 level. What is more, the contribution confirms that these disparities are stable in time, which can indicate relatively low effectiveness of regional policy that is aimed at reducing differences in regional growth potential.

This result can indicate that regional disparities in Poland at NUTS 3 level can be a significant burden for keeping long term growth objectives.

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# CHRONIC POVERTY ESTIMATION IN RUSSIA IN CONTEXT OF GLOBALIZATION

Ruslan Sadyrtdinov[1,a,*], Dmitry Rodnyansky[1,b], Oleg Makarov[2,c] and Yevgeniy Milovanov[2,d]

[1]Kazan Federal University, Russian Federation

[2]Finance University under the Government of the Russian Federation (Lipetsk Branch), Russian Federation

[a]s_ryslan@mail.ru, [b]drodnyansky@gmail.com, [c]oleg250483@mail.ru, [d]milovanov2006@mail.ru

*Corresponding author

**Abstract.** Modern globalized world is characterized by the significant economic and social inequalities. Income inequality within the population and the predominance of certain groups in the consumption over others causes destabilization of the society, generating certain social and economic problems. One of the main global challenges characterizing the state of the population is poverty. The most dangerous form of poverty from an economic, political and social point of views is a chronic poverty - a situation in which poverty, localized in certain groups of society or in certain regions, is reproduced systematically, i.e. when several generations of people are not able to overcome the factors and causes that once gave rise to poverty. Using quantitative data from “Russian monitoring of the economic situation and public health HSE (RLMS-HSE)” for the years 2008-2012, authors estimated the chronic poverty among citizens of the Russian Federation. The results clearly show that about 12% of individuals were persistently poor and about 31% were transient poor within the research period. The following causes of chronic poverty in Russia in current international circumstances were highlighted: the long absence of a clear program of economic reform taking into account the social sphere; the presence of a budget imbalance leading to inflation; ineffective programs to protect the population, generating hidden unemployment, a decline in the standard of living and impoverishment of the population.

**Keywords:** chronic poverty, well-being, estimation, household, Russia.

**JEL Classification:** I32, P46

## 1. Introduction

The ability of people to provide themselves with goods and services is a key point in evaluation of the population welfare in modern globalized world. Income inequality within the population and the predominance of certain groups in the consumption over others causes destabilization of the society, generating certain social and economic problems. One of the main global challenges characterizing the state of the population is poverty. Poverty is a characteristic of the economic situation of an individual or a social group, in which they can not satisfy a certain range of their minimum needs, which are necessary for life, retention of work capacity, and continuation of the family. Of course, the concept of poverty is relative and depends on the living standards in a particular society.

The most dangerous form of poverty from an economic, political and social point of view is chronic poverty. Economic and social dimensions of chronic poverty can be identified. Economic dimension of chronic poverty is related to citizens who do not provide themselves with a socially acceptable standard of living, and determined by the conditions of the functioning of the labour market. As part of the economic approach, chronic poverty is understood as a state of need associated with low levels of income and consumption of the individual or household for a long period of time.

Social dimension of chronic poverty is identified primarily with the traditionally poor and poorly protected categories of the population. A person in chronic poverty is deprived of access to the values of science, culture, art, he is at the bottom of the social ladder, lost his status as a normal person, can not escape from this bottom independently, feels humiliated and insulted. All this makes chronic poverty not only an economic category, but also a social one, because it reflects the social position of the individual or groups and their social behaviour, which to some extent has an impact on the entire life of the given society. In the socio-economic approach, chronic poverty is viewed in a broad social context and is interpreted as the absence or extreme limited access to resources for a long period of time that determine the quality of life of an individual.

Improving the quality of life in the country in general and in its regions is one of the most important global challenges for social and economic development nowadays. Quality of life largely depends on welfare. For example, some papers analyze the impact of household characteristics such as income, urbanization degree, types of households, and work status of reference person on the differentiation of household consumption expenditure based on Europe and Russia (Beglova et al, 2015; Varlamova & Larionova, 2016). That is why research related with the problems of chronic poverty is becoming more valuable in terms of improving the quality of life of the population. In this connection, the need for applied research of this category arises, which in turn consists of a set of concepts and stages, allowing not only to estimate the real level and social profile of chronic poverty, but also to adopt and implement anti-poverty policy in the most effective manner.

The chronic poverty is characterized by a large number of indicators, which have objective and subjective, quantitative and qualitative dimensions. It is quite difficult to single out and study all of their totality. Thus, it is needed to analyse different research approaches to the chronic poverty estimation.

## 2. Literature review

The problem of chronic poverty measurement is currently an actual problem. Despite the existence of a large number of papers devoted to this issue, the phenomenon under study remains controversial. The range of opinions is quite wide and ranges from setting the chronic poverty line at the level of a rigid physical minimum of livelihoods for economically backward countries to quite comfortable standards of well-being in highly developed countries where an extensive network of social support is formed. The variability of concepts for measuring chronic poverty, and therefore the differentiation of poverty indicators, does not allow us to determine the poverty level as realistically as possible, since the application of certain concepts reveals its relative results. Nevertheless, in Russia the absolute concept of chronic poverty must be accompanied by a relative approach for more truthful and realistic results that will, in turn, lead to an effective state policy to target chronic poverty.

There is a sufficient set of papers devoted to the chronic poverty estimation. Paper about the conceptualization of chronic poverty argues that hundreds of millions of people are chronically poor. The causes of it are multifarious but can be analyzed through livelihoods frameworks and that the scale and nature of chronic poverty will require an increase in the levels of financing allocated to social protection in developing countries. Recent conceptual and methodological advances, and the increasing availability of panel datasets, mean that the analysis of deprivation can move on from poverty trends to poverty dynamics. (Hulme & Shepherd, 2003)

Carter and Barrett develop an asset-based approach to poverty analysis that makes it possible to distinguish deep-rooted, persistent structural poverty from poverty that passes naturally with time due to systemic growth processes. Drawing on the economic theory of poverty traps and bifurcated accumulation strategies, they briefly discuss some feasible estimation strategies for empirically identifying poverty traps and long-term, persistent structural poverty, as well as relevant extensions of the popular Foster-Greer-Thorbecke class of poverty measures. (Carter & Barret, 2006)

Another article reviews relevant threads of the poverty traps literature to motivate a description of the opportunities presented by innovative index-based risk transfer products. These products can be used to address some insurance and credit market failures that contribute to the persistence of poverty among households in low-income countries. (Barnett et al., 2006)

In many cases research on chronic poverty is focused on low-income countries. Haddad and Ahmed, using a panel data of 347 households in Egypt during 1997-99, identify that about two-thirds of overall poverty is chronic (average consumption over time is below the poverty line), and almost half of all poor are always poor. The predominantly chronic nature of poverty in their sample strengthens the case for targeting antipoverty interventions, such as food subsidies (Haddad & Ahmed, 2003).

Another study uses a five-year panel of 686 households from rural Pakistan to investigate the magnitude of chronic or transitory poverty making an explicit adjustment for measurement error. Since the largest part of the squared poverty gap in the sample is transitory, large reductions in poverty can be achieved by interventions designed to 'smooth' incomes, but reducing chronic poverty in the long-term requires large and sustained growth in household incomes. The level and variability of incomes is then modelled as a function of household characteristics, education and assets. The resulting model of the income generation process is used to simulate the impact that a range of transfer and investment policies would have upon chronic and transitory poverty. (McCulloch & Baulch, 2000)

Kapur Mehta and Shah view the chronic poverty in terms of extended duration, severity and multidimensional deprivation to draw attention to those people in India for whom poverty is intractable. Two sets of approaches are used: an area-based approach and an historically marginalized groups-based approach. The area-based approach maps the location of the chronically poor by identifying states and regions that have been especially vulnerable to poverty in terms of severity and multidimensionality. The historically marginalized groups approach draws attention to groups who have suffered multiple deprivations for long periods.

Chronic poverty is disproportionately high among casual agricultural laborers, scheduled castes and scheduled tribes. (Kapur Mehta & Shah, 2003)

Another paper investigates whether monetary and nonmonetary indicators tell the same story about chronic poverty using a unique panel data from Vietnam in the 1990s. Defining chronic poverty as occurring when an individual is monetarily poor, stunted, malnourished or out of school in both waves of the panel, the overlap and correlation between subgroups of the chronically poor are shown to be modest. Some, but not all, nonmonetary indicators are more persistent and complement monetary indicators of chronic poverty. (Baulch and Masset, 2003)

Bird and Shepherd (2003) found that persistent poverty was strongly associated with the structural poverty of Zimbabwe's semi-arid communal areas. Relative urban proximity assisted income diversification and improvement in a very poor, socially and politically excluded area. Less excluded but remote areas remained poor but not as poor as the excluded population. Livelihoods changed and diversified more in the nonremote area, speeding poverty reduction as measured by an index of perceived change.

Research on rural Sichuan during 1991-95 shows that poverty there was both dynamic and persistent. A new measure of chronic poverty is defined - as a high vulnerability to being poor-and compared with traditional interpretations of chronic poverty as low mean consumption. Households are highly vulnerable to falling into poverty even when their average consumption is some distance above the poverty line. The determinants of low mean consumption and high vulnerability appear however to be similar suggesting that policies to increase mean consumption will also reduce vulnerability. (McCulloch and Calandrino, 2003)

In another paper addressing the issue of chronic poverty in Rwanda authors argue that by judicious combination of existing qualitative (a high quality nationwide participatory poverty assessment) and quantitative sources (a household survey) it is possible to identify and characterize a clearly distinct group of chronically poor households, whose characteristics are different from the poor as a whole. (Howe and McKay, 2007)

High-income countries are not exemption to the chronic poverty existence. For example, Valetta (2006) compares poverty dynamics in four advanced industrial countries (Canada, unified Germany, Great Britain, and the United States) for overlapping six-year periods in the 1990s, focusing on the impact of government policies. The data indicate that relative to measured cross-sectional poverty rates, poverty persistence is higher in North America than in Europe. Most poverty transitions, and the prevalence of chronic poverty, are associated with employment instability and family dissolution in all four countries. However, government tax-and-transfer policies are more effective at reducing poverty persistence in Europe than in North America.

Another paper treats chronic cumulative disadvantage as a proxy for 'social exclusion' and provides an empirical application for twelve European countries using data from the ECHP. Social exclusion appears to be more widespread in Southern European countries with relatively underdeveloped welfare states and the countries associated with the 'Liberal' welfare state regime. The results of multivariate analysis demonstrate that in most countries, lack of full-time employment, low educational qualifications, lone parenthood, non-EU citizenship and bad health are positively and significantly associated with increased risk of social exclusion. In contrast, the effect of being an elderly citizen living alone or a member of an elderly couple is found to be negatively associated with the risk of social exclusion in

Northern but positively in Southern Europe. Finally, country and welfare regime effects turn out to be significant in explaining the probability of social exclusion. (Tsakloglou & Papadopoulos, 2002)

There is also a set of papers devoted to inequality and poverty in Russia compared to developed countries and countries in transition. Using the large Russian Longitudinal Monitoring Survey dataset, one research demonstrates that inequality has subsequently risen yet further and by end-1996 was roughly comparable to inequality in Mexico, Colombia or Malaysia. The paper also looks at the incidence and depth of poverty over the period 1992-96. At the start of transition, roughly half the population of households fell below the poverty line. While this has subsequently declined, at end-1996 nearly 40 % of households were below the poverty line and a substantial stratum of households were locked in chronic poverty. (Commander et al., 1999)

Most of researchers on poverty and inequality in Russia use the absolute concept of poverty and few of them use relative concept. For example, Braithwaite and Ivanova study the relation between long-term poverty and different demographic and regional features of households, such as unemployment or delays in wage payments (Braithwaite & Ivanova, 1998). Literature review shows that chronic poverty depends on such factors as social well-being including health, education, culture and sport, and economic well-being including income and unemployment and living conditions, including safety, ecology, housing conditions.

## 3. Methods and results

In our research for chronic poverty in Russia the relative concept of chronic poverty measurement was used. Person belongs to poor in a given round, if his income is less than half of per capita expenditure level median distribution (OECD definition).

The chronic poverty estimation in Russia is based on the data from “Russian monitoring of the economic situation and public health HSE (RLMS-HSE)” for the year 2007-2013 (number of individuals, who filled the survey questionnaires for the corresponding period, is 5897 people). It is carried out by the National Research University “Higher School of Economics” and ZAO “Demoscope” with the participation of the Population Center of the University of North Carolina at Chapel Hill and the Institute of Sociology since 1992 year. The sample of households and individuals is based on international methodology and is representative.

The easiest way to assess chronic poverty is to count the number of rounds when the person turned out to be poor (on a scale of 0 to 5). Although this method is simple, interpreting the results can cause some difficulties. Measuring how many times the person turned out to be poor, we can not divide those persons that have been poor for several consecutive years from persons that were poor the same number of rounds, but not in a row.

In this paper, a method that really allows to separate persistently poor individuals from transient poor was used. To do this, we measured the permanent level of individual welfare (for our case, this is a permanent income level $Y_p$) using the following Equation 1:

$$Y_p = \frac{1}{5}\sum_{i=1}^{5} Y_i^e \qquad (1)$$

where $Y_i^e$ - the level of individual income in i-th round.

Then, we estimated the permanent poverty line as half of the median of the corresponding distribution of the variable $Y_p$. Finally, we measured whether the individual was poor in each of the survey rounds, comparing its income with half of the median from the distribution of incomes in each of the rounds. The distribution of persons relative to the permanent poverty line by the number of times they stay below the poverty line in individual rounds is presented in Table 1.

*Table 1: Distribution of individuals relative to the permanent poverty line*

| | **Below permanent lines** | **Above permanent line** |
|---|---|---|
| Have not been in poverty, never | 0 | 3059 |
| One stay in poverty | 19 | 1254 |
| Two stays in poverty | 162 | 588 |
| Three stays in poverty | 259 | 157 |
| Four stays in poverty | 256 | 30 |
| Five stays in poverty | 113 | 0 |

*Source: calculated by authors*

Analyzing the results of the distribution we can consider the individual not poor if he has never fallen into poverty for all five rounds (and therefore has a permanent level of income above the permanent poverty line). Secondly, if the level of permanent individual income is higher than the level of the permanent poverty line, but at the same time, the person could be poor in one or two rounds out of five, then such an individual is considered transient poor. Thirdly, if the permanent level of individual income was below the permanent poverty line and, at the same time, the person was poor in more than two rounds, it was reasonable to consider this person persistently poor.

However, following this logic, we have two more groups: individuals that have a level of permanent income above the permanent poverty line, but at the same time, being poor in three rounds and more, and individuals having permanent income below the poverty line, but at the same time, being out of poverty in three rounds and more. In this paper, we will call them as individuals with volatile income near the poverty line. Despite the fact that this decomposition into categories is the simplest and dictated by the available data, it seems to contain underestimation of persistently poor people. It is connected with limit of only five years, in which the permanent level of the individual welfare, based on the income is measured. In this case seeing a person poor in the first or last of the five years and not poor during the remaining rounds, he can be considered as transient poor.

And we do not know whether he could be poor long enough before or after the period of the survey. Taking it into account, we measured poverty level one year before and after the period of the survey. So, now it is possible to improve the division of individuals into poverty profiles by reducing the number of individuals with volatile income near the poverty line. It leads to the following division of individuals relative to the permanent poverty line:

*Table 2: Poverty profiles of individuals in Russia, 2008-2012 year*

| **Status** | **Number of persons** |
|---|---|
| Outside poverty | 3059 |
| Transient poverty | 1842 |
| Volatile near poverty | 297 |
| Chronic poverty | 699 |

*Source: calculated by authors*

As it can be seen from Table 2, about 12% of individuals were persistently poor and about 31% transient poor for the period of 2008-2012 years. The following causes of chronic poverty in Russia were highlighted: the long absence of a clear program of economic reform taking into account the social sphere; the presence of a budget imbalance leading to inflation; ineffective programs to protect the population, generating hidden unemployment, a decline in the standard of living and impoverishment of the population. However, there is a specific for Russia cause of chronic poverty, which is the rejection of vital benefits for the sake of a brighter future, which led to mental inertness and the country's inaccessibility to other conditions of life.

The fight against chronic poverty and its prevention are the priority tasks of any socially oriented state policy. There are two main methods in the world. The first, used in developed countries, is aimed at securing high social guarantees worthy of minimal incomes (wages and pensions) that ensure high standards of consumption. The second method is a system of targeted social assistance to the people in need. In developed countries, this method is used as an additional, exclusively for a narrow circle of people who are in an extreme situation. In developing countries it is the main one.

## 4. Conclusion

Using quantitative data from "Russian monitoring of the economic situation and public health HSE (RLMS-HSE)" for the year 2008-2012, authors estimated the chronic poverty among citizens of the Russian Federation. The results clearly show that about 12% of individuals were persistently poor and about 31% were transient poor for the 2008-2012 years. The following causes of chronic poverty in Russia in current international circumstances were highlighted: the long absence of a clear program of economic reform taking into account the social sphere; the presence of a budget imbalance leading to inflation; ineffective programs to protect the population, generating hidden unemployment, a decline in the standard of living and impoverishment of the population.

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# ENHANCED QUALITY OF RAIL FREIGHT TRAFFIC AS A TOOL TO IMPROVE EFFICIENCY OF GLOBAL ECONOMY

Yu. I. Sokolov[1,a], V. G. Galaburda[2,b], I. M. Lavrov[3,c,*], L. O. Anikeeva-Naumenko[4,d]

[1]D. Sc. (Economics), Full Professor, Director of Institute of Economics and Finance, Russian University of Transport, Moscow, Russian Federation

[2]D. Sc. (Economics), Professor Emeritus of "Economics and Transport Management" Department, Russian University of Transport, Moscow, Russian Federation

[3]Ph. D. (Economics), Senior Deputy Director of Institute of Economics and Finance, Associate Professor of "Finance and Credit" Department, Russian University of Transport, Moscow, Russian Federation

[4]Ph. D. (Economics), Associate Professor of "Economics and Transport Management" Department, Russian University of Transport, Moscow, Russian Federation

[a]jurysokolov@yandex.ru, [b]-, [c,*]ilya02lavrov10@yandex.ru, [d]deya@yandex.ru

*Corresponding author

**Abstract.** Since transport services global markets are rapidly growing and operation of international transport corridors is intensifying, improved efficiency of the activities pursued by transport companies based on enhanced quality of the services provided, take on national importance in terms of strengthening competitiveness of the economy of the Russian Federation. The research focus is to develop assessment methods and improve quality of transport service for freight owners in order to ensure growing efficiency of the global economy. The article presents analysis dealing with the railway freight traffic market within 1520-territory, reviews key issues related to the freight car fleet utilization in Russia and CIS countries. The focal areas for improving utilization efficiency of the railway freight car fleet have been grounded. The article substantiates the quality rating system applicable to freight traffic that is divided into industrial (field operation quality) and consumer-oriented (transport service quality) subsystems. The article describes economic models and quality assessment methods applicable to transport service rendered to freight owners in the context of the railway transport. In conclusion, the authors propose a list of specific actions aimed at enhancing competitiveness of Russian transport companies in the market of the railway freight traffic and enhancing the role of the Russian economy at the world stage.

**Keywords:** efficiency and quality of rail freight traffic, globalization, rail traffic.

**JEL Classification:** R41

## 1. Introduction

Since transportation services global markets are rapidly growing and operation of international transport corridors is intensifying, improved activities of transport companies based on enhanced quality of the services provided take on national importance in terms of strengthening competitiveness of national economies and improved efficiency of the global economy.

The world community first addressed the issues related to improvement in service at the railway transport way back in 1950s, but only at the end of the 20th century, the quality was recognized as one of the efficient methods serving to enhance competitiveness among transport companies , which was attributed to actual conditions that regulate the transport industry.

Based on the research conducted by foreign (C. Grönroos, A. Parasuraman, V. Zeithaml, L. Berry, E. Horsman, R. Palšaitis, E. Nedeliakova et al.) as well as by Russian scientists (T. S. Khachaturov, I. V. Belov, M. Ye. Mandrikov, M. F. Trikhunkov), a great many performance indicators applicable to service quality at the railway transport were developed (Grönroos, 1991), (Chen et al., 2010), (Xuemei & Zhicai, 2017), (Kazimierz et al., 2017), (Stefancova et al., 2017). In most cases, the composite quality index that presents the aggregate measure that serves to assess quality of operation at the railway transport, considering various assessment parameters and their value, will serve as the key assessed result.

The analysis of key performance indicators applicable to 2011-2016 freight operations is given in the table 1 (Dolinayova et al., 2016).

*Table 1: Key performance indicators applicable to 2011-2016 freight operations*

| Country | Miles of railway (km) | | Freights carried (thousand tons) | | Freight turnover (million ton-km) | |
|---|---|---|---|---|---|---|
| | **2011** | **2016** | **2011** | **2016** | **2011** | **2016** |
| Russian Federation | 85,166 | 85,262 | 1,381,702 | 1,328,213 | 2,107,095 | 2,342,589 |
| Belarus | 5,482 | 5,480 | 152,775 | 126,757.6 | 49,406 | 41,107 |
| Kazakhstan | 14,319.4 | 14,761.1 | 279,595 | 244,201.6 | 223,583 | 188,159 |
| China | 66,041 | 67,091 | 3,197,020 | 2,165,910 | 2,594,897 | 1,918,420 |
| Poland | 19,725 | 19,214.1 | 140,546 | 222,249.3 | 37,195 | 50,614.1 |
| Slovakia | 9,572 | 9,564.2 | 78,740 | 97,954.2 | 13,872.5 | 15,481.8 |

*Source: http://www.gks.ru/*

Based on the analysis of 2011–2016 freight handling and turnover data for member countries of Organization for Railways Cooperation, the reduction due to the crisis-like phenomena in 1520-territory can be observed (Palšaitis & Ponomariovas, 2012). However, the Russian Federation demonstrates growth attributed to enhanced efficiency of the freight car fleet utilization. We may further study the similar dynamics exemplifying JSC Russian Railways as the sole national (network-wide) railway transport operator in the Russian Federation territory.

According to the latest information, freight handling by JSC Russian Railways in 2017 totaled 1 billion 261.3 million tons, which is 3.2 % more than in 2016, and the 2017 freight turnover was 2 trillion 491.4 billion tariff ton-km (+ 6.4 %), the freight turnover, including empty car mileage – 3 trillion 176.2 billion ton-km (+ 6 %) (Source: http://www.rzd.ru/).

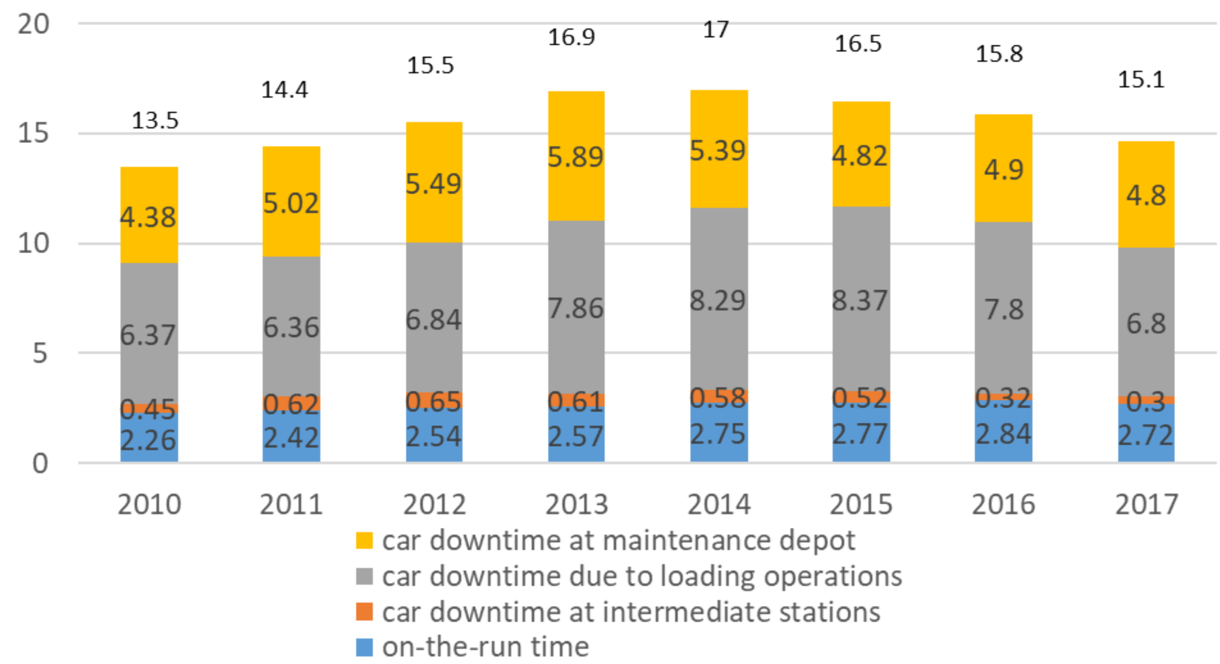
Some subject matter experts attribute moderate increase in freight turnover and handling since 2015 to the freight car shortage in the railway network. The experts believe that some car shortage preconditions emerged in 2015 when reduction in the life limit of freight railway equipment resulted in write-off of 200 thousand rolling stock items, more than a half of which fell into the gondola car segment. Thus, considerable quantities of the equipment items were scrapped and operators of large rail car fleets, under shortage conditions, could drive prices up for consignors. In 2015–2017, rental rates for gondola cars went up from 560 RUR to 2,000 RUR per unit per day (Barbariush, 2017).

The shortage of gondola cars for bulk cargo shipments (including coal and crushed stone), grain carriers and tank cars for chemicals and generator gases is the most pervasive.

According to expert evaluations the gondola car shortage (Skorlygina, 2017) in JSC Russian Railways as of early 2018, was about 6 thousand items. Due to the current situation freight car turnaround, i. e. time required to complete an operation cycle that starts when one loading session ends and finishes when the next loading session ends, i. e. average time per day that one car spends for transportation becomes that most important process performance indicator of the freight car fleet utilization efficiency.

Fig. 1 shows the dynamic pattern for changes in the car turnaround.

*Figure 1: A freight car turnaround with details per day*




*Source: http://www.gks.ru/*

You can observe that from 45 % to 50 % of the car turnaround time accounted for the car downtime due to loading operations; however, currently railway rolling stock operators more strongly motivate consignors and consignees to accelerate rolling stock turnaround at their own spurs and at freight handling public areas. This is confirmed by general dynamics (growth) in rates related to rolling stock spotting for loading and daily rental rates and by the resumed discussion on the need to impose penalties on freight owners for lengthy freight handling operations.

## 2. Methods

In the context of the current situation in the industry the methods on enhancing efficiency of the freight car fleet utilization come first; in case the methods are not applied the industry may fail to transport all the planned freight shipments as scheduled. The arrangements aimed at reducing car turnaround time due to lowering empty car mileage become especially urgent – freight car upgrade, which is extensively used in particular for timber transportation, through flat car tooling; also due to reduced downtime at marshalling yards – railway traffic routing.

It is necessary to point out that shortage of freight car fleet increases load on the network-wide carrier, i. e. JSC Russian Railways, since the company suffers losses associated with the failure of the rolling stock operators to fulfil transportation orders; as of year-end 2016, the losses exceeded 1 billion rubles.

In view of the above, we believe that it is necessary to harmonize a carrier's responsibility for delayed delivery of freights and empty freight cars; this could contribute to leveling the competitive environment for its activities where it operates with other means of transport and other EEU railway carriers (Wallander & Makitalo, 2012).

The scope of transportation activities carried out by rail transport is rather large. Therefore, the consequences of decisions made by railway transport organizations manifest themselves in other areas on a considerable scale. Based on the requirement to analyze rail transport operations systematically, it is necessary to consider these consequences and, if possible, numerically evaluate them. Thus, it is required to articulate and resolve the issue on considering the non-transport effect resulted from various arrangements implemented at the rail transport. Non-transport effect means benefits, interconnected effects or losses that occur in various areas of social and economic public life because of using any given means of transport and various transport technologies, but do not affect financial performance of carrier operators.

In addition to the non-transport effect, currently, when infrastructure (Macheret et al., 2018), carrier and operator management responsibilities are divided, it is also important to consider cross influence that decisions made by one company exert on work efficiency of companies involved in other activities (Dolinayova et al., 2015). For example, investments the infrastructure owner makes to remove bottlenecks, usually, will produce an effect manifested in terms of increased profit gained also by operators and carriers who work in this specific territory. This type effect cannot be described as non-transport (since it appears in transport companies); it makes sense to call it external transport effect applicable to a particular company. For the purpose of this article, we will study exactly the non-transport effect produced by enhanced quality of freight car fleet utilization.

The analysis of methods aimed at enhancing quality of freight car utilization testifies that based on current situation the most relevant of them include:

- Railway traffic routing;
- Enhanced rail car capacity;
- Rail car upgrade;
- Freight logistics based on fixed train paths scheduled;
- Use of innovative freight cars (Anikeyeva-Naumenko & Lebedeva, 2016).

## 3. Results

In this article, we assume that transportation demand prevails over supply; in this case, all the reviewed sources contribute to the non-transport effect produced. When supply is equal to demand or prevails it, less sources will contribute to the non-transport effect.

Let us review the sources that produce the non-transport effect due to use of methods enhancing quality of freight car utilization.

A freight owner will get the following benefits from railway traffic routing:

Accelerated freight delivery that will save freight owner's current assets, reduce cyclical turnaround time and, consequently, increase number of operating cycles per unit time.

Better supply of transportation demand when demand prevails over supply. In this case, railway traffic routing allows accomplishing more transportations with the transport resources available, which will result in increased sales of the freight owner's products and, consequently, in its earnings growth.

In this situation, earnings may grow under two scenarios:

- Given opportunity to complete more transportations, a freight owner will ramp up production;
- A freight owner gets opportunity to ship finished products manufactured previously but not shipped due to shortage of railway carrier transports (in this case, the benefits will also include manufacturing costs associated with these products, i. e. losses averted).

In both instances, removed production output limitations associated with transportation will have positive influence.

A benefit that freight owners get when switching from more expensive modes of transportation given the opportunity to increase railway transport loading capacity.

This benefit cancels the benefit described in Item 2. Usually, on a practical level, one of these benefits will work (the only exception is the case when one part of the freight traffic is switched over from another mode of transportation and the other part – reappears due to increased production output).

The benefit for the federal budget and constituent entity budgets will be generated based on the growth of profits gained by railway transport organizations and freight owners as well as due to the added value growth.

Rail car upgrade involves installation of additional detachable equipment that allows its more efficient use (for example, side walls added to fitting flat cars to allow back freight transportation). As a result, empty car mileage will reduce, rail car load and train weight will increase, other qualitative indices will enhance.

The freight owner's key benefit involves better satisfaction of transportation demand owing to significant reduction of empty car mileage, additional free rail capacity. Budget benefits (growth of tax revenues): profit tax and additional value-added tax.

In this context, it is necessary to note that in terms of the action package not the entire non-transport effect is due to the rail car component, but 30 % thereof only (as per pro rata proportion in the tariff) (Sokolov & Anikeyeva-Naumenko, 2014).

As for evaluation and maintaining the quality level of transport services rendered to freight owners, practical activities may also embrace non-transport effects (damages) caused by (Sokolov & Lavrov, 2014):

- Accelerated freight delivery;

- Improved regularity of freight traffic;
- Enhanced safety of transported freights;
- Expanded comprehensive range of services;
- Improved ecological performance of transport processes.

The research results testify that within 5 years the integrated quality index, described as a “quality index” for estimation purposes, has demonstrated significant growth – from 50 scores in 2011 to 61 scores in 2017. This is attributed both to low base effect (dissolution of JSC Russian Railways rail car inventory fleet and transfer of services involving allocation of rail cars to transportation operators, either independent or members of JSC Russian Railways Holding) and to the efforts made by government regulatory authorities and JSC Russian Railways to develop market mechanisms and enhance client-oriented trend in the industry.

## 4. Discussion

It is possible to achieve effect of accelerated freight delivery related both to transportation and freight owners owing to technical and logistics measures (arrangements to accelerate handling for some trains at train stations and railroad hauls, improved train scheduling, etc.) as well as to large-scale measures (for example, improved train handling at railroad hauls and train station estimated capacities at heavy-traffic lines ensured by additional tracks constructed, increased locomotive capacities, etc.).

Usually, regularity of deliveries along with delivery dates is greatly important for the freights intended for industries with continuous flow manufacturing. Regularity of freight traffic requires fixed shipping dates, compliance with the delivery date and conformity of the gap between shipments with the operation cycle duration at the enterprise serviced.

In this context, accelerated delivery is effective only if deliveries of all the components are accelerated in parallel and simultaneously, then the effect is attributed to accelerated asset turnover. If accelerated delivery is available for separate components only, current inventory stock is growing (due to the parts and components delivered) and an enterprise will bear extra storage costs. Given freight deliveries outside working hours (a weekend or a public holiday, night shift) an enterprise has also to have an additional staff on the payroll. With this situation corrected and switching to the logistics pattern where the gap between deliveries is exactly equal to one operating cycle duration, the freight consignee will get a benefit to be determined as a difference between storage costs incurred by the consignee given appropriate delivery alternatives.

Thus, accelerated freight delivery works really well for perishable and difficult-to-obtain freights. In case of freights designated for industrial purposes acceleration is efficient if the manufacturing process is streamlined and delivery of all the components is accelerated, while the maximum effect will be achieved with freights delivered “just-in-time” on consignee’s conditions, i. e. when a transport company adapts its operations to a consignee operating cycle.

It should be noted that the said examples relate to streamlined and fixed-duration manufacturing cycle (Sokolov, 2008). Accelerated delivery of seasonal freights, consumed all-the-year-round will not result in desired benefits since freights usually go to the warehouse. These freights amount to 30 % of the entire transportation volume.

Safety of transported freights, described by percentage of freight in-transit losses, is very important for freight owners. Usually, the railway administration will pay for damage at the amount of the cost of the freight lost through railway employees fault. Therewith freight natural loss or force-majeure circumstances that have caused the freight loss shall be considered. The freight cost shall be determined based on the price indicated in the seller's invoice, provided in the contract or based on the average market price for specific goods (Sokolov & Lavrov, 2014).

Expanded comprehensive range of transportation services (switching to door-to-door delivery pattern) will also contribute to the economic benefits gained by freight owners through the following actions:

- Use or construct spurs;
- Railway procures auto vehicles to complete freight comprehensive delivery based on door-to-door pattern;
- Railways signs general contractor agreements and outsources other transportation modes to act as subcontractors in a mixed traffic.

When integrity of services improves, the non-transport effect constituent may be described as reduction of expenses incurred by freight owners and associated with required arrangements and maintenance support for mixed traffic: freight consignor can downsize the workforce involved in transportation logistics, but transportation costs grow up (Sokolov et al., 2015).

Improved ecological performance will also benefit freight owners. The first benefit is related to freight safety in transit. Freight owners will benefit from current assets growth. The ecological effect per se is achieved owing to changed manufacturing process at transportation enterprises.

Depending on the actions taken and their specific conditions, some of the above effects may be achieved.

## 5. Conclusion

Thus, we have determined that though the actions in question relate to optimization of in-house processes in railway organizations and are associated to so-called "industrial quality", they, nevertheless, may generate effects outside the industry. In this context, both freight owners and budgets, federal and regional, will benefit from these effects.

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# INTERNATIONAL STRATEGIC PRIORITIES OF DEVELOPMENT: COMPETITIVENESS AND ECONOMIC SAFETY IN THE SPHERE OF TRANSPORT

Sokolov Yuri Igorevich[1,a], Tereshina Natalia Petrovna[1,b], Mezhokh Zoya Pavlovna[1,c], Zhakov Vladimir Vladimirovich[1,d,*], Korisheva Olga Viktorovna[1,e]

[1]Federal State Institution of Higher Education «Russian University of Transport» (RUT), Obraztsova street 9, building 9, 127994 Moscow, Russian Federation

[a]jurysokolov@yandex.ru, [b]mtk3403@mail.ru, [c]mejokh.zoya@gmail.com, [d]zhakov.v@gmail.com, [e]pretty_ok@mail.ru

*Corresponding author

**Abstract.** The article analyzes international competitiveness and economic security in the field of transport, in particular, railway transport as a strategic development priority, and offers tools to ensure the competitiveness of the rail transport field. To increase the competitiveness of the rail transport, in particular the East-West direction, it is planned to use modern technologies, such as innovative management approaches and high-speed rail lines. Improving the competitiveness of the company, the development of new services, production of new goods, the efficient use of all types of resources, implementation of innovative technologies – there are all necessary parts of the global development, forming the economic security of companies, industries, and government. Therefore, it is important to find a balance between the level of openness of the economy and the system of regulating access of foreign producers to the Russian market in accordance with the modern practice of international economic relations. Transport production acts as a subject of regulated market relations, especially when shaping the demand for transportation and the choice of chains of goods movement by interacting modes of transport, when establishing mutually beneficial economic and legal relations between transport and cargo owners, transport and passengers. Hence, it is important to design the combination of free trade and protectionism as an integral part of the foreign economic policies of developed countries to achieve global economic security.

**Key words:** economic security, competitiveness, tools for ensuring competitiveness, rail transport, intermodal transport.

**JEL Classification:** R41, F02, P17

## 1. Introduction

At the present stage, the economy is experiencing significant changes caused by the processes of globalization, the intensification of competition in the external and internal markets, the transformation of the entire system of world management. The unpreparedness of market participants for a rapidly changing external environment, financial crises and instability, the unresolved financial and economic problems of the past decades have become serious barriers to improving competitiveness, activating and accelerating Russia's economic growth. Active development has become an indispensable attribute of the leading powers and economies of the world, without which it became impossible to fully ensure the economic security of the country and business entities. The related term "development" is the notion of "competitiveness". To remain in the leadership, it is necessary to ensure competitiveness, and this is possible only in conditions of stability, stimulating the economic growth of industries, organizations, raising the standard of living of the population as a whole.

## 2. Modern aspects of global economic security issues

Development and sustainability are important components of economic security. The ability of the company in case of crisis situations to return to a certain level of its safe existence will confirm its stability. However, being for a long time at the point of the same level of functioning and under conditions of high competition level in a market will inevitably lead to bankruptcy and liquidation. If the company continuously develops, the factors of production and economic activity must constantly be in motion.

Improving the competitiveness of the company, the development of new services, production of new goods and services, the efficient use of all types of resources, introduction of new information and innovative technologies - all are necessary parts of the development, forming the economic security of companies, industries, and government. However, not every form and manifestation of development meets the requirements of safety. For example, development at the expense of environmental standards or development that is contrary to the social direction can not contribute to achieving economic security.

At the same time, if the economy does not develop, then it sharply reduces the resources of self-preservation, resistance and adaptability to internal and external threats. Sustainability and security are the most important characteristics of the economy as a single system. (Mezhokh, 2016) The stability of the economy reflects the ability to "restore a steady normal state after a sudden violation of it by some external or internal factor" (Dolinayova et al., 2016, A). At the same time, the combination of development and sustainability is even more important for achieving economic security, that is, ensuring sustainable development that allows us to maintain the rate of growth in the efficiency of the use of resources in the present and in the future, and improve governance mechanisms. (Senchagov & Mityakov 2016)

Thus, it is important to find a balance between the level of openness of the economy and the system of regulating access for foreign producers to the Russian market in accordance with the modern practice of international economic relations. To achieve economic security, the combination of free trade and protectionism is an integral part of the foreign economic policies of developed countries.

## 3. Transport production - the foundation of global market economy

In the “National Security Strategy of the Russian Federation”, approved by Presidential Decree No. 683 of December 31, 2015, "national competitiveness of the national economy" is declared as a national interest and strategic national priority. (Sokolov et al., 2016) To reach this goal, it is necessary to achieve the effective functioning of the modern Russian economy and the formation of a civilized competitive market. The market as an economic category expresses a system of stable, constantly reproducible relations between various actors acting on it, mediated by the mechanism of value, commodity-money relations, pricing, supply and demand. Transport production is the foundation of a market economy. (Luan et al., 2017) In this sense, it acts as an object of market relations, the effective functioning of which depends on the stable functioning and development of all branches of the national and global economy, organizations and their associations serviced by transport.

Transport production acts as a subject of regulated market relations, especially when shaping the demand for transportation and the choice of chains of goods movement by interacting modes of transport, when establishing mutually beneficial economic and legal relations between transport and cargo owners, transport and passengers. (Dolinayova et al., 2016, B) Since transport connected all the links of the economic system it is impossible to achieve economic security of the country without an effectively functioning transport sector. (Dolinayova et al., 2017) This, in turn, determines the importance of increasing the competitiveness of transport organizations that provide transportation services. Competition between modes of transport in these conditions positively affects the overall competitiveness of the transport industry, as it stimulates the improvement of the quality of service of subjects of each segment by mode of transport.

This fact is actual, as evidenced by the dynamics of the volume of traffic and turnover in the transport segment (see Tables 1 and 2; in the table, starting from 2012, sea transport - excluding inland waterways).

*Table 1: Transportation of goods by mode of transport, million tons*

| **Mode of transport / year** | **1992** | **2000** | **2005** | **2010** | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|---|---|---|---|
| Transport - total, including by types: | 15737 | 7907 | 9167 | 7749 | 8519 | 8264 | 8006 | 7582 | 7597 |
| - Railway | 1640 | 1047 | 1273 | 1312 | 1421 | 1381 | 1375 | 1329 | 1227 |
| - Automotive | 12750 | 5878 | 6685 | 5236 | 5842 | 5635 | 5417 | 5041 | 5138 |
| - Pipeline | 947 | 829 | 1048 | 1061 | 1096 | 1095 | 1078 | 1071 | 1088 |
| - Marine | 91 | 35 | 26 | 37 | 18 | 17 | 16 | 19 | 25 |
| - Inland waterway | 308 | 117 | 134 | 102 | 141 | 135 | 119 | 121 | 118 |
| - Air | 1,4 | 0,8 | 0,8 | 1,1 | 1,2 | 1,2 | 1.3 | 1,2 | 1,1 |

*Source: self elaboration*

*Table 2: Freight turnover by mode of transport, billion ton-kilometers*

| **Mode of transport / year** | **1992** | **2000** | **2005** | **2010** | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|---|---|---|---|
| Transport - total, including by types: | 4913 | 3638 | 4676 | 4751 | 5056 | 5084 | 5080 | 5094 | 5184 |
| - Railway | 1967 | 1373 | 1858 | 2011 | 2222 | 2196 | 2301 | 2306 | 2344 |
| - Automotive | 257 | 153 | 194 | 199 | 249 | 250 | 247 | 233 | 234 |
| - Pipeline | 2146 | 1916 | 2474 | 2382 | 2453 | 2513 | 2423 | 2444 | 2489 |
| - Marine | 405 | 122 | 60 | 100 | 45 | 40 | 32 | 42 | 43 |
| - Inland waterway | 136 | 71 | 87 | 54 | 81 | 80 | 72 | 64 | 67 |
| - Air | 1,8 | 2,5 | 2,8 | 4,7 | 5,1 | 5,0 | 5,2 | 5,4 | 6,6 |

*Source: self elaboration*

Thus, strategically important is the issue of increasing the competitiveness of not only the transport subsystems directly involved in the technologies of goods movement and movement of passengers, but also the infrastructure organizations (primarily subsystems for expanding services and improving service for passengers and cargo owners), as well as engineering and scientific institutes.

# 4. Modern methods for assessing the competitiveness of international transport services

The problem of competitiveness management, including in the transport market, requires a comprehensive analysis and a serious scientific justification. Researches on the issues of developing competition, increasing the level of competitiveness has been conducted for many decades and is especially relevant in the modern economy.

Competition (late Latin “Concurentia”, from Latin “concurro” - to collide) - the struggle between producers for better terms of production and sale of goods, for obtaining the highest profit, inherent in commodity production, based on private or corporate ownership of the means of production.

In the opinion of R. Fatkhutdinov, competition is a struggle to get the most beneficial effect on the basis of applying modern, more efficient technologies and improving the quality of customer service. (Fatkhutdinov, 2009)

Thus, in our opinion, competition in transport is a struggle for cargo owners and passengers for ensuring the maximum quality of transportation, its reliability and the speed of movement of goods and passengers. The competitiveness of goods or services is one of the strategic goals of the functioning of economic entities in developed economic systems. Practice shows that this goal is most often achieved by an organization with relatively higher economic and technological competitive advantages. (Tereshina & Zhakov, 2017)

With all the diversity of levels of intensity of competition in target markets in different sectors of the economy, the very process of competition at these levels has much in common. In view of this circumstance, M. Porter concludes that according to the industry (as well as in the target market) there are usually five forces (or factors) of competition (Porter, 1998): 1 - competitors in the current market; 2 - suppliers; 3 - potentially new competitors; 4 - buyers; 5 - enterprises that offer substitute products. Note that in business practice the number of threats is much greater. The five-factor model of M. Porter's competition is an effective means of analyzing the competitive forces and their intensity levels.

When assessing competitiveness, an output is a product or service that is produced for sale and satisfies the needs of the buyer. The exchange of products as goods arose together with the social division of labor and the isolation of producers specializing in the production of certain products. In these conditions, the satisfaction of social needs occurs through the sale of products on the market. The goods can be anything: a car, a cargo, a security, a service or a piece of land. The competitiveness of a product is a level of its economic, technical, operational parameters that allows it to withstand competition with other similar products on the market. In other words, competitiveness - this is a comparative, and therefore a relative assessment of the properties of the goods. (Tereshina & Zhakov, 2017)

The concept of "competitiveness" is characteristic for various levels of management of the national economy. (Kazanskaya & Palkina, 2016) Thus, it is necessary to differentiate the competitiveness of a product (service), enterprise (organization), industry, region, national economy (country). Between them there is a direct and inverse relationship. Competitiveness is usually determined by comparing one object with other similar objects (often the best ones; for example, a given product with other goods of a homogeneous group, one region with other regions, etc.). At the same time, competitiveness at different levels of the hierarchy is realized through competitive advantages. The region, acting as a fairly independent socio-economic structure, provides an opportunity to view it as an active business entity in the national market. (Sokolov et al., 2016) Competing companies (organizations) are usually those of them whose economic interests coincide in full or in part when they are based (work) in this target market or segment.

Modern tools to ensure the competitiveness of the organization are shown in Table. 3.

*Table 3: Modern tools to ensure the organization's competitiveness*

| **Competitiveness Tools** | **Description** |
|---|---|
| Total Quality Management | Continuous improvement of quality of all organizational, production and technological processes of manufacturing products and customer service |
| Lean production | Ensuring the long-term competitiveness of the enterprise by eliminating different types of losses and unproductive costs |
| ISO 9000 | Description of the composition and structure of the production system, the formulation of requirements for its main elements in accordance with applicable international and national standards |
| Business Excellence Model (EFQM) | Improvement of the enterprise management system aimed at ensuring a stable, reliable and long-term presence of the enterprise in the target market and increasing its competitiveness |
| The Practical Program of Revolution In Factories and Other Organizations | Evaluation of the efficiency of the enterprise, the implementation of permanent improvements and improvements introduced by enterprises that occupy a leading position in the target market |
| Six Sigma | Improving the quality of products (services) by reducing the number of "defects" that occur during the most important stages of the execution of technological processes |
| Statistical process control | Decision-making using both statistical and non-statistical methods of analysis and solving urgent problems in order to implement the measures necessary to achieve and maintain the state of statistical control of processes, and constantly improve their stability and reproducibility |
| Competitions in the field of quality improvement | Promotion of high-quality goods, services and advanced technologies to the Russian market and solving the problems of integration of these products into the world market |
| Due Diligence | Comprehensive study of the company, its financial condition and position in the target market |
| Branding | Enhanced impact on the consumer of the trademark, advertising appeals and other elements of advertising activities, united by a certain idea and a characteristic unified design that distinguish the enterprise's goods among the main competitors and create a positive image of it |
| Balanced Scorecard | Managing performance indicators of an enterprise as an integrated system |
| Business process reengineering | Total redesign of business processes in an enterprise with the ultimate goal of achieving fundamental improvements in the main indicators of its activities: cost, quality of services and rates |

*Source: self elaboration*

Competitiveness of the organization is a more complex and generalizing concept in comparison with the notion of "competitiveness of goods". Competitiveness of an organization is an integral numerical characteristic, by means of which the company's final business results of its activity are evaluated over a certain period.

The competitiveness of the organization is ensured by the various advantages that are acquired by it in comparison with its main competitors, namely economic, financial, investment, personnel, image, etc. Moreover, all these competitive advantages should also be given a numerical estimate. Subsequently, they, as noted above, are used to calculate the integral assessment of the level of competitiveness of the company. (Mezhokh, 2016)

## 5. Tools for assessing and ensuring the competitiveness of the international transport company

The management of a modern international transport company under market conditions is reduced to assessing and analyzing factors that increase or decrease its competitiveness, to select and implement an appropriate competitive strategy and tactics to achieve the goal formulated in the mission.

Thus, an integral approach to assessing the level of competitiveness can be realized in the following four ways.

1. Presentation of a complex indicator of product competitiveness in the form of (Eq.1):

$$K = \sum_{i=1}^{n} K_i, \tag{1}$$

where $K_i$ - individual indicators of the competitiveness of products with a total number of $n$.

The advantage of this method is the ease of use, and the disadvantage is the possible distortion of the overall assessment of competitiveness, since individual indicators of competitiveness are not always equally important for the overall assessment. (Jurewicz & Kaszubowski, 2016)

2. Presentation of the integrated indicator of competitiveness based on the use of the weighted average arithmetic indicator of single indicators of competitiveness (Eq. 2):

$$K = \sum_{i=1}^{n} \gamma_i K_i, \tag{2}$$

where $K_i$ - unit indicators of product competitiveness with a total of $n$;

$\gamma_i$ - an indicator of the importance (weight) of the i-th unit competitiveness index.

This approach takes into account the importance of single indicators of competitiveness, which gives confidence that the complex indicator of the competitiveness of the goods will more accurately reflect the measured property, but it may be subjective to determine the weight coefficients for individual indicators of product competitiveness.

3. Definition of a complex index of product competitiveness based on the useful effect of its consumption and consumption price (Eq. 3).

$$K=E/C, \tag{3}$$

where $E$ - a useful effect of consumption of products,

$C$ - the price of consumption of products.

This approach is more user-oriented and takes into account their needs, but in the process of its implementation one can face the difficulty of determining the criteria for evaluating the utility of the properties of the consumed service (product), and it does not take into account the weight of the quality indicators and the price of consumption.

4. Presentation of the complex index of product competitiveness on the basis of using the weighted average geometric indicator of individual competitiveness indicators (Eq. 4):

$$K = \sqrt[n]{\prod_{i=1}^{n} K_i * \gamma_i}\,, \tag{4}$$

where $K_i$ - unit competitiveness indicators with a total number of $n$; $\gamma_i$ – weight of individual indicators of competitiveness.

Such a method makes it possible to give a more accurate estimate of the complex competitiveness index than in the method based on the determination of the weighted average of the arithmetic exponent, but at the same time it requires a preliminary determination of the significance coefficients (weighting) and may have subjectivity in determining the weighting coefficients.

Solving issues aimed at increasing the level of competitiveness of transport organizations by traditional methods requires large investments. In this regard, searching for alternative ways of development of transport systems was conducted to increase the efficiency of the existing logistics infrastructure and improve approaches to its future development. (Forte & Siviero, 2014) The result of such searches was the emergence of the first logistics centers (LCs), providing the companies with a wide range of services. (Panova et al., 2017)

Over time, the original idea developed into the concept of LC, representing structures in which several operators on a commercial basis carry out complex logistics activities, oriented both to international and to domestic transport. (Islam & Eidhammer, 2015)

Several international transport corridors (ITC) pass through the territory of the Russian Federation: the Trans-Siberian Railway, the North-South, the Pan-European Transport Corridors 1,2 and 9 and the East-West. Considering the number of transport corridors and the fact that transportation is carried out by different modes of transport, one of the primary strategic tasks is the development of the country's transit potential. (Barreira et al., 2013)

To increase the competitiveness of transit corridors, in particular the East-West direction, it is planned to use the high-speed rail lines for the transportation of goods in the future, the first of which will be built on the Moscow-Kazan section by 2020.

## 6. Conclusion

Thus, at the present stage of economic development, not only the tasks of managing competitiveness, but also the issues of the realization of economic security acquire special significance, the criteria for ensuring which must be observed by every economic entity in particular. Transport, being the foundation of the Russian economy, is called upon to ensure not only the interrelation of domestic industries and production fields, but also international cooperation through transport corridors. The development of competition and methods of assessing the competitiveness of global and national transport companies is a necessary condition for solving these problems. Therefore, creation of modern logistics centers will provide a global direct interaction of large transport structures. Such structures, as a rule, are connected with each other and with the main seaports by regular railway service, which allows to consider them as a direct continuation of the sea container system. Intermodal terminals of the largest LC are equipped for efficient processing of big volumes of large-capacity containers and can solve the problem of transshipment of enlarged cargo units.

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# ALIGNING THE RUSSIAN SYSTEM OF CONSTRUCTION PRICING WITH THE CURRENT GLOBAL STANDARDS

Solovyeva Anna[1,a,*], Antonyan Olga[2,b] and Maksimchuk Olga[3,c]

[1]Volgograd state technical University, Department of Management and Development of Municipal Economy and Construction

[2]Volgograd state technical University, Department of Management and Development of Municipal Economy and Construction

[3]Volgograd state technical University, Department of Management and Development of Municipal Economy and Construction

[a]solovan@yandex.ru[*], [b]antonyan.o@mail.ru, [c]olga_maksimchuk@mail.ru

*Corresponding author

**Abstract**. Investment and construction activities in Russian economy and in the context of globalization require formation of a leap for development, which demands serious scientific and practical justifications, creation of favorable environment for attracting funds to the construction industry to the broadest possible range of investors. The need for cardinal changes in the pricing of construction is evident today for all participants of investment and construction activities. Article provides a brief analysis of the development dynamics of the construction industry in the context of economic crisis and identification of factors that have affected the decline in investment activity in recent years, as well as a review of the conceptual changes in pricing and estimated rationing. Most important and basic factors that affect Russian market of construction and real estate include world oil prices and, as a consequence, exchange rate volatility, inflation, supply demand, availability of mortgage loans. In the process of establishing the value of construction products, many variable factors are taken into account, starting from the forms of mutual relations of participants in the investment process, sources of financing and ending with regional features of determining the price for construction products. Influences on the price have determination methods and level of the estimated prices, stage of investment project, price of the contract. Article clarifies the list of legislative, regulatory and methodological documents regulating the transition to a new system of pricing in construction. The results of the activities carried out during the reform of the pricing system are summarized.

**Keywords:** investment and construction project, information system.

**JEL Classification:** R48, G18, L74

## 1. Introduction

In the conditions of globalization of construction and contract markets, the interaction between participants in investment and construction processes and projects is formed in a system of world standards that determine the requirements for pricing and quality. Full inclusion in global construction processes and projects is possible through the implementation of these standards in practice of domestic pricing and estimated normalization in construction at all levels (federal, regional, corporate). Despite the sanctions and not quite favorable external environment, the indispensable condition for the development of the Russian national economy is the attraction and activation of investment channels from foreign and domestic investors for the realization of priority national projects and programs. However, the investment and construction environment in Russia is highly risky and non-transparent for foreign investors in terms of pricing, and the volume of domestic investment, especially allocated for capital construction from the federal budget and the budgets of the subjects of the Russian Federation, is often determined without due technical justification. In addition, there is the growing cost of finished products in the construction industry. The rising prices for construction materials, structures and products, energy resources and fuel and lubricant materials can influence the increase in prices for contracting work. In the process of the cost fixing of construction products, many variable factors are taken into account, starting from the forms of mutual relations of participants in the investment process, sources of financing and ending with regional features of determining the price of construction products. The price determination methods, the level of the estimated prices, the stage of the investment project and the price of the contract influence the cost. The prerequisites are created not only by the mobile conjuncture of construction and contract markets, but also by the "mobility" of regulatory and methodological approaches to pricing in construction. In connection with the foregoing, it is important to connect the Russian pricing system in construction with the modern world standards taking into account the world experience and the whole set of external and internal factors, that determine the purpose of this study. To achieve the purpose, the authors set and solved the following tasks:

- there is the substantiation of the urgency of the problem of pricing in construction in the Russian Federation in the conditions of globalization of the world economy;
- the analysis of the factors affecting the development of the construction industry in the Russian Federation and the conceptual transition to a new pricing system in the context of the globalization of the world economy is implemented;
- the review of the main directions of the pricing system reforming in the construction of the Russian Federation in relation to the standards of the world economy in the conditions of globalization is applied.

The object of the study – Russian system of pricing in construction. The subject of the study – the factors that cause the Russian pricing reforming and the transition to world standards in the conditions of globalization. The results of the approbation of the author's approach prove the expediency of its use in the process of the pricing system and the budgetary rationing reforming in the construction of the Russian Federation.

## 2. The analysis of factors affecting the development of the construction industry in the Russian Federation and the need for a conceptual transition to a new pricing system in the conditions of globalization

To understand the current situation in the construction industry of the Russian Federation and its prospects, it is necessary to consider the factors affecting the development of the industry both in general and separately - in the formation of the cost of construction products. The most important and basic factors that affect the Russian market of construction and real estate include world oil prices and, as a consequence, exchange rate instability, inflation, level of demand, supply, and availability of mortgage loans. In addition, the foreign policy situation and the establishment of anti-Russian economic sanctions have a great influence. According to the Federal State Statistics Service, in Russia almost 2/3 of investments in fixed assets are related to the construction industry and during the crisis periods the share of construction in investments is growing. In 2016, 5945.5 billion rubles were invested directly in the construction, which are 40.8% of all investments in fixed assets over the same period. Investments and the volume of construction works are experiencing a negative trend, starting in the middle of 2012, with investment activity currently concentrated primarily in the housing sector. In 2017, the volume of construction in comparable prices fell by 4.3% - to 6.18 trillion rubles. According to the forecasts of the Ministry of Economic Development of the Russian Federation, the dynamics of investment in fixed assets will return to the positive side in 2018, and the average increase in investments in 2018-2020 will be 2.7% per year. However, at the same time, there will be a significant reduction in the costs of the public sector, primarily of the federal authorities.

There are changes in housing construction and the real estate market. In 2014, the construction industry of the Russian Federation showed a record growth rate compared to 2013 - 18.2%. In 2016, the volume of housing construction compared to 2015 decreased slightly. So, according to the Federal State Statistics Service, in 2014 84.2 million $m^2$ were put into operation, and in 2016 this index was 83.8 million $m^2$, which is less by only 0.5%. In 2016, the largest volumes of housing construction were in the Moscow region - 10.1% of the housing commissioned in Russia, in the Krasnodar region - 5.5%, in Moscow - 4.6%. But at the same time the pace of construction slowed down. The worst indicators were fixed in the Republic of Crimea, because the pace of commissioning of housing in operation in 2016 fell by 60.7% compared to 2014.

The worst values in housing construction were in 2017. In 2017, 79.7 million $m^2$ of housing were commissioned, that is by 6% less than in 2016, and the main decline was given by the individual sector – the fall was 10%. Compared with 1 quarter of 2016, the share of agricultural and industrial buildings increased (to 26.5 and 14.3 respectively), the share of commercial buildings decreased to 32.7%. In our opinion, these are the first signs of profound changes. In the 2000s and after the crisis of 2009 the market experienced some shortage of trade and office space, now the demand is already largely satisfied and, apparently, growth in this segment will not be for a long time. The decline in the construction of social facilities is linked with a cutback in budget expenditures. On the contrary, sanctions against the Russian Federation created conditions for the development of agriculture. The current increase in crisis trends in the economy has caused significant damage to construction complex of the Russian Federation. Only in 2016, 2713 construction companies were declared bankrupt in Russia, that is 4 times higher than in 2014. Mass bankruptcies fall to the share of small enterprises which work according to construction contracts for subcontracting and contracting. In 2017, 3183 construction companies went bankrupt, that is 17% more than in 2016, and this trend is observed for the third year. In the construction industry, there is a negative dynamics of one of the main indicators of the construction company activity- the level of demand for contract work, which is estimated by the number of concluded contracts. Also, the growth in accounts receivable by concluded contracts in the process of their execution and completed construction and installation works, not paid on time by their customers, unfavorable affect the activities of construction companies. The volume of public procurement in construction is falling - by 11%, from 6.5 to 5.7 trillion rubles. The construction industry in 2017 was the last in terms of profitability, losing even to agriculture, and showed a profitability of only 5.2%. And since real inflation is at least 14%, no investors will be invested in construction with such indicators. Many construction companies are working at a loss, hoping for further sales. In the process of establishing the cost of construction products, many variable factors are taken into account, starting from the forms of relations of participants in the investment process, sources of financing and ending with regional features of determining the price of construction products. The level of the estimated prices, the stage of the investment project, the price of the contract influence the methods of the price determination.

## 3. The reforming of the pricing system in construction in the Russian Federation and bringing it closer to world standards in the conditions of globalization

### 3.1. The stages of reforming of the pricing system in construction

To solve the problems of the state costs optimizing for investment purposes, including reducing the cost of construction, the concept of reforming of the pricing system and the estimated standardization "400 days" was developed and approved by the Public Council of the Ministry of Construction of Russia on November 25, 2015. The concept consists of four blocks: legal, methodical, technological and informational.Their joint implementation will allow to allocate competently the budget funds for capital construction and reduce the time for the introduction of information technology. The main purpose of pricing reform is the creation of a modern normative-legal and methodical basis that will ensure the observance of balance interests of all participants in the construction process, the unity of approaches and methods of rationing and monitoring the price of construction products and bringing it closer to the standards of the world economy in the conditions of globalization. Conducting the reform of pricing at the present time was an urgent need to replace the estimate-normative base of 2001 (SNB-2001) with a more modern one. It is necessary to take into account that the basis of the budget-normative base of 2001 was the norms of 1984. But, despite the adjustments of SNB-2001 in 2009 and 2014, it did not take into account a number of new modern construction machines and mechanisms, construction materials that reduce the cost of construction. The Ministry of Construction of the Russian Federation singled out three main stages of the implementation of the reform, namely, at the first stage (2015-2016), it was planned to identify the main directions of the reform, set tasks and ensure the creation of a platform for the full implementation of the planned changes. At the second stage (2017), it was planned to refine the tools, that is expressed in the active approbation of the information platforms created at the first stage and the gradual transition to the industrial implementation of the products and services developed during the second stage. At the third stage (2018-2020), full implementation, consolidation and development of the created products, resources and services are expected.

### 3.2. The main measures to reform the pricing system in the construction of the Russia

In accordance with the reform of pricing laws, government decrees, orders and methodical documents of the Ministry of Construction and Housing and Communal Services regulating the process of reforming of the budget and estimated normative base in construction and bringing it closer to the standards of the world economy were realized. Thus, the Federal Law "On Amendments to the Town-Planning Code of the Russian Federation and Articles 11 and 14 of the Federal Law "On Investment Activity in the Russian Federation Implemented in the Form of Capital Investments" of 03.07.2016 N 369-FZ, introduced in the Urban Development Code the concept of "pricing in construction", "estimated norms", "estimated standards" and "estimated cost"; established the need to create a federal state information system (FGIS) "Pricing in construction", established the need to form monitoring rules for the prices of construction resources. With the introduction of this law, the sphere of application of all estimated standards has changed. Previously, the application of government regulations was mandatory using federal budget funds, but now the whole budgetary sphere, including the federal, regional, and municipal budgets, the overhaul of apartment buildings, is involved in its operation. Now for the formation of the estimated cost, it is necessary to use only the estimated prices included in the Federal Register and displayed in the Federal State Information System of the FGIS.

The main savings from the introduction of a new pricing system can be obtained by increasing the reliability of the assessment at the stage of making a decision to invest in public capital investments in any form, from direct budgetary expenditures to off-budget funds, subsidies and subventions. For this purpose, it is planned to significantly expand the range of facilities for which construction price norms (NDCs) and price norms of constructive solutions (NCCR) will be approved, and to approve a system of such collections for all sectors of the national economy. An essential feature of the created pricing system will be that the calculated cost indicators, determined at the budgeting planning stage, will become the limiting ones. The financing limit will be the main parameter of the technical design assignment. With the creation of a cost management system, the designer will have to "fit" into the proposed limit, otherwise the project will be untenable.

With the purpose of prompt response to changes in market prices, the Government of the Russian Federation adopted Resolution No. 959 of September 23, 2016 "On the Federal State Information System for Pricing in Construction", which obliges the Ministry of Construction of Russia to create a federal state information system (FGIS) for pricing in construction and approves the Regulation about this system. In accordance with this document, FGIS is aimed at improving the competitive climate in the construction materials market, encouraging import substitution in construction, simplifying the procedures for making estimates. Information with the prices of construction resources will be placed in the federal state information system for pricing in construction. Also there will be a list of legal entities that will have to provide quarterly information for the formation of estimated prices for building resources. A special form for placing this data is at the information system. Decree of the Government of the Russian Federation of December 23, 2016 No. 1452 "On monitoring the prices of construction resources" establishes: rules for providing information on the construction resources cost by legal entities included in the list of such legal entities; rules for the formation of the above list; rules and terms for providing (posting) information of the building resources cost; types of information provided by legal entities; the responsibility of the Ministry of Construction of Russia to form a classifier of construction resources in accordance with world standards and to approve the forms of providing information.

The classifier of construction resources (DAC-2016) is built on the basis of synchronization with the Statistical classification of products according to activity in the

European Economic Community (CPA 2008) - Statistical Classification of Products by Activity in the European Economic Community, 2008 version (CPA 2008) and the Russian Classifier of products according to types of economic activity (OKPD2) OK 034-2014 (CPA 2008) by binding to codes OKPD2 (CPA 2008) (up to nine characters inclusive). Features reflecting the needs of the Russian economy for the products detailing, are taken into account in the groups of OKPD2 by digit codes. The structure and principles of formation of the developed classifier of construction resources correspond to the general methodological principles of formation of the Russian Classifier of products according to types of economic activity (OKPD2) OK 034-2014 (CPA 2008), adopted and put into effect by the order of the Federal Agency of Technical Regulation and Metrology of January 31, 2014 N14 -st.

The form of DAC-2016 allows in an automated mode to exchange, synchronize, collate and analyze information received by various agencies and organizations, including international classification systems. In addition, the reduction of the average cost of building objects is possible due to the formation of a register of standard project documentation for residential, office buildings and social facilities. Currently, the register includes more than 100 capital construction projects, half of which are objects of preschool institutions. Over the past twenty years of the realization of the modern system of budget pricing in Russia, when compiling estimates and determining the estimated cost of construction, two basic methods were used: the basic-index and resource. The Ministry of Construction of the Russian Federation proposes a gradual transition from a basic index method of determining the object‘s estimated cost to a more modern resource method. In this regard, the result of the reform is the development of new estimate standarts (GESN), which are realized on February 1, 2017.

Table 1 shows the most characteristic features of the two methods used in the system of estimated pricing, their differences and the results.

*Table1 The evaluation of the application of basic-index and resource methods for preparing estimates*

| № | Resource method | Basic-index method |
|---|---|---|
| 1 | Evaluation of the construction cost of the capital construction object (reconstruction, overhaul) at the current price level | Determination of the construction cost of the capital construction object (reconstruction, overhaul) at the base price level of 01.01.2000 with the use of the system of current (forecast) indexes |
| 2 | The possibility of adjusting construction resources (material, technical) depending on the design decision | The complexity of making adjustments to construction resources (recorded in quotations) depending on the design decision |
| 3 | Accounting for the cost of construction resources, engineering and technological equipment, missing in the estimate and regulatory base, directly in the level of their assessment | Assessment of the cost of construction resources, engineering and technological equipment, absent in the SNB-2001, at the basic level using "directive" indexes. The impossibility of calculating the real system of indexes of the re-count of the estimated cost into the current price level |
| 4 | The possibility of forming resource-technological models for individual design solutions and the object as a whole for subsequent operational recalculation, the formation of contractual relations, adjusting the cost of construction resources with reference to specific suppliers taking into account the transport component. | The use of the principle of averaging in the calculation of "directive" indexes of changes in the estimated cost leads to a divergence (both in large and in the smaller side) of the real cost of resources, types of work, constructive solutions of capital construction objects |
| 5 | Significant volume of estimates in printed and electronic formats | The generally accepted volume of budget calculations in printed and electronic formats |

| | | |
|---|---|---|
| 6 | The complexity of "manual" verification of estimates | The simplicity of checking budget estimates: compliance with budgetary norms and "directive" indexes |
| 7 | The real cost of certain types of work and design solutions for the capital construction object. The possibility of forming effective contract prices. | Averaging the cost of performing work on individual elements of the capital construction object. Impossibility of taking into account the real cost of works and constructive solutions. |

*Source: own elaboration*

Since September 2018, the state information system has to come into effect, which will ensure the reliability and relevance of price information about the cost of construction resources.

## 4. Conclusion

Thus, the need for conceptual reform of construction pricing today is evident for all participants of investment and construction activities. The professional community repeatedly discussed acute issues, the essence of which is a common opinion: it is necessary to solve not some problems of estimate standarts, but to reform the pricing system as a whole. The most important results of the reform are the formation of an open state information environment, provided that it is filled with up-to-date information and results of unified monitoring. The implementation of the measures announced in the concept is necessary to ensure the reliability and validity of construction costs at various stages of the investment and construction process, the actualization of the methodological and regulatory base of construction pricing, the elimination of contradictions between documents at various levels, and the increase in the professionalism of specialists in pricing in construction. In the conditions of globalization, the construction industry of the Russian Federation has a purpose of developing standards for the regulatory base for pricing in construction, taking into account world experience and foreign economic activity.

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# PARTICIPATION OF SLOVAKIA IN THE GLOBAL VALUE CHAIN IN THE AUTOMOTIVE INDUSTRY

Tatiana Soroková[1,a,*], Daniela Petríková[2,b]

[1]Department of Economic Sciences, Faculty of Economics, Technical University of Kosice, Němcovej 32, 040 11 Kosice, Slovak Republic

[2]The Department of Engineering Education, Technical University of Kosice, Němcovej 32, 040 11 Kosice, Slovak Republic

[a]tatiana.sorokova@tuke.sk, [b]daniela.petrikova@tuke.sk

*Corresponding author

**Abstract.** The article focuses on the expanding phenomenon of the global economy – global value chains. The idea of the value chain describes an increase in value added within the individual phases of the production process, which includes the process from design to production and delivery of the product. One of the major markets in the Slovak Republic is the automotive industry, whose GVC is located in different parts of the world. An example is Volkswagen, which has major development and design centre located in Germany, with the assembly of many car models being implemented in Slovakia. The dominant aim of our article is to interpret the view of engagement and the position of the Slovak automotive industry in global value chains. Through the analysis, we focused on examining the effects of motor vehicle production on generating the value added in the home country and abroad. We have accentuated the value-added dimension by individual economic activities in the last stage of production and value added. We then compared the GVC with the V4 countries and Germany. Based on the comparison of selected economic indicators to the analysis of the participation index and the decomposition of Slovak exports, we determined the position of Slovakia and the automotive industry in GVC. Finally, we evaluate the results achieved and propose measures to improve Slovak participation in global value chains. The results show that Slovakia only engages in global value chains at lower levels of production. Proposals to support innovation could lead to a shift to higher positions.

**Keywords:** global value chains, Slovak Republic, automotive industry, analysis, position.

**JEL Classification:** D60, P46

## 1. Introduction

Globalizácia vo svetovom hospodárstve predstavuje dynamicky proces, ktorý prechádza rôznymi zmenami. Spôsobuje prepájanie a prehlbovanie vzájomnej závislosti medzi jednotlivými krajinami. Súčasná etapa globalizácie je charakteristická rastúcou medzinárodnou deľbou práce, ktorá vedie k fragmentácii výroby v globálnych hodnotových reťazcoch, ktoré prekračujú hranice národných ekonomík, dokonca aj celých regiónov. Existujú viaceré indikátory, ktoré charakterizujú stupeň fragmentácie produkcie. Komplexnejšiu informáciu o medzinárodnej spolupráci, resp. zapojení krajiny do globálnych hodnotových reťazcov poskytuje ukazovateľ pridaná hodnota exportu. Identifikácia tokov pridanej hodnoty sa realizuje na základe údajov medzinárodných input-output tabuliek. Trade in Value Added, ktoré sú výsledkom spoločného projektu organizácií OECD a WTO. Jednotlivé ukazovatele umožňujú rozložiť celkový export krajiny na domácu a zahraničnú pridanú hodnotu, identifikovať vyvezenú pridanú hodnotu, prípadne vypočítať mieru zapojenia krajiny do globálneho hodnotového reťazca.

## 2. Globálne hodnotové reťazce

Už v 70. rokoch 20. storočia sa začali skúmať komoditné reťazce, ako „predchodcovia" globálnych hodnotových reťazcov. (Hopkins & Wallerstein, 1977) Koncept globálnych hodnotových reťazcov prvýkrát uviedol Gereffi (1994) na príklade textilného priemyslu. Popísal reťazec dodania prvotných surovín až po produkciu výrobku. Pojem globálny hodnotový reťazec sa začal používať v 80. rokoch 20. storočia. (Porter, 1985) Termíny „komoditný" a „hodnotový reťazec" sa mierne odlišujú v tom, že „hodnotový reťazec" sa vo väčšej miere zameriava na popísanie organizácie výrobného procesu. (Bair, 2005) V súčasnosti je možné globálne hodnotové reťazce definovať ako súhrn všetkých činnosti organizácie od koncepcie až po konečné použitie lokalizované doma alebo v zahraničí, ktorých cieľom je realizovať produkt na trh. (Sturgeon, 2013)

Globálne hodnotové reťazce sú dôsledkom zvyšujúcej sa medzinárodnej deľby práce. Výrobné procesy sa rozmiestňujú do jednotlivých krajín sveta a jednotlivé štáty sa orientujú na tie výrobné operácie, v ktorých majú určitú komparatívnu výhodu. Dochádza ku fragmentácii výroby, ktorá rozdeľuje jednotlivé fázy produkcie medzi viaceré krajiny sveta. Nastáva pohyb tovarov a služieb z jednej krajiny do druhej, čo vedie k rastu zahraničného obchodu. Podstatná časť tohto rastu je spôsobená obchodom s medziproduktmi, ktorý sa v posledných rokoch zvyšuje. (Ali & Dadush, 2011) Jednotlivé krajiny využívajú medziprodukty ako vstupy do vlastnej výroby a následne exportujú svoje výrobky do ďalšej krajiny. Tento proces sa opakuje, až kým finálny produkt nedosiahne poslednú fázu produkcie. Ide o tzv. vertikálnu špecializáciu. (Hummels et al., 2001) Hlavným prejavom vertikálnej špecializácie je, že krajiny postupne spájajú svoju výrobu, pričom jednotlivé procesy produkcie môžu byť rozmiestnené vo viacerých krajinách. Fragmentácia výroby a vertikálna špecializácia vytvárajú nové podmienky zahraničného a medzinárodného obchodu. Skúmanie týchto procesov vedie k tomu, že je zložitejšie hodnotiť individuálne priemyselné odvetia iba v národnom rámci a táto skutočnosť si vyžaduje nové prístupy k meraniu jednotlivých aktivít. (Sturgeon, 2013)

### 2.1 Riadenie a správa globálnych hodnotových reťazcov a ich správa

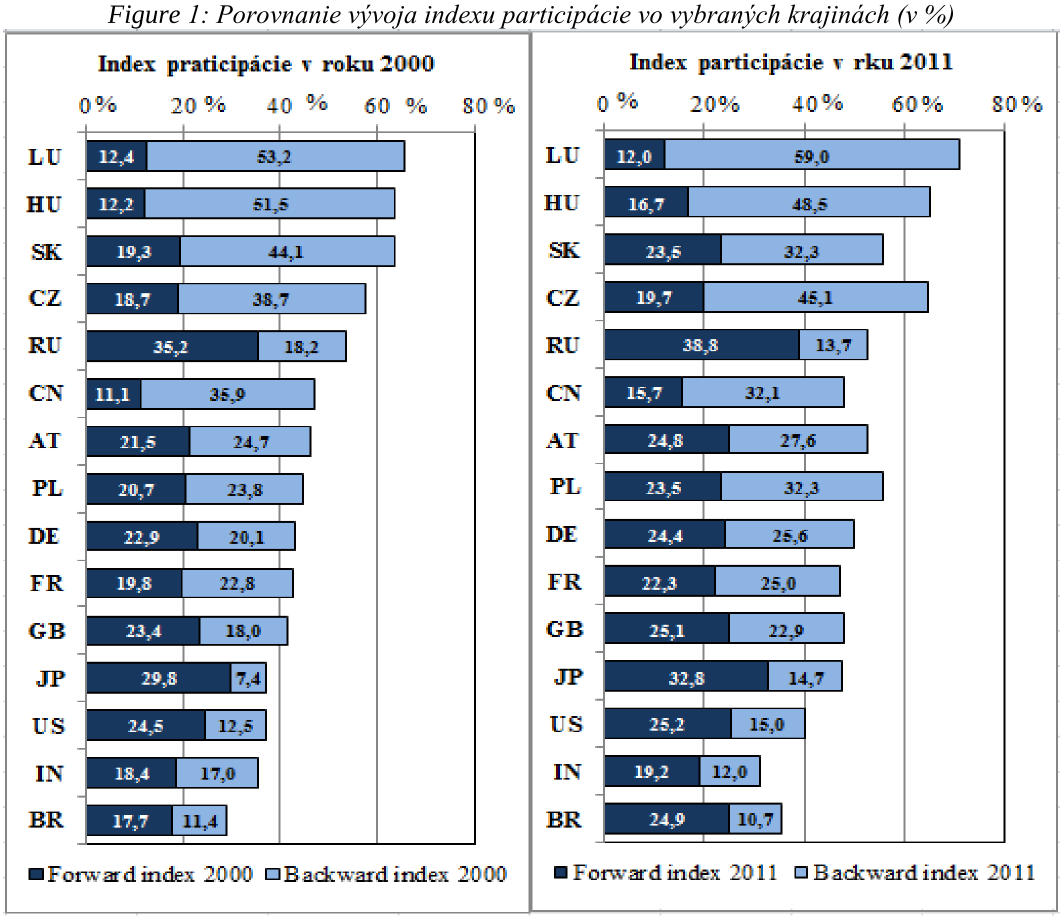
Riadenie a správa globálnych hodnotových reťazcov v značnej miere závisí od charakteru výrobného procesu. Rozlišujú sa reťazce riadené kupujúcimi a reťazce riadené výrobcami. Gereffi et al. (2005) Reťazce riadené kupujúcimi sú typické jednoduchšími produktmi a horizontálnym riadením. Hlavné postavenie majú veľké spoločnosti, ktoré udávajú základné štandardy pre svojich dodávateľov. Samotné spoločnosti však do výrobného procesu nezasahujú. Reťazce riadené výrobcami sa vyskytujú najmä pri zložitých produktoch (napr. v automobilovom priemysle). Vykazujú určitý stupeň vertikálnej integrácie. Z pohľadu vzťahov medzi hlavnou firmou a jej dodávateľmi je popísaných päť základných typov správy globálnych hodnotových reťazcov: 1. trhové riadenie, 2. modulárne riadenie, 3. prepojené riadenie, 4. priame riadenie a 5. hierarchické riadenie. (Schmitz, 2006) (Gereffi at al., 2015) (Slušná et al., 2015) Trhové riadenie predstavuje najjednoduchší spôsob správy reťazca, ktorý sa využíva najmä pri jednoduchších produktoch. Nakúpené produkty následne hlavná firma predáva pod vlastnou značkou alebo pod značkou pôvodného výrobcu. Ide napríklad o nákup bežnej obuvi od miestnych výrobcov. Schmitz (2006) Modulárne riadenie má uplatnenie pri komplexných produktoch. Pri týchto produktoch je možné ľahko rozlíšiť požiadavky na kvalitu. Hlavná firma stanoví svoje požiadavky kvality komponentov a proces dizajnu a výroby ponechá dodávateľom. Dodávateľské firmy sú tak neustále nútené zlepšovať svoje výrobne procesy, aby boli schopné udržať sa v reťazci. Ide napríklad o výrobu jednoduchších automobilových komponentov. (Quadros, 2004) Prepojené riadenie globálnych hodnotových reťazcov je typické pre produkty a procesy s vysokou informačnou náročnosťou. Potrebné je neustále vzájomné zdieľanie poznatkov a častý osobný kontakt jednotlivých partnerov v reťazci. Spolupráca medzi partnermi reťazca závisí od ich vzájomnej dôvery. Prostredníctvom dlhodobých vzťahov medzi výrobcami dochádza k presunu poznatkov v rámci reťazca, čo môže viesť k presunu časti výrobného procesu (napríklad tvorbe dizajnu) do inej krajiny. Takéto riadenie je charakteristické napríklad o výrobky spotrebnej elektroniky. (Kishimoto, 2004). Priame riadenie sa objavuje v prípadoch, keď sú možnosti a potenciál dodávateľov nízke. Dodávatelia vyrábajú podľa špecifikácie hlavnej firmy a hlavná firma dodáva potrebný know-how a tiež aktívne kontroluje výrobu svojich dodávateľov. Príkladom môže byť výroba špecifickej obuvi v jednej krajine pre potreby zákazníkov v inej krajine. (Baldwin, 2011). Hierarchické sa vyskytuje pri veľmi komplexných produktoch. Poznatky o takýchto produktoch majú tzv. tichý charakter a nedajú sa kodifikovať. Hlavná firma sa snaží celý proces od dizajnu až po výrobu sústrediť v rámci hierarchickej štruktúry vlastných závodov a oddelení, preto sa veľmi ťažko hľadajú vhodní dodávatelia. Takýto výrobný reťazec zvykne realizovať jednotlivé fázy výrobného procesu v rámci vlastných pobočiek (Barba-Navareti & Venables, 2005). Je potrebné si uvedomiť, že konečným článkom v rámci globálnych hodnotových reťazcov sú spotrebitelia, ktorí sú na jednej strane hnacou silou výroby, ale na druhej strane sú súčasťou enormne rastúcich nárokov na kreativitu a kvalitu výrobkov, ako aj na možné nonetické správanie, čo výrazne pôsobí na previazanosť jednotlivých fragmentov výrobných reťazcov. (Schlegelmilch & Öberseder, 2010) V automobilovom priemysle predstavuje výrazný fenomén aj samotná značka, ktorá má obrovský marketingový potenciál a je na konkrétnej značke, akým kvalitatívnym a kvantitatívnym rozmerom vplýva na svojho potenciálneho zákazníka. (Harrington et al, 2017)

## 3. Zapojenie krajín do globálnych hodnotových reťazcov

Analýza globálnych hodnotových reťazcov a ich vplyv na konkrétnu ekonomiku pozostáva zo sledovania hĺbky a šírky hodnotového reťazca. Hĺbka hodnotového reťazca obsahuje informáciu o tom, z koľkých štádií hodnototvorný proces pozostáva. Šírka hodnotového reťazca nesie informáciu o tom, v akom rozsahu sú aktivity konkrétnej spoločnosti rozptýlené, prípadne, z hľadiska konkrétnej hostiteľskej krajiny, koľko domácich dodávateľov a subdodávateľov je do príslušného procesu zapojených. Krajiny sa môžu nachádzať na stupni s vyššou alebo nižšou pridanou hodnotou, podľa toho, na akej pozícii hodnototvotného procesu sú do neho zapojené. Vyspelé krajiny bývajú sústredené predovšetkým vo vyšších fázach hodnotového reťazca, pričom sa v týchto krajinách uskutočňujú aj nižšie fázy. Menej rozvinuté krajiny bývajú umiestnené v nižších fázach hodnototvorného reťazca. Závisí to od konkrétnych podmienok v odvetví a v príslušnej krajine, neplatí to absolútne. (Šestáková, 2014) Zapojenie krajiny do globálneho hodnotového reťazca a jeho efektívnosť ovplyvňuje aj hospodárska politika jednotlivých krajín. Preto je sledovanie zapojenia sa ekonomík do globálnych hodnotových reťazcov zároveň nevyhnutým procesom, ktorý napomáha rozhodnutiam vlád jednotlivých krajín pri rozhodovaní o vstupe do tohto procesu.

Účasť krajiny v globálnych hodnotových reťazcoch sa najčastejšie meria prostredníctvom indexu participácie, ktorý je zároveň historicky najstarším indexom, ktorý analyzuje exporty „pohľadom späť" (backward). Backward charakterizuje význam zahraničných dodávateľov pre schopnosť krajiny exportovať. Do globálnych hodnotových reťazcov sa zapájajú krajiny aj tak, že exporty jednej krajiny sú používané za vstupy pre produkciu v inej krajine a tá ich potom opätovne vyváža. Ide o „pohľad vpred" (forward). Forward opisuje podiel exportov, ktoré slúžia ako importy určené na produkciu exportov v tretích krajinách. Sčítaním oboch čiastkových indexov (backward a forward) vzniká celkový pohľad na zapojenie krajiny do globálnych hodnotových reťazcov. (Slušná et al., 2015) Obrázok 1 znázorňuje porovnanie vývoja indexu participácie vo vybraných krajinách a zachytáva hodnoty indexu participácie v rokoch 2000 a 2011.

*Figure 1: Porovnanie vývoja indexu participácie vo vybraných krajinách (v %)*



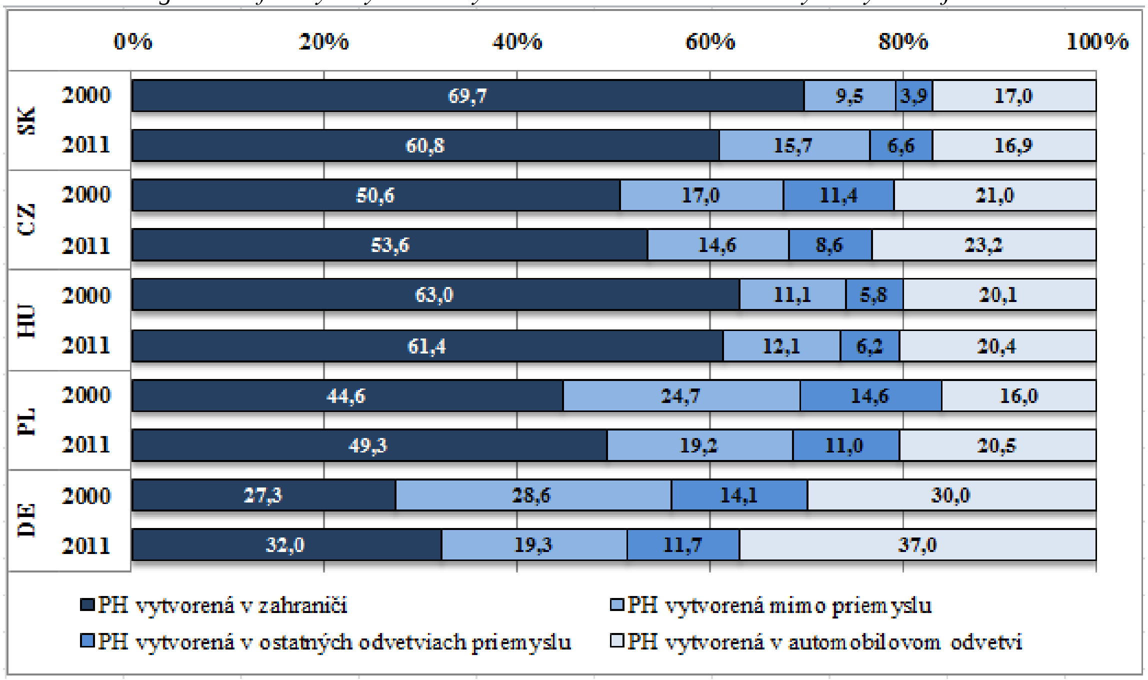

*Source: vlastné spracovanie podľa údajov z OECD Trade in Value Added (TiVA)*

V rámci vývoja indexu možno sledovať niekoľko vývojových tendencií. Ide o rastúce hodnoty backward indexu vo väčšine krajín. Výrazne nárasty vykazovali Japonsko a Veľká Británia. Tieto skutočnosti poukazujú na prehlbujúcu sa medzinárodnú deľbu práce a špecializáciu krajín len na určité fázy produkcie. Vysoké hodnoty backward indexu boli zaznamenané v malých krajinách, ako Luxembursko, Slovensko a Česko. Tieto krajiny sa vzhľadom na svoju veľkosť musia výraznejšie špecializovať na určité časti produkcie. Vplyv na zapojenie sa krajín do globálnych hodnotových reťazcov má aj štruktúra ich odvetví. Jednotlivé odvetvia produkujú rôzne komplexné tovary a služby. Dlhý reťazec je typický pre priemyselné odvetvia s výraznou fragmentáciou výroby medzi mnoho domácich a zahraničných dodávateľov a odberateľov. Krátky reťazec môže byť typický pre sektory služieb a z väčšej časti je umiestnený v jednej (domácej) krajine. Malé krajiny, založene napríklad na turizme, môžu mať z tohto dôvodu nízke hodnoty backward indexu. Takmer všetky krajiny, s výnimkou Luxemburska, zaznamenali v sledovanom období rastúce hodnoty forward indexov. Na Slovensku sa hodnota tohto indexu zvýšila len veľmi mierne, z 19,28 % v roku 2000 na úroveň 20,67 % v roku 2011. Znamená to rastúci export medziproduktov, ktoré slúžia ako vstupy do ďalších etáp procesu výroby v zahraničí. V prípade Slovenska v roku 2011 bolo až 46,73 % exportu tvoreného zahraničnými medziproduktmi. Slovensko prispievalo v roku 2011 k exportom tretích krajín 20,67 % podielom.

### 3.1 Analýza zapojenia automobilového priemyslu do globálnych hodnotových reťazcov

Rozmer globálnych hodnotových reťazcov možno analyzovať na príklade automobilového priemyslu. Toto odvetvie má značne fragmentovaný výrobný reťazec rozmiestnený v rôznych častiach sveta. Slovensko je v tomto smere vhodným príkladom na poukázanie rozkladu pridanej hodnoty podľa jednotlivých ekonomických činnosti v poslednom stupni výroby, ale aj pridanej hodnoty ostatných aktivít vo výrobnom reťazci. Zapojenie Slovenska do globálnych obchodných reťazcov je na Obrázku 2 porovnané s krajinami V4 a s Nemeckom. Obrázok 2 ilustruje podiely pridanej hodnoty podľa aktivít nachádzajúcich sa na Slovensku a v zahraničí. Porovnané boli hodnoty v rokoch 2000 a 2011 a bol zaznamenaný výrazný nárast pridanej hodnoty vytvorenej v službách na produkcií slovenských motorových vozidiel.

*Figure 2: Efekt výroby motorových vozidiel na tvorbu PH vo vybraných krajinách*




*Source: vlastné spracovanie podľa údajov podľa údajov OECD Trade in Value Added (TiVA)*

Hlavným dôvodom rastu bola orientácia slovenských výrobcov automobilov na skvalitnenie dopravnej a technickej štruktúry a tiež marketingu. Podiely zahraničnej pridanej hodnoty dosahovali vysoké hodnoty, čo indikuje významné postavenie slovenského priemyslu v globálnych hodnotových reťazcoch. Česko malo podiel pridanej hodnoty generovanej v zahraničí nižší ako Slovensko. Podstatná časť domácej pridanej hodnoty bola vytvorená v priemysle. Podiel služieb na produkcií českých automobilov bol menej významný ako na Slovensku. To poukazuje na vysoký stupeň integrácie ČR v európskej produkcii. V Poľsku bol podiel pridanej hodnoty vytvorenej vo zvyšku sveta na celkovej vytvorenej pridanej hodnote v globálnych hodnotových reťazcoch spojenom s konečným použitím poľských motorových vozidiel takmer 50 %. Pridaná hodnota generovaná v Maďarsku sa pohybovala pod úrovňou 40 %. Maďarská domáca pridaná hodnota bola vytvorená hlavne v automobilovom priemysle. Malý podiel bol vyprodukovaný v ostatných odvetviach priemyslu. Vysoké hodnoty zahraničnej pridanej hodnoty indikujú špecializáciu len na určitú fázu výroby automobilov. Nemecko zaznamenalo nárast zahraničnej pridanej hodnoty z 27 % v roku 2000 na 32 % v roku 2011. Hlavným dôvodom bol offshoring výrobných činností do strednej a východnej Európy a aj do ostatných krajín. Vysoké hodnoty domácej pridanej hodnoty poukazujú na výraznú integritu automobilového priemyslu v ekonomike Nemecka. Nemecko je do globálnych hodnotových reťazcov v oblasti automobilového priemyslu zapojené na vyššom stupni produkcie. Pri hodnotení roku 2011, ktorý predstavuje posledný dostupný údaj z OECD Trade in Value Added (TiVA) OECD (2016) OECD (2017), krajiny V4 mali výrazný podiel na domácej pridanej hodnote v službách, kým Nemecko samotný automobilový priemysel. Zaznamenané boli podstatne nižšie hodnoty domácej pridanej hodnoty v krajinách V4 v porovnaní s Nemeckom. Spomedzi krajín V4 dosahovalo najvyššie podiely pridanej hodnoty generovanej v službách aj celkovo v domácej ekonomike Poľsko. Najvyšší podiel pridanej hodnoty vytvorenej v automobilovom odvetví v krajinách V4 malo Česko. Slovensko mierne zaostávalo v tvorbe pridanej hodnoty v automobilovom odvetví za krajinami V4. Oproti Nemecku vykazovalo Slovensko výrazne nižšie hodnoty všetkých ukazovateľov okrem pridanej hodnoty vytvorenej v zahraničí. To poukazuje na to, že sa Slovensko v rámci tzv. úsmevnej krivky S. Shiha nachádza v reťazci na úrovni s najnižšou pridanou hodnotou a s najnižším objemom miezd a ziskov a s menej bezpečnou pozíciou v rámci reťazca. Z toho vyplýva, že Slovensko aj napriek tomu, že je považované za vyspelú krajinu, v zapájaní sa do globálnych hodnotových reťazcov zaostáva. Na určenie konkurencieschopnosti krajiny je dôležité zistiť, v ktorej krajine a v ktorom štádiu produkcie pridaná hodnota vznikla. Vo všeobecnosti platí, že sofistikované aktivity hodnotových reťazcov sú lokalizované vo vyspelých krajinách. (Ritzer, 2003)

Slovensko je v súčasnosti považované za automobilovú veľmoc. Úlohou štátu bolo zabezpečiť rýchly rast automobilového priemyslu na integrovaných trhoch globálneho automobilového priemyslu. Napriek tomu, že tento rast bol ovplyvnený hlavne investičnými stratégiami vedúcich firiem v oblasti automobilového priemyslu, jednotlivé vlády Slovenska zohrali dôležitú úlohu zohľadňovaním strategických potrieb zahraničného kapitálu. Z analýzy a prístupov v ekonomickej geografii, v medzinárodnej politickej ekonomike a v globálnych hodnotových reťazcoch i globálnych produkčných sieťach je možné postrehnúť, že úspešný rozvoj automobilového priemyslu na Slovensku sa dosiahol na úkor jeho prevažnej závislosti od zahraničného kapitálu a sekundárneho či terciálneho firemného zachytenia. Ide o potenciálne dôsledky závislého priemyselného rozvoja na domácom automobilovom priemysle a jeho postavenie v medzinárodnej deľbe práce. (Pavlínek, 2016)

## 4. Conclusion

Môžeme konštatovať, že pri analýze zapojenia sa vybraných krajín do globálnych hodnotových reťazcov malo Slovensko vysoké podiely pridanej hodnoty vytvorenej v zahraničí. Pri komparácií Slovenska s vybranými krajinami V4 a Nemeckom bolo poukázané na to, že krajiny Česko a Maďarsko majú podobný charakter exportov ako Slovensko. Porovnaním Slovenska s ostatnými vybranými krajinami boli zistené výraznejšie rozdiely v podiely domácej pridanej hodnoty, bol vyšší vo vyspelých krajinách ako v SR a zároveň v podiely zahraničnej pridanej hodnoty, bol nižší. Významná časť exportovanej pridanej hodnoty je tvorená službami, ktoré boli využité na výrobu a predaj priemyselných výrobkov. V roku 2011 tvorili služby 40 % podiel v exportoch automobilového priemyslu. V porovnaní s vybranými krajinami sa Slovensko približuje ostatným vyspelým krajinám, ako USA (40,3 %) alebo Japonsko (38,7 %). Na základe skúmania zapojenia sa Slovenského automobilového priemyslu do globálnych hodnotových reťazcov v roku 2011 vidieť niekoľko rozdielov medzi krajinami V4 a Nemeckom. Slovensko mierne zaostávalo v tvorbe pridanej hodnoty v samotnom automobilovom odvetví za krajinami V4 a v porovnaní s Nemeckom bolo zapojenie Slovenska do globálnych hodnotových reťazcov výrazne nižšie. Slovensko zaostávalo v podiele domácej pridanej hodnoty vytvorenej v samotnom exportujúcom odvetví, v ostatných odvetviach priemyslu a aj mimo priemyslu (v službách). Uvedené výsledky poukazujú na to, že Slovensko sa síce intenzívnejšie zapája do globálnych hodnotových reťazcov, ale toto zapojenie sa týka len nižších procesov výroby. Rast podielu zahraničnej pridanej hodnoty je hlavným dôvodom, prečo sa Slovensko aj napriek tomu, že je vyspelá krajina nepribližuje ostatným vyspelým krajinám.

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# TOURISM BETWEEN THREATS AND SUSTAINABILITY IN THE CONTEXT OF GLOBALIZATION

Mariya Zlatkova Stankova[1,a,*]

[1]South-West University "Neofit Rilski", Faculty of Economics, Blagoevgrad, Bulgaria

[a]mzlstan@yahoo.com

*Corresponding author

**Abstract.** Tourism is one of the fastest growing sectors of the economy on a global scale. The ever-increasing demand and ever-diversifying needs that tourists seek to satisfy, create prerequisites for the emergence of many destinations whose development determines the prosperity of the tourism industry. At the same time, the global environment in which tourism faces new challenges. Particularly important are threats of natural and social character, which regardless of the geographic range in which the tourist destinations are located, are typical manifestations of insecurity. Taking into account the new realities, this study explores the link between the threats to tourist destinations and the sustainability that gives a direct reflection on their competitive position on the international tourism market as well as on the attitudes of their potential visitors. The methods of literature and information review on the topic, comparative analysis, observation and expert study based on values derived from the INFORM index (describing the threat status) are used. In more specifics, the core values of the INFORM index components for nine European countries are studied, derived and compared. In conclusion, it is noted that despite the tremendous importance attached to security and safety activities at the global level, measures to reduce threats to tourist destinations are either insufficient or ineffective in terms of sustainability. Findings contrasted against the underlying flexibility of the tourism industry and destinations that are more flexible for acts of threats.

**Keywords:** tourism, globalization, sustainability, threats.

**JEL Classification:** L83, D80, C82

## 1. Introduction

Following 2015, the emerging crisis situations in France, Belgium, Syria, and especially after the events of July 2016 in Turkey or the Spanish terror attack of August 17, 2017, politicians and corporate leaders increasingly have been speaking about the avoidance and risk minimization, mainly from terrorist threats. At the same time, the issue of the observed unfavorable climate change the cause of which human society participate, and the issue of limiting the natural threats stemming therefrom, is also with particular acuteness.

As Faulkner in 2001 notes, an increasing number of disasters and crises affect the tourism industry. Three years later, Ritchie (2004) emphasizes the need to embrace the need for research following different paradigmatic positions to improve our understanding of crisis and disaster management in the tourism industry. In fact, within the last few years, the focus of attention on natural and social threats has shifted to Europe as a hub of knowledge, culture and values. Taking into account all of this, the postmodern interpretation of security (with focus to tourism industry) requires accent on the systemic nature of phenomena, in line with the objectives of good analysis and management (Maditinos & Vassiliadis, 2008). In tourism, especially in tourist destinations, security as a key element is associated with the threats and their limitation and should be perceived as a system with two overlapping dimensions for the for the economy, politics, societies, culture: national and international (in some of the various aspects involved in the studies of authors such as Lee & Harrald, 1999; Beirman, 2002; Ritchie, 2004; Buckley, 2012; Ivanov & Webster, 2013; Dimitrov, Kalinova, Gantchev & Nikolov, 2015; Filipova, 2015; ect.). Moreover, an object of analysis and evaluation is to provide follow-up management to ensure tourists' security in the new global order conditions by ensuring, balancing and synchronizing the critical mass of stakeholder agreement on strategic issues in the development of the particular destination in general, internal support for them, the administrative capacity to implement them, with a focus on attracting the local community as the main actor in the strategic process.

In this respect, the analysis and assessment of natural and social threats to tourist destinations should be based on a set of criteria and indicators that have the symptom basis for identifying and prioritizing threats, deciding to limit and monitoring them (Stankova, 2011; Stankova & Vassenska, 2017).

Tourist destinations face the necessity of managing natural and social threats in order to ensure adequate accommodation for their visitors, evoking unforgettable experiences, and ensuring their continued existence (Dwyer, 2005). Therefore, there is a need of attitude change towards such threats: from follow-up interventions to preventive actions. Namely, primarily about activity (actions), not reactions (overcoming the consequences). Ideally, the destination should analyze and evaluate the threats, as well as to form a culture of attitude towards them among stakeholders. Even in this case, however, support is required from the region or state in which the tourist destination is spatially located. The approach also requires capacity to analyze and ability to handle analytical information both needed to identify the threats' potential, their risk classification and evaluation, combined with precise communication skills and a great deal of constancy of efforts.

## 2. Methodology

Taking into account the exposed base constructions, the present study uses publicly available data which allows an easy adaptation to the individual tourist destination, region or country. As specified, the INFORM Index is referred to as empirical data as a risk indicator containing data for 191 countries and an easily adaptable methodology for research purposes (http://www.inform-index.org/).

INFORM has systematized a significant amount of information using 53 different threat measurement indicators, future risks and people's exposure to them identifying vulnerability degree and revealing limiting possibilities via the available resources. The index matrix generates a country-specific risk profile ranging from scale of 0 to 10, tracking threats to by range of measures and allowing easy analysis, comparison, and assessment.

The index includes three main measures: Threats and exposure to them, Vulnerability and Capacity to overcome situations.

Threats and exposure indicators include the Natural and Social (human) threat indicators expressed by the sub-indicators: earthquakes, tsunamis, floods, tropical cyclones, drought (relative to natural) and current conflict intensity and predicted conflict risk (referring to social).

Vulnerability as a measure is formed by indicators Socio-economic vulnerability and Vulnerable groups expressed by sub-indicators: development and disadvantage (50%), inequality (25%), dependency on aid (25%) (as signs of socio-economic vulnerability) and relocation of people and other vulnerable groups (as signs of vulnerable groups).

The Capacity Capability indicator is based on the Institutional Capacity and Infrastructure Capacity indicators. Institutional is established through sub-indicators: Disaster Risk Reduction (DRR) and Management; Infrastructure capacity is delivered through the communication infrastructure, physical infrastructure and access to the healthcare system.

INFORM index data are freely available at www.inform-index.org, as they can be downloaded into a spreadsheet, printed, used interactively and adapted to the purposes of the particular survey. And as they refer to individual countries, this makes them particularly adaptable to the analysis and assessment of tourist destinations determined at country level.

From a methodological point of view, INFORM is a model based on scientific publications on risk concepts and established by three key measures: Threats and exposure to them, Vulnerability and Lack of capacity to overcome situations. They are conceptualized according to the dualist reversal of risk (natural and social threats) and (population) risk seeking a balance between both basic forces, namely: threat dimension and extent of exposure on one side, and vulnerability and lack of capacity to overcome with specific conditions, on the other (http://www.inform-index.org/In-depth/Methodology).

Explored are two categories manifestations: dependent on the nature of the threats (in terms of dimensions and exposure extent) and independent of them. The latter are divided into two groups, namely those relating to vulnerability perceived as individuals’ and households viability in terms of crisis situations, as well as the lack of capacity to deal with the specific conditions taking into account the factors of institutional stability.

In conceptual terms, the INFORM Index perceives the three aspects of vulnerability reflected in the definition of United Nations Office for Disaster Risk Reduction (UNISDR - http://www.unisdr.org/2004/campaign/booklet-eng/Pagina8ing.pdf). According to it, vulnerability depends on factors such as age and health, ecological and sanitary conditions, as well as the quality and condition of the buildings and their location, tailored to potential threats. Aspects of physical exposure and physical vulnerability are integrated into threat and exposure measures; the aspect of instability of the socio-economic system is transformed into the INFORM vulnerability measure; the aspect of lack of resilience to coping and recovery is bound by the third measure - capacity to deal with specific conditions. This division seeks a deliberate effect on the disclosure of time windows to track the results of the application of disaster reduction strategies over time. Other specifics are also taken into account - activities to mitigate the consequences of natural and social threats, in most cases have local dimensions and affect areas and capacities particularly vulnerable to the local community.

The United Nations and the UNISDR, the World Bank, as well as most literature sources, assume that the risk is expressed as the overlapping of the threat, the exposure to it and the vulnerability (GFDRR; Understanding disaster risk modelling):

$$Risk = Threat \times Exposure \times Vulnerability \quad (1)$$

According to the INFORM methodology, where the vulnerability measurer has three components, the equation is reformulated and takes the following entry:

$$Risk = Threat\ \&\ Exposure\ 1/3 \times Vulnerability\ 1/3 \times Lack\ of\ Corrective\ Capacity 1/3 \quad (2)$$

A multiplicative type equation is obtained: the risk is zero if one of the three measures is zero. Or in theory, in case of tropical cyclones, there is no risk if there is no probability of a tropical cyclone (threat) and / or the hazard area is not populated and / or if the population is not vulnerable (e.g. if all people have a high level of education and a high standard of living, good income, and can afford houses that are sufficiently resistant to strong wind gusts) and / or if the sustainability of the respective territory (country) to cope and recover is ideal .

For analysis purposes and to establish areas the need targeted action, the INFORM model is constructed in a way that can be divided into different levels (hierarchies), namely: the ranking of the measures, the conceptualization of the indicators, functional output of indicators and component level to determine the set of (sub) indicators to capture the concept for each category.

During the design of the composite INFORM index, indicators selection is provided by theoretical framework, envisioning that they should be: relevant - justified by the available specialized literature, representative and reliable - reflecting proportional changes avoiding common measures of the GDP per capita type), transparent and conceptually clear.

Moreover, INFORM index's pros and cons are also related to the choice of baseline indicators, i.e. with a set of data describing selected component, respectively a measure. In this regard, they must be credible and allow for renewed values, long-term cumulative and global coverage measures to be scalable from national to regional level and on annual to seasonal (monthly) basis. And since, in this case, the index is complex or even compiled, it is a certain compromise on the baseline data and the way it is interpreted for the purposes of different users. Moreover, components identified for which there are no data or existing ones are not relevant to their expected quality.

## 3. Results and discussion

For the purposes of analysing the given conditions (as threats) by INFORM, this study explores and outlines, in order to be compared, the basic values of the indicators, components and measures forming the INFORM index for 8 European countries - Spain, France, Italy, Austria , Greece, Turkey, Croatia, Slovenia compared to Bulgaria (http://www.inform-index.org/Countries/Country-Profile-Map) (Table 1). Their choice is determined by the position they have as direct tourist destinations competitors of Bulgaria on the European and Russian markets. In the INFORM index, the component values are derived from a 10-point scale: from 1 – the best score, respectively from low threat values to 10 - lowest score, respectively, high values in terms of threats.

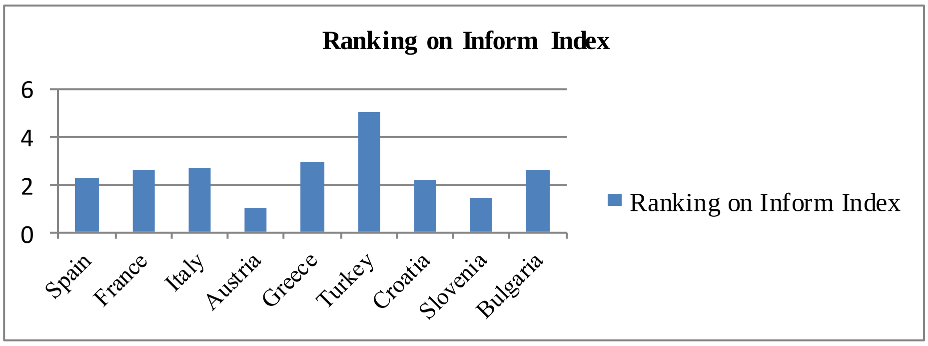
*Table 1. Component values for the individual INFORM variables of the surveyed country destinations* (2018 measurement values)

| Destination - state level | INFORM index Rank |
|---|---|
| **Spain:** a country located in southern Europe with a high per capita income. | INFORM index – 2.3, occupied position in the overall ranking: 143 (at 2.0 and position 155 for 2015)<br>Hazards & exposure – 4.3; Rank: 65<br>Vulnerability - 1.5; Rank: 161<br>Lack of coping capacity – 1.8; Rank: 17 |
| **France:** a country located in southern Europe with a high per capita income. | INFORM index – 2.6, occupied position in the overall ranking: 134 (at 2.6 and position 126 for 2015)<br>Hazards & exposure - 3.5; Rank: 92<br>Vulnerability - 2.6; Rank: 112<br>Lack of coping capacity – 2.4; Rank: 166 |
| **Italy:** a country located in southern Europe with a high per capita income. | INFORM index – 2.7, occupied position in the overall ranking: 126 (at 2.9 and position 111 for 2015)<br>Hazards & exposure - 3.5; Rank: 91<br>Vulnerability - 2.3; Rank: 125<br>Lack of coping capacity – 2.4; Rank: 159 |
| **Austria:** a country located in southern Europe with a high per capita income. | INFORM index – 1.0, occupied position in the overall ranking: 184 (at 1.6 and position 167 for 2015)<br>Hazards & exposure - 1.3; Rank: 162<br>Vulnerability - 0.5; Rank: 190<br>Lack of coping capacity – 1. Rank: 182 |
| **Greece:** a country located in southern Europe with a high per capita income. | INFORM index – 2.9, occupied position in the overall ranking: 115 (at 2.3 and position 142 for 2015)<br>Hazards & exposure - 4.1; Rank: 74<br>Vulnerability - 2.4; Rank: 118<br>Lack of coping capacity – 2.5; Rank: 157 |
| **Turkey:** a country located in Eastern Europe with an average per capita income. | INFORM index – 5, occupied position in the overall ranking: 49 (at 4.7 and position 42 for 2015)<br>Hazards & exposure – 7.8; Rank: 9<br>Vulnerability – 5.0; Rank: 46<br>Lack of coping capacity – 3.2; Rank: 140 |
| **Croatia:** a country located in southern Europe with a high per capita income. | INFORM index – 2.2, occupied position in the overall ranking: 146 (at 2.3 and position 144 for 2015)<br>Hazards & exposure – 3.1; Rank: 105<br>Vulnerability - 1.1; Rank: 178<br>Lack of coping capacity – 3. Rank: 142 |
| **Slovenia:** a country located in southern Europe with a high per capita income. | INFORM index – 1.4, occupied position in the overall ranking: 172 (at 1.1 and position 179 for 2015)<br>Hazards & exposure – 2.0; Rank: 145<br>Vulnerability - 0.8; Rank: 187<br>Lack of coping capacity – 1.7; Rank: 177 |
| **Bulgaria:** a country located in Eastern Europe with an average per capita income. | INFORM index – 2.6, occupied position in the overall ranking: 131 (at 2.3 and position 141 for 2015)<br>Hazards & exposure – 2.4; Rank: 126<br>Vulnerability - 2.3; Rank: 124<br>Lack of coping capacity – 3.1; Rank: 144 |

*Source: the author*

The considered countries, which are also tourist destinations, can be ranked according to the value of the index as follows: (Figure 1) Destination countries with lower INFORM values are safer and positioned backward in the list, and vice versa higher risk destinations have higher INFORM values and are positioned at the top of the ranking.

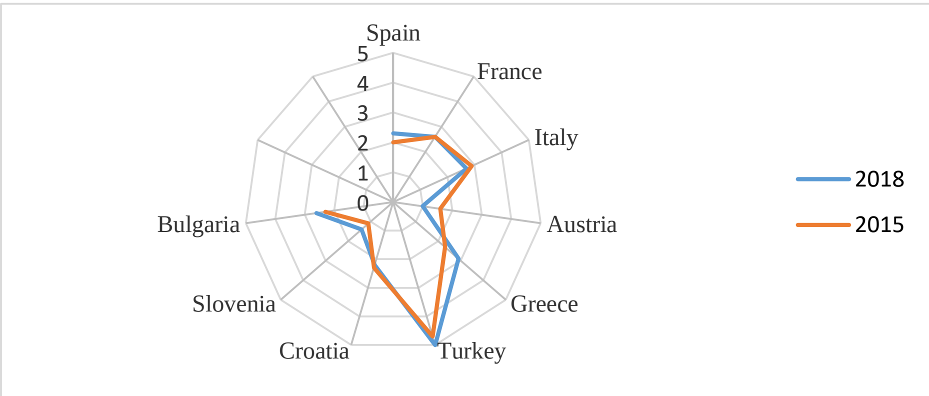
*Figure 1. Ranking of selected countries according the Inform Index results*




*Source: the author, using data available from www.inform-index.org*

As can be seen from the figure, the values for destination Turkey index are the highest - 5; it occupies 49 positions in the ranking of the index by 2018, which is why it has the highest degree of threat from threats compared to others. The lowest index is Austria - 1, which is positioned at 184th position. Compared with the 2015 data, it is noteworthy that there have been no significant positive changes for a destination in Turkey, although some improvements have been made to the indicators. In Slovenia, however, (with the best results for 2015) there is a deterioration in the indicators. The same applies to Italy and Bulgaria; France retained the overall score on the index and its positioning as a whole. The figures for Austria are marked by the sharp drop of 1.6 to 1 on the index position for the past two years, which moved it from 167th to 184th, i.e. at one of the last places, respectively among the safest destinations. Destination Bulgaria (144th place) on the other hand holds a position between Croatia (142th place) and Greece (157th place). The comparison between the destination Bulgaria and the selected destinations, its direct competitors, is illustrated in Fig. 2.

*Figure 2. Comparison on Inform index for destination Bulgaria (regional plan and destinations direct competitors)*




*Source: the author, using data available from www.inform-index.org,*

What is noteworthy is that Bulgaria stands in the middle among its direct competitors in maritime recreational tourism - Spain, Italy, Greece, Croatia. Despite the low scores for Turkey (index 5 by 2018), it remains a strong player in the region, attracting a significant number of tourists, including the Bulgarian market. In the winter season, there are no direct competitors in the Balkans. However, this does not apply to the European market where the destination fights for the attention of tourists with very strong winter destinations Austria, France, Italy, and Slovenia. All of them occupy better positions as safer and safer places for tourists than Bulgaria, a finding that requires further research and analysis.

## 4. Conclusion

The illustrative representation of the values by components demonstrate particularly close positions of compiled country destinations. In general, Austria, Spain, France, Italy, Slovenia, Croatia and Bulgaria occupy from 131st to 184th position. Greece stands at 115 position and the strongest threat has Turkey, which is the most vulnerable - 49th. At the same time, Turkey has a relatively good capacity to deal with threats similar to those of Greece and Bulgaria. For Spain, Italy and especially France, the potential threat is within the average for all 191 countries, but their vulnerability is low, with very good capacity values to deal with threats. This is particularly noticeable in the results for Austria. However, in the break of a few events such as terrorist acts and natural phenomena that have occurred so far, it appears that the sensitivity of the institutions responsible for security and safety is limited; otherwise, attacks and disasters would not happen and lead to numerous casualties. This finding comes demonstrates that, despite the tremendous importance attached to security and safety activities in the countries concerned, threat mitigation measures are inadequate and require constant control and action to prevent or overcome them.

### Acknowledgment

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# STRATEGIC MANAGEMENT OF CZECH ENTERPRISES IN CONDITIONS OF GLOBALIZATION AND HYPER-COMPETITION

Jarmila Straková[1,a,*]

[1]Institute of Technology and Business in České Budějovice, Faculty of Corporate Strategy, Department of Management, Okružní 10, České Budějovice 37011, Czech Republic

[a]strakova@mail.vstecb.cz

*Corresponding author

**Abstract.** Changes that have occurred in the global environment, especially the 21st century, are also reflected in the sphere of strategic management and business decision-making. Company managers, if they want to succeed in the today's dynamic and highly competitive environment, should pay more attention to the strategic management process itself. In this paper results of a large-scale research survey are presented, conducted for a set of 456 companies from all over the Czech Republic, aimed at the status and importance of strategic management and at the impact of business environment on prosperity of enterprises. Using Pearson's chi-squared test we will determine dependence/independence of selected categorical variables on profitability of enterprises, including determination of the role and significance of the internal and external business environment using the general linear model. The obtained results indicate underestimation of strategic management in Czech enterprises, especially in the size category of small and medium-sized enterprises. From the point of view of influence of the corporate environment on profitability of the enterprises, the logit model has confirmed high importance of internal corporate resources and the mezzo-environment. Based on our comprehensive survey among Czech companies about their approach to strategic management we can conclude that strategic management and decision-making play and will continue to play an important role in corporate management, future development and competitiveness of enterprises, not only at the national but especially at the international level.

**Keywords:** strategic management, business environment, competitiveness.

**JEL Classification:** L00, L1, L2

## 1. Introduction

Strategic management is an indispensable part of management in every business entity, regardless of its size and sphere of business. Since its birth (in 1960s) the theory of strategic management has changed in many respects (Tan & Ding, 2015). Originally, there were three fundamental theories of strategic management: a classical strategy theory (applying principles of a military strategy according to Machiavelli or Clausewitz), a competitive strategy theory (according to M. Porter) and a theory based on internal corporate resources (J. B. Barney). According to Jenkins (2012), the traditional approaches to strategy provide only a retrospective view of the competitive position of enterprises. The contemporary strategic management should be seen as a continual, never ending process involving phases like definition of a vision, mission, strategic objectives, creation and implementation of a strategy and follow-up (Delmar et al., 2003, Kurucz, 2016, Shvindina, 2017).

Due to the continually changing dynamic and, at the same time, highly competitive environment, new innovative theories, managerial methods and tools are being developed for management of enterprises. Enterprises have to respond to frequent changes of the external environment and to update or to adapt their strategies accordingly. According to Hammer (2001), the current strategic management and planning requires fast recognition of changes and flexible response. Richards (not dated) and Patel (not dated) bring forward proactive monitoring of changes, particularly for the purposes of updating of a corporate strategy. There are many phenomena that cause the changes, such as scientific and technical development, growing competition that transforms into super-competition or even hyper-competition, changing preferences of customers, economic cycles, political instability and, particularly, the globalization process. According to Ogrean and Herciu (2011), strategic management seeks competitiveness and sustainability in a global framework, based on a competitive strategy of the enterprise which must be defined and maintained to ensure a good position of the company in the area where it operates.

The globalization phenomenon is usually approached from different perspectives (historical, economic, social, cultural, political, religious) and it has been quoted extensively in specialized literature and articles, particularly since 1980s. Jeníček (2002) defines globalization as a comprehensive transformation of not only market but also other social relations on a worldwide scale, which is materialized in numerous changes, both in the economic and microeconomic sphere (Jeníček, 2002). Dollar and Kraay (2004) and Lund and Tyson (2018) have focused on one specific problem of globalization, i.e. on trade, Borensztein et al. (1998) on the issue of direct investments and McKeill (2018) has dealt with the social policy. The globalization process has been accompanied by both positive and negative phenomena. One of the negative effects of globalization is the so-called hyper-competition, i.e. fierce struggle for customers, which appears especially in situations when offers of enterprises are so new that the standards and rules of mutual competition are only being developed and this generates competitive advantages that are not sustainable in the long term (Kotler & Caslione, 2009).

Masteikiene and Venckuviene (2015), who researched impacts of economic globalization, have concluded that the intensity and scope of globalization impacts have gradually decreased in recent years and that the globalization process is transforming into a process of functional regionalization. Professor Milan Zelený (Petříček, 2015) speaks about a slowly approaching end of globalization; in his opinion, globalization in recent years reached its maximum and many countries will gradually go back to local economy. He says that this process has already started in developed countries and the same transformation will occur in less developed countries later. The trend has been identified as the so-called deglobalization or demise of globalization (Livesey, 2018).

Enterprises can be compared to living organisms as their development is often complicated and complex. Nevertheless, experience shows that particularly companies which are not members of foreign entities do not always pay sufficient attention to strategic management (Celer & Janska, 2016). Application of strategic management and creation and implementation of a strategy have become key preconditions for future competitiveness and prosperity of enterprises.

## 2. Material and methods

The research was conducted as an extensive questionnaire survey focusing on corporate strategy, strategic management and decision-making in the current discontinuous and turbulent environment. The tested groups included 456 business entities categorized from the viewpoint of size as small and medium enterprises including microenterprises (373) and large enterprises (83), as well as from the viewpoint of sector differentiation into the manufacturing (196) and services sector (260). For statistical testing we used the Pearson´s chi-squared test to determine dependence/independence of selected categorical variables. We tested dependence of a strategy on sector differentiation and size categories of the enterprises, whether having a strategy affects profitability of small and medium enterprises and also large enterprises and, last but not least, dependence of vision, mission and strategic objectives on a corporate strategy. The tests were performed at the standard level of significance 0.05, i.e. with the reliability of 95 %. The Pearson´s chi-squared test of independence

$$x^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(n_{ij} - e_{ij})^2}{e_{ij}} \tag{1}$$

$\chi^2$ chi-square
$X_i$ empiric frequencies (real)
$Np_i$ theoretical frequencies (expected)

Further, a general linear model (McCullagh and Nelder, 1989) was used to test effects of individual components of the corporate environment (internal resources, mezzo-environment, general macro-environment with an impact on strategic management and decision-making of the approached enterprises, again depending on their profitability. The general linear model (GLM model):

$$X\beta = ln\left(\frac{\mu}{1-\mu}\right) \tag{2}$$

Identification of data structures and symbols in GLM:

- *The matrix* **X** *of independent variables* (regressors, covariates) is of the type $n \times p$. Its $j^{th}$ column is identified as $\mathbf{x}_j$.
- *Vector of the parameters is* $\beta = [\beta_1, \dots \beta_p]^T$.
- Observation of a *dependent variable* (response) is a column vector of random variables and it is the type $n \times 1$, i.e.. $y = [y_1, y_2, \dots, y_n]^T$
- The random component of the model has a vector of mean values $E(\boldsymbol{Y}) = \boldsymbol{\mu}$ of the type $n \times 1$ and covariation matrix $cov(\boldsymbol{Y})$.

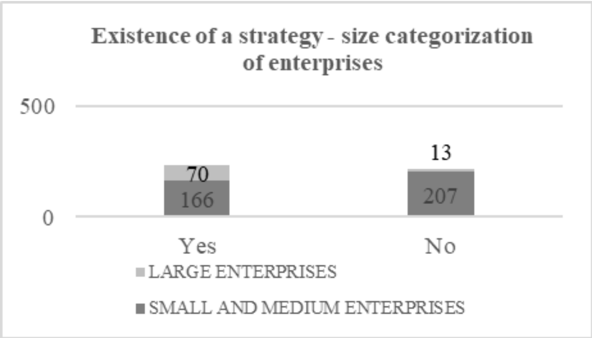
*The linear predictor* $\boldsymbol{\eta}$ is a systematic component in a linear model, i.e.

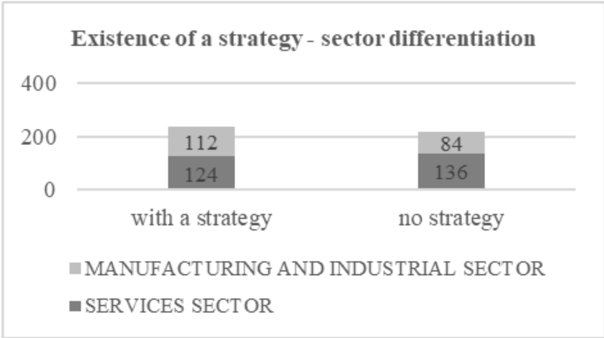
$$\boldsymbol{\eta} = \sum_{j-1}^{p} \times_j \beta_j \tag{3}$$

where $\mathbf{x}_j$ is the $j^{th}$ column of the matrix **X,** i.e. $n \times 1$ the vector.

## 3. Results and discussion

*Fig. 1a-b: Existence of a corporate strategy from the viewpoint of size categorization and sector differentiation of enterprises.*

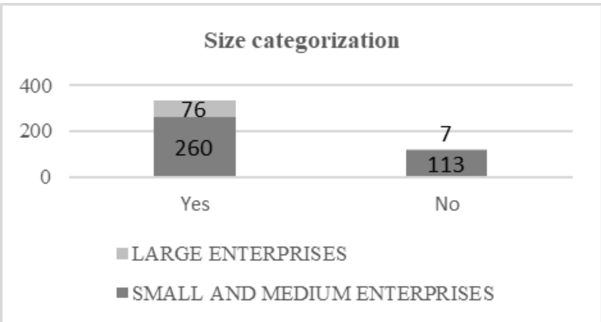


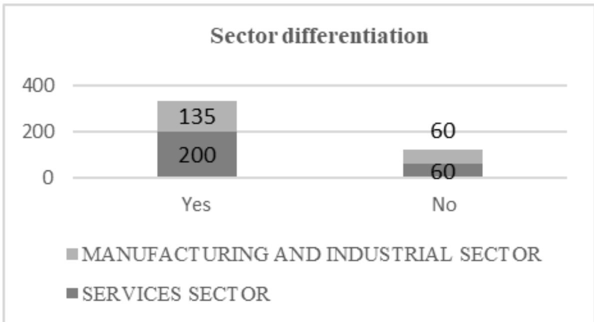




*Source: Own research*

As indicated in Figure 1a, up to 55 % of small and medium enterprises, including microenterprises, do not have a corporate strategy and in case of large enterprises it is 15 %. From the viewpoint of sector differentiation (see Figure 1b), corporate strategies are more frequently created in the manufacturing and industrial sector (57 %) in comparison with the services sector (48 %). This finding for SME is seen as highly negative as in the contemporary instable and extremely competitive environment having a corporate strategy is a necessary precondition for stability, prosperity and competitiveness of all enterprises, regardless of their size or sector affiliation.

*Fig. 2a-b: Definition of a vision, mission and strategic objectives from the viewpoint of size categorization and sector differentiation of enterprises.*

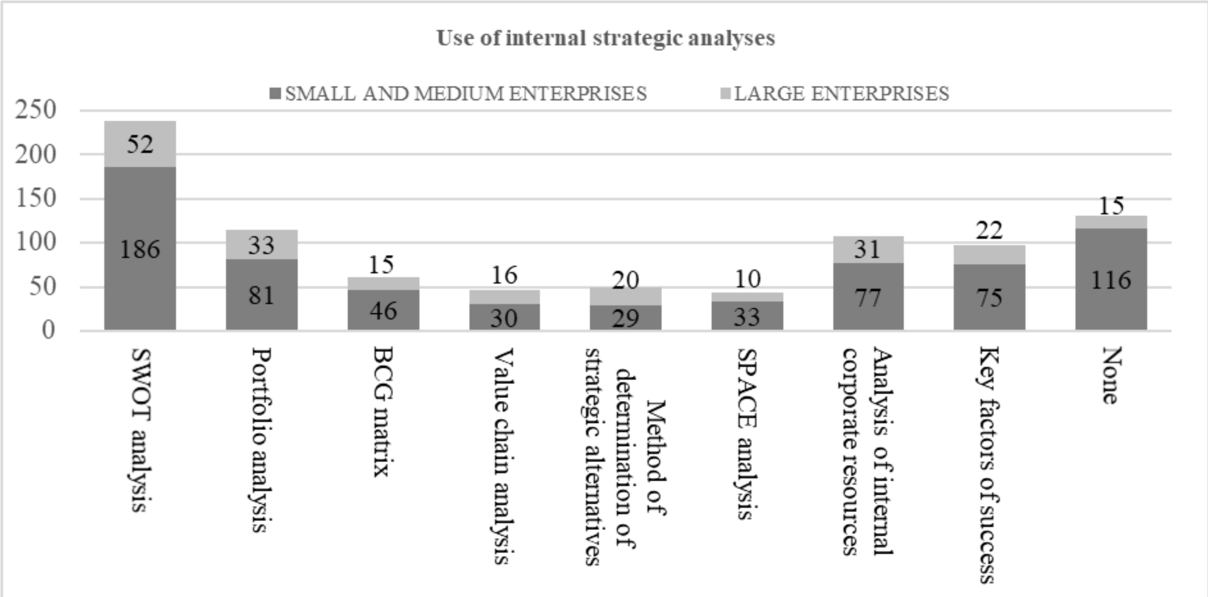



*Source: Own research*

In theory, the process of strategy creation means to define a vision, mission and strategic objectives of an enterprise. Results shown in Figure 2a indicate that for the SME category, including microenterprises, nearly 70 % of the enterprises have defined their vision, mission and strategic objectives, despite the fact that nearly a half of them do not have any corporate strategy. Similar results have been found also for the sector differentiation (see Figure 2b). The results indicate that managers of Czech enterprises do not yet clearly understand the concept of strategy. Structured interviews (that complemented this extensive research survey) with top managers of prospering enterprises have shown significant differences in how the term strategy is understood and defined. Many managers think that strategy equals a vision and others define it as a long term objective or plan.

*Fig. 3: Use of internal strategic analyses in creation of a corporate strategy*

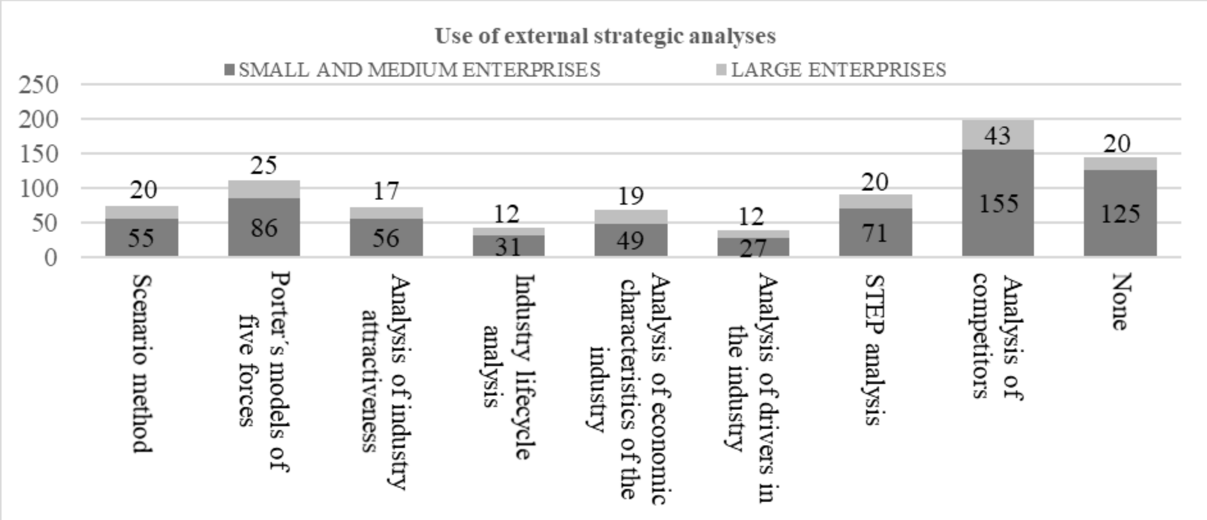



*Source: Own research*

Figure 3 shows results of use and knowledge of internal strategic analyses or methods for evaluation of the internal corporate environment in the process of creation of a corporate strategy. From among internal analyses, the SWOT analysis clearly prevails in both the tested size categories. The SWOT analysis is one of the best known and also the oldest methods applied since 1960s and, together with the analysis of portfolio (the second most frequently represented analysis), they were the first strategic analyses used for evaluation of the internal potential of enterprises or for improvement of awareness of corporate resources. The next most frequently represented analysis (the third) is the analysis of internal corporate resources. The internal corporate resources are an important component contributing to prosperity of business entities as shown by the results in Table 2 below.

On the contrary, the value chain analysis, which is a globally recognized tool for creation of a corporate strategy, has been used very rarely: in the SME and microenterprises category it was used only by 8 % of the enterprises and in the category of large enterprises by 19 % of the enterprises. The results suggest lower managerial skills when it comes to strategic management and decision-making. There are numerous methods that can be used for evaluation of both internal and external environment and it is not necessary to use all of them. Companies should rather choose suitable analytical tools which may support the process of creation of a corporate strategy. Managers of enterprises should be aware of the fact that generation of value is the basis for creation of a successful competitive strategy. This statement is associated with another finding of our research: a fairly high percentage of enterprises do not use any analytical strategic tools (in the SME and microenterprises category it was more than 30 % of the enterprises).

*Fig. 4: Use of external strategic analyses in creation of a corporate strategy*

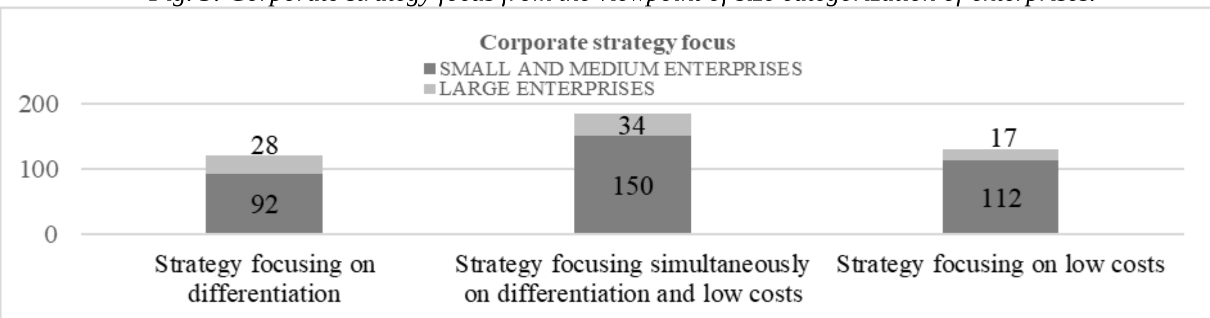



*Source: Own research.*

From among external strategic methods (Figure 4), the enterprises used most frequently the following: analysis of competitors, Porter´s model of five forces and STEP analysis. The category of large enterprises used also other methods, e.g. scenario method, analysis of economic characteristics of the industry and analysis of attractiveness of the industry.

From the viewpoint of creation of a strategy according to M. Porter, the obtained results are positive. In his interpretation of corporate strategy development the knowledge of the industry structure is determined by five competitive forces (Porter´s model of five forces) and, as one of the suitable analytical tools (along with the value chain analysis), it is a necessary precondition for creation of a successful strategy.

*Fig. 5: Corporate strategy focus from the viewpoint of size categorization of enterprises.*




*Source: Own research*

Figure 5 shows results of corporate strategy focus, either on low costs, differentiation or on a combination of the two. The obtained results have shown that enterprises that do have a strategy mostly focus on both the mentioned variants (differentiation and low costs at the same time). Generation of a unique value, along with efforts to reduce costs, are preconditions for achievement of a competitive advantage.

*Table 1: Results of dependence /independence of selected categorical variables.*

| **Tested relation** | **P-value** | **Dependence / independence** |
|---|---|---|
| Dependence of strategy incidence on the enterprise size | 1.34 E-14 | dependent |

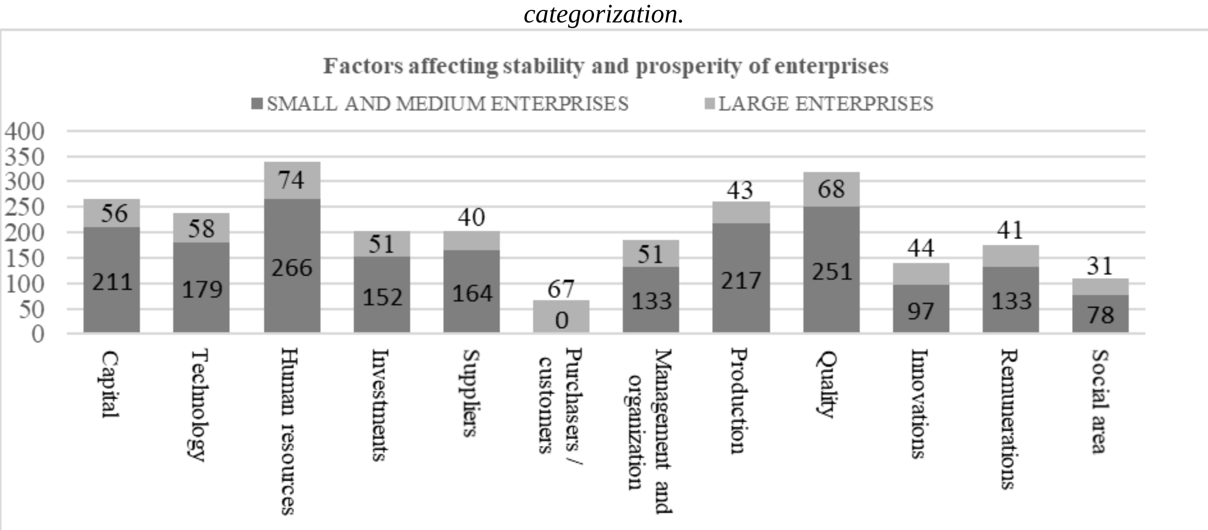
| | | |
|---|---|---|
| Dependence of strategy incidence on the sphere of business | 0.109 | independent |
| Dependence of vision, mission and objectives on strategy incidence | 2.20 E-16 | dependent |
| Dependence of strategy incidence in SME (including microenterprises) on their profitability | 0.6523 | independent |
| Dependence of strategy incidence in large enterprises on their profitability | 2.2 E-16 | dependent |

*Source: Own research*

The statistical tests have proved dependence between strategy incidence and the size category of enterprises and dependence between strategy incidence and a vision, mission and strategic objectives; in the category of large enterprises dependence has been proved between strategy incidence and their profitability. It has been also demonstrated that in the SME category, including microenterprises, strategy incidence does not depend on sector differentiation or profitability.

The results have exposed differences in awareness of importance of corporate strategy among managers in individual size categories of enterprises, while the need to have a strategy is most urgently perceived by top managers of large enterprises and, on the contrary, owners and managers of microenterprises and small enterprises perceive it as less important. It turns out that managers of medium enterprises should improve their managerial skills in the field of strategic management, strategic thinking and decision-making. The statistically demonstrated dependence of a vision, mission and strategic objectives on strategy incidence has confirmed the general theory concerning creation of a corporate strategy. On the contrary, no dependence has been proved from the viewpoint of sector differentiation. This can be explained by that fact that the services sector is highly fragmented with a fairly high share of family businesses (microenterprises), including small enterprises, that in most cases do not create any corporate strategy (see Figure 1a-b). In the manufacturing sector we can expect the opposite trend.

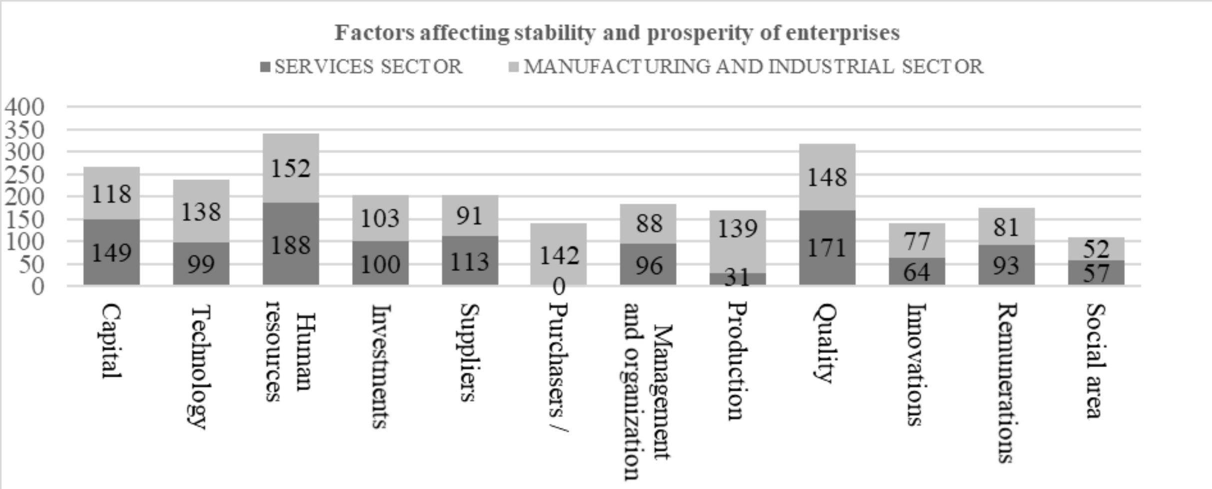
*Fig. 6: Factors affecting stability and prosperity of enterprises from the viewpoint of their size categorization.*




*Source: Own research.*

According to managers and owners of SME, including microenterprises, the most powerful factor affecting stability and prosperity of their enterprises are customers, human resources, quality and capital. In large enterprises the important factors are human resources, quality, customers and capital. The listed factors fully conform to the size categorization of the enterprises. It should be also noted that the research survey was conducted in a period of strong economic growth and in case of a swing of the economic cycle we could expect different results.

*Fig. 7: Factors affecting stability and prosperity of enterprises from the viewpoint of their sector differentiation.*




*Source: Own research*

*Table 2: Effects of components of corporate environment and value chain on profitability of enterprises.*

| | **Estimate** | **Std. Error** | **Z value** | **Pr(>\|z\|)** |
|---|---|---|---|---|
| **(Intercept)** | 0.27585 | 0.62391 | 0.442 | 0.658395 |
| **Internal corporate resources** | -1.79951 | 0.25808 | -6.973 | **3.11e-12 ***** |
| **Mezzo-environment** | 1.37667 | 0.33526 | 4.106 | **4.02e-05 ***** |
| **Macro-environment** | -0.06613 | 0.27993 | -0.236 | 0.813247 |
| **Value chain** | 1.28389 | 0.34797 | 3.690 | **0.000225 ***** |

*Source: Own research*

Results from the overall model provided in Table 2 demonstrate high significance of internal corporate resources, mezzo-environment and value chain. From the viewpoint of vitality and competitiveness of enterprises, internal resources are seen as very important as they strongly affect particularly the corporate potential. In combination with factors of the mezzo-environment (competitors, customers, suppliers, partners etc.) they are among those components of corporate environment to which the managers should pay more attention. The value chain has been confirmed as an exceptionally suitable analytical tool for generation of added value, despite the fact that a value chain analysis has been still underestimated by the managers (see Figure 3).

## 4. Conclusion

This paper deals with the current status and level of strategic management, strategic thinking and decision-making in creation of a corporate strategy in conditions of globalization and hypercompetition based on opinions of top managers of Czech enterprises. Results from the partial research survey can be summed up into the following conclusions.

More than one half of small and medium enterprises, including microenterprises, have not formulated their corporate strategies. This finding is alarming particularly in the category of medium enterprises. In the contemporary turbulent and hypercompetitive environment the enterprises may not even survive in the long term. Even though the Czech economy is now experiencing strong economic growth, which has been reflected by opinions of the inquired top managers, without a corporate strategy (regardless of a size category or sector differentiation) and without the ability to create a unique value offer, the stability and development of the enterprises is threatened, especially in case of SME. In general, large enterprises should improve quality of their strategic management and decision-making.

One positive outcome of the research is the fact that over 70 % of SME, including, microenterprises, have defined have their visions, missions and strategic objectives, while in the large enterprises category it was ca 92 %.

In terms of awareness and strategic analytical tools used for creation of a corporate strategy, it has been confirmed that the employed internal strategic analyses included particularly the SWOT analysis, analysis of portfolio and analysis of internal corporate resources and that the external strategic analyses included analysis of competitors, Porter´s model of five forces and STEP analysis. Over 30 % of small and medium enterprises did not use any analytical strategic tools. The awareness and use of strategic analyses increased with the size of an enterprise.

From the viewpoint of focus, it has been demonstrated that strategies focus both on differentiation and low costs. A combination of the two variants under current market conditions seems to be the right way to win and to maintain a competitive advantage. The situation in the corporate sphere is very inconsistent in the use of situation analysis and managerial tools when it comes to size category and sector differentiation.

The statistical tests have proved dependence between strategy incidence and the size category of enterprises and dependence between strategy incidence and a vision, mission and strategic objectives; in the category of large enterprises dependence has been proved between strategy incidence and their profitability. The importance of corporate strategy is most distinctly perceived by large enterprises. In the SME category, including microenterprises, the results suggest the need to strengthen skills of their managers in strategic management and decision-making and especially in the field of creation and implementation of a corporate strategy.

On the contrary, it has been found that strategy incidence is not dependent on sector differentiation of enterprises and, in the SME category, including microenterprises, it is not dependent on their profitability. Results have been influenced by the fact that most of the enterprises were from the services sector but we can still conclude that the need to have a strategy is more seen as more urgent by managers in the manufacturing and industrial sector.

Factors that we have been identified as important for stability and prosperity of SME, including microenterprises, were customers, human resources, quality and capital. For large enterprises we have identified the same factors, only the order was different: human resources, quality, customers and capital. The same listed factors were also identified for the services sector. On the contrary, in the manufacturing and industrial sector the factors also included manufacturing and technology. The obtained results correspond to characteristics of the tested size and sector categories.

A regress analysis was used to test effects of components of the corporate environment and separately also of the value chain on profitability of the tested enterprises. We have found a highly significant effect of internal corporate resources, mezzo-environment and value chain.

The results from our research have also shown some shortcomings in strategic management, strategic thinking and decision-making, particularly in the category of small and medium enterprises. This situation is affected by the fact that, as a result of its political situation, application of strategic management in Czech enterprises started much later that in developed countries in Western Europe and worldwide. The delay has naturally influenced stability, prosperity and competitiveness of Czech enterprises, especially in the commercial sphere significantly afflicted by globalization and fierce competition.

Recently, the Czech business community has been ever more frequently calling for uniqueness and originality of enterprises. The appeal is associated with the ability of managers to create value and to develop a successful corporate strategy which is a precondition for long term prosperity and development of enterprises. Our paper should draw attention to some negative facts that limit the ability of enterprises to implement modern elements of strategic management and decision making into everyday business practice.

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# PERSPECTIVES OF ENTERING THE CHINESE JEWELRY MARKET BY THE RUSSIAN COMPANY

Tatiana Sysoeva[1,a,*], Galina Timokhina[2,b] and Natalya Izakova[3,c]

[1]Ural State University of Economics, International management and marketing department, Yekaterinburg, Russia

[2]Ural State University of Economics, International management and marketing department, Yekaterinburg, Russia

[3]Ural State University of Economics, International management and marketing department, Yekaterinburg, Russia

[a]t.l.sysoeva@mail.ru, [b]galinatimokhina@yandex.ru, [c]izakovan@gmail.com

*Corresponding author

**Abstract.** The article presents the overview of China economics and its jewelry market for the entering by foreign companies. The paper purpose is to provide the deeper understanding of the business culture of Chinese partners and to provide functional recommendations for the jewelry companies. The research involves methods of logical, statistical, functional, and comparative analysis, observation. The data of the National Bureau of Statistics, Bank of America Corporation, World Bank, and World Gold Council are used. According to the "Doing business" index, China has the favorable conditions for entrepreneurship and has the rank 78 among the 190 countries. Chinese jewelry market is the number two by the volume after the USA. The Chinese customers perceive jewelry not only as a piece of art, but also as a way of investment, preferring to buy jewelry or souvenirs with precious stones made for the individual design. According to the cultural analysis with the four models, by Richard D. Lewis, Geert Hofstede, Edward Hall, Trompenaars, we find out the specifics of Chinese business culture: high contextual culture, the hierarchy is strictly respected, and the wages differentiation between the managers and the average employees is strong. We suppose that there is a positive perspective to enter the Chinese jewelry market in the premium segment. The average costs for the opening of the retail store will be 200 thousand USD and the investments could return in 30-35 months.

**Keywords:** entering market, China, jewelry market, international business, cross-cultural analysis.

**JEL Classification:** F230, F610, M310

## 1. Introduction

In the early 2000 the global and new brands have entered at the American the European markets mostly and have the strategy of the following gradual expansion its presents. The Asia tended to be the most challenging market in the past two decades. Nowadays the situation has changed significantly; the China has become the immediate competitor for the European markets (Wang & Zhao, 2017). With the purchasing capacity growth, the China has become more demanded to the goods, the previous approaches to the product launches, the promotion policy and the past customers attitude do not bring the success any more. The foreign brands from up-market and middle-market segments consider the continental China and Hong Kong as the most attractive areas for sales.

China’s economy appears set for continued moderate growth but still stable (Kalish, 2018). According to the China statistical year book 2017, national economy and social development indicators, as GRP per capita, fixed capital formation have the growth tendency and the annual GRP growth is about 9.5%. China's GDP Per Capita reached 8,830.17 USD in Dec 2017, compared with 8,120.69 USD in Dec 2016 by the National Bureau of Statistics data. Bank of America Merrill Lynch reported that the China takes the leading place on the volume of the money spent for satisfaction of consumer desires and maintenance of image and prestige that causes rapid growth of global consumption for the sake of satisfaction of ambitions in 2017. The bank has stated that the market of "the vanity capital" located around the Big China, Hong Kong and Taiwan, but not including Macau, has shown an annual gain at a rate of 15.6 % that is the highest rate in the world in the last five years. According to the McKinsey report by 2015, Chinese consumers account for more than 20 percent of the global luxury market (Atsmon, 2011).

The country is actively integrated into the world economy, since 2001 – a member of the WTO, recognized by the international community as the locomotive of the world economy, and not just one of the growing markets. China's position in the international ranking of Doing business (table 1), which reflects the creation of favorable conditions for the implementation of business activities in 2016 increased by 3 points.

*Table 1: The indicators of the business climate in China*

| The indicator | DB 2017 rate | DB 2016rate | Changes |
|---|---|---|---|
| Enterprise registration | 127 | 134 | +7 |
| Obtaining construction permits | 177 | 175 | -2 |
| Property registration | 42 | 41 | 0 |
| Obtaining loans | 62 | 78 | +16 |
| Taxation | 131 | 127 | -4 |
| International trade | 96 | 94 | -2 |
| Enforcing contracts | 5 | 4 | -1 |

*Source: (World Bank. 2017. Doing Business 2017. [Online]. 01.06.2018. Available: https://www.ihk-krefeld.de/de/media/pdf/international/doing-business/china-doing-business-in-china-2017.pdf )*

Among 190 countries, China is on the 78th place. The strongest position of the country in the category of «enforcing contracts» is 5, compared to 2016, the rating changed by 1 point. It is also worth mentioning the positive rating changes in certain categories, such as "Registration of enterprises" (+7 points per year), "Taxation" (+4 points). According to the categories "Obtaining construction permits", "Enterprises Registration ", "Taxation" and "Connection to the power supply system", the rating of the country has quite high values, which is associated with certain difficulties in the preparation of documents, the duration of certain procedures for obtaining permits, etc.

The economy liberalization, the revealing of non-state new forms companies in the late 20th century only strengthened the "family-orientation" in the business models of Chinese enterprises (Ramasamy et al. 2012). It is this model that lays down the four key conditions on which the family business stands:

- The family oriented company in management issues;
- The company head is the father. And each member of the family occupies a position according to his or her status in this social unit or (often) according to the proximity to the family head.
- It is the dynasty and the family responsibilities. It is very important that their children can accept the business, so that the company management remains in the family members.
- It is a family finance and accountable to family corporation. Since the owners, managers and executors of Chinese enterprises are family members, they are not inclined to rely on other financial and non-financial institutions (banks, for example), which creates the atmosphere and climate around the enterprises.

Fifteen years ago for being successful at the Chinese market it was enough to have the two vital issues in marketing point of view. The first one was the visual attractive brand identity system for the product (He & Wang, 2017). And the second issue - the information about the country of origin, where it's recommended to mention any developed country in the world. These two factors were the guarantee for the market and sales success (Yu & Liu, 2018). But nowadays the situation has been changed, the Chinese market is full of various kinds of consumer goods, and the foreign companies should develop the international strategy with much concern.

## 2. Cross-cultural analysis for doing business in China

For the Chinese business culture and ethics estimation the authors conducted the study based on the several cross-cultural modes. The model introduced by the Richard D. Lewis describes the culture from the point of view of its linear-active, multi-active and re-active. The Chinese business culture is the re-active and high-context, where it is the senior cult, respect, hierarchy, high differentiation of the power. Normally, the Chinese do not show its true emotions, the special symbol system is important in negotiations process (Prado-Fonts, 2017). In the negotiations the behavior model: "monologue – pause – thinking – monologue" is a common practice. The speed of the negotiation is slow; sometimes it could take a lot of time. It's important to understand that the Chinese partners are more interested at the long-term benefits rather than short-term.

The next study for understanding the business culture of the China is the Geert Hofstede model, where the four criteria are presented (Hofstede et al., 2015). China is the country with pronounced collectivism. The collectivism is traditional for China, and it results from Confucianism philosophy. Belonging to this or that social group is very important for Chinese. In China, the distance of power is one of the highest in the world. The boss is God, the father, the head of the family. The hierarchy is a very strict. At the same time, the authorities are not so much proud of their financial status as of their education and scientific degrees. In China there is a very strong differentiation in wages between superiors and subordinates.

As for the risk avoiding level, the Chinese have the low-medium level. The Chinese believe that the future cannot be predicted. In that case, how can we control the future? This factor can be attributed to their manner of conducting negotiations. They listen attentively to opponents, wait for their answer. The Chinese are very tolerant and polite to their potential business partners. Chinese culture is considered more masculine than feminine. China is a typical representative of androgynous culture (i.e. a mixture of male and female culture). This is a society that is focused on success, where hierarchy and a high distance of power are very important. The work for the Chinese is a source of the income, and therefore the essential life value.

Another model that is worth paying attention to is the model of Edward Hall, which divides the culture into low – and high-context (Hall & Hall, 1989). Chinese culture is one of the most highly contextual cultures in the world. In this country, with a pronounced collectivism, there is always a lively exchange between family members or other groups to which people belong. The Chinese are very skilled in nonverbal communication. Very often, different sighs, barely audible moans, grunts-all this can mean much more than the words said.

Also we have to pay attention to the Trompenaars model, which studies the cross-cultural differences between different countries (Smith et al., 1996). China is a particularistic culture. Business and contracts are often based on personal relationships, which called "Guangxi" rules (Chen, 2017). Very often contacts are established not at official events, but through acquaintance with the help of an intermediary or exhibitions. Mutual understanding is a very important factor in the success of negotiations with Chinese mediators. It is very important to be in good relations with the potential partners from China. Acquaintance and mutual understanding takes place in an informal setting, during a meal, a cocktail.

Chinese business culture is a diffuse culture. Personal qualities, professionalism, loyalty to the company, family relationships, relationships at work and trust are all fundamental principles of interaction. Chinese culture is neutral. The Chinese are extremely unemotional. They never show what they think, rather prefer to hint. Emotions are controlled. The success is extremely vital for the Chinese. The most popular symbol of success is the education. Chinese culture is primarily a status culture. The job titles, position, academic degree, belonging to a particular social group of have the significant importance. In China, the cyclical attitude to time is clearly expressed. They are characterized by a pronounced long-term orientation. Chinese culture is externally controlled culture. This factor also has its roots from Confucianism. The circumstances of the events are extremely important, and a person cannot change them himself.

In conclusion, it should be noted that all four models quite well show the most important features of the Chinese business culture. Collectivism, family values-these are the determining factors. For Chinese business is necessarily connected with the family. The Russian and Chinese business culture comparison analysis with the mentioned cross-cultural models shows the common and different features. The most evident differences between these cultures are the following: the life value vision, the cultural values and historical background and the cultural skills and habits.

The recommendations for the Russian entrepreneurs to deal with Chinese partners are the listed below:

- It’s necessary to pay a great attention to the listening to the partners;
- It’s recommended to be always polite in the negotiation process and be prepared that it could take much time;
- It’s suggested to come to the meeting without delay;
- It’s better to avoid the excessive emotions demonstration.

As we find out, the representatives of Chinese culture appreciate such qualities and the patience, the caution, the moderation and the composure. And in the opposite the Russians take care about the desire to reach a compromise, to find the mutually beneficial decisions and looking for the quick reactions. Therefore, negotiations can be quite tough, with some difficulties.

In order to sum up the cross-cultural analysis we conclude that the Chinese business culture is the most high-contextual; it has the strong power differentiation with the hierarchy value. The representativeness to the particular social group is a significant. The job is the source of income and this makes it the crucial life element.

## 3. The perspectives of the Chinese jewelry market

According to the World Gold Council report the Chinese jewelry market characterized with a high demand to the 18 carat gold jewelry with the precious stones. The jewelry with the lower gold alloy is more popular among the young customers, as it is a common worldwide practice. The Chinese jewelry marker is the number two in the world after the USA and for the last decade it has a permanent rise data. Platinum, gold and silver are the major precious metals for the jewelry production in the China.

According to the China Jewelry Industry Report the total jewelry sales in mainland in 2013 were 75.8 billion USD, its 41.2% of the global sales, and the average growth rate per year was about 23% and the half of the retail sales is the gold jewelry sales. The major local brands are: Chow Tai Fook, Lao Feng Xiang, Shanghai Yuyuan Tourist Mart, Chow Sang Sang и Luk Fook. The Chow Tai Fook is the largest public jewelry company in the world, it capitalization is about 13.6 billion US dollars, in china it has more than 2 000 stores, ant it has 8.7% market share (Dauriz, 2014).

The origin Chinese jewelry brands are known for its individuality and identity, the jewel art in the China differ from the Europeans and it is leads to the following market specific, there are two major competitive directions: the global and the Chinese brands. The true authentic Chinese jewelry brands have entered the market 25 years ago, and this time was enough for the concerning the market, the customers loyalty and moreover the worldwide success. This high reputation is the result of the precise quality, the original design, high production standards and the contemporary trends. The famous Chinese jewelry brands are sure, that they can guarantee the actual quality with the reasonable price policy.

But according to our study, the average Chinese jewelry customer is seeking for something special and customized (Bonetti et al., 2017). So, the Chinese jewel brands could not produce the copies of the European jewelry range, and this provides the opportunity for the proposing the unique range, which will meet the local customers' expectations.

In 2015 the first Russian companies have entered the Chinese jewel market. The "Almaz-Holding" was the pioneer and started the expansion to the foreign markers in order to establish new sales directions. The first step to open the Chinese market, the producer studied carefully the Chinese customer's needs, preferences, and insights for the jewelry purchases. Also, the company was an initiator for the opening the Museum of modern jewelry in Moscow, where the official store were located. The tourist's tours were conducted with the combining the product matrix tests, and later the tested items were proposed to the Asian target audience. For the same purpose, a large store was recently opened in Vladivostok. The production was changed for the customers' demands, but in general the Russian designers' decisions were implemented. One of the significant differences in jewelry perception is that the Chinese customers treat the jewelry as a savings, not as art pieces (Harris & Cai, 2002). That's why the jewelry contains almost 100% of gold. According to study done by Plakhin, Kapustina (2017) the Russian industrial companies have enough experience for dealing with the foreign markets, taking into consideration the global marketing and business practice.

## 4. Recommendations and results

As for Russian companies' expansion to the China market, we have to mention the current market problems, such as: a) the weakening of the local currency; b) expensive bank loans; c) the high costs due to strict administration rules; d) 15% duties to the purchase of colored precious and semi-precious stones for jewelry production, which are practically not extracted in Russia.

According to the author's study, the perspectives for Russian companies for the entering the Chinese jewelry markets are the following:

- There is a possibility to success in the high-end segment with quality high-ended products;
- The competition among the large local retail-chains and global brands is taught enough, so it's recommended to focus on the premium segment;
- The customers appreciate the luxury and they are ready to pay for the unique and high-quality jewelry.

The Russian jewelry company "JF Carat" has a strong position at the local market; the city of company origin is Yekaterinburg, Sverdlovskaya oblast. The company has its own staff of designers who create models both manually and on the most productive in the world 3D printer. The 3D printer allows creating 96 models of jewelry at the same time in high quality in just 10 hours. As a result, the period from the sketch to the final production product was halved. This approach has several advantages: the high speed, reducing metal losses, the ideal quality of geometry, which is unattainable with the manual method of manufacturing products. And each piece of the produced jewelry on the outside has a special mark of the brand name «Carat».

The company «JF Carat» has a positive growth for the previous three years at the Russian jewelry market and it has a strong intention to enter the new markets. The company specialized at production of premium jewelry with unique design. Only high-quality precious and semi-precious stones are used in production. The company provides the highest warranty period for jewelry in Russia: for the main segment it is 3 years, for the premium segment-a lifetime warranty.

China was chosen as a next foreign marker due to several reasons. First, the Chinese customers at the local market prefer the unusual jewelry designs, exclusive items, which are available in the company. Second, it's possible for the company to continue the cooperation with the China not only in sales, but also in the precision stones extraction process. This can lead to the prices reduction. Third, the Chinese staff can be studied and it's possible to minimize the wages volume due to the rate is lower than in European countries or in Russia.

Having trained and educated the employees with the high quality and sophisticated designed jewelry, the company can optimize the costs and gain the profit from the foreign market.

The total cost for the entering the Chinese jewelry market with the opening the official store it the mainland is about 200 thousand USD , including the company official registration, operational management, accounting, rental of premises, equipment and furniture, staff payments and marketing communications. Breakeven point can be reached in 8 months and the return on investment will be in 30-36 months.

## 5. Conclusion

We consider that the Chinese jewelry market is attractive for the Russian companies with the orientation to the premium segment. Regales of the fact that the general Chinese economy development indicators currently slow down, the steady growth for the luxury goods is still presents. The Chinese customers demonstrate the substantial interest to the foreign jewelry brands. Russian jewelry producers are able to propose the competitive products with the unique design and high-end quality. For the mutual beneficial cooperation it’s recommended to follow the studied peculiarities of Chinese business culture.

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# PHYSICAL ACTIVITY OF INHABITANTS OF THE BALTIC COUNTRIES AS A SOCIAL PROBLEM IN GLOBALIZATION ERA

Andrzej Szymański [1,a], Ewa Krzyżak-Szymańska[2,b,*]

[1]Academy of Physical Education in Katowice, 72a, Mikołowska str., 40-065 Katowice, Poland

[2]Academy of Physical Education in Katowice, 72a, Mikołowska str., 40-065 Katowice, Poland

[a]szymanskiandrzej39@wp.pl, [b]ewa.krzyzakszymanska@gmail.com

*Corresponding_author

**Abstract.** The article presents the characteristics of physical activity undertaken by the inhabitants of the Baltic countries. The basis for the analysis were the results obtained using the International Physical Activity Questionnaire (IPAQ) developed by the WHO (2010) standards, concerning the minimum of physical activity for a person in the globalization era. As a research method, the analysis of documents (existing data) was adopted, and their interpretation was carried out using the methods of descriptive statistics. In the analysis, authors included data from individual Baltic countries as well as Eurobarometer reports. The aim of the article is to present the specifics of physical activity undertaken by the residents of: Poland, Latvia, Lithuania, Estonia, Germany, Sweden, Denmark and Finland in the adult and adolescent population and draw attention to the global problem of too low physical activity undertaken by people. Among others, it included: the type of effort, its components and time spent on physical activity. The available data from 2017 show that in the Nordic countries, only a small proportions of adult respondents never exercise or play sport: Finland (13%), Sweden (15%) and Denmark (20%). In Germany, 38% of people do not do sport, and 48% citizens of Estonia. The highest percentage of respondents not practicing sports was recorded in Lithuania (51%), Poland (56%) and Latvia (56%). The presented tendency of sports practicing by adults in individual countries is also confirmed by the results of research conducted among teenagers.

**Keywords:** physical activity, physical culture, health behavior, sport, recreation.

**JEL Classification:** I 10, I 12, I19, L 83

## 1. Introduction

In the era of globalization and technological development there is a growing need to be health-conscious. This is mainly a result of the change of people's way of living, because they are devoid of physical activity to a growing extent. In consequence, an insufficient amount of physical activity, apart from inappropriate diet and smoking, is mentioned as one of the main hazards and the risk factor that leads to serious civilization diseases of a modern man (Pomerleau et al., 1997; Steptoe et al., 1997).

In the subject literature, the notion of physical activity is defined as "various kinds of actions, connected with movements made by skeletal muscles, leading to energy expenditure, which is higher than in the state of repose"(Mazur, 2013, p. 11). This kind of activity is among others: vigorous and moderate activity done during work, moving from one place to another on foot or by bike, physical activity done during housework, cleaning or care work (Cushing et al., 2018; Guinhouya et al., 2013; Nielsen et al., 2018). Thanks to physical activity, the risk of non-infectious diseases and the level of stress and anxiety decrease and rapid ageing can be prevented (Piatkowska, 2012; WHO, 2013). This is why, physically active life style is considered, in the scientists' community, to be the best investment in the individual and public health (Van Mechelen, 1997).

The issue of insufficient physical activity was noticed by European institutions as well. In 2013, the Council of the European Union issued recommendations (2013/C 354/01) to ensure effective policy in this area. They propagate health enhancing physical activity in all sectors. Moreover, the European Commission was appointed to conduct research on physical activity among residents of the EU on regular basis (Breda et al., 2018). However, 53 European members of WHO decided in 2015 that in order to improve health and mobility of citizens, the overall strategy of physical activity for Europe should be implemented. Such a strategy was historically accepted for the first time for period between 2016-2025 (WHO, 2016). On the basis of those regulations, many countries of the Old Continent started to be concerned about the physical activity of their citizens and they initiated monitoring of this phenomenon (HEPA) (Bauman et al., 2012; Shen et al., 2018).

The epidemiological evaluation of physical activity among the citizens all around the globe is executed in many ways. The global research centers, such as European Health Interview Survey (EUROHIS) and European Physical Activity Surveillance System (EUPASS), recommend strongly International Physical Activity Questionnaire (IPAQ). This questionnaire is based on WHO standards (Oja et al., 2010) and it is cyclically used in social research of population in Europe (Guinhouya et al., 2013; Roos et al., 2018; Voros, 2017).

# 2. Presentation of the results of conducted analyses

## 2.1. Purpose of research and methodology

The analysis of documents (existing data) was adopted as a research method. The interpretation of data was made with the use of descriptive statistics. In the analysis, the authors took into consideration the statistical data from EU Open Data Portal and European Health Information Gateway and from following reports: Special Eurobarometer *Sport and physical activity* issued in 2013 and 2017. The aim of conducted analysis was a definition of physical activity among the citizens of Baltic countries of the EU and the indication to the existing differences between them and to tendencies of occurring changes. The selection of region was a result of historical and cultural conditions and political divisions, occurring between period of post WWII and the 21st century, that located part of Baltic countries in the former Eastern Bloc (Poland, Lithuania, Estonia, Latvia).

## 2.2. Frequency of physical activity and playing sport among respondents

On the basis of gathered data, it can be stated that in 2017, 37% of adult residents of Baltic region did neither regularly exercise nor play sport. The highest percentage of physically passive people (56%) was noted in Poland and Latvia, while among the citizens of Finland (13%), Sweden (15%) and Denmark (20%) the percentage settled on the lowest level. In case of Germany, 38% of population do not exercise or play sport, in Estonia 48% and in Lithuania every second person is physically passive (51%).While comparing the research results from 2013 and 2017, the positive dynamics covering 7 percentage points for the physically inactive group (from 30% to 37%) can be observed. This result is higher than the growth rate registered in corresponding period of time for all the EU countries (from 42% to 46%).

The most significant increases, starting from 2013, were noted in Latvia (+17pp) and Estonia (+12pp). The decrease by 2 percentage points in this range was noted only in one of the analyzed countries, i.e.: Finland. Whereas, 16% of citizens from researched countries rarely engaged in physical activity and the remaining 47% exercised and played sport with greater or lesser frequency per week (where 10% of respondents exercised at least 5 times a week). The detailed data is presented in Tab.1.

*Table 1: Answers for the question: How often do you excercise or play sport? (%)*

| country | regularly | 2017-2013 | with some regularity | 2017-2013 | seldom | 2017-2013 | never | 2017-2013 | don't know | 2017-2013 |
|---|---|---|---|---|---|---|---|---|---|---|
| FI | 17 | 4 | 52 | -1 | 18 | -1 | 13 | -2 | 0 | 0 |
| SE | 14 | -1 | 53 | -2 | 18 | -3 | 15 | 6 | 0 | 0 |
| DK | 12 | -2 | 51 | -3 | 17 | -1 | 20 | 6 | 0 | 0 |
| DE | 5 | -2 | 43 | 2 | 14 | -9 | 38 | 9 | 0 | 0 |
| EE | 7 | 0 | 28 | -4 | 17 | -7 | 48 | 12 | 0 | 0 |
| LT | 11 | -4 | 22 | 0 | 16 | -1 | 51 | 5 | 0 | 0 |
| PL | 5 | 0 | 23 | 0 | 15 | -3 | 56 | 4 | 1 | 0 |
| LV | 6 | 0 | 22 | -3 | 16 | -14 | 56 | 17 | 0 | 0 |
| Total | 10 | -1 | 37 | -1 | 16 | -5 | 37 | 7 | 0 | 0 |
| UE | 7 | -1 | 33 | 0 | 14 | -3 | 46 | 4 | 0 | 0 |

*Source: own analysis against EUROBAROMETER 2017 data*

The analysis of socio-demographic data of respondents from Baltic countries indicated that gender is a factor that significantly differentiates the frequency of exercise or playing sport. It was established that men (69%) exercise or play sport more frequently than women (61%). The most significant disproportions, in this regard, can be noticed in Poland (14%) and Latvia (13%). Finland is the only country where more women (89%) are engaged in exercise than men (86%). Taking into consideration the age variable of residents from Baltic countries, it is worth noticing that the frequency of exercise or playing sport decreases with age. The majority of young adults (aged 15-24) regularly or with some regularity exercise or play sport (82%). This percentage decreases to 73% in a group aged 25-39 and to 72% in case of a group aged 40-54. For 55+ the percentage decreases to 49%.

## 2.3 Engagement in other physical activity

The residents from Baltic countries were asked about their engagement in other physical activities (e.g.: cycling, dancing or gardening). 20% of the Baltic citizens responded that they regularly do so, 37% do it with some regularity and 21% admit only occasional physical activity in the above scope. The remaining 20% of respondents declare that they do not engage in the above activities at all. While comparing obtained results with the data for all EU members, it is possible to indicate that every fifth Baltic resident avoids this kind of physical activity. In the EU, every third citizen refrains from it. Thus, the data reveals generally higher level of physical activity in the whole EU population in comparison with the Baltic population of the EU. In relation to data from 2013 (Tab.2), there is a noticeable decrease of all kinds of physical activities in Baltic area (by 6pp) as well as in other European countries (by 5pp). The percentage of people, who were not physically active at all, increased by 4 percentage points (for the EU countries – by 5pp).

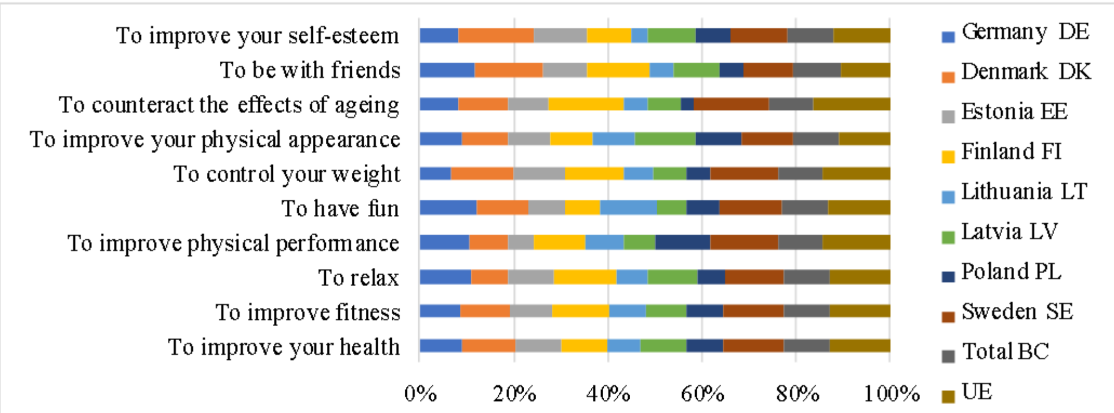
*Table 2: Answers for the question: How often do you engage in other physical such as cycling from one place to another, dancing, gardening, etc.? (%)*

| country | regularly | 2017-2013 | with some regularity | 2017-2013 | seldom | 2017-2013 | never | 2017-2013 | don't know | 2017-2013 |
|---|---|---|---|---|---|---|---|---|---|---|
| SE | 30 | 0 | 43 | -2 | 19 | -2 | 8% | 4 | 0 | 0 |
| FI | 17 | -11 | 48 | 2 | 23 | 5 | 11% | 4 | 1 | 0 |
| DK | 30 | -2 | 39 | -5 | 21 | 3 | 10 | 4 | 0 | 0 |
| DE | 20 | 2 | 40 | -5 | 19 | -4 | 20 | 4 | 1 | 0 |
| EE | 19 | 2 | 36 | -1 | 21 | -6 | 23 | 5 | 1 | 0 |
| LT | 12 | -6 | 28 | 0 | 25 | -1 | 35 | 7 | 0 | 0 |
| LV | 23 | -1 | 34 | 0 | 25 | -5 | 35 | 7 | 0 | 0 |
| PL | 9 | 1 | 29 | 3 | 21 | -7 | 39 | 4 | 2 | -1 |
| Total | 20 | -2 | 37 | -1 | 21 | -3 | 20 | 4 | 0 | 0 |
| UE | 14 | -1 | 30 | -3 | 21 | -1 | 35 | 5 | 0 | 0 |

*Source: own analysis against EUROBAROMETER 2017 data*

The results connected with other physical activities were analyzed according to gender and age of the respondents. It was established that there are statistically significant differences between women and men. The most significant disproportion among people who do not engage in other physical activities was noted in Poland, where for 38% inactive people there are 33% of men and 44% of women. In the overall sample of Baltic respondents, 20% of them (18% of men and 23% of women) do not engage in this kind of physical activity. The disproportion in gender groups was noted in the EU sample as well, where 31% of men and 40% of women do not involve themselves in the discussed activities. It can be observed that the age influences the engagement in other physical activities as well. 29% of people above 55 never engage in any of other physical activity. This percentage decreases to 18% for people aged 40-54, to 15% for 25-39 year-olds and to 12% for the group aged 15-24. The noteworthy fact is that the most numerous groups of inactive seniors above 55 years old can be found in Poland (53%), Lithuania (48%) and Estonia (35%). Whereas, the least numerous groups are in Sweden (10%) and Finland (14%). The percentage of inactive people above 55 years old, in the EU scale, equals 45% of this age group and it is significantly higher (by 15pp) than in researched countries. In the analysis, the reasons for playing sport and engaging in physical activities by residents of Baltic countries were defined as well (detailed structure of responses is presented in Fig.1.).

*Figure 1: Reasons for the inhabitants of the Baltic countries to engage in a physical activity*




*Source: own analysis against EUROBAROMETER 2017 data*

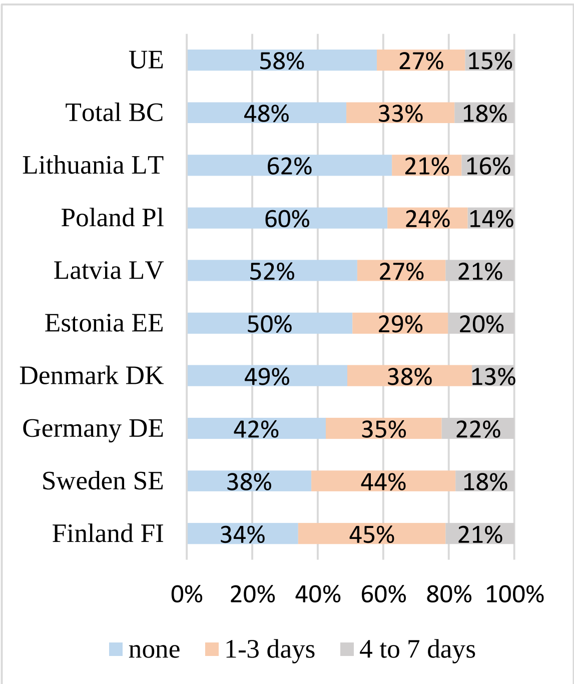
### 2.4. Vigorous and moderate physical effort made by the residents of Baltic countries

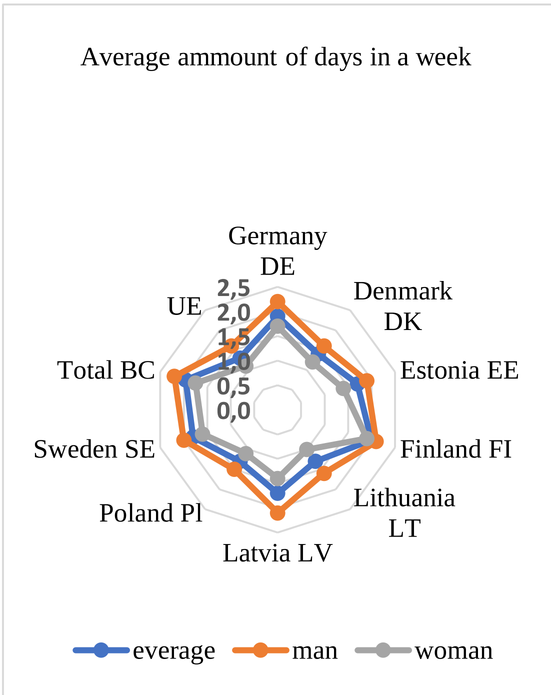
The physical activity is defined on two levels in the subject literature, i.e.: vigorous and moderate effort. The data concerning Baltic countries of the EU indicates that 18% of respondents (22% of men and 15% of women) engage in vigorous physical activity at least 4 times a week and 33% (35% of men and 31% of women) engage in such activity from 1 to 3 days a week. Simultaneously, 48% of residents of this region (42% of men and 54% of women) did not engage in any of vigorous physical activities 7 days prior to research as regards their way of living. Comparing the results from 2013 and 2017, it is visible that the percentage of people who do not engage in vigorous physical activity increased by 3 percentage points.

More than half of the citizens of Finland, Sweden, Germany and Denmark engage in vigorous physical activity at least once a week. The lowest daily indicator of physical activity belongs to former Eastern Bloc countries. The overall average, as regards days intended for vigorous physical activity for the residents of described region, is 2 days per week (indicator for the whole EU equals 1.3 of a day) and it is lower for women (1.8 of a day) than for men (2.2 of a day).

Comparing obtained data with the data from all of the EU countries, it can be stated that an average resident of Baltic countries is more active than a statistical European. In Europe, 15% of residents engage in a vigorous physical activity at least 4 times a week, 27% of residents make it 1 to 3 times a week and 58% do not engage at all. The significant regularity in the EU countries is that women do not engage in vigorous physical activity more often than men and that the age of respondent decides about the dimension of the physical effort. The older the respondent, the smaller the physical effort (Fig.2).

*Figure 2: Amount of days in a week with vigorous physical activity*




*Source: own analysis against EUROBAROMETER 2017 data*

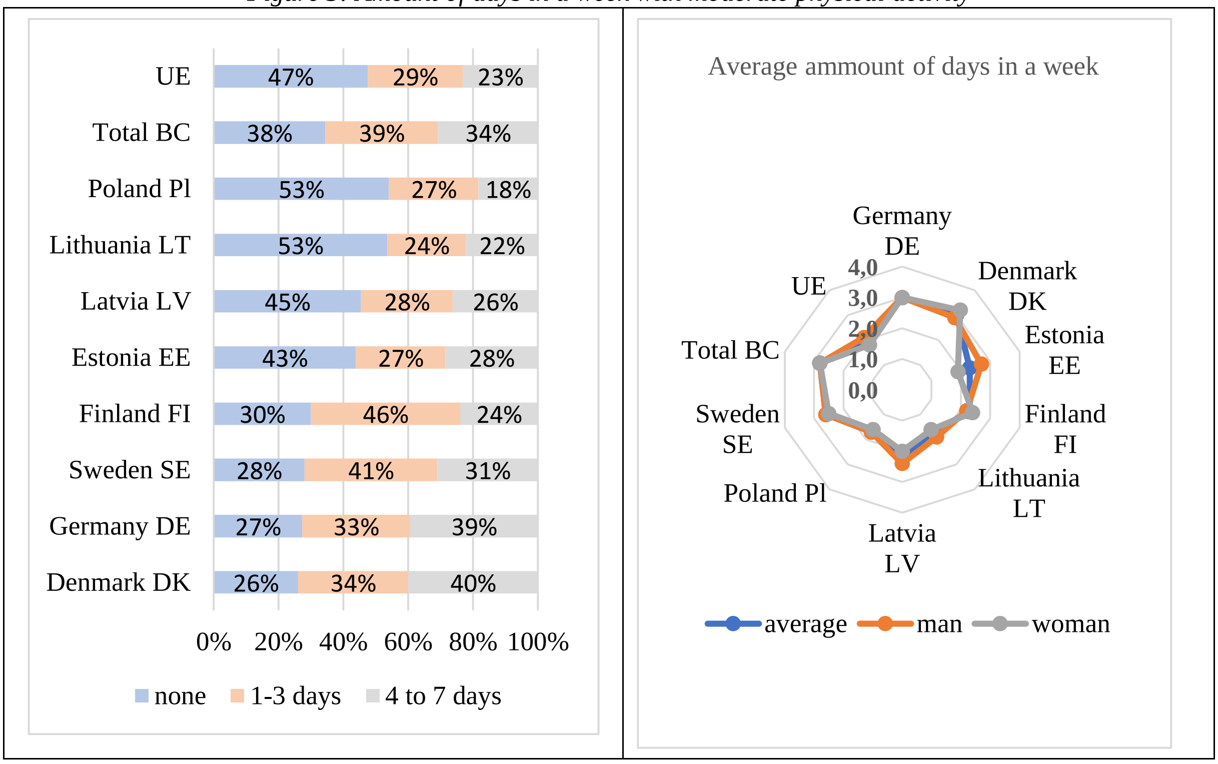
It was established that 51% of residents of Baltic countries spend 60 minutes on vigorous physical activity. While 47% is vigorously engaged for over 60 minutes a day.

The data demonstrates that on average 34% of respondents of Baltic countries engage in moderate physical activity for at least 4 days a week and 39% of residents engage in this increased physical effort 1-3 times a week. Simultaneously, 38% of residents of this region did not engage in any of moderate physical activities 7 days prior to research as regards their way of living. Comparing the results from 2013 and 2017, it is visible that the percentage of people who do not engage in moderate physical activity increased by 4 percentage points.

It is worth noticing that 73% of residents of Baltic countries engage in a moderate physical effort at least once per week. The highest daily indicator of moderate physical effort was in Sweden, Germany and Denmark. Whereas, Polish and Lithuanian citizens reached the lowest daily indicator of physical activity (below 50% of citizens engage in a moderate physical effort at least once per week). The overall average, as regards days intended for a moderate physical effort for the residents of described region, is 2.8 of a day per week (indicator for the whole EU equals 1.9 of a day) and the result is irrespective of gender.

Comparing obtained data with the data from all of the EU countries, it can be stated that the residents of Baltic countries engage in the moderate physical activity more often than statistical Europeans. In Europe, 23% of residents engage in a moderate physical activity at least 4 times a week, 29% of residents make it 1 to 3 times a week and 47% do not engage at all. The significant regularity in the EU countries is that women do not engage in moderate physical effort more often than men. The age is a variable that significantly differentiates moderate physical effort. It is visible that this kind of effort decreases with the age of the respondent (Fig.3).

*Figure 3: Amount of days in a week with moderate physical activity*




*Source: own analysis against EUROBAROMETER 2017 data*

When it comes to time spent on moderate physical effort, it was established that 61% of residents of Baltic countries spend for this activity 60 minutes a day. While 37% devote for it more than 60 minutes per day. 1% of respondents do not engage in this effort at all and 1% could not answer the research questions.

## 3. Conclusions

The analysis of physical activity among respondents of Baltic countries revealed that the number of people who neglect their physical activity increases over the years. The level of engagement in vigorous and moderate physical effort decreases among the citizens of this region as well. Those trends are a result of changes in global functioning of an individual which implicate growing reduction of physical activity.

Moreover, the analysis proves that there are significant differences between women and men when it comes to engagement in a physical activity. Men reveal greater willingness to incorporate physical exercise and sport to their own life styles. It applies to time spent on physical activity, its forms and intensity. Seniors constitute a group that engages in physically active life in the smallest extent. It is especially visible among older people who live in the countries of former Eastern Bloc.

The research demonstrated differences existing between the residents of various countries when it comes to engagement in various forms of physical activity and the time spent on it. In this context, we can define 3 groups of countries:

- In the 1st group, over the half of population does not exercise regularly nor play sport and 1/3 of population does not engage in any other physical activity. Poland, Lithuania, Estonia and Latvia belong to this group.
- In the 2nd group, between 30-50% of people do not exercise regularly nor play sport and between 20-30% of people do not engage in any other physical activity. Germany and Estonia belong to this group.
- In the 3rd group, 30% of society does not exercise regularly nor play sport and up to 20% of society does not engage in any other physical activity. Finland, Sweden and Denmark belong to this group.

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# CORPORATIZATION OF RUSSIAN RAILWAYS: STATUS AND PROSPECTS OF GLOBAL CORPORATION DEVELOPMENT

Vladimir Tretyak[1,a], Dmitry Macheret[1,b,*] and Anastacia Sorokina[1,c]

[1]Russion Transport University, Institute of Economics & Finance , 9 Obraztsova, Moscow, Russia, 127994

[a]v_tretyak@inbox.ru, [b]macheretda@rambler.ru, [c]avsorokina777@gmail.com

*Corresponding author

**Abstract.** Nearly fifteen years have passed since the Ministry of Railways of the Russian Federation (MPS RF) was transformed into the Open Joint Stock Company "Russian Railways" (OJSC "RZD") in autumn 2003 with 100% state capital. In this article, the authors attempt to highlight the advantages offered by the joint-stock ownership of railways and assess how they are implemented in the practice of transport processes management, which surprises resulted from the transformation of ownership and, most importantly, whether it contributes to the growth of the performance of the railway services market and whether it is possible to talk about some kind of reserves. The authors try to test the hypothesis that one can expect an increase in the performance of the railway services market through tools that open opportunities for the corporatization of railway companies in the global transport services market. The article highlights the vector of the development of transport companies taking into account possible fluctuations in future. Authors pay important attention to the question of the market value of the Russian railway assets as the indicator of an effective operation. Authors say about the need to form corporatization of the global company as an important economic event, which demonstrates efficiency of railway functioning in the world market.

**Keywords:** strategic management**,** joint stock capital, economic consequences, stocks.

**JEL Classification:** L43, L92, R48

## 1. Introduction

The end of the twentieth century was characterized by a massive transformation of the ownership of operating transport companies into a joint-stock company[18]. Many railway companies in North America, the European Union (Schmitt, Carina, 2014), the post-Soviet space act as joint-stock companies. It is characteristic that from January 1, 1999 the Swiss federal railways were withdrawn from the management of the Swiss government and transformed into a special open joint-stock company, shares of which are in the possession of the Swiss state. In the post-Soviet space, this process also manifested itself in the early twenty-first century. Joint-stock companies with state participation, which appeared in our country during privatization, have quite firmly entered the practice of economic entities. As

[18] This is not about the use of equity capital in the construction of roads, but about the functioning of existing organizations that provide transportation services as joint-stock companies.

the leading form of participation in the national economy, the state chose ownership and management of the shares of large companies. State share capital is a fairly common form of the regulatory influence of the state on the activities of economic entities. The organizational and economic mechanism for managing joint-stock ownership provides the state authorities with the opportunity to regulate and control the activities of companies without their being consolidated into full state ownership. Over the years, a significant number of corporations and vertically integrated holding companies with state participation have been established in Russia, concentrating multimillion-dollar assets. The functioning of Russian railways also accumulates work experience as a joint-stock company. The process of property transformation was not easy. And the state apparatus was active[19], and the management of the railways, feeling themselves to be representatives of the state, took into account the mistakes in the corporatization of “Aeroflot” and other state-owned transport companies. The purpose of this article is to conduct a comparative analysis of the benefits and consequences of the transformation of state property into a global joint-stock company and to identify the impact of this process on improving the performance of the railway services market. The process of corporatization of railway transport assets took place at the end of the XX century, at the beginning of the XXI century. This process was investigated with respect to the transformation of the ownership of transport companies in South America (Laurino, Antonio, Ramella, Francesco 2015), in turn, an assessment of the process of corporatization of transport assets from the point of view of privatization and nationalization (Nunes, Ivanil (2016). in the North American economy (Boardman, AE, Laurin, C, Vining, AR (2002).) The implementation of corporatization as a major economic event was preceded by a broad scientific discussion among scientists, specialists and politicians regarding the feasibility If we talk about how privatization of assets of large companies was carried out, it should be noted that they were acquired at a residual value, even without taking into account the value of intangible assets. So in Russia at the end of the 19th century, the state of state-owned iron rog, the prerequisites of which were the requirements for the creation of a single tariff system and the Charter of Railways. Another reason for nationalization was bankruptcy and the collapse of the railway economy of some private roads. In the 90s of the 20th century, along with the financial shortage of railways, the need for reorganization and centralization of the network became an important motive. Stockization not only did not allow such manifestations as collateral auctions, but would also allow us to estimate the value of domestic railways assets at least taking into account their market value. To do this, you can take advantage of the opportunities that equity capital has as an indicator of the current valuation of assets. (One of the indicators is the Tobin coefficient)[20]. Therefore, without the "shock therapy" it is possible to assess the market value of the assets of the railways. The modern world trend consists of the orientation of giant companies, to which the RF Ministry of Railways undoubtedly belonged, not so much to increase sales as to increase the shareholder value of the company[21].

[19] This is evidenced by the issuance of Presidential Decree No. 954 of 26.08.1992 "On Joint-Stock on Railway Transport," and the Program for Structural Reform in Railway Transport, approved by the Government of the Russian Federation, "// SZ RF 2001. N 23. Article 2366

[20] The Tobin coefficient relates the market value of a firm (measured by the market price of its shares) to the replacement value of its assets at current prices: q = P / C , where: P- market value of the firm's assets (usually determined by the stock price); C - the replacement cost of the firm's assets, equal to the amount of expenses necessary to acquire the firm's assets at current prices.

[21] Doyle P. Value-oriented marketing. St. Petersburg, 2001. P. 132.

There are different ways of assessing the value of a company, but for joint-stock companies, one option is to quote shares.

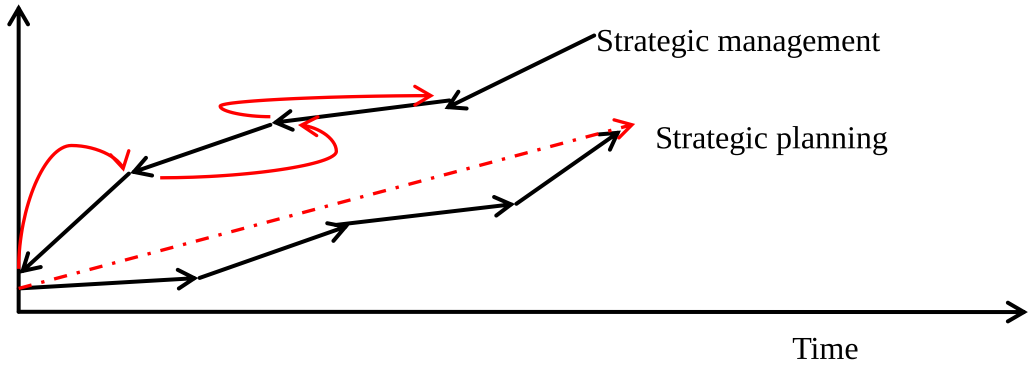
## 2. Experience

According to the Charter, the Open Joint-Stock Company "Russian Railways" (OJSC “RZD”) is a company with 100 percent state capital, which, as branches, includes all 17 railways that functioned earlier as FSUE, operator companies and the federal passenger company. This assumes that “Russian Railways” as a global company, in agreement with the owner, can raise financial resources to improve operational activities through IPO, similar to the way the Japanese railway company JR Kyushu does[22]. It is likely that “Russian Railways” at the parent company level may not conduct an IPO, but its subsidiaries could use such a source of financing to improve operational performance. As a rule, the management system of public railway companies should be aimed at implementing three basic institutional changes: the formation of a new type of relationship between the state and the railway; formation of a new system of interaction between the railway and shareholders; formation of a new culture in the railway company. The transformation of the state agency into a joint-stock company involves a change in the company's behavior in the transport services market. The state agency should carry out the assigned task of the state body. The company should think about its positioning in the current market, the definition of a set of transport services that allow attracting customers, form their loyalty and relevance to rail transport services. Forming the order of making managerial decisions, the state, on the one hand, as the owner and shareholder, seeks to make a profit that provides the maximum return on invested capital, to increase the capitalization of the company. On the other hand, the state is obliged to realize national interests: ensuring transport accessibility for the population and producers of products, the need to reduce the transport component in the price of products, increasing the competitiveness of transport services, etc. The formation of market relations in the field of freight and passenger transportation has led to a significant redistribution of cargo flows between modes of transport. Automobile transport began to occupy the market segment not only for short distances, but also for medium ones, benefiting from the speed of delivery "from door to door". Railway companies through the introduction of more efficient technologies, advanced technical means and optimization of business processes can significantly reduce the time of delivery of goods and offer customers competitive prices. Increased competition in the transport services market, while increasing the requirements of customers for the quality of transport and logistics services, leads to the need to develop a complex of organizational and marketing innovations that enhance customer loyalty, profitability of services provided and attract strategic partners and investors. Accordingly, changes in customer preferences regarding the quality of railway services require that the carrier - a joint-stock company, focus on the needs of the client, establish relations with it in the supply chain. This involves moving from a strategic planning system, where strategic plans are drawn up based on the desire to achieve certain ideals, to strategic management

[22]The government of Japan plans to attract 416 billion yen ($ 4 billion) from the IPO of the railway company JR Kyushu, reports Bloomberg. Shares will be sold at 2,600 yen ($ 24.95), the total is planned // https://news.rambler.ru/economics/35009237/?utm_content=rnews&utm_medium=read_more&utm_source=copylink

based on actual foresight ("Foresight"), accompanied by an opportunity to anticipate future trends in a timely manner and determine the reaction to them by developing an appropriate strategy. Graphically, a comparison of their differences can be presented in Fig. 1.

*Figure 1: Comparison of the schedules of strategic planning and strategic management of the company*




*Source: Own elaboration*

Strategic management assumes the alignment of a pixel picture of the future state of the object on the basis of the "Foresight" conducted, and then, the implementation of strategic marketing efforts to achieve the goals, taking into account the coordination of the multidirectional interests of the participants in the process. The formation of a strategic management system in OJSC «Russian Railways» and in its subsidiaries and affiliates has a number of peculiarities. First, the state acts, on the one hand, as the owner, who wants to receive an effect from the invested funds, i.e. dividends, and on the other hand, as a consumer of services for the transport of goods and passengers, i.e. forms an order for transportation for state needs and seeks to receive services at a small price. Secondly, the existence of a monopoly segment of services provides for the state regulation of tariffs for these services, which may impose certain restrictions on the company's investment opportunities. Thirdly, the implementation of the strategy requires, as a rule, investment of funds with a long payback period, and the parent company has to solve complex tasks, which involve obtaining effective development of each company from the invested funds and achieving a synergistic effect in business areas. Fourth, in order to implement strategic management, it is necessary to formulate a new business philosophy and train personnel with appropriate competencies that can not only effectively solve operational tasks, but also work to achieve strategic goals.

## 3. Methodology

The research in this article is based on a comparative analysis of the use of tools inherent in joint-stock companies in the practice of various railways, as well as on the study of analogues of the effectiveness of these tools. In addition, the research base is based on the results of collective peer reviews, on the expectations of changes in the performance of the railway services market, which were obtained as a result of summarizing the opinions of experts learned during in-depth interviews on the problem of the differences in the activities of OJSC "Russian Railways" as a joint-stock company in comparison with the Ministry of Ways Communications of the Russian Federation. The appropriation of "Russian Railways"'s assets has created the conditions for taking into account the opinion of consignors23 when organizing the transportation process. Collecting the opinions of the respondents-shippers was conducted by interviewing top and middle managers24 of companies that are users of services in the market of freight transportation by rail. Based on these, the Index of the level of satisfaction with the quality of services is calculated, which characterizes changes in the quality of transportation during the operation of joint-stock operators and OJSC “Russian Railways”.

## 4. Results

Comparative analysis of the activities of foreign railway companies with the activities of OJSC "RZD" shows that the domestic railway company uses almost all the tools that provide its status of a joint-stock company. Recently, “Russian Railways” has begun to attract resources in the capital market for operational activities. Only in 2013, OJSC “RZD” placed 6 issues of infrastructure bonds worth 150 billion rubles. Approximately 84% of respondents interviewed during in-depth interviews approve of attracting funds from the capital market, meanwhile, only 17% of respondents showed cautious optimism about the possibility of using this tool with many reservations during the corporatization. It should be noted that the trend of development of placement of bonds of the Russian railway company is observed positive. The development of an established process of trading bonds on the exchange will allow to assess the value of the assets of the railway company. Only 22% of respondents allow the possibility of trading in preferred shares, and the idea of trading ordinary shares among companies with 100% capital enjoys great distrust. The corporatization of railway assets marked the beginning of real quality accounting in the transport services market. Since 2012, “RZD-Partner” magazine, with the participation of well-known industry experts, is conducting a study on consumers' assessment of the quality of services, pricing policy, additional services and special offers on the freight transport market by rail. (For several years, the analytical department of the industry newspaper “Gudok” also participated in the research.) In the initial period of the study, the quality of services for 2011 was also collected. So now the base of assessments covers a 7-year period. The study involved managers of the top and middle level of companies that are users of services in the market of freight transportation by rail. In the framework of the questionnaire, respondents were asked to assess the current situation according to certain criteria on a 100-point scale with the classification: 0-25 points - "unsatisfactory", 25-50 "satisfactory", 50-75 - "good," 75-100 " excellent". As a result of the conducted research, based on the collected data, the calculation of the Index of the general level of satisfaction with the quality of services, summarizing all the estimates obtained, was carried out. Calculation of the index of the general level of satisfaction with the quality of railway services, taking into account the activities of operators, became possible due to the change in the legal status of RZD. The dynamics of changes in consumers' assessments of rail freight services in the long-term period from 2011 to 2017 is presented in Tab. 1.

[23] Indicators of the provision of services in the Russian market for freight rail transport, see Table 1.

[24] Respondents were asked to assess the current situation according to certain criteria on a 100-point scale with the classification: 0-25 points - "unsatisfactory", 25-50 - "satisfactory", 50-75 - "good", 75-100 - "excellent."

*Table 1: The dynamics of the overall level of satisfaction with the quality of railway services, estimated by consignors in points (on a 100-point scale*)

| Indicators / year | 2011 | 2012 | 2013 | 2014 | 2015 | 2016* | 2017 |
|---|---|---|---|---|---|---|---|
| **Generalized Quality Index** | **50** | **59,5** | **64** | **68** | **69** | **63** | **62** |
| Cost of services | 35 | 44 | 55 | 59 | 47 | 49**/54*** | 50**/43*** |
| Promptness of the approval of applications | 57 | 66 | 70 | 72,5 | 75 | 71,5 | 73 |
| Availability of wagons of the required type in the required quantity | 38 | 64 | 80 | 83 | 78,5 | 64,5 | 55 |
| Technical condition of the wagons | 49 | 56 | 61 | 64 | 66 | 60 | 63 |
| Delivery of wagons for loading / unloading according to schedule | 40 | 50 | 54 | 59 | 61 | 57 | 56 |
| Compliance with regulatory delivery dates | 42 | 48 | 48 | 59 | 61,5 | 69,5 | 67 |
| The level of information technology | 63 | 68 | 70 | 72 | 73 | 70 | 71 |
| Preservation of goods | 76 | 80 | 84,5 | 83 | 82 | 80 | 83 |
| Level of infrastructure development | 48 | 53 | 53,5 | 54 | 56 | 58 | 60 |
| Completeness of meeting the demand for transport | 40 | 64 | 73 | 76 | 76 | 64 | 65 |

** In 2016, the methodology for assessing consumers' assessment of the level of service quality in the freight rail market was modified*
*** Cost of services of JSCo «Russian Railways»*
**** Cost of services of companies - freight wagon operators*

The results of the individual components of the Index are of unequal importance, but they allow us to determine the main directions of the actions of the railway companies in order to further improve the quality of transport services for cargo owners. As can be seen, in general, there is an increase in the index of the overall level of satisfaction with the quality of railway services, estimated by shippers. As can be seen from Table 1, the "cost of services" indicator has the lowest estimates of shippers. But it is necessary to pay attention to the high volatility of this indicator. The deterioration of this indicator in recent years (due to the massive write-off of old freight cars due to regulatory decisions and a general reduction in the fleet) has led to a significant increase in the rates of the operator companies, and, accordingly, to a decrease in customer satisfaction at the level of these rates. Noting the need to ensure the reserves of the car fleet, it is necessary to emphasize that this task should be solved in unity with an increase in the level of infrastructure development. Otherwise, between the number of wagons and infrastructure development, a disproportion may arise again, as it was observed in 2012 - 2014. In general, for the analyzed period, the assessment of the level of infrastructure development has increased significantly - by 1.25 times, while it should be noted that this growth has become sustainable in 2015-2017. Among all the parameters of the quality of transport services, the most significant growth (along with the completeness of satisfaction of demand for transportation) was demonstrated by the indicator "compliance with the standard terms of delivery". From "outsiders", he moved to the number of "leaders". Its improvement is extremely important, since the delivery of goods "just in time" is a key requirement of the modern economy. As for the indicator "the level of information technology", he was initially among the leaders and maintains leadership positions. At the same time, in recent years, his progressive improvement has not occurred, he fluctuates in the range from 70 to 73 points. The studies of shippers' assessments of the quality of transport services show that in the conditions of the conducted corporatization of the industry, it significantly improved. At the same time, this improvement has not become irreversible for a number of parameters, which indicates the need for further targeted measures to improve the quality of services provided by joint-stock railway companies.

## 5. Conclusion

Experience in the functioning of Russian railways as a joint-stock company indicates significant changes in the activities of railways. Railways, having ceased to be a state agency de jure, still cannot de facto get rid of the "birthmarks" of a non-joint-stock company. This means that the budget is not the main source of financing for the activities of the railways. The joint-stock company conducts its work as a self-supporting company providing autonomous financing. And, consequently, we can expect a more intensive use of the advantages of the joint-stock company and those instruments (common and preferred shares, bonded loans, etc.), which are permitted by the Federal Law "On Joint Stock Companies". OJSC “Russian Railways” is a company that includes a number of subsidiary joint-stock companies, including operators and individual manufactures. As a joint-stock company, “Russian Railways” is working to increase intangible assets by rebranding the company, including by updating the logo. However, developing intangible assets, it is not very clear how the parent company successfully uses the results in the form of royalties. But it is important to note that a special division has been created in the management of the parent company involved in the management of intangible assets of OJSC “RZD” An analysis of the dynamics of shippers' assessments of the quality of transport services shows that in the conditions of the corporatization of the industry it has improved significantly, and the index of the overall level of satisfaction with the quality of railway services assessed by shippers reflects the relationship of shippers and OJSC “Russian Railways”. Almost fifteen years of experience in the functioning of “Russian railways” as a joint-stock company shows a steady process of transforming the economic activity of the state agency (MPS RF) into the functioning of the global railway company (“Russian Railways”).

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# MILITARY-TECHNICAL COOPERATION OF RUSSIA IN THE CONTEXT OF GLOBALIZATION: EXPERIENCE OF COOPERATION WITH INDIA

Irina R. Tulyakova [1,a,*], Victor V. Dengov [2,b]

[1,2]Saint Petersburg State University, Faculty of Economics, Department of Economics and Economic Policy, Tchaikovskogo str. 62, Saint Petersburg, 191194, Russia

*Corresponding author

**Abstract.** In the context of the systemic crisis that hit the global economy, the competitive struggle for the leading positions in the most promising world markets between the main economic centers - the US, the EU, Russia, China, India is intensifying. The market of weapons and military equipment (WME) also belongs to such markets. For a long time Russia takes the second place in the world after the United States at the scale of arms transfers. Russia has longstanding traditional partners whom it has been established a fairly stable relationship in the field of military-technical cooperation with. Among them, undoubtedly, are India and China. In the first article, devoted to the analysis of military-technical cooperation between Russia and the People's Republic of China in the era of comprehensive globalization, the main trends of the last decades were revealed. As in case of China, Russian military-technical cooperation with India has a long and rich history, but at the same time it has undergone significant qualitative changes in the last decade. In the world markets of armaments and military equipment, the competitive struggle between the leading arms-producing countries is intensifying. In order to keep traditional sales markets of WME, Russia should raise a military-technical cooperation with its traditional partners to a qualitatively new level, deepen cooperation and division of labor not only in production but also in the scientific-research and experimental-design developments. This article discusses the results of the military-technical cooperation of Russia with India, analyzes problems and further prospects.

**Keywords:** military technical cooperation; military-industrial complex; international arms trade; Organization of the Collective Security Treaty.

**JEL Classification:** F51, H56, N40

## 1. Introduction

The resource base of the military technical cooperation (MTC) is the defense production of the country or the defense-and-industrial complex. The defense-and-industrial complex of the USSR and after that of Russia that has been shaped during the period of the „cold war“ was able to manufacture the entire spectrum of weapons and military equipment; at that the manufacturing had the high level that corresponded with world standards. The reputation of Russian weapons that has been purchased over a period of several decades makes possible for Russia to enjoy the persistent second place in the rating of exporters worldwide (Tulyakova, 2016; Moravcikova et al., 2017; Tulyakova et al., 2017).

For Russia the MTC with foreign states is the unique tool of promotion of national interests, because the arms trade has the rigorous influence on the international situation due to changing of power balance in different regions; it contributes to warming up or, vice versa, to the deterrence of conflicting parties, maintenance or impairment of the regional stability (Rybas, 1998).

The end of armaments race and the collapse of the Soviet Union changed the world but they did not make it safer. International terrorism began to take on the role of the main enemy of civilization (Couzigou, 2017; Kliestik et al., 2018b). Maybe the quantity of the needed weapon become lower but nowadays there is the necessity of much more expensive and complicated weapon.

In Russia the end of the „cold war“ was initially taken as the beginning of the era of the total disarmament. For many years the defense manufacturing in Russia has lost the state support practically completely (Kolennikova, 2009). Many enterprises managed to keep their existence during the period of the nineties years of crisis only due to export supplies, and that's why they keep their existence up to the present. The situation began to change for the Russian defense and industrial complex only since the beginning of the XXI century in connection with the favorable business environment on world raw markets. The Russian state has now funds for the state defense order. Furthermore, the necessity of rearmament of the Russian army became apparent; the army did not get new models of weapons for a long time. In accordance with the new state armament program till the year 2020th the amount of 20 trillion rubles will be allowed for re-equipment of the Russian army. As a result, by the year 2020 the part of modern weapon and equipment in troops must reach the level of at least 70%.

The turn to the East, in the direction of countries of Asian and Pacific region is the trend of the current the MTC of Russia that has increased recently in connection with the crisis in the Ukraine and anti-Russian sanctions of Europe and USA, among them, concerning the defense sector of Russia. The introduced embargo for export and import of the WME has already left to the failure of delivery to Russia of helicopter ships "Mistral" that have been created on correspondence with Russian standards; this has caused the essential financial and reputational losses for France.

Under these circumstances the interaction with India and China becomes even more important for Russia. As is was declared during the Saint-Petersburg economic forum in June 2017, these two countries, undoubtedly, refer to the small group of countries that have the true national sovereignty, that makes possible for them to take autonomous decisions not only in political and economic questions but also in military questions, too (PIEF'2017, 2017).

As noted in the first article, India, like China, is Russia's largest partner in the field of military-technical cooperation. In some aspects, this cooperation is even deeper and more diverse than the MTC of Russia with China (Dengov et al., 2018). At the same time, unlike China, India has not achieved the same significant results in self-sufficiency by all types of arms and military equipment and increases the import as before that makes the country the larges weapon importer within the series of years (Bitzinger, 2015; Lukasik et al., 2017; Kliestik et al., 2018a). But on the Indian market Russia has to deal with the increasing competition with other exporters.

## 2. Methodology

As in the first paper of this series of articles, analysis of the situation is mainly based on usage of statistical data from the website of Stockholm International Peace Research Institute (SIPRI) and the site of the Russian Agency CAWAT (Centre for Analysis of World Arms Trade). In the first article, we discussed the problem of the comparability of statistical data taken from different sources. As tools of analysis in this article statistical methods and methods of system analysis are also used.

## 3. Russian-Indian military and technical cooperation

Military and technical relations between USSR/Russia and India are existing already more than half a century. After foundation of the independent India and Pakistan on the place of English colony in 1947 England and USA have taken up the attitude in support of Pakistan. USSR in its turn has lent support to India by means of supply its military equipment to Indian armed services as well as licenses for its manufacturing in India by itself.

By estimate of experts of the international Institute of strategic researches in London (IISS) during the whole history of cooperation India has bought armaments for the amount of 50 billion dollars at our country (Vzglyad, 2010). India purchases the wide range WME at our country like - submarines, ships, tanks, cannons, antiaircraft missile systems, but most of all this is aeronautical equipment.

It is possible for Russia to estimate the importance of the MTC with India only by means of quantitative data of the export of Russian military products to India and other countries of the world that are stated in Table 1 and Figure 1.

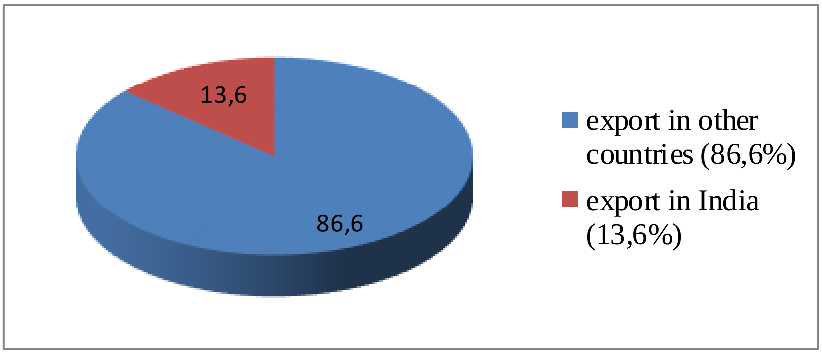
*Table 1: The export of military products from the USSR / Russia to India and the rest of the world in different periods (millions of dollars at constant 1990 prices)*

| | **USSR 1950-1991** | **RF 1992-2016** | **USSR/RF 1950-2016** | **RF 2007-2016** | **RF 2016** |
|---|---|---|---|---|---|
| Total exports of weapons and military equipment of the RF | 455265 | 126862 | 582127 | 64878 | 6432 |
| The exports of weapons and military equipment from Russia to India | 42551 | 36661 | 79212 | 22143 | 1590 |
| The share of arms exports to India in total exports of the RF (%) | 9,3 | 28,9 | 13,6 | 34,1 | 24,7 |

*Source: calculated by the authors according to SIPRI data: http://armstrade.sipri.org/armstrade/html/export_values.php*

As it can be seen from the stated data, in comparison with the soviet time the share of India in Russian supplies of WME has increased more than threefold.

*Figure 1: Comparison of shares of military exports from the Soviet Union / Russian Federation in India and in the rest of the world in the total for the period 1950-2016 (%)*




*Source: calculated by the authors*

The significance of import of the WME from Russia for India can be followed by looking data of Table 2 and Figure 2.

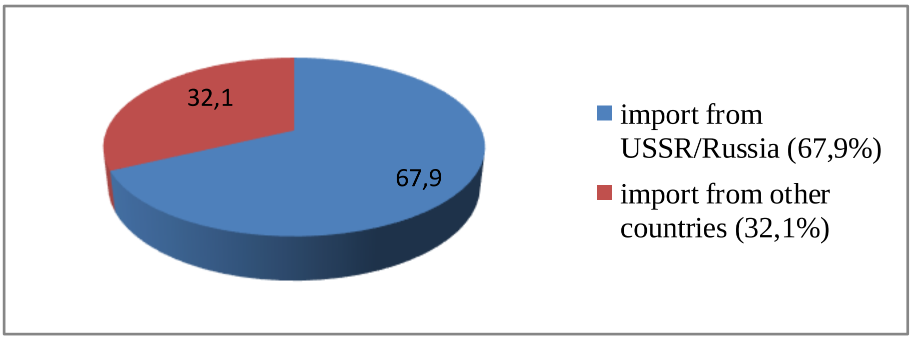
*Table 2: Imports from the USSR/Russian Federation and other countries of the world military goods in India in different periods (millions of dollars at constant 1990 prices)*

| | USSR 1950-1991 | RF 1992-2016 | USSR/RF 1950-2016 | RF 2007-2016 | RF 2016 |
|---|---|---|---|---|---|
| India's total arms imports | 64867 | 51711 | 116577 | 30987 | 2547 |
| Imports of India from the USSR / RF | 42551 | 36661 | 79212 | 22143 | 1590 |
| The share of the USSR / RF in the import of India (%) | 65,6 | 70,9 | 67,95 | 71,5 | 62,4 |

*Source: calculated by the authors according to SIPRI data: http://armstrade.sipri.org/armstrade/html/import_values.php*

The share of soviet /Russian supplies of WME in the total Indian weapon import was and remains rather stable and very significant – about two thirds.

*Figure 2: A comparison of the shares of India's imports of military products from the USSR / Russia and the rest of the world in the total result for the period 1950-2016 (%)*

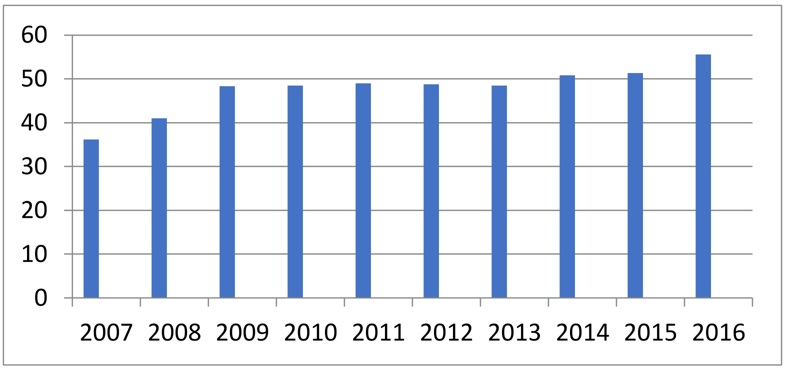



*Source: calculated by the authors*

From tables 1 and 2 it can be seen that within the soviet time period India was although important but not the defining partner in supplies of WME (9,3%), whereas USSR supplied to India well over a half of all military products (65,6%).

Within the past quarter of the century during the so-called post-soviet time period (1992-2016) the role of India in the Russian export of WME has increased significantly. At that Russian supplies of weapon remain prevailing for India as before (70,9%). If we will consider the period of the last century then the interdependence of Russia and India has become even deeper. For Russia, India remains the largest consumer of its weapon (34,1%), and the part of Russia in the Indian import of WME has increased up to 71.5%. It is ought to be remarked that the situation has changed a little bit in the year 2016. The part of Indian purchases in the Russian weapon export has reduced up to 24.7%, and the import of weapon from Russia in all the Indian import has decreased up to 62.4%. In the last time, the Russian Federation has supplied to India the following kinds of defense products: since the year 2005 it was fighter Su-30MK, since 2009 – tanks T-90S, since 2014 – anti-tank missile 9M119 Svir, naval gun AK, transport helicopter Mi, since 2016 – SAM system S-400 (SIPRI, 2017). The MTC of Russia with India is characterized with variety of forms. Besides of traditional supplies of WME, delivery of licenses for manufacturing of some kinds of weapon, joint developments of new weapon samples are carried out by the countries. The common developments are profitable for the both countries, in particular, for reduction of financial expenses. The example of the successful joint Russian and Indian project of development of the military equipment if the „BraMos“ company (49.5% of shares belong to the Russian side, and 50.5% belong to India), that fabricate supersonic anti-shipping missiles with the homonymous name. The missiles are installed on ships and boats, they are used for ground forces („BraMos“ above-ground installations), as well as they are based on the aeronautical equipment (Su-30MKI) (INFOX.RU, 2010). The peculiarity of Russian and Indian relations is the fact that they have the scheduled and long-term nature, and they are based on inter-governmental agreements. For example, in the area of aeronautical equipment these are agreements on cooperation in the area of development and manufacturing of the perspective multifunctional fighter-jet, as well as about the cooperation in the area of development and manufacturing of a multi-purpose transport airplane (FSVTS, 2009). But not everything is so cloudless in Russian and Indian military relations. First, since the series of years the Indians strain after the diversification of military partners for avoiding the strong dependence on one weapon supplier. Second, by the present time India has accumulated the certain negative experience of interaction with Russia. First of all, it is connected with the period of the beginning of nineties of the XX century when the Indian army, mainly equipped with the soviet weapon has no spare parts and service maintenance more. It is to be noted that suppliers from other countries were also present on the Indian market because India was and remains the largest weapon importer on the planet. In accordance with data of the Indian printed matter called Strategic Defense Magazine for the perspective of 12 years starting in the year 2011, the country intended to spend about 200 billion US dollars for the import of armaments, at that the half the half of these funds was intended for replacement of airplane and helicopter fleet of the Air Force (The Russian Government, 2011). The high capacity of Indian weapon market forces many leading military corporations worldwide to fight for its share on this market. In spite of representative and traditionally strong presence of Russia on the Indian market, companies from USA, France, Germany, and Israel are penetrating onto this market more and more. Thus, within the last decade the specific weight of American weapon in the Indian import amounted about 9.5 % ($ 2,932 million), the share of Israel amounted to – 5.7 % ($ 1,781 million), the share of Great Britain amounted – 4.8 % ($ 1,489 million) (SIPRI, 2017). Being the largest country of the region, India is looking toward the self-reliance in the area of fabrication of weapons, and that’s why it puts up big amounts of money not only into purchases of armaments but also into the construction of the own military production. In accordance with data of SIPRI, the military expenses of India are continuously increasing within the last decade (see Figure 3).

*Figure 3: India's military spending at constant (2015) prices, billion US dollars*




*Source: SIPRI data: https://www.sipri.org/sites/default/files/Milex-constant-2015-USD.pdf*

The increase of military expenses of India can be held as moderate, but at that the military expenses amount about 2.5 – 2.8% from the gross domestic product within the whole last decade (SIPRI, 2017). The increase of military expenses and intensification of the military and technical cooperation with Russia and other countries within the last decade make possible for India to create the own military production facilities. Obviously, India still has a long way to go until it will reach the complete self-reliance in the fabrication of WME for its armed powers. In accordance with evaluations of experts the Indian military industry covers demands of the national armed forces only by 60-65% (Bunevich & Brodunov, 2015). Nevertheless, the own military production has already made possible for India to approach the world weapon market as an exporter.  Of course, the dimensions of the Indian weapon export remain still rather small. Thus, in accordance with data of SIPRI in 2016 India has ranked 28th worldwide due to the export of WME for the amount of 42 million dollars (from the whole export worldwide in the amount of 31075 million dollars); it had the share of 0.14% on the world market (SIPRI, 2017). But already in the nearest future India intends to enlarge its presence on the market as an exporter significantly. If within the eight-year period from 2008 to 2015 the volume of Indian weapon export amounted only 284.5 million dollars (with the current price) then within the period from 2016 till 2019 it is planned to increase it already up to 559 million dollars (CAWAT, 2017).

## 4. Conclusion

Instead the importance of the MTC has significantly increased in the sense of obtaining the economical profit. The weapon sales abroad render support to Russian defense enterprises; they increase the load of manufacturing of productive capacities, they make possible to increase the fabrication of military-purpose products for rearmament of the Russian Army. To be sure, at that the problem disquietens Russia that our weapon can come to hand of dictatorial regimes or terroristic states (like DAISH). Hopes that existed in the nineties of the XX century did not come true that the possible MTC with USA and NATO countries will take place. A series of problems that Russia has faced at the present time with is the significance of the specificity of the MTC still since the soviet period. Within the soviet time period the USSR supplied the very big amount of products to countries that were participants of the Warsaw Treaty at that time, as well as to China, Vietnam, Cuba; in many cases whole manufacturing lines and technologies of military manufacturing were supplied. During the time period of the Soviet Union the delivery of products and technologies was often carried out without the execution of documentation necessary for confirmation of intellectual property. For many years licensed manufacturers updated the products; they improved them and now they consider them as their own developments. In these circumstances this is quite complicated to lay claims to them (FSVTS, 2011). For Russia this situation is pregnant not only with financial losses but also with loss of thrust to the Russian weapon.

As it appears from table 1, the export of WME of Russia within the last 10 years (2007-2016), based on data of SIPRI, has amounted to almost 65 billion dollars and it exceeded the similar value of the previous 16 years (1992-2006). when it amounted to 62 billion dollars. But despite of the fact that the share of export supplies has essentially increased within the last 10 years, certain problems of Russia in the sphere of MTC become apparent in the post-Soviet time period (Toulyakova, 2011). Several of them concerned relations of Russia between its main partners in this sphere – with India and China. It was already told above about the diversification of the weapon import by China and especially by India within the last decade. Russia has also chosen the way of diversification of its military export within the last several years, due to gradual extension of the geography of countries to which it supplies the WME. For the moment these supplies are carried out more than to 60 countries. At that some of these countries were never participants of the cooperation with Russia before. Contracts have been concluded with countries of Latin America (Venezuela, Brazil, Argentina, Peru, Chile), North Africa (Algeria, Libya), and Asia (Syria, Kuwait, Jordan, Turkey, United Arab Emirates, Vietnam, Myanmar, Indonesia).

Due to the MTC with Russia, supplies of Russian weapon and delivery of licenses for its production the own military manufacturing facilities were created in India and China. At that the value and the intensity of increase of military expenses of China exceed the analogous possibilities of India many-fold. The military industry of India is still not able to provide the national armed forces with own products completely, and that's why this country will remain the largest weapon importer worldwide still for a long time. It is important for Russia to hold its position on the Indian market as long as possible. But for this the discipline of supplies in time must be increased, the proper quality of its products must be provided as well as the repair and service maintenance of the supplied military equipment in time; besides, Russia has to focus on the marketing of its products. Unfortunately, just only a short time ago there were examples of the improper execution of its contractual liabilities by Russia in our MTC with India.

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# INTEGRITY ANTI-CORRUPTION STANDARDS: GLOBAL TRENDS IN ESTIMATION AND RUSSIAN REALITIES

Vladimir Sh.Urazgaliev[1,a,*], Galina A. Menshikova[2,b] and Armen G. Altunyan[1,c]

[1]Saint Petersburg State University, Faculty of Economics, Department of Economics and Economic Policy, Tchaikovskogo str. 62, a. 310, Saint Petersburg, 191194, Russia

[2]Saint Petersburg State University, Faculty of Sociology, Department of social management and planning, Smolnogo str. 1/3, 9-th entrance, Saint-Petersburg, 191124, Russia

[a]uvsh54@yandex.ru, [b]menshikova.g.a@mail.ru, [c]dioskuriya-box@mail.ru

*Corresponding author

**Abstract.** The article describes a new discourse of corruption understanding-Integrity Standards, which, on the one hand, actualizes attention to moral problems as a condition of the development of states and civilization as a whole. On the other hand, it considers society (state or civilization) as a global system that predetermines and at the same time depends on the behavior of individuals as its elements. From the perspective of this discourse, it is important to consider the index of perception of corruption (CPI) as a reflection on the development of global institutional practices of the system, and as an indicator of readiness to resist corruption at the micro level. After analyzing the causes of discourse (90-s of XX century), identifying its main representatives and their approaches, we analyzed corruption in the Russian Federation in the perception of its experts/heads of specialized funds and public organizations: the Association of lawyers "clean hands", Interregional Public Fund "Business prospect", etc. There is a strange situation in the country: with high support of the President and even the government, people recognize the fact of corruption and the lack of effective measures to combat it. Business, as a consolidation of economically active forces, refuses to apply compliance practices. This practice is widespread abroad, in Russia only a few enterprises use it. The article concludes with the first results of focus groups with students and lectures of St. Petersburg state University, revealing their relationship to the compliance agreements and whistle blowing.

**Keywords:** corruption, Integrity Standards, CPI, Compliance system.

**JEL Classification:** K42, A14, J41

## 1. Introduction

Integrity Standards is a new technology of social governance, corresponding to the opportunities of the society of the period of globalization. Taking into account all the shared negative attitude to corruption and its consequences, the need for anti-corruption measures is also officially recognized by virtually all states of the world.

Modern society has identified four main areas of combating corruption: active opposition to manifestations of corrupt behavior by sanctions and punishments of perpetrators (1), the extension of control technologies on the most closed areas of governance: international trade, multinational companies, national budgetary relations, financial flows at the top level of government (2), mutual regulation of actions of national governments and internationalization of control mechanisms (3), deep penetration of anti-corruption facilities in the consciousness of the population, including innovations in education, inculcating to the population the inadmissibility of ethical violations (4).

Integrity Standards is a set of measures that are multilevel in the direction of impact and diverse in methods that integrate the achievements of humanity as a single globalized complex. It includes the monitoring of the development of national legislative systems and the degree of their compliance (1), the procedures for public reporting by national governments within the approved formats on directions and indicators (2), the acceptance of the activities of international institutions carrying out independent assessments of concrete situations and informing the public in the form of published reports and country ratings (3). Integrity Standards is a constantly evolving institution. It is unquestionably that the modern trend of its development is the use of new opportunities obtained from big-data technologies, the formation of a single information system that includes each person in the flow of information collected and analyzed by experts.

## 2.1 Integrity Standards as a new scientific direction: the essence of the approach and the genesis of ideas

The struggle against corruption has a thousand-year history and, of course, society (civilization) has achieved a lot by developing a system of anti-corruption institutions and practices, but far from completely overcoming it. Even in developed countries, there are enclaves that are difficult to control, where it persists, appearing in high-profile scandals about the facts of corruption of members of the government.

The main success achieved is the formation of people's confidence to the authorities, the effectiveness of its anti-corruption measures, which is monitored by the index CPI - corruption perception index. It not only assesses the attitude of the population to the activities of the government, but, and that is most important, the willingness of people themselves to act in accordance with the requirements of Integrity Standards.

This term can be literally translated in different ways: standards of unity or of honesty, but in general, its use means the introduction of high moral standards in people's behavior that prohibit corruption for themselves and presuppose active rejection of it in the behavior of others. It is evident that the very idea of Integrity Standards is not new. The general principle of maintaining the unity of society as a way of its development was expressed by classics of sociology (O.Cont, H.Spenser, etc.) and scientists of even earlier times (f.e. Aristotle). Modern researchers in the framework of new scientific trends continue to study, having actualized attention to specific circumstances, in particular overcoming unethical and/or corrupt behavior.

The transition from macro-level analysis of corruption to the micro level is the main trend of the scientific direction in its modern study. Moving from abstract reasoning to concrete and utilitarian facts and calculations, modern researchers formulate the principles of Integrity Standards according to results of concrete researches.

Let us cite the work of this direction, noting that as an independent scientific discourse it was formed in the 90s, becoming a response to relative failures in carrying out administrative reforms. It is known, that reforms that have been launched everywhere to improve the system of public administration, practically nowhere (that is, in no country) have achieved the goals set by their initiators. After some "shock" and a period of frustration, scientists came to a fair conclusion that the transformation of society depends on bringing ethical behavior up to every inhabitant. This argument became the main one in forming the Integrity Standards system (Werner & Jensen 1996; Petrick & Quinn, 1997). It is clear that criticism was also voiced, warning about the possible overestimation of its the role and potential. (Polowczyk, 2017). Later, there appeared works examining the most important attribute of integrity (compliance) – trust (Andersen & Tverdova, 2003; Chang & Chu. 2008; Cheung A., 2006; Rothstein, & Eek, 2009; Koehler, 2015; Zakaria, 2013)

One of the researchers of this topic (Zakaria, 2016) studied the implementation of the problem using the example of a complex of national anti-corruption measures in Croatia. Similar research was conducted on the examples of China (Li et al., 2017), Romania (Curt, 2018), Australia (Hobbs & Williams, 2017), Poland (Krajevska & Makovsky, 2017). The scientists described the features of implementing of anti-corruption behavior in 12 small islands located in the south of the Pacific region (Larmour & Barham, 2006). Another direction studied the dependence of perception of corruption on gender, age and national cultural characteristics (Torgler & Valev, 2010).

Researchers of civil society have revealed a direct correlation between the level of public control (freedom of the media, developed social institutions) and the indicator of perception of corruption (CPI) (Lederman et al., 2006). This idea was proved in report Zakaria, (Zakaria, 2018), where, based on published data on 150 countries of the world, by least-squares method was established a mathematical relationship between the development of anti-corruption institutions and the level of SPI. The study confirmed the hypothesis that developed anti-corruption national institutions are forming more trust and, as a consequence, people are willing more to accept and comply with Integrity Standards. It showed that in countries with so-called transitional regimes, the inadequacy of control institutions generates a fact of non-observance of laws, which in turn generates tolerance for corruption, that manifests itself in the willingness to accept such practices as blat (ties) in the Russian Federation, the Wasta system in Middle East (system of acquaintance) or Quanxi ("guanci" or nepotism, a mutual responsibility) in China.

Integrity Standards implies the organizational unity of the society (including in the relations of combating against corruption), i.e. includes all spheres and levels, a variety of regulatory forms and practices: from education and research, including the creation of ethical commissions at enterprises and institutions, initiating the adoption of each morality and responsibility for the assigned case. A variety of monitoring, initiated by scientists from different countries and representatives of various sciences, track forms of corruption. Thus, Transparency International assesses the level of transparency and publicity of the actions of the Government and its institutions, the Bertelsmann Foundation (Bertellsmann, Germany) - corruption in the judicial system, "Doing business" rating in business, "Global Integrity" - compares the effectiveness of government.

So, Integrity Standards is a new scientific direction that unites representatives of different sciences and discourses (corruption, ethical problems in management, Public Administration, etc.), which advocates the spread of morality and responsibility as the basis for the modern development of the social system (states and civilization in whole).

## 2.2 The general situation with corruption in the Russian Federation

In Russia corruption is recognized as the country's most important social problem, which suggests that combating with it exists, but less efficiently than we would like. So, everywhere (through the system of education, ideology and culture) the values of correct ethical behavior spread. To consolidate these norms in the practice of behavior in society, a number of social institutions have been developed: a system of state and public supervision of the movement of financial resources is organized, government bodies and state organizations institutions must be transparent, the activities where potentially corruptive actions can be taken must be open: f.e. the procedures of obtaining a driving license, defending dissertations, examinations, conducting interviews while entering high schools or universities etc. The residents of the country have the opportunity to report on different sites about the cases of corruption. At the same time, in the country still exists many spheres of economics and management, and it is just in them the main flow of financial resources are carried out, where it is not easy to organize external control. It is in particular the sphere of public administration, financial relations between enterprises. There is a huge segment of the shadow (gray) economy in the country. Here are some of the data obtained by the Russian Lawyer‘ Association "For Human Rights", which, along with comments on sensational cases and processes, publishes an annual report / monitoring assessing the organization's anti-corruption activities. These figures are interesting not only in themselves, but they also illustrate the presence in the country of public independent organizations struggling with this social evil. So, for the last reporting period (2015-2016), the average amount of bribes arranged - 2 000 000 rubles in criminal cases, in civil cases it amount remained within 10 000 euros (about 720 000 rubles, taking into account the euro growth). The size of the "household" bribe also increased: from 614 up to 809 thousand (12 500 us dollars). In Table 1 data from the report describing the change in the structure of corrupt activities are presented.

*Table 1. Data combining from the number of complaints that come to the Association from the people (the table is compiled by the authors)*

| **№** | **Name of public authority** | **The structure of complaints,%** | |
|---|---|---|---|
| | | **2016** | **2015** |
| 1. | Judicial system | 77,5 | 61,5 |
| 2. | Police | 25,2 | 39,3 |
| 3. | Prosecutor's Office system | 15,8 | 33,75 |
| 4. | Inquisitional committee of RF | 15,8 | 11,25 |
| 5. | Federal service of bum-bailiffs | 5,6 | 6,25 |
| 6. | Regional and local government bodies | 3,7 | 12,5 |
| 7. | Federal service of execution of punishment | 2,8 | 16,87 |
| 8. | Federal service on control after the turn of drugs | 0,9 | 2,5 |

*Source: The table was prepared by authors acourding to data of report*

On the whole, in opinion of specialists from Association about 49-50% GDP is in corruption shade (in 2015 - 54%). The obtained data allowed to the experts of fund "clean hands" to draw conclusion about displacement of corruption in the spheres of government and municipal activity from a domestic corruption toward economic activity. Grafts are higher here, and control is weaker, as it is a sphere of private property. On enterprises, including midsize and large business, a corruption was either saved at former level or increased. The topic of corruption in the Russian Federation as a whole has not yet become the subject of mass theoretical and applied research. You can name units of deep theoretical works (Komakhin & Prokoshin, 2017; Kliestik et al., 2018), (Pavroz, 2016), in which Russian features were revealed against the backdrop of global anticorruption trends. On a background the change of corruption spheres, it is clear that at permanent realization of irreconcilability of opposition of corruption. There are important both approaches as a general national idea, and as bases for international cooperation. In this aspect realization of principles of Integrity Standards (moral requirements) in the field of their application to anti-corruption activity is extremely actual and useful, although in our country it realized not always.

## 2.3 The lagoons of anticorruption control in the Russian Federation

Let us quote the leaders of the directions on the study of corruption and the effectiveness of anti-corruption measures in the Russian Federation. So, the President of the Interregional Public Foundation "Business Perspective" Krylov D.V, stated the following: in Russia, article 20 of the UN Convention - responsibility for illegal enrichment (until 2018) has not been ratified. In the country there is no special criminal liability for the promise of a bribe as well as of legal entities for a number of offenses in the field of accounting and also legislative protection of the applicants (individuals or legal entitles) who claim corruption and cooperate with the investigation. The country has not always established cooperation with law enforcement agencies of other states in order to improve the effectiveness of law enforcement measures to combat corruption crimes. In her opinion, only one third of recommendations for improving anti-corruption policies have been implemented in the Russian Federation. In particular, (up to 2012) was not fulfilled article that cases of corruption should be considered as crimes (only criminal liability). There is no clear criteria for depriving officials of immunity and no criminal liability of legal entities for corruption. (Khmeleva et al., 2017) The prevention of conflicts of interest is not ensured in practice. At the same time, there are some positive results: automatic informatioan system „Monitoring“ was developed, the forms of which are filled quarterly by all enterprises and institutions of the country and monitoring of anti-corruption measures began to work in St. Petersburg. Both were applied since 2017. Let’s show some data of world ratings. Thus, Global Integrity (according to 2009 data - in the following period the methodology was changed: not general parameters were assessed, but specific directions) gave an overall assessment of anti-corruption policy in Russia - 71 points out of 100 (mediocre corruption situation); assessment of law enforcement practice - 56 points out of 100 (poorly); independence of courts when considering corruption cases - 67 points out of 100 (mediocre); the effectiveness of law enforcement agencies to combat corruption - 33 points out of 100 (very bad). A study of the Bertelsmann Foundation gave the country 3 points out of 10 possible. In 2015, Russia dropped from 77th place (in 2014) to 81. The following drawbacks were revealed: shifting the balance of interests of government officials and citizens in law enforcement practice (1), anti-corruption policy is reduced mainly to combating bribery (2); there are no effective, stringent sanctions against officials on most anti-corruption measures - not including bribery - (although citizens, for example, can be held up to 15 days for non-payment of any fine) (3); are tightened penalties for other types of economic crimes where officials are not involved, for example, entrepreneurs may be arrested despite prohibiting presidential amendments (4); reports on the facts of corruption, which have a wide public resonance, are left without attention of law enforcement agencies and the prosecutor's office (5), blind copying of foreign legislative models without taking into account the institutional environment (for example, attempts to reproduce the American model of the Federal contract system in Russia) (6). As part of the world ranking of Transparency International were recieved following results: for the period from 2012 to 2017 the country occupies about 140 place out of 180, and the perception of the effectiveness of the fight against corruption is estimated by the population at 28 points out of 100 possible.

## 2.4 Anticorruption compliance at enterprises as a form of implementation of Integrity Standards

As was already stated the Integrity Standards is an integrated system for the formation of an anti-corruption climate in the country, which includes, among other things, the practice of companies entering into agreements with employees on active anti-corruption behavior prescribing not only the inadmissibility of corruption behavior for themselves, but also their duty to report about cases of corruption, witnessed by them or were invited to participate. It is customary to give the following definition of this concept: "Compliance is part of the management system and implies ensuring compliance of activities with the requirements of regulatory enactments." Despite the fact that by law every Russian company is obliged to introduce measures to prevent corruption ... in practice experience shows the opposite. In fact, allegedly because of the seriousness of financial costs, this requirement has been introduced only in some, in majority – large, enterprises. It seems that an important motive for companies to introduce this technology is their affiliation with foreign partners, for which compliance practice is one of the criteria of reliability. The experience of MTS (telecommunications), Novo Nordix (the pharmaceutical industry), and the EAEC (electric grid), which apply this method and describe it in their documents, is widely known. Implementation of compliance here was a forced measure. It allowed MTS to enter the international level of cooperation and start trading on the New York Stock Exchange. For Novo-Nordics, this was a natural requirement, since it is a branch of a foreign company, for the EEPS - a requirement of foreign customers. Nevertheless, in 2012 the Association of Enterprises was established in Russia. Its chairman was elected - a well-known expert and initiator of anti-corruption practices, who was trained in compliance methods - Balakin VV. Up to now the main activity of the Association is training, legal assistance, cooperation with other Associations, but not a concrete interaction of enterprises (since there are few ones). To sum up, we note that the low dissemination of the compliance methodology is undoubtedly a reflection of business distrust in the anti-corruption measures carried out in the country. The same conclusion was confirmed during focus group conducted by the authors of the article at the Faculty of Sociology of St. Petersburg State University. They were held four, three - with students and one with faculty lecturers. All of them confirmed the unnecessary of additional type of labor contracts that enshrined the norms of ethical behavior among students (lecturers). Firstly, everyone recognized the inadmissibility of corruption at the faculty (gifts, the ability to "buy" an estimate is absolutely impossible). Secondly, the whistle-blowing even with aim to prevent corruption, was not considered by the respondents as an acceptable pattern of behavior. Within the framework of one of the blocks of tasks, which was borrowed from foreign methodologies for questioning the employees in organizations, the obligation to inform was initially indicated, based on the fact that all students (teachers) allegedly already have an established contract, only one student expressed readiness to report about a case of corruption, but also after consulting with the head of the department. Most of the students were ready to talk first with the perpetrators of the misconduct. Lecturers in general have practically refused to answer questions, because for the older generation denunciation is regarded as evil, almost comparable to corruption. The above examples have shown a special type of Russian business ethics, as well as, undoubtedly, a lack of confidence in anti-corruption measures. Still, we can not fail to recognize certain successes: corruption is minimized at the domestic level. It is practically absent in universities and minimal in health care institutions. The center of corruption - the highest echelons of power, whose actions are practically impossible to verify, and which are difficult to confront because they have formed a monolithic system of "mutual guarantee". Nevertheless, it seems that further and gradual development of anti-corruption measures: the introduction of obligotary reporting system for top managers and senior officers including not only data for income, but also for the work done, as well as the activation of civil society controlling institutions, which implies the Integrity Standards system will allow to move to more active actions.

## 3. Conclusion

Undoubtedly, the idea of Integrity Standards as an integrated, but unified system of anti-corruption technologies, recognized by most countries of the world, is one of the most effective manifestations of globalization. It is created as a "soft power" technology that allows countries to focus on those methods of combating evil that are most acceptable for them and reflect the specifics of national culture and economic opportunities. In relation to the Russian Federation, describing its specifics of the internal regulation of anti-corruption actions, it is possible to single out: the insignificance of collective (public) forms of social control when state measures are effective (1), the dissemination of moral and ethical norms as the basis for the behavior of the majority of the population transferred through family and school education (2), the accumulation of forms of unsocial (and even criminal) behavior at the higher levels of public administration (3), the insignificant spread of the Compliance Institute at enterprises as a reflection of, on the one hand, the rejection of whistle-blowing (transfer of information by stuff to high levels of control) and on the other - the impunity of corruption and unethical behavior by representatives of the upper structures of power and control that mitigates the severity of rejection of corruption (4). Integrity anti-corruption Standards is a developing Institute of global governance, including methods of mutual control of national activities in a given direction by international and public organizations. As an embodiment of the system of global management, it includes: recommended methods of national control (improvement of legislation, development of national practices of formation of patterns of correct behavior in the form of family training, education, accepted conditions of personal career, etc.) (1., public observation of the processes (2), a variety of activities of international and public oversight bodies for the implementation of the commitments undertaken by the governments of the countries, which, among other things, should include the information for inhabitants (for example, in the form of monitoring) on the degree of fulfillment of obligations (3).

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# GLOBAL CREATIVE ECONOMIC INTERPRETATIONS OF THE VALLEY OF THE THRACIAN KINGS ON THE EXAMPLE OF STAROSEL, BULGARIA

Ivanka Vasenska[1,a,*]

[1]Assistant Professor, PhD, Economics Department, SWU “Neofit Rilski”, Blagoevgrad, Bulgaria,

[a]ivankav48@gmail.com

*Corresponding author

**Abstract.** The world’s oldest gold artefact a tiny gold bean just - 4 mm in diameter is dated back to 4,500-4,600 B.C., which makes it 200 older then the earliest major assemblage of gold artefacts (dated to the first half of the fifth millennium B.C) both located in what is now Bulgaria – in the heart of ancient Thrace. Historians and archaeologists proclaim that several modern countries in South - Eastern Europe share the Thracian heritage, but the main part of Thrace lies in Bulgaria and Romania. Thrace was located on the northern edge of the Greek civilization, and although certain Thracian regions became Hellenized during the early periods of the Greek colonization and particularly during the Hellenistic period, Thrace remained on the periphery of classical civilization until it was annexed by the Roman Empire in the first century A.D. (Anthony & Chi, 2010). Communism regime (until the 1970s) isolated Romania and especially Bulgaria economy, science, archaeology and ancient history was mainly used actively as ideological tools related to communist state policy and propaganda. In the late 1980 only one person dared to brake that isolation – Ludmila Zhivkova, the daughter of Bulgarian Communist leader Todor Zhivkov, President of the Committee for Art and Culture. She managed to list the Thracian Tomb of Kazanlak tomb UNESCO World Heritage List. Nowadays, globally only few scholars outside Bulgaria, Romania, Moldova, Greece, Turkey, and Serbia study ancient Thrace. Moreover, until recently none of the abovementioned countries tourism brand was associated with its Thracian cultural heritage.

**Keywords:** hospitality economy, common cultural heritage, global effect.

**JEL Classification:** M21, O12, L83

## 1. Introduction

The Valley of the Kings (Arabic: وادي الملوك Wādī al Mulūk - the Gates of the Kings) is a location in the Theban Hills, west of the Nile river. The valley stands on the west bank of the Nile, opposite Thebes (modern Luxor), within the heart of the Theban Necropolis. Here are discovered the tombs of the pharaohs from the New kingdom – from the XVIII to XX dynasty. The scientist and archaeologist claim that it was used from the II c. BC consequently here the Tutankhamen’s tomb was discovered and opened by Howard Carter in 1912. For the world this is the Valley of the Kings which witnesses for by gone times which the present cannot fully comprehend. So far, this is the location of the largest open space museum in the world but only so far …

June 2007, in its section “Science”, NBC published an article titled “Golden Mask, found in the tomb of a Thracian king - 2,400 years ago, civilization flourished in Bulgaria”, referring to the discovery of the team of Dr. Kitov near the village of Topochane. The centrepiece of the article was the golden mask found near the town of Kazanlak in 2004 and it mentioned for the first time the analogue which dr. Kitov made between the Valley of the Thracian Kings and the Valley of the Egyptian pharaohs.

January 2010, in an article entitled “The oldest cities in the world” The Telegraph surprisingly to the entire scientific community in Bulgaria, ranked the city Plovdiv – the “capital” of present day Thracian plane, the sixth oldest city in the world, second only to Athens in Europe.

An exhibition entitled “The Lost World of Old Europe, the Danube Valley 5000 - 3500 BC” was held in Ashomolean museum, Oxford from May 20 to August 15, 2010. This was called an exhibition of the oldest gold and travelled in 2010 thousands of kilometres between New York, the UK and Greece. This travelling exhibition was organized by the Institute of Ancient World Study at the University in New York in cooperation with the National History Museum of Romania with the participation of the Varna Archaeological Museum and the National Museum of Archaeology and History of Moldova. “1000 years older than the first cities of Mesopotamia, the so called “Old Europe“ was among the most advanced and sophisticated places in that time” wrote historians and journalists, advertising the exhibits. The culmination of the exhibition was the believed till then oldest gold in the world from the Varna necropolis. Never the less remarkable were the anthropomorphic figurines, great painted ceramics and the vast bronze objects.

October 12, 2012 The New York Times magazine published Karen Leigh’s article, entitled “In Bulgaria, Roman greatness, east of Rome” where the city of Plovdiv is described by its millennial history as one of the oldest continuously inhabited cities in the world. This ranking included cities of great civilizations such as Luoyang, China; Damascus, Syria; Jericho, on the West Bank of the Jordan River; Athens, Greece; Varanasi, India; Byblos, Lebanon; Ray, Iran and Jerusalem, Israel.

From the 30th of September to the 30th of November 2013 the exhibition “Thracian gold from Bulgaria. Legends come to life” was presented in the State Historical Museum in Moscow. According to the Thrace foundation website, that was a joint exhibition of historical treasures from the antiquity of Bulgarian state and private museums: The National Museum of History, the Regional Archaeological Museum, Plovdiv, the Regional Historical Museum, Rouse, the Regional Historical Museum, Lovech, the Thrace Foundation and the Vassil Bojkov Collection and the Arete-Fol Foundation museum.

April 16, 2015 the Louvre, Paris, France an exhibition “The Saga of the Thracian Kings Archaeological Discoveries in Bulgaria” represented ancient Thrace by looking at various components of the Odrysian kingdom. On show for the first time were several complete sets of major tomb furnishings, allowing comparison of previously unseen items with similar material found in Greek city-states along the coast. The highlight of the exhibition was the unprecedented display of items from the royal tomb of Seuthes III (Galiama Kosmatka built in the second half of the 5th century BC and located in the Valley of the Thracian kings) alongside the magnificent bronze head of that king. The leading sponsor of this exhibition is Lusis. In partnership with the Bulgarian Ministry of Culture and Institut Français in Bulgaria.

Following the exhibtion a catalogue was printed thanks to support of Dalkia, the Total Foundation, and Arjowiggins Graphic.

May 1, 2018 Poland in front of the Royal Lazienki Museum a long line of visitors formed for the opening of an exhibition called “Insignia of Power. Thracian Gold from the Collections of the National History Museum in Sofia", representing The Treasure of Zlatinitsa – Malomirovo a rich Ancient Thrace gold and silver treasure from the 4th century BC, the time of the Ancient Thracian Odrysian Kingdom. The Zlatinitsa – Malomirovo Treasure was discovered in 2005 by archaeologist Daniela Agre from Bulgaria’s National Institute and Museum of Archaeology during rescue excavations of Golyamata Mogila (“The Large Mound"), an Ancient Thracian burial mound between the towns of Zlatinitsa and Malomirovo, Elhovo Municipality, Yambol District, in Southwest Bulgaria.

## 2. Literature revue

Focusing on the cultural issues, cultural identity and their local manifestations is associated with a particularly sensitive issue for modern civilization and society. Namely, identity loss eventuate in global village conditions where relationships with relatives, traditions, values and moral values are more vulnerable and more difficult to be preserve. The problem of the identity of individuals and groups for decades attracts the attention of theorists and researchers from different areas of science. This unflagging interest due to the multi-faceted nature of the concept of “identity”, allows it to be interpreted indifferent directions and with great variation in viewpoints. On the other hand contemporary processes of globalization and multiculturalism provoke trends and bring emphasis on this phenomenon, since intensification of mobility of individuals and migration processes among societies the issue of increasing cultural and ethnic diversity within them (Stankova & Vasenska, 2015).

In this connection it should be pointed that cultural identity of a region consequently originates without a reasonable doubt from regions cultural heritage – tangible and intangible. Namely, that’s why tourist do tour the world in order to discover attractive destinations – to get aquatinted with other‘s people culture, traditions, nature, etc. To that reason culture, cultural identity, and cultural heritage do boost tourist destination attractiveness and are of a huge importance when new tourist flows, market, niche must be acquired.

The attractiveness of a destination reflects the feelings and opinions of its visitors about the destination’s perceived ability to satisfy their needs. If a destination is able to meet the needs of the tourists, consequently it will be perceived as attractive and is likely to be chosen. (Mayo & Jarvis, 1981), define attractiveness as, “the perceived ability of the destination to deliver individual benefits”. On the other hand, without the attractiveness there is no tourism and there could be little or no need for tourism facilities and services. It is only when people are attracted to a destination services and facilities follow (Ferrario, 1979). This ability is enhanced by the attributes of a destination, i.e. those components that define a destination. The importance of these attributes help people to evaluate the attractiveness of a destination and make relevant choices.

Research on destination attractiveness include the studies conducted by Gearing, Swart, & Var (1974), Var, Beck, & Loftus (1977), Ritchie and Zins (1978), Tang & Rochananond (1990), Hu & Ritchie, (1993), Chen & Hsu (2000), Livaic, Edwards, & Kim (2004), Prideaux (2005), Formica & Uysal (2006), Tasci, Gartner, & Tamer Cavusgil (2007), Vengesayi

(2008), Kim (2011), Correia, Kozak, & Ferradeira (2013), Mikulić, Krešić, Miličević, Šerić, & Ćurković (2016), etc. Furthermore, according to TPB (the theory of planned behavior) and TRA (the thory of reason action) the more attractive the location, the geater the intention of a visitor to travel to the location.

## 3. Starosel present and past

Starosel is a village in central Bulgaria, Hisarya Municipality, Plovdiv Province. It lies at the foot of the Sredna Gora mountain range along the shores of Pyasachnik River.

Starosel is known for the abundance of ancient Neolithic and Thracian sites, with some finds dating as far back as the V-VI millennium BC. Evidence from 20th-century excavations reveals that the village burgeoned into an important and wealthy Thracian city in the V century BC.

Among its main features are the underground temple, the largest of its kind in the Balkan Peninsula, built under the Chetinyova Mogila (tumulus) and a mausoleum. The temple, as well as the nearby Thracian king's residence under Mount Kozi Gramadi, likely date to the reign of Amatokos II (359-351 BC).

### 3.1 Ancient past

The Thracian Temple Complex in the Chetinyovata Mogila, at a distance of 4km from the village of Starosel, was uncovered in 2000. It has a statute of a group archaeological monument of culture. This is the oldest ever found royal Thracian complex with a tomb. The mound is surrounded by a wall made of processed granite blocks. Its length is 241 meters and its height reaches 3.5 meters. The wall is called krepis and outlines a circle which according to the Thracian religious believes symbolizes the Sun. The entrance of the temple has a parade staircase and two pedestals, on which statues of lions were sitting. The staircase leads the visitors to a flat platform, used for ritual dances. A corridor leads to the real façade of the temple and the round hall containing 10 decorative semi-columns and tryglyphs (rectangular plate above each column) with blue and red decoration. Religious ceremonies, related to the cult to the Mother Goddess, her son the Sun and Orpheus were performed in the temple. A warehouse for wine and water is situated on the north part of the mound.

The Horizon Mound is situated in the Manastircheto locality, at a distance of about 1.5 km from the village of Starosel. There is an indicative board-sign and a parking lot by the mound, and there is a walking track from there to the temple. The temple dates back to the end of 5th and the beginning of 4th century BC. This is the only one found Thracian temple with a colonnade. The ten columns are placed on a foundation, with two cylinders and a capital in the early Doric style. A Thracian person of a high rank was buried inside it, which is evident by the items found in the grave – bronze arrow heads, silver beads and golden plates for sewing to clothes. For visiting the temple no tax shall be paid; at the moment there is no tourist servicing.

### 3.2 Present 21-st century

The “Starosel” Wine and Spa Complex is situated below the southern slopes of Sredna Gora Forest. Was open in 2005 as only a winery and degustation room as nowadays it has three hotels: Hotel Starosel, Hotel Kalina-Malina and Apart-Hotel Starosel. The complex is on less than 2 hours' drive from Sofia, an hour drive from Plovdiv and half an hour from Hisaria therefore its capacity is fully booked during the weekends (Friday to Sunday). That and the diversified cultural tourism product attract not only Bulgarians bur vas variety on international tourists. The interesting and impressive architecture of the complex can be compared to an ancient monastery. In the centre of the complex is a Wine Cellar "Starosel", which offers wine tours and tastings for the guests of the complex. The complex has a total of 42 hotel rooms and 51 accommodation apartments. The interior of the hotel is filled with natural materials and hand-crafted furniture and fabrics that present the magic of Bulgarian folklore. The combination of warm colours with the natural curves of the tree offer guests an unforgettable experience.

# 4. Methods

For the purpose of the paper, we elaborated analysis of survey data on opinions of 452 international tourists visited Bulgaria in the period May 2017 to August 2017 while conducting two types of data analysis. These analyses are based on electronically conducted survey, which aimed to capture as large as possible sample of market segments - international tourists from Greece, Turkey, Russia, Macedonia and Germany. Those foreign markets are within the top 10 generating foreign markets for destination Bulgaria (Ministry of Toursm, 2017).

*Table 1: International inbound tourist's visits 2017*

| | Country of origin | Number | Chainge compating to 2016 (numbers) | Chainge compating to 2016 (%) |
|---|---|---|---|---|
| **Total:** | | **8 882 747** | **630 752** | **7,6** |
| 1 | Greece | 1 157 622 | 90 517 | 8,5 |
| 2 | Romania | 1 139 189 | 42 315 | 3,9 |
| 3 | Germany | 870 448 | 43 509 | 5,3 |
| 4 | Turcey | 636 046 | 70 678 | 12,5 |
| 5 | Russia | 557 915 | -22 087 | -3,8 |
| 6 | FYR Macedonia | 545 431 | 17 767 | 3,4 |

*Source: Ministry of Tourism, international tourism – Bulgaria: January - December 2017.*

The chosen evaluation scale of the survey is Likert's five-step scale with varying estimates from unattractive (1) to infinitely attractive (5) to measure attractiveness and from no less important (1) to the most important (5) to assess the importance of the attributes.

In order to establish what destination's attractiveness attribute is the most important in regarding tourists motivation not only for a single visit but moreover to consider a numerous return visits to the destination we have employed descriptive statistical approaches (e.g., frequency and percentage) present in SPSS via ANOVA tests for obtaining the results. Following the views of the actual consumers we examined how surveyed respondents of the six largest generating market of Bulgaria assess the attractiveness of Bulgaria. For research purpose the attractiveness of the tourist destination was decomposition into 8 attributes - *price/value, infrastructural, cultural, added services, natural, recreational facilities, hospitality and accessibility*.

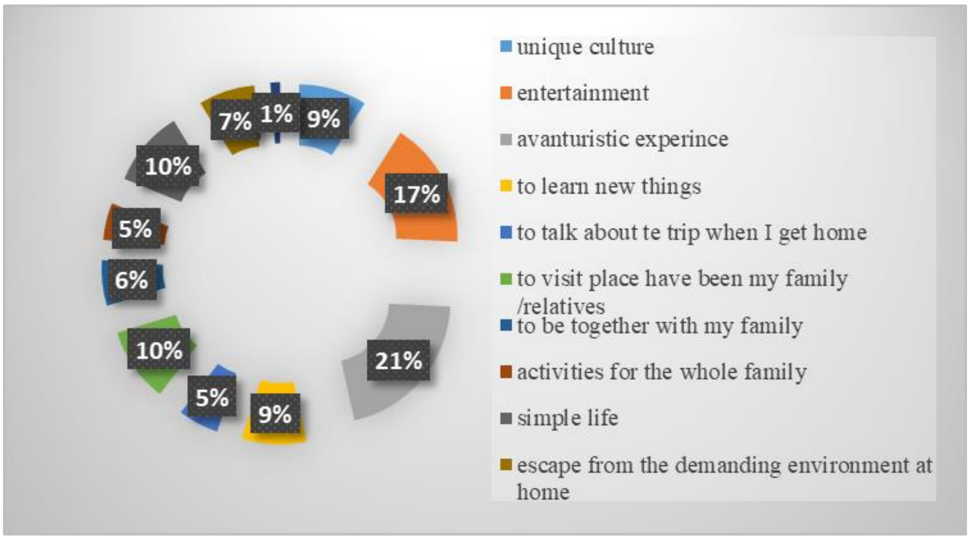
## 5. Results

The size of the sample is determined by the researcher, indicating a population estimate (P) of 0.046 with 95% reliability, regardless of the value of P (population) (Kachigan, 1896). Then the required sample size is calculated depending on the model

$$\frac{\left(z\frac{\alpha}{2}\right)}{4e^2} = \frac{1{,}96^2}{4e^2} = 452 \tag{1}$$

This study also looks into what motivates tourists in their choice of Bulgaria for holiday destination. As demonstrated on Figure 1, 21% of respondents in the survey stated that they wanted to visit a culture that is different from their own, 17% - were looking for entertainment and 9% for exciting experiences. Other motivations of tourists, such as increasing self-esteem (the ability to talk about the trip after returning home), relaxation (simple life) and family relations (opportunity to be together as a family) are respectively 7%, 6% and 6%.

*Figure 1: Motivation for visiting destination Bulgaria*




*Source: Author's survey data*

Of the overall respondents, 90% have indicated their intention to visit Bulgaria for your next vacation.

Table 2 summarizes the results of attractiveness attributes importance according to survey's participants' opinion. The table shows the average results, standard deviation, and significance estimates for each attractiveness attribute. Namely, the Price/Value attribute is rated as the most important for tourists from all countries, followed by Cultural, Infrastructure, Additional Services, Natural, Recreation facilities, and Hospitality. Accessibility is considered by the respondents to be the least important.

*Table 2: Evaluation of attractiveness attributes*

| Attribute | Country of tourist's origin | | | | | | $\bar{x}$ | CO σ | Attractivene |
|---|---|---|---|---|---|---|---|---|---|
| | Greece (n=108) | Romania (n=114) | Russia (n=81) | Germany (n=101 | Turkey (n=106) | Macedonia (n=101) | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Price/Value | 3.7 | 3.6 | 3.59 | 3.75 | 3.89 | 4.1 | 3.8 | .88 | 1 |
| Cultural | 3.51 | 3.46 | 3.51 | 3.58 | 3.55 | 4.07 | 3.62 | .67 | 2 |
| Infrastructure | 3.64 | 3.52 | 3.66 | 3.59 | 3.76 | 3.44 | 3.61 | .76 | 3 |
| Additional Services | 3.50 | 3.40 | 3.44 | 3.47 | 3.48 | 3.52 | 3.52 | .72 | 4 |
| Nature | 3.41 | 3.35 | 3.40 | 3.33 | 3.32 | 3.46 | 3.49 | .69 | 5 |
| Recreational facilities | 3.51 | 3.55 | 3.50 | 3.47 | 2.93 | 3.45 | 3.47 | .70 | 6 |
| Hospitality | 3.33 | 3.26 | 3.20 | 3.36 | 3.87 | 3.47 | 3.45 | .80 | 7 |
| Accessibility | 3.07 | 3.15 | 3.25 | 3.24 | 2.77 | 3.35 | 3.38 | .87 | 8 |

*Source: Author's survey data*

Where ***n*** is number of validated survey replies by segment.

## 6. Conclusion

The results of our survey demonstrate that visitors from Eastern Europe have the highest share, probably because of the fact that Bulgaria is a traditional holiday destination for this group of countries. Bulgaria generally attracts groups of visitors (eg. Eastern Europeans, visitors from the Balkans), but not a specific segments elusively of the mass seasonal ones.

Foreigners in Bulgaria are vocational travellers in the true meaning of the word (excerpt from those who came to escape everyday life), their visits are not expensive, comparing to their lifestyle standard at home, and they prefer to stay in a foreign country mainly for a vacation with cultural expirations. Herein, all stakeholders involved in branding destination Bulgaria should consider how the unique Thracian cultural heritage can be implemented, its utility to be enhanced and last but not least to widen the promotion scope on a global scale.

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# INFLUENCE OF THE EU AND COMMON CURRENCY ON THE STRUCTURE OF FOREIGN COMMERCE

Kamila Veselá[1,a,*], David Brož[2,b], Miroslava Navrátilová[3,c] and Markéta Beranová[4,d]

[1]Department of Economics Theories, Faculty of Economics and Management, Czech University of Life Sciences Prague, Kamýcká 129, Prague, 165 21, Czech Republic

[2]Department of Statistics, Faculty of Economics and Management, Czech University of Life Sciences Prague, Kamýcká 129, Prague, 165 21, Czech Republic

[3]Department of Trade and Finance, Faculty of Economics and Management, Czech University of Life Sciences Prague, Kamýcká 129, Prague, 165 21, Czech Republic

[4]Department of Trade and Finance, Faculty of Economics and Management, Czech University of Life Sciences Prague, Kamýcká 129, Prague, 165 21, Czech Republic

[a]veselakamila@pef.czu.cz, [b]brozd@pef.czu.cz, [c]navratilovam@pef.czu.cz, [d]mberanova@pef.czu.cz

*Corresponding author

**Abstract.** Globalization, its expression and impact has been already a frequent discussion topic for many years. The processes of integration are one of the factors accelerating the processes of globalization. The given article deals with the influence of increasing level of processes of integration on the economy of the European Union member states by putting emphasis on movement from common trade to monetary union. The accession of a country into the grouping of integration is a fundamental intervention into the economy. It has the direct impact on the economic results, their structure and basically all the macroeconomic indicators of economic performance. The main target of this article is setting the assumptions of the impact on foreign commerce and its structure due to the planned accession of the Czech Republic to the Eurozone. It includes also the analysis of the development of the foreign commerce structure in the countries of the Eurozone considering both the foreign commerce structure changes according to countries (trading partners), and changes of commodity structure of foreign commerce. In the given text, there is an analysis of casual dependency among the economic features of the Eurozone countries and their development in a sense of their accession to the EU and the Eurozone. The target is to find such countries, or rather indicators, which would be possible to use as a prerequisite for the prognosis of the Czech Republic (CZ) accession to the Eurozone and its impact on the economy of the Czech Republic.

**Keywords:** international trade, Eurozone, Euro, globalization, export.

**JEL Classification:** F47, F62, F63

## 1. Introduction

Globalization, integration, the European Union - these are some of the most used words in the economic circles of recent years. In relation to the Czech Republic (Czech Republic), especially the question of the influence of the European Union (EU) on the Czech economy and the issue of the Czech Republic's entrance to the Monetary Union are very discussed and often very controversial areas. Prior to 2004, ie before the entrance of the Czech Republic to the European Union, the most talked was the hope for the Czech economy and the positive impacts of the Czech Republic's entrance to the EU. One of the main motives was also the convergence of the level of the economy and the standard of living of the member countries. However, a number of theories and studies have already questioned this idea. Boldrin et al. (2001) state that the differences between countries remain unchanged and that it can not be considered positive in this sense of conceived European policy. In recent years, the negative effects of entrance, such as the loss of national sovereignty, subordination to the EU bureaucratic apparatus and the Czech Republic's financial costs associated with payments to the EU, are often mentioned. One of the controversial topics is mainly drawing on EU funds under the Cohesion Policy implemented in the Czech Republic. Chmelová (2018) concludes that the pressure on the preference of the maximum exhaustion of available funds leads to spending instead of effective drawing.

The question of less or more distant future is therefore the Czech Republic's next step in the integration process, ie the entrance of the Czech Republic to the European Monetary Union and the associated adoption of the euro as a new currency. For example, Michl (2016) proposes to test whether the loss of devaluation / depreciation of the national currency is substantial for the country, or not, if it is the decision to accept the EUR. whether the devaluation helps to export and therefore the economy in the short and long term.

The Czech Republic is one of the small, open economies, and its gross domestic product affects to a large extent foreign trade. The question of the effectiveness of the Czech Republic's entrance to the European Monetary Union is above all the impact of the adoption of the new currency on the foreign trade of the Czech Republic, ie export and import. When planning the admission of the EUR to the Czech economy, it is therefore necessary to consider the effect of accepting the EUR on the country's export function and the degree of openness of the economy. The problems of the analysis of the export functions of the Czech Republic have been dealt with in the past by, for example, Havrlant & Hušek (2011), Hlušek & Singer (1999), Kapička (1997), Pánková (2003) or Tomšík (2001). The specificity of the link between the export function and the gross domestic product is also a time lag where the reaction times of exporters and importers can be talked about (Mandel & Tran, 2017). Another factor, namely that export prices respond to the course with delays, was dealt with by Holub (1999). Another distinctly open economy - Hong Kong and its export function were analyzed by Riedel (1988) and Athukorala & Riedel (1994) using the two-tier least squares method and cointegration analysis. They conclude that the export volume does not have a statistically significant effect on export prices, which are strongly determined by world prices. In the case of Hong Kong, it speaks of infinitely flexible external demand for exports.

Analyzes aimed at assessing the effectiveness of joining the monetary union are based in particular on the fact that greater integration is effective if it leads to strengthening the price competitiveness of the country on the world market. Moreover, the past has already shown that although the country meets the Maastricht criteria for entrance to the monetary union, the country may still be problematic for the country, especially during the recession, for example, when it is not possible to use monetary policy instruments such as currency devaluation, etc. Theories of Competitiveness of the Economies such as Klvačová (2005) or Plchová (2011).

The aim of the article is to evaluate the impacts of the countries' entry into the monetary union on their foreign trade and gross domestic product and to find common denominators that could be an indicator for predicting the impact of the Czech Republic's entrance to the monetary union and its economy. More complexly, it should be an analysis of the impact of the adoption of the euro on the country's standard of living, but it is difficult to choose an appropriate indicator here. Although gross domestic product represents only a component in the complex concept of living standards, economic performance, it is the most used and best indicator for comparing the performance of countries (Čadil et al., 2017).

For a more comprehensive view, it is further explored whether and how the development of basic macroeconomic indicators differs between countries that have adopted the euro and which have not adopted it. The aim of this comparison is in particular to reveal whether the entrance to the monetary union was positively or, negatively on the basic macroeconomic indicators of the countries that have adopted the euro.

## 2. Material and methods

The text is processed by analyzing secondary sources and synthesizing the acquired knowledge. The choice of data was affected, in particular, by the availability of all relevant data. The sample of countries that adopted the euro included Ireland, France, Luxembourg, Austria, Portugal and Slovakia. The countries that have not adopted the euro are being examined by the Czech Republic, Denmark, Hungary, Poland, Sweden and the United Kingdom. Used time series contain data from 1999 to 2017. Time series had to be shortened, as historical data is not available in a number of countries. Key indicators such as GDP. Vltavska et al. (2018) confirm that the situation in the EU is not very good in this area. The European Transmission Program, which defines the obligation of Member States to send data to Eurostat, is otherwise oriented, so historical data only has the most advanced countries that do so regardless of transnational legislation.

The basic data source for obtaining time series is the European Statistical Office (Eurostat, 2018) and the Organization for Economic Cooperation and Development (OECD, 2018).

Simple statistical descriptive characteristics of interval time series, especially arithmetic mean, absolute increment and relative increment, were used for evaluation. Both absolute indicators and derived indicators are used.

The surveyed and assessed indicators used gross domestic product, goods and services exports, goods and services imports and indicator of the degree of openness of the economy. Gross domestic product, exports and imports of goods and services were expressed in current prices in millions of euros. The ratio of export / gross domestic product is used to express the degree of openness of the economy. The following abbreviations are used in the article: Czech Republic - Czech Republic, EU - European Union, EUR - Euro, GDP - Gross Domestic Product.

## 3. Results and discussion

One of the prerequisites for entrance to the European Union and the European Monetary Union is the expectation for each country of raising the standard of living, ie gross domestic product. The trend of gross domestic product development in all countries surveyed shows a similar trend. With the exception of the years 2008 and 2009, when the global financial and mortgage crisis hit all countries, the rising trend of GDP growth can be observed in the monitored countries. The average annual growth rate of the GDP of countries that have been part of the European Monetary Union since 1999 is 5.04% pa and countries that did not receive the euro by 4.77% a. (Eurostat, 2018). Table 1 shows the Gross Domestic Product (GDP) in 1999 and 2017 and the percentage increase in Gross Domestic Product between 1999 and 2017. In the period under review, it is also possible to mention separately the years 2008 and 2009, when all countries faced the global financial crisis. The average percentage decline of GDP in the monitored Eurozone countries (from 2008 to 2009) was -3.68%. Among the countries with the highest decline there was Ireland (-9.41%). The average year-on-year decline in GDP growth rates for the non-euro area countries concerned was -10.57% between 2008 and 2009.

*Table 1: Comparison of GDP of selected countries in 1999 and 2017 in EUR million*

| **Country** | **GDP** | | |
|---|---|---|---|
| | **1999** | **2017** | **% change** |
| Ireland | 92 632,40 | 294 110,10 | 217,50% |
| France | 1 400 999,00 | 2 291 705,00 | 63,57% |
| Luxembourg | 20 870,60 | 55 377,80 | 165,34% |
| Austria | 203 850,60 | 369 685,90 | 81,35% |
| Portugal | 119 639,20 | 193 072,00 | 61,38% |
| Slovakia | 19 491,50 | 84 985,20 | 336,01% |
| Czech Republic | 60 796,50 | 191 642,80 | 215,22% |
| Denmark | 166 972,10 | 288 980,90 | 73,07% |
| Hungary | 46 131,10 | 123 494,60 | 167,70% |
| Poland | 159 267,40 | 465 604,90 | 192,34% |
| Sweden | 254 085,00 | 477 383,00 | 87,88% |
| United Kingdom | 1 565 349,00 | 2 327 729,90 | 48,70% |

*Source: own processing according to Eurostat, 2018*

Globalization of the world and the openness of economies entail an increased dependence of gross domestic product on exports. In the period under review, the size of countries' exports and the degree of openness of their economies, and the role played by the entry of countries into the monetary union, have been assessed. Since 1999, when Ireland, France, Luxembourg, Austria and Portugal joined the European Monetary Union, their export value increased by an average of 314.97%. The largest pro-export growth was recorded for Slovakia, which joined the Monetary Union in 2009 It recorded an increase of 784.39% (Eurostat, 2018)

The indicator of the degree of openness of all countries surveyed so significantly increased during the monitored period. For countries involved in the European Monetary Union, the average rate of openness of the economy in the monitored period increased by 95.50%. Ireland and Luxembourg recorded the largest growth, with the rate of openness measured as the ratio of exports to GDP reaching 230,02% in 2017. Following countries 'entry into the euro area, the faster growth of these countries' foreign trade growth towards the other euro area countries and the EU compared to non-member countries (Eurostat, 2018) can be observed. Growing rates of openness in countries that have not yet been adopted by the euro have reached an average rate of openness of 59.08% over the monitored period, 79.77% for the Czech Republic. Hungary recorded the largest increase, which recorded a 90.09% increase in openness. The evaluation thus resulted in several basic indicators and characteristics that can be used for the Czech Republic as a prediction of the impact of the possible involvement of the Czech Republic in the European Monetary Union, namely export growth, increasing the degree of openness of the economy and a change in the structure of foreign trade towards Eurozone countries.

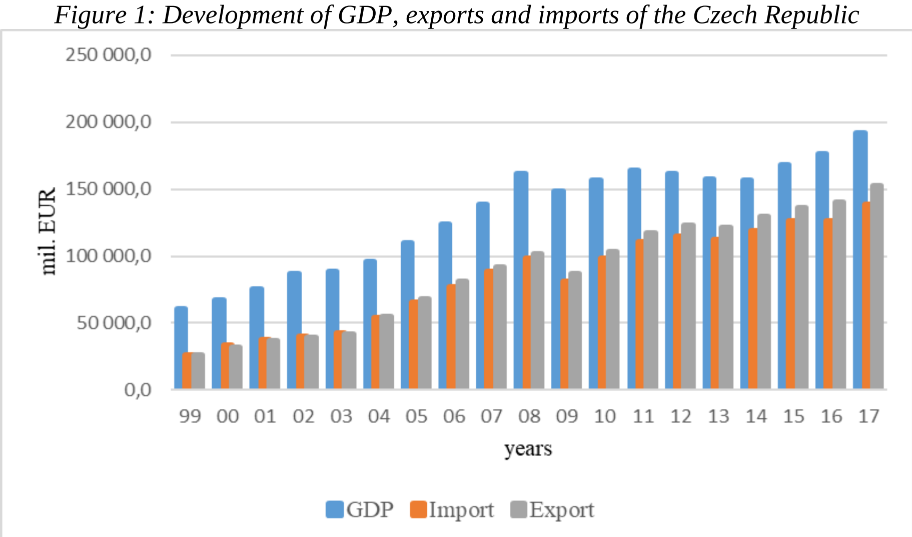
*Table 2: Comparison of exports and the degree of openness of the economies of the countries analyzed between 1999 and 2017*

| **Country** | **Export in mil. EUR** | | | **Degree of openness of the economy X/GDP** | |
|---|---|---|---|---|---|
| | **1999** | **2017** | **% change** | **1999** | **2017** |
| Ireland | 80 226,80 | 352 555,60 | 339,45% | 86,61% | 119,87% |
| France | 362 177,00 | 681 449,00 | 88,15% | 25,85% | 29,74% |
| Luxembourg | 27 305,00 | 127 377,50 | 366,50% | 130,83% | 230,02% |
| Austria | 80 229,60 | 199 395,20 | 148,53% | 39,36% | 53,94% |
| Portugal | 31 670,70 | 83 239,50 | 162,83% | 26,47% | 43,11% |
| Slovakia | 9 254,30 | 81 843,70 | 784,39% | 47,48% | 96,30% |
| Czech Republic | 26 094,10 | 152 874,70 | 485,86% | 42,92% | 79,77% |
| Denmark | 65 776,20 | 159 218,10 | 142,06% | 39,39% | 55,10% |
| Hungary | 25 611,20 | 111 256,30 | 334,41% | 55,52% | 90,09% |
| Poland | 38 422,40 | 251 567,80 | 554,74% | 24,12% | 54,03% |
| Sweden | 104 271,00 | 216 371,90 | 107,51% | 41,04% | 45,33% |
| United Kingdom | 370 812,50 | 702 556,30 | 89,46% | 23,69% | 30,18% |

*Source: own processing according to Eurostat, 2018*

In the Czech Republic, as an open economy, the level of openness was already in 1995 42.92% (measured as a share of export to gross domestic product). In 2017, the degree of openness has risen to 79.77%. Figure 1 depicts the situation of the Czech Republic in 1995-2017 and shows the development of Gross Domestic Product, Export and Import. With the exception of 2007/2008, when the global financial crisis hit the Czech Republic, gross domestic product has a growing tendency, even higher than the EU average.

*Figure 1: Development of GDP, exports and imports of the Czech Republic*




*Source: own processing according to Eurostat, 2018*

In recent years, the Czech Republic has used the exchange rate as a regulating instrument and, in particular, in the case of devaluation promoting export and hence gross domestic product. If the euro was adopted, the Czech Republic would lose that instrument. The question of what would be more effective for the Czech Republic, whether to tolerate the loss of the foreign exchange policy instrument against the effect of increasing the openness of the economy and the growth of exports associated with the adoption of the euro goes beyond the capacity of this text and could therefore be a good subject for further analysis.

The Maastricht criteria are the standard indicators for joining the EU, but these are insufficient to assess the appropriateness of the country's entry into the European Monetary Union. Michl (2016) argues that the argument about the advantage / disadvantage of adopting the single currency should not be based a priori on the Maastricht criteria, but mainly on the real exchange rate philosophy, since the Maastricht criteria do not reflect the price competitiveness of the country. In the case of the adoption of the euro, it is mainly an analysis of the effect of the renunciation of the national currency and the loss of the monetary policy instrument and the impact of the new currency on the structure of foreign trade and the degree of openness of the economy. In addition, the Czech Republic uses the exchange rate as a monetary policy instrument, in particular, by devaluing the exchange rate, it supports export and GDP. Thus, in the past, the regulation of the course has helped the economy from the crisis and, thanks to the regulation of the exchange rate, we have a significant influence on foreign relations with other countries. The loss of this monetary policy instrument linked to the adoption of the single currency is one of the strongest arguments against entry into monetary union.

## 4. Conclusion

The text dealt with the issue of increasing the integration rate of the Czech Republic and adopting the common currency of the euro on the Czech economy. On the basis of an analysis of the economic situation (GDP, exports and imports), the countries that adopted the euro assessed the impact of the adoption of the euro on their economies and consequently deduced what changes could be expected if the euro was adopted in the Czech Republic as well. Comparing the results of the assessment of the basic macroeconomic aggregates of selected countries of the European Union and the European Monetary Union, a similar trend can be observed, both GDP growth and exports and the degree of openness of the economy. The evaluation also clearly showed that the values achieved by the member states of the European Monetary Union are higher in all monitored indicators than in countries that are not members of the Monetary Union. For the Czech Republic, in the event of the adoption of the euro, this would imply an increase in the degree of openness, the size of exports, the achievement of a higher rate of GDP growth and the strengthening of foreign trade with euro area member countries compared to non-member countries.

**Acknowledgement**

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# MANAGEMENT RESEARCHES OF CEE COUNTRIES: RESEARCHES OF THE CZECH REPUBLIC IN TERM OF GLOBALIZATION

Lukáš Vraniak[1,a,*], Lukáš Mazánek[2,b,*] and Zdeňka Konečná[3,c]

[1,2,3] Brno University of Technology Faculty of Business and Management Department of Management Kolejní 2906/4, 612 00 Brno Czech Republic

[a]lukas.vraniak@vutbr.cz, [b]mazanek@fbm.vutbr.cz, [c]konecna@fbm.vutbr.cz

*Corresponding author

**Abstract.** Based on the analysis of more than 300 articles published in 24 major international journals from 1990 – 2010, a suitable sample of articles focusing fully or partially on management researches in Czech Republic was chosen. The research sample consist of 51 articles published from 1991 to 2006. Articles focus on various aspects, namely the authors' affiliations, the paradigmatic approaches and theories applied, the research methods in use, and the sample structure according to researched countries and topics. Those areas are researched mostly with regard to changes and transformation started after the fall of "iron curtain" and with regards of globalization as nature development of economics nowadays. The article is supposed to find areas of characteristic patterns and dynamics of this field. Main target of the research is to find interesting common and different signs of those articles with regard to scope reduction for the follow-up research. Additional aim of the research is to propose areas for next in-depth research targeting on finding of relationship between the authors background and the research topic. Through this, we aim at contributing to a better understanding of the process of knowledge production in a highly complex field of research that has emerged during the past three decades in the Czech Republic.

**Keywords:** management, Central and Eastern Europe, society transformation, globalization.

**JEL Classification:** M5, M14, M21

## 1 Theoretical background

Management interests in Central Eastern Europe has been rising in past 3 decades after the fall of iron curtain due to transformation processes in local companies and opening of market to "west" (Suutari & Riusala, 2001) with different effects in each country (Frydman et al., 1999). In terms of promoting, maintaining according Meyer & Peng (2005), the publications on management problems in CEE countries may be perceived as a result of a particular process of knowledge production addressed to the academic community, to management practitioners and to a wider public audience. The process itself is characterized by the activities of some specialized actors and institutions, such as researchers (as authors), universities, research institutions, publishing houses and journals. They must all be considered to be influenced by the established paradigms, theories, methodologies and tools of management science and the currently dominant discourse about good practices in management research taking place in Western Europe.

The research in the field of management in CEE went through particular development in past 25 years. The widespread interest in management in the transforming societies of CEE was reflected by a considerable number of scholarly publications (Gelbuda at al., 2008). Therefore, we have critically explored the field of empirical research on management problems in Czech Republic. This was based on more in-depth explanation of research results found by Steger and Lang (2016) while focus at the whole CEE region.

In terms of globalization is the transformation of CEE countries an opportunity for transfer of best management practices from western countries (Martin & Cristescu-Martin, 2002; Xu et al., 2017). Transformation process is characterized by a restructuring of administrative frameworks, redistribution of property rights, and shifting discretion over resources allocations (Lukas et al., 2001). The business environments of emerging economies are thus characterized by diversity and instability (Meyer & Peng, 2016). In addition, internal development process of firms in emerging markets expose them to multipoint competitive pressures, and managers of these firms have to make strategic decisions in a complex decision-making environment (Filatotchev et al., 2008). Many challenges on multiple levels of management has been created with institutional changes within CEE area (Svejnar, 2002). As also confirmed by Clark & Michailova (2004) researches focusing on transforming societies are influenced with institutions and context of their research. Here can be visible high influence of Western countries and institution in terms of management development in CEE countries, what can be considered as an outcome of research cooperation by authors from western as well as eastern countries during past 25 years (Alt & Lang, 2004). On the other side researchers arguing about still existing barriers of understanding of how to operate in volatile market economy by managers in CEE (Meyer & Gelbuda, 2006)

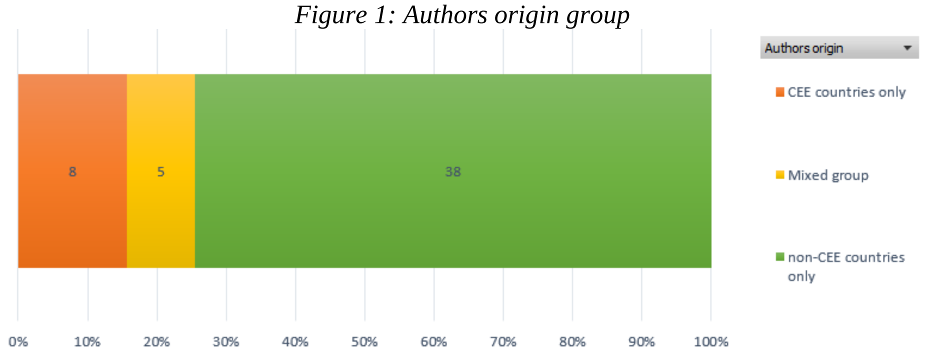
Research has been done by qualitative in-depth analysis of 51 articles. Those articles were published in the time frame from 1991 to 2006 in the most prestigious scientific journals. The common sign of all these articles was that, authors were focused on Czech Republic in the field of their published research. Research question – What are the most common signs and differences of analyzed articles?

# 2 Research results and discussion

## 2.1 Authors and their relation to researched countries:

Almost 3/4 of authors are from non-CEE countries. 16% are from CEE countries and rest 10 % represent the mixed group of CEE and non-CEE countries authors origin (see Figure 1).

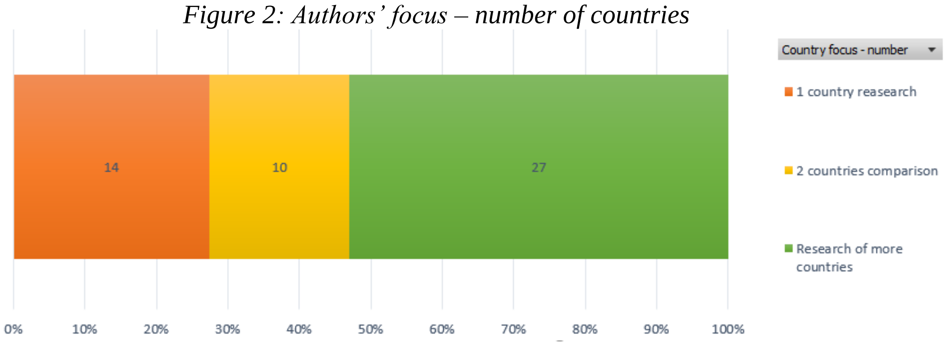
*Figure 1: Authors origin group*




*Source: author's own analysis*

These authors in the field of their research focused mostly on more than 2 countries (n=27). Exactly 10 articles were based on two countries comparison (Czech Republic and other country) Final 14 articles were based on one concrete country research (see Figure 2). With closer look at these results, 19 articles were focused at countries in CEE and V4 countries.10 articles were focused at countries in the Europe and 8 articles were focusing Czech Republic in global scope. The rest 14 were devoted exclusively to the Czech Republic.

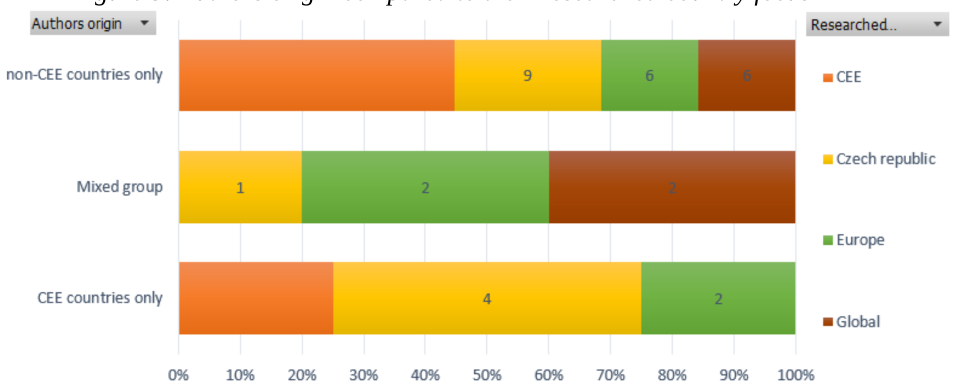
*Figure 2: Authors' focus – number of countries*




*Source: author's own analysis*

While we are discussing the authors origin and the country which was the subject of research there appears these findings. At the research in CEE countries were mostly focused authors from non-CEE countries. These non-CEE authors are as well mostly interested in Czech Republic and V4. Mixed groups of authors didn't focus on CEE countries separately, but always on global level, level of whole Europe or V4 level. Only one article written by mixed group of authors has been focused exclusively on Czech Republic. The last group are authors from CEE countries where majority of articles has been focused on Czech Republic separately. Other mixed authors groups took as an object of research several countries within whole Europe or CEE countries only. (see Figure 3)

*Figure 3: Authors origin compared to their researched country focus*

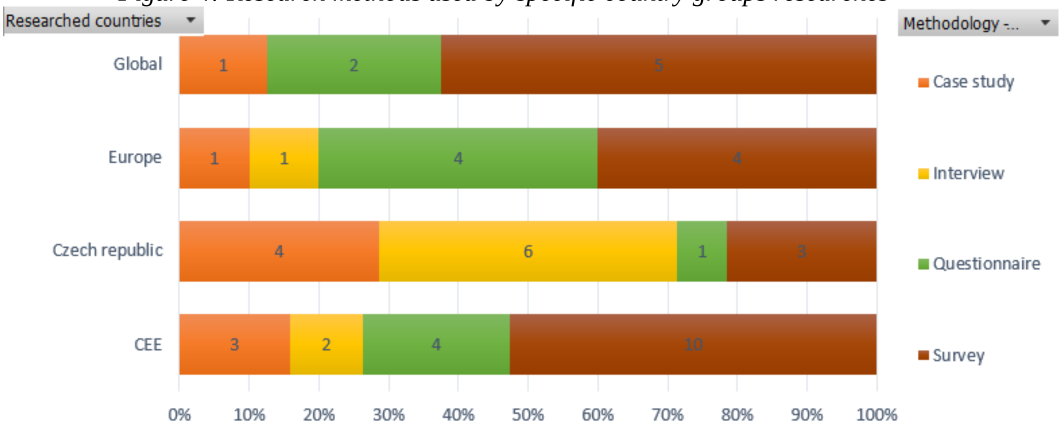



*Source: author's own analysis*

## 2.2 Research methods and their relation to researched countries

As we went more in depth of articles we have found out the exact methods which were applied. CEE, EU and Global research were mostly based on the data got from surveys, questionnaires or their combination. While checking the articles focuses only on Czech Republic there appears different situation, where majority of the research (n=6) were done by the interviews, followed by case studies. Based on this finding we came up to an interesting question – Why in researches done exclusively within Czech Republic has been conducted mostly by interviews when the majority of authors of whole article sample is outside from CEE countries?

*Figure 4: Research methods used by specific country groups researches*

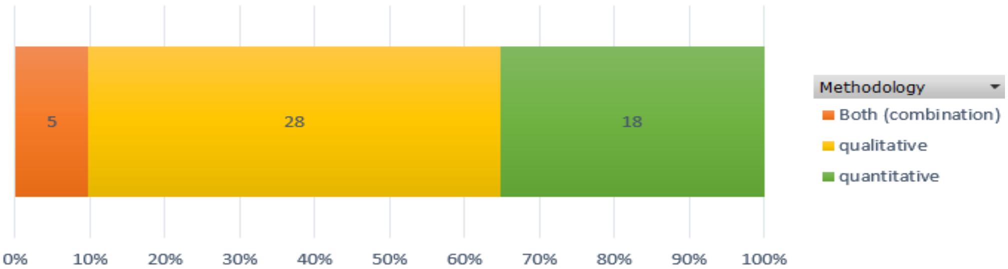



*Source: author's own analysis*

### 2.2.1 Methodology applied in the articles

Concerning the applied research methodology, there is more than 55% of articles with qualitative results in the sample. 35% of whole sample has used the quantitative methods of data collection and combination of both methods is used in 10% of all researched articles (see Figure 5).

Figure 5: *Methodology* used in articles

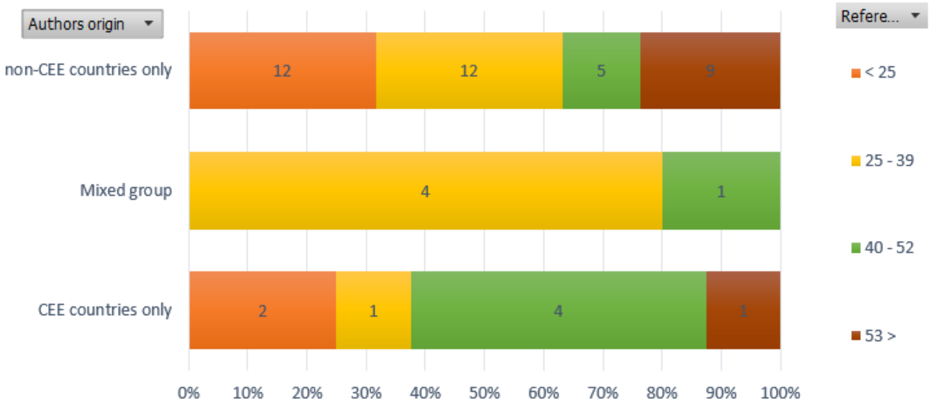



Source: author's own analysis

## 2.3 References

In the field of references, we were interested how does the origin of the author reflects the use of information sources through references. Non-CEE authors in approximately 1/3 of articles have used more than 40 references. On the other hand, the articles written by mixed group authors have used more than 40 references in only 20% of articles. Situation by articles written by authors from CEE countries is different as well. Almost 2/3 of those articles have used more than 40 references. (see Figure 5).

*Figure 6: Number of used references compared to authors' origin*

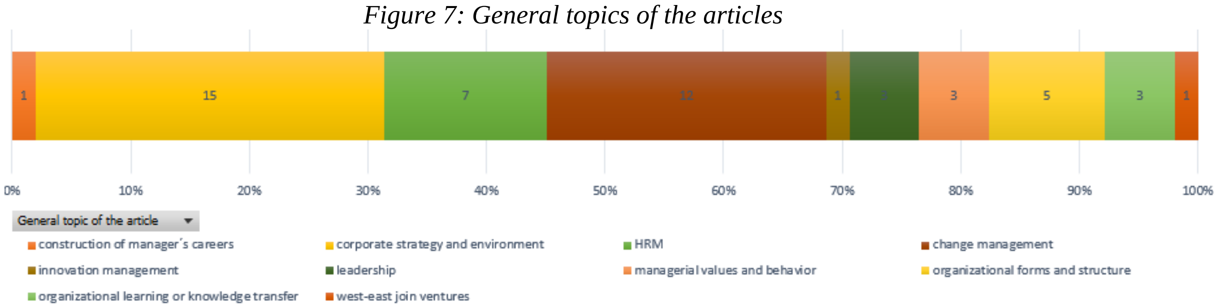



*Source: author's own analysis*

## 2.4 Distribution of research topics

The research topics, which the researchers were interested in, were divided into specific categories. The biggest group contains 15 articles in corporate strategy and environment, 2nd group contains 12 articles focusing on change management and the last size-wise important group is the human resource management (see Figure 7).

*Figure 7: General topics of the articles*




*Source: author's own analysis*

From this interesting view on the data the question could rise - Are the researchers aiming researches in CEE on the changes and innovation in HRM? On the other side here is visible lack of articles focusing on building managers' values, innovation management or west-east join ventures.

## 2.5 Authors origin and cooperation

While searching for the authors origin we have created joint cooperation matrix (see Figure 8). In this matrix is shown the cooperation between authors grouped by origin. There are two very interesting facts visible.

*Figure 8: Joint cooperation matrix*

| Authors origin + cooperation | UK | USA | Austria | Canada | Czech rep | Denmark | Germany | Slovenia | Brasil | Columbia | France | Netherlar | Slovakia | Switzerla | Thailand | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UK | 15 | 1 | | | 2 | | | | | | | | | | 1 | 19 |
| USA | 1 | 11 | 1 | | | | | | | 1 | | 1 | | | | 15 |
| Austria | | 1 | 2 | | 1 | | | | | | | | | | | 4 |
| Canada | | | | 3 | | | | | | | 1 | | | | | 4 |
| Czech rep. | 2 | | 1 | | 1 | | | | | | | | | | | 4 |
| Denmark | | | | | | 3 | | | | | | | | | | 3 |
| Germany | | | | | | | 3 | | | | | | | | | 3 |
| Slovenia | | | | | | | | 2 | | | | | | | | 2 |
| Brasil | | | | | | | | | | | | | | 1 | | 1 |
| Columbia | | 1 | | | | | | | | | | | | | | 1 |
| France | | | | 1 | | | | | | | | | | | | 1 |
| Netherlands | | 1 | | | | | | | | | | | | | | 1 |
| Slovakia | | | | | | | | | | | | | 1 | | | 1 |
| Switzerland | | | | | | | | | 1 | | | | | | | 1 |
| Thailand | 1 | | | | | | | | | | | | | | | 1 |
| | 19 | 15 | 4 | 4 | 4 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 61 |

*Source: author's own analysis*

First, one can see that majority of authors writing about CEE counties are originally from outside of CEE – only 7% of authors have origin in CEE. We can see that UK and USA are in 1st and 2nd place, but other bigger EU countries such as Germany or France are very rare in this sample. This shows that the number of authors doesn't correlate with the population of the specific country. What makes UK and USA authors to research the CEE countries?

Second interesting fact is that Czech researchers in CEE area are more cooperating with UK colleagues, then with their own Czech colleagues. On the other hand, the sample taken for this research is small and here could be high potential to follow-up research focused on interesting points coming from this article, which will use bigger article sample.

## 3 Discussion and conclusion

It is not surprising, therefore, that several authors have reflected upon and have tried to summarize the research output in this field: In a very early attempt, Banai & Harry (2004) commented on a series of papers submitted to International Studies of Management & Organization. He concluded that US scholars were dominant in the field and that the penetration and settlement of foreign firms in CEE and the HRM methods used in those countries seemed to be the most attractive topics so far. Although acknowledging the difficulties for researchers to collect and analyze data he claimed for more extended co-operation between Western and local CEE scholars.

As a result, swe formulate some 3 areas of characteristic patterns and dynamics of this field. Through this we aim at contributing to a better understanding of the process of knowledge production in a highly complex field of research that has emerged during the past three decades in Czech Republic.

First area is the intention of foreign researchers exploring the management development and transformation in Czech Republic to use mostly interview method compared to the countries. As a second area to be explored more in detail is the preference of researcher by choosing of research topic. Are the most research topics HRM innovation and changes? On the other hand, the reason, why researchers don't focus on managers' values, innovation management or west-east joint-ventures, is not known. Third area of in-depth exploration could be the cooperation between authors from different countries, where scope of Czech Republic is mostly in charge of western authors from USA or UK. Moreover, the Czech authors are cooperating more with authors from other countries as with Czech authors.

Above mentioned areas can be a starting point for follow-up research, where the source of data will be more specified on the mentioned topics and the results will be precise enough in terms of conducting findings and interesting facts connected to management development in CEE countries in past 3 decades with regards to escalating globalization across the world.

## Acknowledgment

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# POLISH ELECTRICAL TRACTION POWER ENGINEERING IN THE CONTEXT OF THE COMMON EUROPEAN RAILWAY SYSTEM

Jerzy Wojciechowski[1,a,*], Zbigniew Olczykowski[1,b] and Zbigniew Łukasik[1,c]

[1]Kazimierz Pulaski University of Technology and Humanities in Radom,
Faculty of Transport and Electrical, Malczewskiego 29, 26-600Radom, Poland

[a]j.wojciechowski@uthrad.pl, [b]z.olczykowski@uthrad.pl, [c]z.lukasik@uthrad.pl

*Corresponding author

**Abstract.** The common rail transport market, with reference to Europe and Asia, is one of the most crucial globalization elements. Availability and attractiveness of the rail transport are features determining its high position among means of transport, concerning mainly long-distance, in particular international traffic. Creating a global rail transport system requires technical unification and standardization in particular countries. Railway in Poland constantly needs to care about its market position. It concerns also the accomplishment of long-term plans, including joining the common European and Asian rail transport system. It is a huge financial and technical challenge. Since the beginning of the economic transformation in 1989, the Polish railway has been working on its position on the market of cargo and passengers transport. Undoubtedly, today's Polish railway is very different from in the times of the political transformation. Changes concern not only a modernized rolling stock, but mostly technical and organizational transformation. However, on the brink of the Polish railway joining the high-speed transport system, one needs to ask about the preparation status of the country before entering the global, European railway transport system. The authors of this article conducted an analysis of the traction power supply system, which is the element of the country power system. The article draws the shape and character of the traction power business; presents used technical solutions; and determines their compatibility with the European system. Finally, it shows administrative changes and their influence on developing a common European transport system.

**Keywords:** rail transport market, power supply system, transport system.

**JEL Classification:** R41, R42, Q40

## 1. Introduction

The PKP Group was established in 2001 as a result of the restructuring of the Polskie Koleje Państwowe (Polish State Railways) state enterprise. The main purpose of these changes was to separate railway transport from the management of railway lines. Another important goal was establishing independent commercial entities which could render services not only on the railway market, but on the international market. The PKP Group comprises PKP S.A. (the parent company), and ten companies that provide services, among others, in the railway transport, energy and ICT markets (among others PKP Polskie Linie Kolejowe S.A. (PKP PLK), PKP CARGO, PKP Informatyka). PKP Energetyka also belonged to the PKP Group, but due to the fact it was sold (in 2015 for approx. 1,4 billion PLN) it became a private property with the biggest shareholder CVC Capital Partners (investment fund). Activities concerning technical structure (excluding the rolling stock) are led by: PKP PLK and PKP Energetyka. PKP PLK is the administrator of the railway infrastructure, including the railway lines networks. PKP Energetyka manages the railway electrical infrastructure.

The property of PKP PLK consists mainly of (PKP PLK S.A., 2016):

traction network devices:

- electrified railway lines - 11 826 km,
- traction network - 24 742 km,
- traction network disconnector - 19 908 pcs. (including controlled - 12 901 items);

electric heating of turnouts:

- installed capacity- 111,2 MW,
- single turnouts, including locking devices - 32 681 items,
- stations and posts equipped with electric heating of turnouts– 824 items;

points of external lighting:

- installed capacity of external lighting- 40,6 MW,
- installation points and internal lighting - 188 757 items,
- points of external lighting - 197 634 items;

MV distribution lines:

- non-traction lines (NTL) - 710 km.

PKP Energetyka owns 9 establishments through the country and is the only DNO with its distribution network within the entire country (approx. 70 % of the sold power goes to non-railway customers, it constitutes approx. 5% of the energy sales in the country). The main activity of PKP Energetyka is ensuring power supply deliveries for the Polish railway traction system. Fixed assets of PKP Energetyka (PKP Energetyka, 2014), (Szeląg, 2004) connected with the railway networks have been presented in the Tab.1.

*Table 1: Energetyka's fixed assets related to the national railway lines*

| Name | Unit | Property | Lease | Total |
|---|---|---|---|---|
| HV and MV power lines | km | 13653 | 480 | 14133 |
| LV power lines (excluding connections) | km | 5490 | 11 | 5501 |
| Power supply lines and return cables | km | 1180 | 57 | 1237 |
| HV and MV switching stations | items | 6482 | 288 | 6770 |
| HV/MV, MV/MV and MV/LV transformers | items | 8625 | 347 | 8972 |
| Rectifier sets | items | 984 | 41 | 1025 |

*Source: (PKP ENERGETYKA,2014)*

The presented above companies are responsible for the technical condition of the railway network infrastructure in Poland. The current condition and future operation of the Polish railway in the global, European transport system depend on them.

## 2. Technical infrastructure condition of the PKP

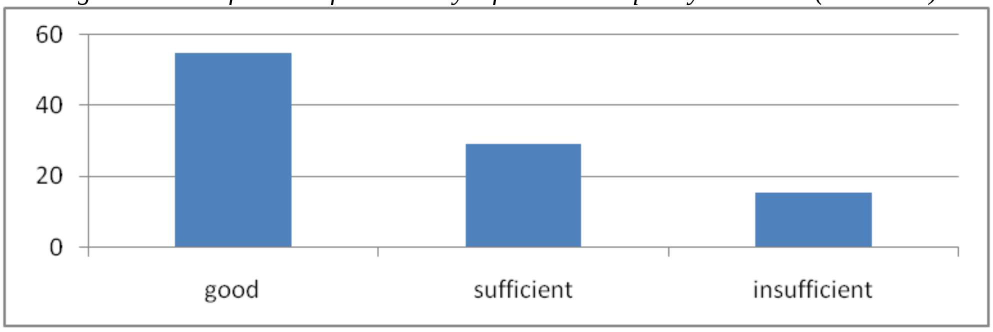
What proves railway transport modernity is, among others, its technical infrastructure condition (Olczykowski et al., 2017), (Yue et al., 2015), (Kim et al., 2015), (Fleming, 2015), (Lukasik et al., 2016), (Lukasik et al., 2017). It consists of the following factors: how old the used devices are, technical level of the solutions, the quality of materials, compatibility with other devices and systems. Where it comes to the Polish railway system, approx. 20% of the electrical devices has been operated for over 30 years (it concerns mostly the traction networks). Not only has the age of the devices influenced the infrastructure condition, but also the quality of their components and technologies of the performed works. In Poland, the biggest railway electrification development took place in the 70s and 80s of the previous century. At the moment, problems arise connected to the materials used in the past and because of the low quality of the devices. The speed of the performed works was not coherent with a high standard, mainly due to the lack of materials and equipment. In that times, the national electrical power engineering forced the change in the railway power supply system from 30kV to 15kV. It had an adverse impact on the electrical capacity of the whole power supply system and voltage stability in the traction network. Construction plans of new railway electrical devices intended the maximum speed in the range of 100-120 km/h. Because of that, existing in the 90s system required a new analysis and adaptation to the new requirements. This process was based on running repairs and maintenance for providing a proper technical condition and not allowing further degradation.

## 2.1 Railway and traction network technical condition

At the end of 2016 the length of railway tracks with a good technical assessment consisted 55,1% of the total length of tracks. It was 0,6% increase comparing to the state from the end of 2015. At the same time, the tracks' lengths graded insufficient consisted 15,6% with the decrease of 2,7% as compared to the end of 2015.

Fig. 1 presents a graphic classification of the railway infrastructure quality condition. Assessment criteria: good – lines operated with the laid down parameters, only maintenance required; sufficient – lines with lowered operating parameters, running repairs and maintenance required; insufficient – lines with significantly lowered operating parameters, railway tracks requiring changing the railway permanent way.

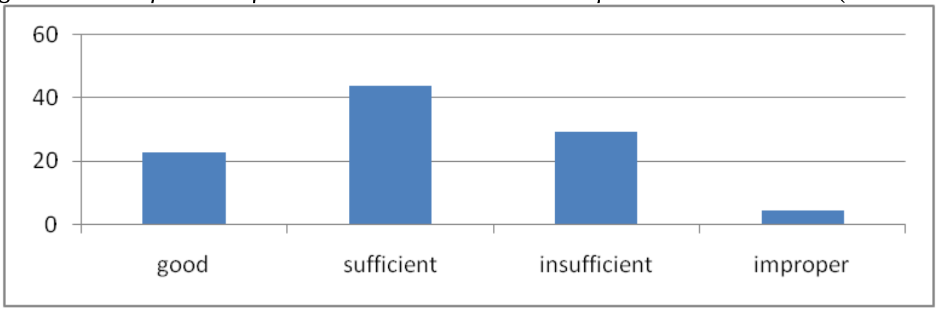
*Figure 1: Classification of the railway infrastructure quality condition (PKP PLK)*




*Source: (PKP PLK S.A., 2016)*

Fig. 2 presents a graphic classification of the condition of the traction network devices. Assessment criteria: good – devices after modernization, with the wear out level not exceeded, their technical condition allows further and safe operation; sufficient – devices requiring minor repairs, their technical condition allows further and safe operation; insufficient – devices requiring repair or modernization, the technical condition of the devices allows their further operation provided that there is an increased technical supervision; improper – devise that due to a poor technical condition should undergo a thorough modernization, can be used with an increased technical supervision.

*Figure 2: Classification of the traction network devices infrastructure condition (PKP PLK)*




*Source: (PKP PLK S.A., 2016)*

## 2.2 Technical condition assessment of traction substations and their power supply system

The Polish power system of the railway electrical traction, including rail traction vehicles, is a 3kV (3kV DC) voltage system. Systems of this type (present in e.g. Poland, Italy, Spain) are regarded as less developmental in comparison to the AC 15kV-16 2/3Hz (present in e.g. Germany, Sweden, Austria) and 25kV-50Hz (e.g. Slovakia, France, Russia) power systems. It results from the possibility to fulfil, by each system, two basic requirements. These requirements are: delivering vehicles with a suitable electric power, low voltage drops in the whole spectrum of the consumed current and little influence on the commercial power system (electrical energy quality parameters). (Szeląg, 2004), (Jefimowski, 2016), (Battistelli et al., 2004), (Mierzejewski et al., 2005), (Arboleya, 2018).

National 3kV DC traction networks are supplied through traction substations, which general construction structure is similar to the structure of electrical devices adapters. Traction substations are classified depending on the type of a rectifier set used in them (rectifier and transformer), there are 6-pulse rectifiers (PK 17/3,3) and 12-pulse ones (f.e. PD 17/3,3). Originally, the 6-pulse rectifier sets were installed, with time they have been replaced with more modern 12-pulse constructions. At the moment, in the Polish traction substation system the number of substations of both types is almost equal. There is ongoing work aimed at substituting 6-pulse sets substations with the 12-pulse sets. Another important issue connected with building the 3kV DC traction substations is the voltage value of their power supply. Primarily, 15kV AC voltage was used, but with the traction development it has become too low to fulfil the requirements (mentioned above) of a modern transport system. A solution is building and using substations with the so-called one-level 110kVAC/3kVDC voltage transformation (110kV power system).

The substations of this type are built on the most important national railway routes. The first substation was in Huta Zawadzka on the Central Railway Main Line (CMK). The next one was built in Barłogi on the CMK and E20 road junction. Other include: Mienia, Sabinka, Sosnowe and more. All modernizations of the rectifier sets required a total modernization of the traction substations and using modern devices and apparatuses (among others UPK CZAT, SAT CZAT, gamma filters).

*Table 2: Values of SAIDI, SAIFI and MAIFI power supply reliability indicators for the PKP Energetyka recipients*

| | | |
|---|---|---|
| SAIDI unplanned – system average unplanned interruption duration index for long interruptions | min. | 18,13 |
| SAIDI unplanned with catastrophic events –system average unplanned interruption duration index for long interruptions + catastrophic events | min. | 24,71 |
| SAIDI planned – system average planned interruption duration index for long interruptions | min. | 7,42 |
| SAIFI unplanned – system average unplanned interruption frequency index for long interruptions | pcs. | 0,09 |
| SAIFI unplanned with catastrophic events - system average unplanned interruption duration index for long interruptions + catastrophic events | pcs. | 0,10 |
| SAIFI planned - system average planned interruption duration index for long interruptions | pcs. | 0,06 |
| MAIFI - system average interruption frequency index for short interruptions | pcs. | 0,03 |

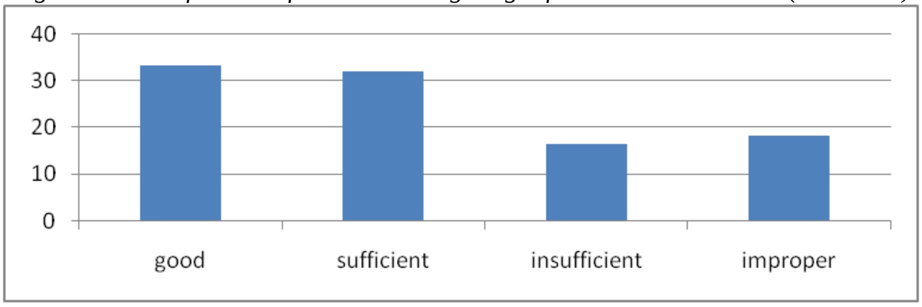
*Source: (PKP PLK S.A.)*

A big advantage of the 3kVDC subtraction power system is its reliability and operational continuity. These traits are visible in the SAIDI, SAIFI and MAIF indicators, delivered to individual recipients (Horak, 2006), (Fumagalli et al., 2009), (Popovic et al., 2017). They are supplied from a common centre with rectifiers (non-traction lines - NTL). A set of indicator values has been presented in the Tab.2.

## 2.3 Technical condition assessment of external lighting and electric heating turnouts devices

Fig.3 presents a graphic classification of the external lighting infrastructure condition. Used assessment criteria are analogical to the traction network assessment criteria (Fig.2).

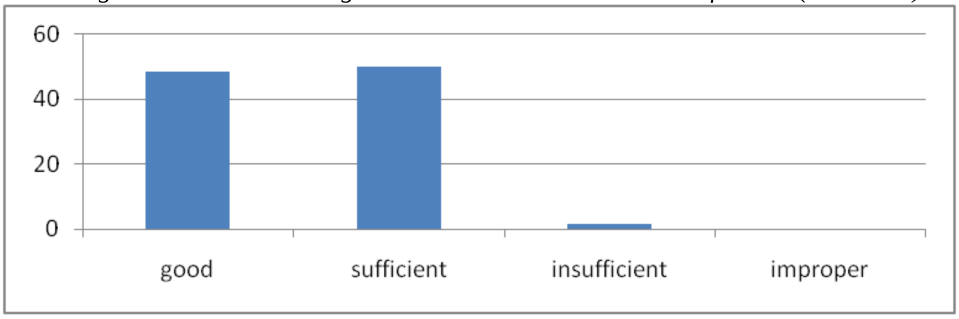
*Figure 3: Classification of the external lighting infrastructure condition (PKP PLK)*




*Source: (PKP PLK S.A., 2016)*

Fig. 4 presents a graphic classification of the electric heating turnouts infrastructure condition. Assessment criteria: good – devices fulfilling requirements: current operational time does not exceed 50% of the estimated life-time, technical and operational parameters coherent with adequate norms and requirements, do not need repairs; sufficient - devices fulfilling requirements: current operational time is between 50% -100% of the estimated life-time, technical and operational parameters coherent with adequate norms and requirements for these devices, need changes of worn-out elements as part of planned repairs or renovations; insufficient - devices fulfilling requirements: exceeded estimated life-time, technical condition allows a safe operation, need a thorough repair or modernization; improper - devices fulfilling requirements: because of their worn-out condition they do not have required technical and operational parameters, because of a high risk of failures and hazards the devices should be excluded from use.

*Figure 4: Electric heating turnouts devices condition classification (PKP PLK)*




*Source: (PKP PLK S.A., 2016)*

The external lighting quality problem is being systematically reduced by replacing existing lighting with LED lighting. This process is systematic and is financed not only by typical railway funds. Electric heating turnouts devices are crucial safety elements of the railway system operating in difficult weather conditions. As the Fig. 4 shows, the condition of the electric heating turnouts devices is highly assessed. In the country, a process of convincing policy makers to replace electric heating turnouts with electric heating turnouts based on the induction heating is starting.

## 3. Perspectives for financing and development of railway electrical power engineering

The most possible scenario for the national power engineering infrastructure development is the modernization of existing railway lines. Taking finances into account, the modernization may concern only the most important railway lines, included in the European transport corridors. These lines need to be modernized in order to allow them to work with speed: at least 160km/h where it comes to regular trains and at least 120 km/h for heavy haul trains. The only chance to fulfil these plans is by using EU funds (Crozet, 2014), (Banar & Ozdemir, 2015). Accomplishing the goal started with pre-accession funds, then it was continued with funds increasing transportation and environmental integrity of the EU regions. According to the PKP PLK reports, whole gathered EU funds were used for railway infrastructure investments. In 2015 300 km of railway lines adapted to 160 km/h were put in use, in some sections the trains could even go at 200 km/h.

The crucial aim of the projects is ensuring a full compatibility of the national railway transport with the European railway system. In the past and nowadays this goal is being accomplished with the financial support of the following EU programs:

Operational Programme Infrastructure and Environment- on the basis of this program railway infrastructure operation improvement is being planned, thanks to building new traffic routes and expansion or modernization of the existing connections (increasing competitiveness of the native economy, shortening the time of travelling by trains, improving access to the European transport network).

Cohesion Fund – thanks to this fund the railway lines as e.g. Wrocław—Poznań and Warszawa—Gdynia are being modernized; in 2020 modernization works on the line Wrocław—Poznań are supposed to end. All three lines belong to the key national connections.

TEN-T Fund – this program mostly finances preparing project documentation, getting permissions and finally, investment implementation. These funds reached Poland mainly in years 2004-2010 and consisted of 27 projects, including, among others, investments under CMK (Grodzisk Mazowiecki—Zawiercie), and also the line E20/CE (Kunowice—Warszawa).

Regional Development Operational Program – the aim of this program is, among others, working out advanced methodology and IT management system included in the heavy haul railway lines codification (e.g. intermodal transport and transporting parcels with exceeded loading gauge).

## 4. Conclusion

In Poland, there is a visible process of technical, organizational and law normalization of the railway market in comparison to the requirements of modern European transport. One can think that this process is stable, bringing Poland to the Western European standards. In more and more cases, led modernizations are of a thorough and system character, thanks to which their effects are well observed.

Technical infrastructure, despite its positive changes, is still a weak point of the Polish Railway. It goes without saying that its modernization needs to be a thorough process, including all elements of a complicated system, which is the railway transport system. The railway system needs to be interoperable, and its components need to be compatible. All these functions should be guaranteed by the infrastructure modernization, including the railway power infrastructure. As with every modernization, the first problem seems to be financing the venture. Dividing PKP into partnerships and selling PKP Energetyka were supposed to be the steps towards improving financial and organizational situation of the Polish Railway. Both processes stirred emotions in the Polish society, they had their followers and opponents. Acknowledging right to one of the parties will be difficult, but not impossible. The assessment criteria should be included in the answers to the following questions: Does Poland have a transport system comparable with modern European systems? How much did it cost? Was it possible to do it better and cheaper? In the meantime, there is ongoing railway system infrastructure modernization on the fundamental level. It should be emphasized that this process is taking place mostly due to European funds. The Polish Railway uses them effectively and completely. The ability to absorb EU funds is a sign that changes in the Railway are professional and should not be disturbed by political turbulence. System changes, tightly connected with each other, deprived of chaos and randomness, are often a self-conveying force that keeps the transformation process going and does not allow it to slow down.

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# CLUSTER APPROACH TO THE HEALTH SYSTEM IN RUSSIAN FEDERATION WITHIN THE CONTEXT OF GLOBALIZATION

Yakunina Regina Petrovna[1,a,*], Pshenichnyi Sergey Pavlovich[2,b], Ryzhova Asya Sergeevna[3,c] and Alekseeva Julia Petrovna[4,d]

[1] Kazan (Volga region) Federal University, Russia, 420008, Kazan, st. The Kremlin, 18

[2] Kazan (Volga region) Federal University, Russia, 420008, Kazan, st. The Kremlin, 18

[3] Kazan (Volga region) Federal University, Russia, 420008, Kazan, st. The Kremlin, 18

[4] Kazan (Volga region) Federal University, Russia, 420008, Kazan, st. The Kremlin, 18

[a]regina92homa@mail.ru, [b]sergey_pshenichnyi_kpfu@mail.ru, [c]a.s.ryzhova@yandex.ru, [d]stirisidium@gmail.com

* Corresponding author

**Abstract.** The study examines the influence of globalization on the health system. The efficiency of the health system within the context of globalization is evaluated based on the justified criteria. Cluster approach to the health system is presented in the article. The author of the article reviews theoretical aspects of the cluster and provides historical approach to the research. The list of competencies for the citizens´ healthcare is also provided. The health system is singled out in a separate institution consisting of basic elements. In the conditions of increasing decentralization of practical medicine management, it is necessary to apply the cluster approach to the problem. The study also examines healthcare coordination councils. "Reform package", models for the program and its aims also differ in different health systems. The main priority of the government is the effective utilization of modern science and technology, competitiveness and the partnership between governmental and private sectors. The examples of implementation of cluster approach on regional level are provided. Important factor is localization of major cluster participants, as well as transport and data infrastructures, which ensure the possibility of interaction between aforementioned participants. Moreover, the characteristics of development of the health system in Russian Federation are also examined with the use of cluster approach.

**Keywords:** healthcare, health system, globalization, cluster approach, public health.

**JEL Classification:** A1, B4, O1, I15

## 1. Introduction

Globalization is one of the most prominent features of the modern society; it is a complex, multifaceted and controversial historical and socio-economical process that affects all spheres of life, including healthcare system. Nowadays the restructuring of healthcare system takes place in many countries, therefore it is essential to evaluate the efficiency of the health system based on objective criteria within the context of globalization. The experience of health care management of developed countries where health system proved to be stable may be used to solve the challenge of creating the most effective healthcare; another useful approach suggests the realization of the experimental management models with the following analysis of respective results. (Cohen, 2016) The most important approaches to the management of health system should be set out in current advances within the context of progress, which is constantly changing due to globalization and the new level of world integrity. Globalization processes of health system are of dual nature. On the one hand, they provide new possibilities for the development of healthcare, such as scientific and technical cooperation, universal access to the healthcare in other countries. On the other hand, the health system of certain countries may be jeopardized because of different factors, e.g. “brain drain” from the health workers moving abroad; the potential danger of the global epidemics spread arises on the level of worldwide healthcare. (Starn, 2015)

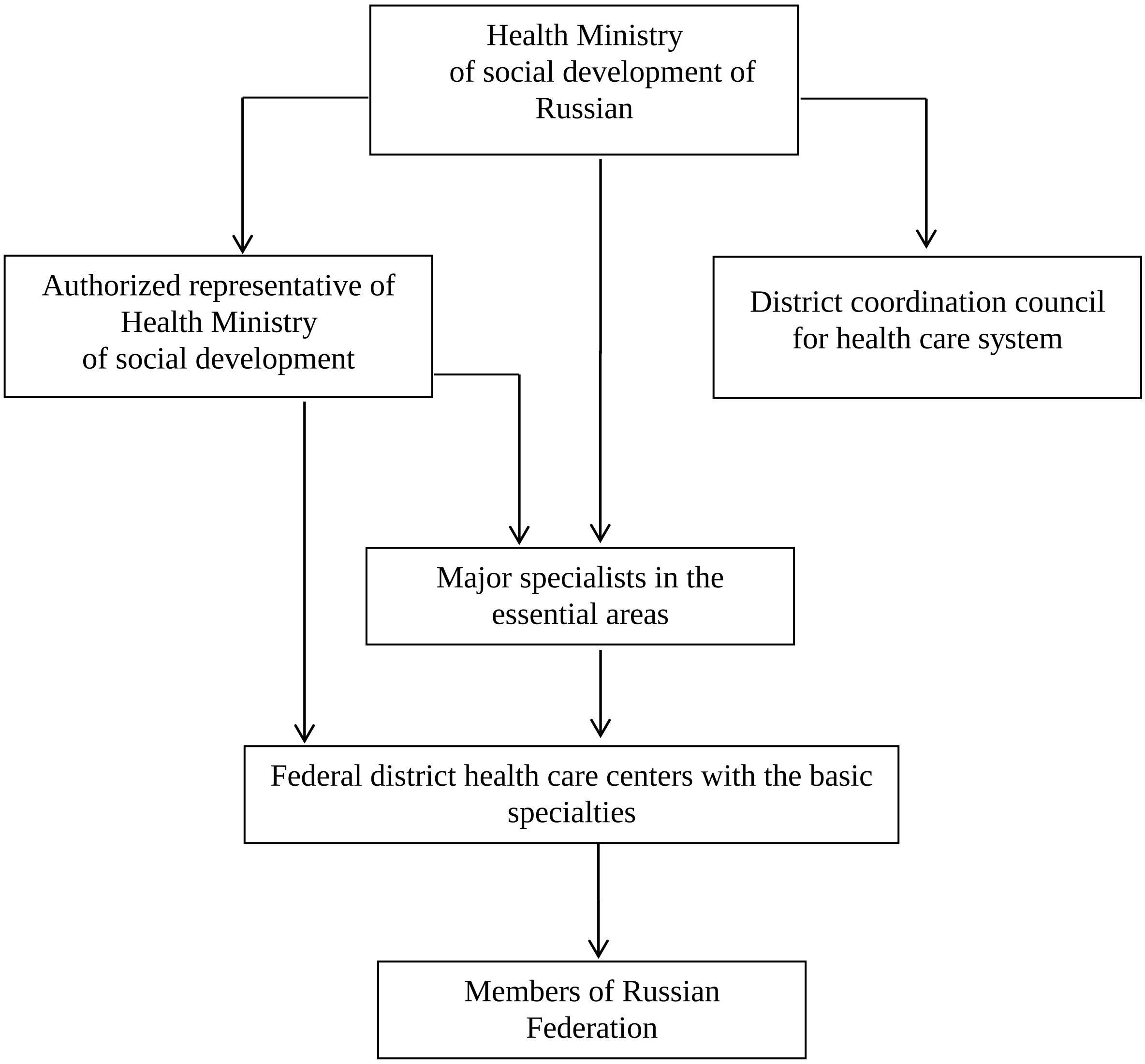
## 2. Methods

The management of health system in Russian Federation is carried out on two levels, the first one of is the state level, and the second is the level of the members of the Russian Federation. National health protection is one of the essential governmental functions. According to the Fundamentals of State legislation on health care there is the list of competencies for the citizen’s healthcare, some paragraph of which are examined in this study. The following subjects belong to the conduct of highest authorities of the national healthcare system (Hembruff, 2016):

- Establishment of the federal public policy framework in terms of national health care;
- Development and implementation of federal health development programs;
- Protection of human rights and freedoms in terms of national health care; protection of family, fatherhood, motherhood and childhood;
- Management of federal governmental property used in terms of national health care (Yagudin, 2016);
- Establishment of healthcare expenses in government budget;
- Environmental protection and ecological safety provision;
- Coordination of authorities’ and the members of governmental, municipal and private healthcare activity;
- Establishment of quality standards for health care and monitoring of their implementation;
- Development and realization of life-saving measures during emergencies;
- Adoption and changing of federal lows in terms of national health care and monitoring of their implementation.

It is necessary to recognize that healthcare is a complex institution. It consists of basic elements that are inherent in institutional structures, such as the main aim, number of functions, management system, etc. Moreover, health care and medical procedures provided in the health system have the established and not paid-for cost. The major task of the domestic health system management is the most efficient and rational usage of financial, material and other resources in competitive conditions. Healthcare coordination councils were established to improve the governability of health system in federal districts of Russian Federation (Chen et al., 1993). (fig. 1)

*Figure 1: Health system authorities and governance structures on the level of RF members*




*Source: Own elaboration*

The ministry coordinates and monitors the Federal Service for Supervision of Consumer Protection and Welfare, the Federal Service for the Supervision of Healthcare and Social Development, Federal Labor & Employment Service, Federal bio-medical agency, Federal Compulsory Medical Insurance Fund. (Leslie, 1988)

## 3. Results

With regard to the cluster approach, it should be mentioned that the economic theory provides a lot of definitions for the term “cluster” on which the cluster theory of economic development is based. Thus, the cluster approach to the economics is an interaction between several sectors. (Fakhrutdinova et al., 2015) Among them are local industrial specialization, spatial agglomeration economies, regional development and the position of strategical and venture management.

The term “cluster” is generally believed to be introduced to the economy by the Michael Porter. Cluster means a group of geographically interconnected companies (suppliers, producers) and organizations connected to them (educational facilities, local governments, infrastructure companies) (Kolesnikova et al., 2016). Together they act within a certain field and complement each other.

The economist Erik Damen also studied and used cluster approach to establish interrelations between Swedish major multicultural corporations. (Baulina, 2016) According to Damen, clusters form within “development boxes”, and the basis for the development of competitive success is determined by the link between the sector’s ability to evolve and to ensure progress in another one. The development should be phased based on the action vertical within one sector connected to other sectors as well; this will ensure the possibility of competitive advantage absorption. (Kiselkina & Pratchenko, 2016)

It is necessary to use the cluster approach to health system due to increasing decentralization of management of practical medicine, medical training and scientific research. The complex structure of the health system, which includes researchers, medical practice and medical education representatives, authorities and business, serves as a basis for its development as a cluster.

In the regions of Russian Federation if the high-tech health care center or medical institution are present, it is possible for a cluster to form within health system. (Correa & Vinuales, 2016) The cluster’s coverage may vary in range from one city or region to the whole country or even several neighboring countries.

## 4. Discussion

The experience of Tver oblast may serve as an example. In November 2015, the Ministry of Health of Tver oblast decided to develop cluster approach to the health system. (http://www.politforums.net/) This approach was adopted to improve quality of health care and health assessment, and to reduce mortality. Other reasons included increase in the birth rate, engagement of highly qualified medical personnel, the elimination of inequality in distribution of logistical resources in the most problematic areas such as underpopulated municipal entities.It was thought that this system would permit achievement of healthcare uniform quality standards. Moreover, it would concentrate the majority of health care and all necessary resources. The suggested system is especially important for the regional centers that will become first link curators.

The development of health system in regional centers will allow to reduce the time needed to deliver patient to medical institution and improve the quality of medical aid on the second level. The main task of clustering is to provide public field work in all specialized areas of healthcare; as a result, the narrowly specialized medical assistance would become accessible for rural populations. (https://www.rosminzdrav.ru/) To this end, a specific list of medical services and routing order between healthcare subjects of municipal entities would be established for every regional second-level health center.

Different stakeholders are drawn to the cluster initiatives by different stimuli and means. Their possibilities and roles may differ based on the national context and on the period in cluster’s life cycle. (http://www.who.int) E.g. increasing attention has been paid to the role of health facilities. The importance of health facilities lies not only in their direct mission in health care, medicine and research, but also in their ability to serve as a hub for interaction between enterprises and scientific and industrial organizations. The overall characteristics of Russian healthcare as an integral system suggest a unified government policy with due regard for regional peculiarities. This approach will ensure the most efficient utilization of healthcare resources, the citizens' constitutional rights to the protection of health, the improvement of national health.

## 5. Conclusion

Therefore, it is fair to say that the development of potential cluster requires the active involvement of governmental services and authorities concerned about the increase of territorial economic efficiency. In some cases, the efficient development of cluster requires little effort, while other cases require implementation of large-scale projects. Another important factor is localization of major cluster participants, as well as transport and data infrastructures, which ensure the possibility of interaction between aforementioned participants, such as cooperation, technological exchange, flow of ideas and trained personnel mobility. We believe that creation of clusters in health system holds great promise, since it contributes to the integration of authorities, business and science community, improves quality of health care. To date, it is a necessary condition to ensure the competitiveness of Russian health system.

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# GLOBALIZING SUSTAINABILITY AT BUSINESS SCHOOLS?

# LIMITS TO IMPLEMENTATION OF THE UN PRINCIPLES FOR RESPONSIBLE MANAGERIAL EDUCATION IN V4 COUNTRIES

Štěpánka Zemanová[1,a,*], Radka Druláková[2,b]

[1,2] Faculty of International Relations, University of Economics, Prague, nam. W. Churchilla 4, 13067 Prague 3, Czech Republic

[a]zemanova@vse.cz, [b]radka.drulakova@vse.cz

*Corresponding author

**Abstract.** In 2007, the representatives of sixty leading business schools and academic institutions, supported by the United Nations, established a worldwide platform to promote change towards a sustainable and inclusive global economy through higher managerial education. At present, with more than 650 participants, it has become the largest voluntary engagement initiative to disseminate core values of social responsibility through academic activity. Like most initiatives of this type, the platform draws on the voluntary commitment of the participating institutions to six UN Principles for Responsible Managerial Education (PRME), as well as their willingness to implement them within their educational programmes and communicate progress to stakeholders through the bi-annual Sharing Information on Progress (SIP) reports. This enables the recruitment of signatories all over the world. However, the participation is geographically uneven and there are huge differences in the intensity and outcomes of engagement between individual subscribing institutions. The paper explores the constraints to the implementation of PRME in the V4 region where the key values of business ethics and sustainability are not supported by a strong tradition. Firstly, it focuses on general participation numbers and patterns in V4 countries. Secondly, it provides a content analysis of SIPs submitted so far by academic institutions from the V4 to find out how deep the commitment is and to measure the progress achieved since their subscription to PRME.

**Keywords:** UN Principles of Responsible Managerial Education, sustainability, higher education, Visegrad Four countries.

**JEL Classification:** A13, A22, A23, I23, I25

## 1. Introduction

The mutual relationship of business and ethics has provoked the interest of scholars since the debate on corporate social responsibility started and the academic discipline of business ethics was established in the 1970s. In the last two decades, much has also been written about the global initiatives supporting responsible and sustainable entrepreneurship. The evolution and spread of some of them, such as the UN Global Compact and the Global Reporting Initiative, have been under intensive scrutiny (Williams, 2004; Brown et al., 2009). The same is also true for the geographical patterns of participation, practical use and impacts in real business life (Ayuso et al., 2016; Marimon et al., 2012).

Recently, the proclamation of the UN Decade of Education for Sustainable Development (2005–2014) as well as the establishment of PRME has drawn attention to the incorporation of crucial global values in the higher business education curricula (Zorio–Grima et al., 2018; del Mar Alonso-Almeida, 2015). However, despite the rapid growth in the number of universities and business schools subscribing to PRME, the research in its transformative power has only just begun. The earliest studies (Hillon, 2017; Goddeman et al., 2014; Gentile, 2017; Gamage & Scully, 2017) attempt to provide guidance on the implementation of the six PRME principles in managerial education either in general or, with the use of benchmark examples, in case studies dealing with successful implementation.

At the same time, these studies reveal that the desired paradigmatic shift towards a balance of economic and sustainability goals runs into many obstacles and has to overcome strategic, structural, as well as cultural barriers. As is typical of voluntary initiatives, the mere subscription to the PRME initiative does not mean its proper implementation within the entire teaching and learning process (cf. Solitander et al., 2012; Louw, 2015; Sethi et al., 2017). Moreover, not only are there business schools failing to embed the value-based issues automatically across the curricula and capitalise in full on the opportunities resulting from participation but there are even such business schools which do not meet the basic requirement of the initiative, which is the regular and timely[25] submission of the Sharing Information on Progress (SIP) reports.[26] This has led to the delisting of more than 150 signatories[27] for failure to comply with the mandatory reporting requirement so far and to some intentional withdrawals[28].[29]

However, despite growing scholarly interest in PRME, little is known about its relevance and impact in various regions. The following paper seeks to contribute to this debate with an analysis of adherence to PRME in the V4 countries. As there is a lack of previous studies in the implementation of PRME in the region, it firstly monitors the higher educational institutions that currently participate in the initiative. Secondly, it provides an analysis of the content of their SIP reports and examines to what extent they use the report as a real tool for self-improvement (UN PRME, 2018, D).

## 2. PRME in the V4 countries

Since its establishment in 2007, PRME has been aimed at the reshaping of managerial training and leadership development from value-neutral to value-driven, in order to extend the ability of the graduates to balance business and sustainability. Although its core values are defined very broadly as inclusiveness and sustainability in the global economy (Principle 1)

[25] I. e. at least once every two years.

[26] According to Fougére et al (2014: 185), more than 25 % of signatories fail to issue their SIPs within the given time frame.

[27] As of 5 June 2018, 168 institutions in total were delisted (UN PRME, 2018, A).

[28] Altogether 23 to the same date (UN PRME, 2018, A).

[29] For further details on delisting and withdrawals see, e.g., Hillon 2017.

and global social responsibility (Principle 2), respectively, they are closely linked to several more detailed global value-based initiatives, especially the Sustainable Development Goals (SDGs) and the UN Global Compact (UNGC).

The Six Principles include (1) to work for an inclusive and sustainable global economy, (2) to incorporate the values of global social responsibility, (3) to learn experiences for responsible leadership, (4) to conduct research that respects sustainable social, environmental and economic values, (5) to interact with managers of business corporations and be aware of their challenges in meeting social and environmental responsibilities, (6) to facilitate and support dialogue related to global social responsibility and sustainability.

The core of the initiative consists in the implementation of its Six Principles by the subscribers. This has been accomplished with the obligation to submit the SIP every second year and, since 2010, the sanction of delisting in the case when more than 12 months of non-communication has been applied.

An SIP must comprise the following parts:

- A letter that expresses the continued commitment of the institution to PRME signed by the top executive of the institution.
- A description of relevant activities in the last 24 months.
- A set of objectives for the next 24 months concerning implementation of the Six Principles.
- Since 2015, an assessment of outcomes has to be included as well (UN PRME, 2018 D).

With its 735 signatories worldwide (UN PRME, 2018, B),[30] PRME is currently the largest institutionalised cooperation programme between the UN and academia involved in managerial education. Through its Steering Committee it is also linked to the main business school accreditation bodies, e.g. AACSB, EFMD, AMBA, and regional associations, such as CEEMAN in Central and Eastern Europe.

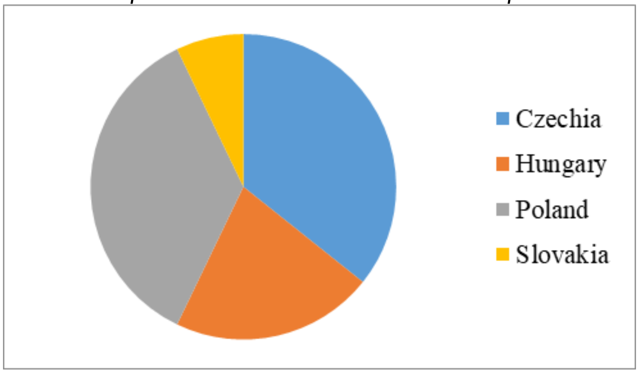
Typically for this type of international initiative, the geographical structure of the PRME membership is rather uneven (cf. Zemanová & Druláková, 2016). For example, there are currently 115 participants from the United States and 75 from Great Britain, compared to 19 from China and 8 from Russia (UN PRME, 2018, B).

As apparent from Figure 1, the V4 countries are among those with low participation. In total, they are represented by 14 institutions at the moment; including two listed as non-communicating. Some academic institutions from the region, such as Škoda Auto University (Czech Republic) or Gdansk Foundation for Management Development, participated temporarily and have been delisted for failure to meet the reporting requirement.[31]

[30] The data is valid to 1. 9. 2018.

[31] As the data available for these institutions are incomplete in the PRME databases after delisting, they are not included in Figures 1 and 2.

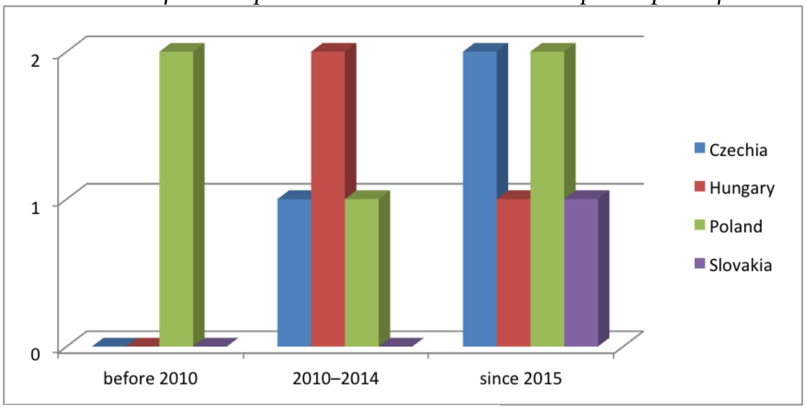
*Figure 1: Numbers of current subscribers to UN PRME from the V4 countries*




*Source: UN PRME (2018, B). Participants Database. [Online]. Available: http://www.unprme.org/*

Figure 2 reveals a slightly rising trend in the interest in the initiative among academic institutions from the V4 countries. Until 2010, only two Polish business schools subscribed to the Six Principles. The first one in the region was the private Kozminski University in Poland in April 2008, followed by the public University of Warsaw almost a year later. In the period of 2010–2014, four more of the current participants joined, whereas since 2015 eight more followed. The only representative of Slovakia in the set, the University of Economics, Bratislava, first joined only in April 2018

*Figure 2: Time distribution of subscriptions to UN PRME – current participants from the V4 Countries*




*Source: UN PRME (2018, B). Available: http://www.unprme.org/*

In terms of ownership, there are more public than private universities involved in the PRME platform from the V4 region. The only exception is Czechia, where four out of five current participants recruit from the private sector. Furthermore, the basic subscription is preferred over the advanced one, which is connected with an Annual Service Fee but offers additional benefits and engagement opportunities (Table 1).

*Table 1: Current participants to UN PRME from the V4 countries*

| **Country** | **Participant** | **Public/ Private** | **Since** | **Current category** |
|---|---|---|---|---|
| Czechia | Business Institut EDU a.s. | Private | 2018 | Basic |
| | Cambridge Business School s.r.o. | Private | 2012 | Basic |
| | European School of Business and Management SE | Private | 2016 | Advanced |
| | Karlinska Business Academy and College of Higher Education | Private | 2015 | Non-communicating |
| | University of Economics, Prague | Public | 2015 | Basic |
| Hungary | Budapest Business School - University of Applied Sciences | Public | 2017 | Advanced |

| | | | | |
|---|---|---|---|---|
| | CEU Business School | Private | 2013 | Non-communicating |
| | Corvinus Business School at the Corvinus University of Budapest | Public | 2010 | Advanced |
| Poland | Kozminski University | Private | 2008 | Basic |
| | Poznan University of Economics and Business | Public | 2012 | Advanced |
| | University of Warsaw | Public | 2015 | Advanced |
| | Warsaw School of Economics | Public | 2009 | Basic |
| | Warsaw University of Technology Business School | Private | 2017 | Basic |
| Slovakia | University of Economics in Bratislava | Public | 2018 | Basic |

*Source: Based on data from UN PRME (2018, C). Available: http://www.unprme.org/*

## 3. Implementation in V4 according to SIPs and its constraints

Given by the time distribution of the subscriptions (Figure 2) and the bi-annual system of reporting, there are currently 25 reports from the V4 institutions recorded in the SIP database. The newly coming institutions, such as Business Institut EDU, a.s., University of Economics in Bratislava and Budapest Business School, are expected to prepare their first reports in the up-coming period. On the other hand, 3 reports were submitted by the International Business School Budapest, which is no longer a PRME participant. With a few exceptions, it is standard in the V4 region for the reports to be prepared in English.

In terms of content, the reports seem to be used rather for the presentation of the schools and their CSR activities than as a tool of self-improvement by setting and assessing goals related to the Six Principles. Table 2 summarises the outcomes of a simple analysis of the structure of the reports. It examines whether the SIPs include the required parts (letter, description, objectives and, since 2015, assessment). This is classified (1/0) with the use of two criteria: (1) there is a part with the relevant title in the document; (2) the content of the part is related to PRME with at least one mention.

Clearly, most institutions fail to follow the required structure. Only 5 reports (i.e. 20%) are complete. The usual mistake is the omission of a set of objectives for the up-coming period of the implementation of the Six Principles and, consequently, the assessment of the fulfilment of the objectives from the previous 24 months. In some cases (Cambridge Business School, University of Economics, Prague) the neglect goes even further and even the letter of continued commitment is missing.

The core of the reports is usually the description of the relevant activities in the past period but there are substantial differences both in length and quality. The reporting standard appears to be slightly higher in Poland, which corresponds with its position as pioneer in the implementation of the global ethical initiatives in the V4 region (cf. Zemanová & Druláková, 2016) and might also correlate with their longer ties to PRME. However, in terms of the structure of the SIP reports, even the most outstanding Polish examples (University of Poznan, Warsaw School of Business) do not indicate that their longer participation results in improved reporting standards.

Surprisingly, some institutions (Czech schools, CEU Business School) provide information about their teaching, research and other activities in the fields of Ethics, Responsibility and Sustainability or Corporate Social Responsibility without linking them to the Six Principles at all (at least verbally). One might hypothesize that they use parts of reports prepared for different purposes. This is absolutely clear with the Cambridge Business School and the European School of Business and Management, who submit their annual reports instead of submitting SIP reports. Moreover, it is usual that the institutions include additional information about themselves and sometimes even a list of their study programmes. Last but not least, some reports are designed as a mere upgrade of the previous ones.

*Table 2: Structure analysis of the SIP reports from the V4 Countries[32]*

| Country | Participant | Year | Language | Letter | Description | Goals | Assesment | Result |
|---|---|---|---|---|---|---|---|---|
| Czechia | Cambridge Business School s.r.o. | 2015 | Czech | 0 | 0 | 0 | 0 | Incomplete |
| | | 2017 | Czech | 0 | 0 | 0 | 0 | Incomplete |
| | European School of Business and Management SE | 2018 | | 1 | 0 | 0 | 0 | Incomplete |
| | University of Economics, Prague | 2015 | English | 0 | 0 | 0 | – | Incomplete |
| | | 2017 | English | 0 | 0 | 0 | 0 | Incomplete |
| | | 2018 | English | 0 | 0 | 0 | 0 | Incomplete |
| Hungary | International Business School Budapest (delisted) | 2010 | English | 1 | 1 | 0 | – | Incomplete |
| | | 2012 | English | 1 | 1 | 0 | – | Incomplete |
| | | 2014 | English | 1 | 1 | 0 | – | Incomplete |
| | CEU Business School | 2015 | English | 1 | 0 | 0 | 0 | Incomplete |
| | Corvinus Business School at the Corvinus University of Budapest | 2012 | English | 1 | 1 | 1 | – | Complete |
| | | 2015 | English | 1 | 0 | 0 | 0 | Incomplete |
| | | 2016 | English | 1 | 1 | 0 | 0 | Incomplete |
| Poland | Kozminski University | 2011 | English | 1 | 1 | 0 | – | Incomplete |
| | | 2013 | English | 1 | 1 | 0 | – | Incomplete |
| | | 2015 | English | 1 | 1 | 0 | – | Incomplete |
| | | 2018 | English | 1 | 1 | 1 | 0 | Incomplete |
| | Poznan University of Economics and Business | 2014 | English | 1 | 1 | 1 | – | Complete |
| | | 2016 | English | 1 | 1 | 1 | 1 | Complete |
| | | 2018 | English | 1 | 1 | 1 | 0 | Incomplete |
| | University of Warsaw | 2018 | English | 1 | 1 | 1 | 0 | Incomplete |
| | Warsaw School of Economics | 2010 | English | 1 | 1 | 1 | – | Complete |
| | | 2012 | English | 1 | 1 | 1 | 1 | Complete |
| | | 2014 | English | 1 | 1 | 0 | – | Incomplete |
| | | 2016 | English | 1 | 1 | 1 | 0 | Incomplete |

*Source: Based on data from UN PRME (2018, C). Participant Reports database. [Online]. Available: http://www.unprme.org/rep*

## 4. Conclusion

To sum up, the commitment to PRME and its Six Principles in the V4 countries is limited to a small group of higher education bodies and, at the same time, is rather uneven among

[32] 1: both clasification criteria fulfilled, 0: at least one criterion not fulfilled, –: criterion not relevant for the given year.

them. The most remarkable and most frequent shortcoming of the SIPs submitted from the V4 region is the failure to set goals and evaluate their fulfilment. There are institutions in the region that take their involvement seriously but still fail to meet the required reporting standards. This does not mean automatically that they would not use PRME for the improvement of managerial education towards ethics and sustainability but might indicate some unexploited potential. At the same time, several examples of malpractice can be found among the subscribers from the V4 region. They not only include the failure to fulfil the commitment of bi-annual reporting per se, which is penalised by delisting after one year of non-communicating, but also submissions of incomplete materials and materials prepared for another purpose, which are quite common. Logically, this raises the question of what the real motives are for subscriptions to PRME and whether some institutions try to use it instrumentally for another purpose rather than for the improvement of their curricula, e.g. prestige or PR. Due to its constrained scope, the analysis provided in this paper was too limited to answer these questions. However, it has clearly shown that a deeper study in the region could contribute to the better understanding of opportunities resulting from PRME and the constraints to their full utilisation. Further research into the incentives for joining, the internal processes of implementation as well as social learning based on the participation in the initiative would help understand to what extent the Six Principles contribute to making sustainable managerial education and leadership development really global. Useful conclusions could be drawn not only from the examples of good practice but also from those higher educational institutions that seem to be almost cheating.

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