

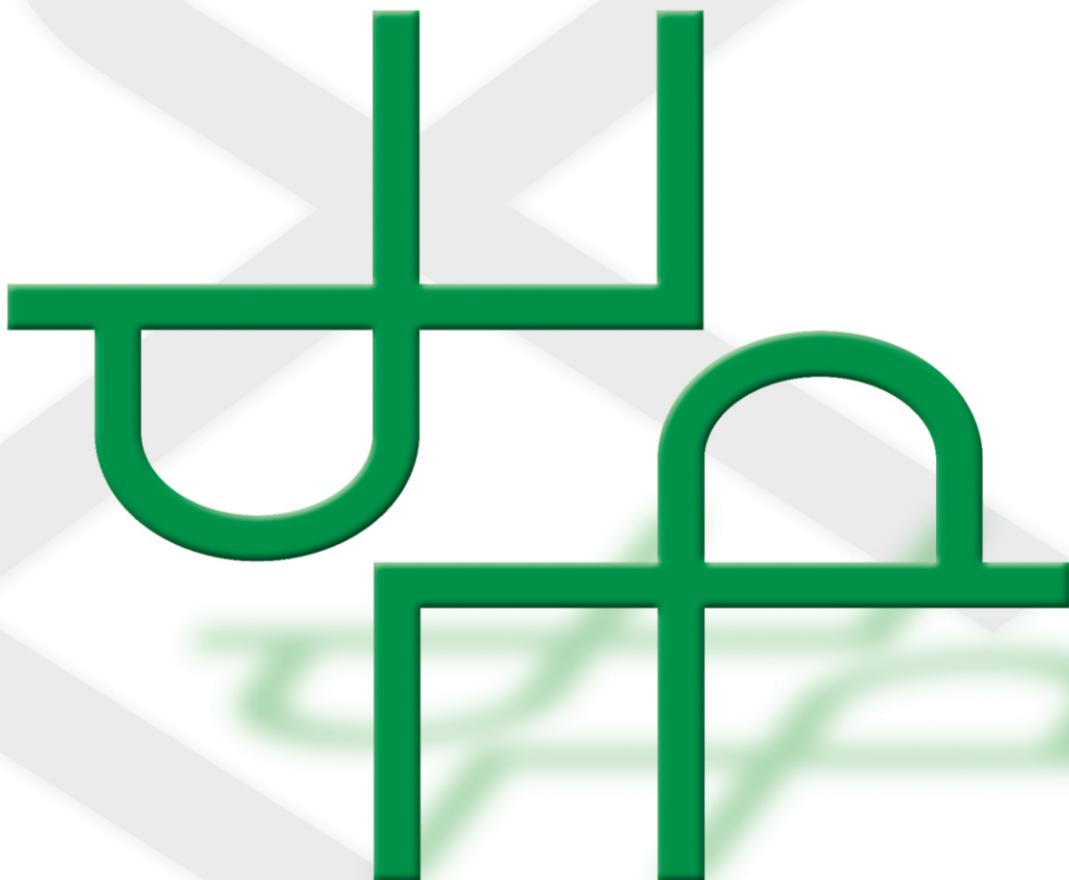
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FACTORS THAT INFLUENCE CULTURAL TOURISTS TO USE E-WOM BEFORE VISITING MONTENEGRO

Abstract

Aiming to expend the existing knowledge regarding behavioural patterns of cultural tourists who are visiting Montenegro, the purpose of this research is to identify the main reasons that motivate cultural tourists to use e-WOM as a source of information about this destination. To fulfil this task a structured questionnaire was designed and a field research was carried out during 2019 among 376 cultural tourists who used e-WOM to gain more information about Montenegro. Twenty-seven indicators were identified and grouped in three groups of influence which were examined using one-way analysis of variance and independent sample T-test. Besides the respondents' personal attitude, the research shows that certain demographic characteristics and the respondents' country of origin influenced their propensity in using e-WOM prior to visiting this destination. By identifying concrete reasons why cultural tourists use eWOM, this study offers insights that can be useful in designing future destination marketing strategies.

Key words: *cultural tourists, e-WOM, main reasons, cultural tourism, destination, marketing*

JEL classification: *L82, M31, Z32*

ФАКТОРИ КОЈИ УТИЧУ НА ТУРИСТЕ КУЛТУРНОГ ТУРИЗМА ДА КОРИСТЕ ЕЛЕКТРОНСКУ ПРЕПОРУКУ ПРИЈЕ ПОСЈЕТЕ ЦРНЕ ГОРЕ

Абстракт

Тежећи проширењу постојећег знања о обрасцима понашања туриста културног туризма који посјећују Црну Гору сврха истраживања је утврђивање главних разлога који мотивишу туристе културног туризма да користе електронску препоруку као извор информисања о овој дестинацији. Да би се испунио овај задатак током 2019. године дизајниран је структурирани упитник и спроведено теренско истраживање на узорку од 376 туриста културног туризма који су користили електронске препоруке како би дошли до више информација

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о Црној Гори. Утврђено је двадесет и седам индикатора који су груписани у три групе фактора од утицаја и потом истражени путем једносмјерне анализе варијансе и Т-теста независних узорака. Поред личног става испитаника резултати показују да су одређене демографске карактеристике као и земља поријекла испитаника играла значајну улогу по питању њихове склоности ка коришћењу електронске препоруке прије саме посјете дестинације. Утврђивањем конкретних разлога ради којих туристи културног туризма користе електронску препоруку истраживање пружа сазнања која могу бити корисна током обликовања будућих маркетиншких стратегија дестинације.

Кључне ријечи: *туристи културног туризма, eWOM, главни разлози, културни туризам, маркетинг, дестинација*

Introduction

Internet and digital media, as modern sources of information, have an inevitable impact on our daily lives and behaviour. They constantly change the methods of obtaining information making it easier for us to make our decisions, which reflects itself on the travel industry as well. While forming the first impression of a destination, tourists increasingly rely on data obtained independently using devices that support an internet connection (European Travel Commission, 2019). While researching different characteristics and tourism offers of several destinations, one can notice a growing number of websites that provide ratings, tips, opinions, detailed descriptions and different posted experiences shared by experienced tourists or people who have already had the opportunity to visit and stay for a certain period of time in the given destinations. These tips, experiences, elaborated attitudes, visual contents like videos or images and similar pieces of information are integral parts of the electronic word of mouth promotion, whose essence to facilitate the process of making the right travel decision is very similar to the essence of the classic word of mouth promotion. Word of mouth marketing is one of the oldest ways of transmitting information (Dellarocas, 2003) and can be explained as interpersonal communication between customers about a product, service or company where the source of information is considered independent in terms of commercial impact (Litvin, Goldsmith & Pan, 2008). Traditionally, direct sharing of personal experience with another person is considered to be one of the most significant factors influencing the future behaviour of a potential customer (Daugherty & Hoffman, 2014). Due to the widespread of the internet and the digital transformation affecting peoples' lives, digital platforms caused the emergence of a new version of word-of-mouth marketing, the electronic word of mouth or eWOM, which enables instant sharing of information (social media, review websites, blogs, etc.) and exchange of advice and experiences just online instead of in person, being the main difference between interpersonal and electronic word of mouth promotion (Cheung & Thadani, 2012). In essence, digital word of mouth marketing is a positive or negative statement about a product, company or media personality (in this case a cultural tourism destination) by a potential, current or former customer/user of the service (in this case a cultural tourist who has gained personal experience while staying in a given destination) which is widely available to all interested parties online (Thorson & Rogers, 2006). Since all information is available online, it is easily disseminated and reaches a large number of potential tourists. Therefore, marketers

and managers have to know everything about modern technologies and options they carry, especially when it comes to social networks that nowadays make a huge part of consumers' life and serve as information systems for the customers (Becic, Stojanovic & Nikolic, 2018). Interactivity, fastness and a high level of availability of this way of transmitting information ensures easy exchange of travel experiences and reduces the subjectively perceived level of uncertainty and risk while choosing a destination that could meet the needs of a given person or group of people who have the desire and means to travel. Fast and wide spreading of electronic word of mouth or eWOM is supported by the role that is attributed to the Internet, as well as the frequency and level of use of technological inventions in terms of modern communication. The presence of technology in our lives is illustrated by the following data: 58% of the global population uses internet every day; more than one billion people on the planet use Facebook every day; over 100 million people use Instagram every month; and 330 million use Twitter to promote numerous interesting contents (www.statista.com). Trip Advisor has an average of 390 million visits, 435 million shared experiences about restaurants, accommodation units, attractions and services, and counts over 280 experiences, testimonials and impressions shared via this communication platform every minute (www.tripadvisor.com). This data illustrates the extent to which the internet and digital marketing have changed our habits, and thus our lifestyle, as well as how willing experienced tourists are to share their experiences with others. Therefore, we can conclude that Kotler's statement that the decision-making process is no longer a process that implies independence and isolation (Kotler, 2003) also describes the current market situation very well.

Given that eWOM has a considerable role in influencing and forming attitudes and behavioural intentions (Amalia, 2018), and yet it is insufficiently researched in cultural tourism, the purpose of this research is to identify the main reasons that influence cultural tourists to use e-WOM as a source of information about Montenegro. Understanding this basic question means understanding the initial driving force that attracts cultural tourists to choose this means of information, taking into account that they have an abundance of alternative ways of gaining information about a destination (e.g., catalogues, video contents, tour operator materials, etc.) at their disposal. This moment makes this basic question, that might seem simple at first glance, but whose concrete answer is not so easy to find, so essential in order to gain new insights and better understand how cultural tourists think and what makes them use eWOM prior to visiting Montenegro. Due to a modest amount of research on this concrete topic, about this concrete tourism segment and from this desired perspective a small-scale pilot field research and in-depth interviews were needed and therefore conducted during the same year, in 2019, prior to designing a structured questionnaire which made it possible to identify 27 indicators or potential reasons why cultural tourists used eWOM as a source of informing about Montenegro, which were later included in the main research. The aim of the study is to identify the main factors that influence cultural tourists to use eWOM prior to visiting Montenegro, resulting in better understanding of behavioural patterns of cultural tourists linked to the phase of gathering information about this destination. In line with the purpose and aim of this paper, the following hypotheses were constructed:

- H0: eWOM makes it easier for cultural tourists to choose a destination;
- H1: eWOM inspires cultural tourists which attractions and activities to include;
- H2: The less well-known a destination the more cultural tourists turn to eWOM;
- H3: eWOM lowers the level of uncertainty as to what to expect from a destination.

Literature review

Advances in technology, internet and social media are changing the way information and tourism experiences are transmitted (Munar & Jacobsen, 2014). Technological advancements have upgraded the concept of the recommendation itself and translated it into a digital form that is able to reach a wide audience in a short period of time (Abubakar & Ilkan, 2013). The digital world allowing customers easy access to all possible information and their sharing with a large number of people gave the term recommendation a new dimension and caused the emergence of a new term which was digital/electronic word of mouth recommendation that was much more accessible and widespread, compared to the classic word of mouth recommendation (Akyuz, 2013). In addition, the digital world made an individual more accessible since by creating digital content it became possible to interact with individuals without interrupting their usual media interaction (Vidakovic, Vidakovic, 2017). Nowadays, social media and digital communication platforms for sharing knowledge, expressing emotions and conveying experiences are used much more frequently and reach many more people than ever before (Jacobsen & Munar, 2012), which is evident in tourism as well since it is one of the most popular ways for tourists to get the necessary information about tourist destinations (Ladhari & Michaud, 2015). eWOM provides abundant information support assisting tourists' in making their decisions (Jacobsen & Munar, 2012), affecting tourists' travel intentions (Doosti et al., 2016), destination selection (Jalilvand & Samiei, 2012) and destination impression (Abubakar, 2016) emphasising even more the importance of timely monitoring of tourism trends. Understanding behavioural patterns is a complex task, yet a crucial one, since understanding the behaviour of tourists helps actors in the tourism sector shape their products and services, enhance their strategies, and ensures the satisfaction of their customers (Senic, Milojevic, 2017). Due to its widespread and impact on a global level, the power of digital referral keeps on being an interesting inspiration to research from several different aspects: credibility, effect, level of interpersonal impact, etc. (Park et al., 2011). Some of the most common perspectives are linked to analysing the impact of eWOM on tourists' attitudes and intentions to visit a destination (Ladhari & Michaud, 2015; Amalia et al., 2018), tourists' motives for engaging in eWOM (Bronner & Hoog, 2011; Akyuz, 2013; Khan & Khan, 2016), the impact of eWOM on tourists' destination choice (Jacobsen & Munar, 2012; Jalilvand & Samiei, 2012), motivations for sharing tourism experiences via eWOM (Munar & Jacobsen, 2014) and factors influencing eWOM effects (Park, Yao & Kang, 2011). If we take into account all of the above, we can better understand why the electronic word of mouth, or eWOM, keeps on inspiring many marketers and researches to keep on exploring it from several different perspectives. Research shows that electronic or digital recommendation is constantly growing in popularity since it can offer significant pieces of information and needed support to tourists while they are making decisions, as well as influence destination promotion (Jacobsen & Munar, 2012). Khan and Khan (2016) pointed out that “tourists seek eWOM for convenience and ease of accessing information” (p.33) linked to experiences of others who had already had the chance to visit a certain destination. It can increase the desire to travel, influence the choice of the destination itself and the impression that will be spread about it (Jalilvand & Samiei, 2012) placing the analysing of digital content at the heart of digital marketing, making it a trend which doesn't seem to be revising any time soon since it keeps on influencing consumer purchasing decisions (Efomi, 2019). The importance of this type of marketing is supported by the fact that people influence others in the role of a free

marketer who is much more convincing than any advertisement or seller (Kotler, 2003). Its accessibility encourages travellers to rely on the opinion of others influencing many travel-related decisions to be made online, since travellers are relying heavily on social networks to gain relevant, complete and timely information (Khan & Khan, 2016), supported also by the presence of keenness to be able to compare evaluations of others and form their own judgement (Bronner & Hoog, 2011; Kim, Mattila & Baloglu, 2011). Although tourism motivation has been widely investigated by scholars, yet there are only a few studies on tourists' eWOM motivations (Wu & Pearce, 2016; Noh, Lee & Hwang, 2017; Zhou et al., 2019) making the topic of researching concrete reasons for using eWOM in tourism still a current topic, especially when it comes to analysing selective forms of tourism and behaviour of tourism segments of special interest tourism.

Research Design and Methodology

Quantitative research was conducted on a sample of 376 respondents. Data were collected in April-June and September-November 2019 in the territory of Montenegro. This study covered the coastal (75% of valid questionnaires) and central region of the country (25% of valid questionnaires). Taking into account that the target group were cultural tourists, in order to provide an adequate sample of respondents, data were collected at highly attractive sites for cultural tourists (Table 1). The survey was conducted during the pre- and post-tourism season, since that is the period during the year when a significant concentration of visitors highly interested in cultural attractions visit Montenegro. The sample included foreign visitors who stated that one of the motives of their trip was linked to at least one element of the cultural tourism offer of Montenegro, who used the Internet while researching potential travel destinations, who used digital communication platforms that allowed sharing and exchanging destination experiences and who spent minimum two nights in Montenegro. The diversity of the analysed sample in terms of country of origin and mentality was taken into account to ensure the representativeness of the analysed sample of respondents and gain better insight into the behaviour patterns and reasons for using eWOM as a source of information by tourists coming from different parts of the world. In order to collect the necessary data, as well as to ensure the anonymity of the respondents, a structured questionnaire was designed. The interviewer kindly explained the research purpose and future use of gathered data to all potential respondents before they made their decision to participate in the study. 450 questionnaires were distributed, while the total number of valid questionnaires was 376. Accordingly, a response rate of 83.5% was achieved, which is considered very satisfactory for the needs of this research. Data were collected using a specially designed questionnaire compiled in English and German that consisted of concise close-ended questions, lists of statements and a few open-ended questions. Each statement in the questionnaire was accompanied by a five-point Likert scale which expressed the degree of agreement or disagreement with a particular statement (5 - highest value, 1 - lowest value), which was used as a base to calculate average scores for each individual statement, as well as the total score based on average rating, which allowed better insight into the attitudes and preferences of cultural tourists linked to eWOM. The collected data were analysed using IBM SPSS Statistics 23. After creating a database, the data were statistically processed using descriptive statistics, Pearson correlation (r), exploratory factor analysis, independent sample

T-test and one-way analysis of variance (ANOVA) as analysis tools in order to analyse various variables and relationships between them. Statistical methods provided a better insight into the profile of cultural tourists, most popular motives to use eWOM, impact of all three factor groups on the respondents' behaviour and insight into propensity in using eWOM in respect to the respondent's gender, age, educational level and region of origin.

Research Results and Discussion

In order to analyse the results and identify motivational factors that influence cultural tourists the most to turn to eWOM as a source of information prior to visiting Montenegro as their next holiday destination, besides taking into account the results of descriptive statistics, exploratory factor analysis, independent sample T-test and one-way analysis of variance (ANOVA) were used as analysis tools. The results are presented below.

Table 1: List of sites where data were collected April-June & September-November 2019 (n=376)

Region	Location	Type of attraction	Number of respondents	%
Coastal region	Herceg Novi	Old town	46	12.2
	Perast	Old town	67	17.8
	Kotor	Old town	82	21.8
	Budva	Old town	53	14.0
	Bar	Old town	34	9.0
Central region	Cetinje	Old historic urban centre	52	13.8
	Njegusi	Old historic village	28	7.4
	Virpazar	Traditional fishermen village	14	3.7
Total:			376	100
Total - Coastal region:			282	75
Total - Central region:			94	25

Source: Authors' research

Table 2: Demographic profile of the respondents (n=376)

Variables	Description	Frequency	Valid Percent (%)	Cumulative Percent (%)
Gender	Male	169	44.9	44.9
	Female	207	55.1	100.0
Age	25 – 38	107	28.5	28.5
	39 – 51	142	37.8	66.2
	52+	127	33.8	100.0
Educational Level	High School	3	0.8	0.8
	College	44	11.7	12.5
	University	257	68.4	80.9
	Masters	62	16.5	97.3
	PhD	10	2.7	100.0

Monthly Net Income (€)	< 1,500	75	20.2	20.2
	1,500 – 2,500	142	37.5	57.7
	2,501 – 3,500	124	33.0	90.7
	> 3,501	35	9.3	100.0
Region of Origin	Central Europe	100	26.6	26.6
	Northern Europe	118	31.4	32.5
	Western Europe	44	11.7	44.1
	Eastern Europe	3	0.8	53.7
	Southern Europe	9	2.4	85.1
	North America	44	11.7	96.8
	Asia	40	10.6	97.6
	Other	18	4.8	100.0

Source: Authors' research

Table 2 shows the output of descriptive statistics linked to the demographic profile of the analysed sample of cultural tourists who spent minimum two nights in Montenegro and used eWOM as a source of information before they made their final decision to visit that destination. Descriptive statistics shows that out of 376 respondents who participated in this study, there were 10.2% more female than male respondents. Most respondents were 39-51 years old (37.8%), had a university degree (60.4%) and a monthly net income of €1,500-2,500 (37.5%). The highest percentage of the respondents (72.9%) came from Europe. Further analysis using descriptive statistics showed that most participants originated from Northern European countries (31.4%) and Central European countries (26.6%). In addition, the highest percentage (85.1%) of visitors came for the first time and on average they had compared 3 destinations using eWOM before they made their final choice.

Table 3: Top 10 reasons for using eWOM as a source of information about Montenegro

Indicator	Mean	SD	Rank
Travel reviews, recommendations and posted experiences gave me ideas which cultural attractions, activities or experiences to include during my stay	4.18	0.81	1
Reviews and shared experiences with visual contents like pictures or videos, helped me make my travel decision	4.14	0.93	2
Since nobody in my family/circle of friends had had the chance to visit that destination, I relied on online reviews, recommendations and shared experiences posted by people who gained first-hand experience	4.09	0.85	3
The more positive the posted reviews and shared experiences are the more confident I feel to give a cultural experience a chance	4.02	0.89	4
Consulting posted or shared experiences online of a person who had already had the chance to gain first-hand experience in Montenegro made me feel more confident in making my travel decision	4.00	0.91	5
Posted travel reviews, recommendations and experiences help me avoid mistakes	3.97	0.84	6
The less I know about a destination the more I trust travel reviews, recommendations and posted experiences	3.88	0.94	7
Travel reviews, recommendations and posted experiences about cultural sites and attractions in Montenegro motivated me to visit the same places	3.85	0.93	8

Most recent reviews and shared experiences about Montenegro, not older than 4 months, helped me make my travel decision	3.84	0.87	9
Detailed reviews and shared experiences offering useful tips about means of transport, accommodation, cultural attractions and other relevant experiences made it easier for me to make my decision and visit Montenegro	3.81	0.84	10

Source: Authors' research

Table 3 shows the list of the most influential factors ranked by their level of strength (5 – strongest level of impact; 1 – no impact) that influenced cultural tourists to use eWOM as a source of information regarding Montenegro as a potential travel destination. The strongest factor, the first one in Table 3, illustrates the importance of the practical and useful side of eWOM offering ideas and inspiring people which attractions to visit, as well as which activities and experiences to include during their stay in Montenegro. The second strongest factor emphasises the high level of attractiveness, importance and usefulness of the presence of visual contents in online travel reviews, which influenced the outcome of the travel decision among a significant number of respondents. The third strongest factor shows that respondents are likely to consult and rely on eWOM as a practical option for accessing information if nobody in their family/circle of friends had ever had the chance to visit a given destination before. Generally, the results illustrated in Table 3 indicate that the respondents see eWOM as a source of information that helps them choose a destination and makes them feel more confident in the choice they have made, it helps them reduce uncertainty and the feeling of taking a risk of making mistakes especially while deciding about a destination that the respondents know very little about. The third strongest motive emphasises the significance of one of the main benefits of eWOM linked to getting access to first-hand experiences from people who had the chance to visit Montenegro, especially if nobody belonging to the respondents' family or circle of friends has had the chance to visit this destination before.

Table 4: Factors whose level of popularity is below 3.00

Factor	Mean	SD	Rank
Consulting travel reviews, recommendations and experiences is almost like receiving advice from a friend	2.97	1.48	1
Travel reviews, recommendations and posted experiences have a bigger influence on me, compared to advice of tourism workers	2.92	1.32	2
In choosing my next destination travel reviews and shared experiences with high ratings strongly influenced my travel decision	2.82	1.38	3
I focused on all online reviews and shared experiences and the overall opinion about Montenegro strongly influenced my travel decision	2.88	1.53	4

Source: Authors' research

Table 4 shows factors whose level of influence on the respondents' choice to use eWOM as a source of information about Montenegro is below 3.00 (5 – strongest level of impact; 1 – no impact). It is interesting to notice the variations in the respondents' opinions on whether there is a similarity between consulting travel reviews and receiving advice from a friend. Further analysis showed that 76% of the respondents saw eWOM as a really good alternative, almost like getting advice from a friend in case they could not ask anybody belonging to their family or circle of friends about their impression of Montenegro. In addition, the relationship between the attitude that consulting travel

reviews is almost like receiving advice from a friend and the respondents' age has been analysed using the Pearson correlation (r). Preliminary analyses were performed to confirm the assumptions about normality, linearity and homogeneity of the variance. A strong negative correlation between both variables was calculated, $r=-0.55$, $n=376$, $p<0.005$, indicating that the younger the respondents were the more likely it was for them to observe similarly eWOM and advice from a friend. Also, after completing the preliminary analyses, the relationship between the level of influence of posted travel experiences vs advice from a tourism worker and the age of the respondents was analysed using the Pearson correlation (r). A moderate negative correlation between both variables was calculated, $r=-0.36$, $n=376$, $p<0.005$, whereby the respondents belonging to younger age groups were more likely to trust eWOM.

To identify the level of influence of motivational factors on the decision of cultural tourists to use eWOM as a source of information prior to making the decision to visit Montenegro, a principal component factor analysis with a varimax rotation was used. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.91 (Table 5), confirming that the data and sample size are suitable since the mentioned value is higher than 0.6. Bartlett's Test of Sphericity is significant, $p<0.005$, confirming that there is a significant relationship between variables. All factors with an eigenvalue higher than 1 were preferred, as well as factors with factor loadings higher than 0.5. All 27 indicators had a factor loading higher than 0.5, therefore no item was deleted. Table 5 shows the results of all 27 factors that influenced cultural tourists to use eWOM before making the decision to visit Montenegro during 2019. All indicators were divided into three groups of factors of influence: “need for guidance from experienced cultural tourists”, “personal attitude towards eWOM”, “characteristics and content of eWOM”. The results indicate that “personal attitude towards eWOM” with 8.11 eigenvalue and 81.06% variance is the most essential factor group and main reason for cultural tourists to use eWOM before they made their final decision to visit Montenegro. The second influential factor group is “need for guidance from experienced cultural tourists” followed by “characteristics and content of eWOM”.

Table 5: KMO and Bartlett's Test Results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.913
Bartlett's Test of Sphericity	Approx. Chi-Square	12027.871
	df	351
	Sig.	0.000

Source: Authors' research

Table 6: Factor analysis of motives for using eWOM prior to visiting Montenegro

Motivational factor groups with indicators	Factor loading	Eigen value	Variance	Reliability
F1 Need for guidance from experienced cultural tourists		6.93	69.27	.94

Motivational factor groups with indicators	Factor loading	Eigen value	Variance	Reliability
eWOM made it easy for me to choose which cultural day trips I needed to book	0.90			
Since nobody in my family/ circle of friends had had the chance to visit that destination, I relied on online reviews, recommendations and shared experiences posted by people who gained first-hand experience	0.89			
Travel reviews, recommendations and shared experiences about cultural sites in Montenegro motivated me to visit the same places	0.86			
Online presence and reputation of Montenegro helped me shape my opinion about that destination	0.86			
Consulting online shared experiences of persons who had already had the chance to gain first-hand experience in Montenegro made me feel more confident in making my travel decision	0.85			
Reading experiences from people who had already visited Montenegro made it easy to choose the right cultural experiences	0.83			
Travel reviews, recommendations and shared experiences encouraged me to visit Montenegro	0.82			
Travel reviews, recommendations and shared experiences had a bigger influence on me, compared to any advice from tourism workers	0.80			
Travel reviews and experiences gave me ideas which cultural attractions, activities or experiences to include during my stay	0.76			
Travel reviews, recommendations and posted experiences made it easy to choose the most suitable means of transport, accommodation and restaurants	0.74			
F2 Personal attitude towards eWOM		8.11	81.06	.97
Consulting travel reviews, recommendations and experiences is almost like getting advice from a friend	0.96			
I find travel reviews, recommendations and shared experiences trustworthy	0.94			
The less I know about a destination the more I trust travel reviews, recommendations and shared experiences	0.93			
The more positive the posted reviews and shared experiences are the more certain I feel that I need to give a cultural experience a chance	0.92			
I find reading travel reviews, recommendations and experiences fun and very useful in making decisions	0.91			
The more positive the posted reviews and shared experiences are the more confident I feel that I need to book a certain cultural day trip or trips	0.90			
Travel reviews, recommendations and shared experiences helped me make a good decision	0.87			

Motivational factor groups with indicators	Factor loading	Eigen value	Variance	Reliability
Posted travel reviews, recommendations and experiences helped me avoid mistakes	0.87			
Reading travel reviews, recommendations and experiences is a habit of mine	0.87			
The more positive the posted reviews and shared experiences are the more certain I feel that I need to visit a cultural attraction	0.85			
F3 Characteristics and content of eWOM		6.68	59.87	.81
Mostly I focused on positive reviews and shared experiences and it strongly influenced my travel decision	0.89			
Most recent reviews and shared experiences about Montenegro, not older than 4 months, helped me make my travel decision	0.75			
Detailed reviews and shared experiences offering useful tips about means of transport, accommodation, cultural attractions and other relevant experiences made it easier for me to decide to visit Montenegro	0.73			
Reviews and shared experiences with visual contents like pictures or videos helped me make my travel decision	0.71			
I focused on all online reviews and shared experiences and the overall opinion about Montenegro strongly influenced my travel decision	0.63			
Mostly I focused on negative reviews and shared experiences and it strongly influenced my travel decision	0.61			
In choosing my travel destination, reviews and shared experiences with high ratings helped me the most and strongly influenced my travel decision	0.56			

Source: Authors' research

Table 7: Differences in factor groups based on gender

Factor group	Male	Female	T	Sig.
Need for guidance from experienced tourists	3.59	3.82	-2.66	0.000
Personal attitude towards eWOM	3.37	3.64	-2.71	0.000
Characteristics and content of eWOM	3.69	3.38	-3.20	0.000

Source: Authors' research

The T-test of independent samples compared the results of the levels of influence of all three factor groups in choosing eWOM with respect to the respondents' gender. "Need for guidance from experienced tourists" – male (M=3.59, SD=0.72) and female respondents (M=3.81, SD=0.89); $t(376) = -2.66$, $P < 0.005$ (both ways) shows that the difference between the mean values of the characteristics by groups (average difference

=-0.22) is very small (eta square=0.018). Also, analysis of the results of the second factor group “personal attitude towards eWOM” – male (M=3.37, SD=0.89) and female respondents (M=3.64, SD=1.04); $t(376) = -2.71$, $P < 0.005$ (both ways) shows that the difference between the mean values of the characteristics by groups (average difference =-0.27) is very small as well (eta square=0.019). Same goes for “Characteristics and contents of eWOM” – male (M=3.69, SD=0.85) and female respondents (M=3.38, SD=1.01); $t(376) = -3.20$, $P < 0.005$ (both ways) showing that the difference between the mean values of the characteristics by groups (average difference =0.31) is very small (eta square=0.026). The results indicate no great differences in the level of influence of all three factor groups in choosing eWOM as a source of information about Montenegro with respect to the gender.

Table 8: Differences in factor group level of influence based on age

Factor group	Age	M	Eta Square	F	Sig.
Need for guidance from experienced tourists	25-38	4.17	0.15	35.049	0.000
	39-51	3.71			
	52+	3.34			
Personal attitude towards eWOM	25-38	4.18	0.27	69.266	0.000
	39-51	3.58			
	52+	2.89			
Characteristics and content of eWOM	25-38	4.22	0.29	78.781	0.000
	39-51	3.60			
	52+	2.87			

Source: Authors' research

One-way factor analysis of variance investigated the level of influence of three factor groups (“need for guidance”, “personal attitude” and “characteristics and content of eWOM”) on the decision of cultural tourists belonging to different age categories to use eWOM as an information source prior to visiting Montenegro. The respondents were divided into three age groups: group 1 (25-38 years of age); group 2 (39-51 years of age); and group 3 (older than 52 years of age). A statistically significant difference was found $p < 0.005$ in the results between all three age groups regarding all three factor groups (“need for guidance from experienced tourists”, “personal attitude towards eWOM” and “characteristics and content of eWOM”). The actual difference between the mean values of the respondents' answers in case of all three factor groups is significant, and the magnitude of this difference is expressed using the Eta square indicator. All three Eta square values show a high impact level. Subsequent comparisons using the Tukey HSD test in the first factor group, “need for guidance from experienced tourists”, indicate that the mean value of group 1 (M=4.17, SD=0.70) differs significantly from the mean value of group 3 (M=3.34, SD=0.84). Similar results showed the analysis of the remaining two factor groups: “personal attitude towards eWOM” group 1 (M=4.18, SD=0.70) and group 3 (M=2.89, SD=0.84) and “characteristics and content of eWOM”, group 1 (M=4.22, SD=0.68) and group 3 (M=2.87, SD=0.90). The given results lead to the conclusion that the younger the respondents, the more likely they are to choose eWOM

as a source of information about Montenegro before they make their decision whether to visit the destination.

Table 9: Differences in factor groups levels of influence based on education

Factor group	Level	M	F	Sig.
Need for guidance from experienced tourists	High School	4.60	3.05	0.017
	College	3.86		
	University	3.75		
	Masters	3.47		
	PhD	3.38		
Personal attitude towards eWOM	High School	3.82	4.68	0.001
	College	4.23		
	University	4.07		
	Masters	3.28		
	PhD	3.26		
Characteristics and content of eWOM	High School	3.02	4.60	0.002
	College	3.57		
	University	4.02		
	Masters	3.97		
	PhD	3.54		

Source: Authors' research

Table 9 shows the mean differences in levels of impact of all three factor groups/ reasons in influencing respondents to choose eWOM as a source of information prior to deciding to visit Montenegro with respect to their level of education. The first factor group “need for guidance form experienced tourists” doesn’t show any significant variations in the level of its impact on the respondents’ choice. The results show significant differences in the second and third factor group. “Personal attitude towards eWOM” ($F=4.68$; $p<0.005$) influences the most respondents with a college ($M=4.23$) and university degree ($M=4.07$) to choose eWOM as the source of information about Montenegro. The difference between the mean values of all five categories of the respondents’ education is moderate ($\text{Eta square}=0.06$), but it confirms the presence of different levels of impact of this factor group on the respondents’ choice with respect to their level of education. “Characteristics and contents of eWOM” ($F=4.60$, $p<0.005$) results indicate that this factors group has the strongest impact in choosing eWOM as an information source about Montenegro among the respondents with a university ($M=4.02$) and master degree ($M=3.97$). The difference between the mean values of all five categories of the respondents’ educational level is moderate ($\text{Eta square}=0.06$), but it confirms the presence of different levels of impact of this factor group on the respondents’ choice with respect to their level of education. The given results lead to the conclusion that personal positive attitude towards eWOM influenced the most respondents with a college degree to use eWOM as a source of information about a destination, while characteristics and contents of eWOM motivated the most respondents with a university degree to use eWOM as a source of information about Montenegro.

Table 10: Differences in factor groups with respect to the region of origin

Factor group	Region of origin	M	F	Sig.
Need for guidance from experienced tourists	North America	4.16	3.64	0.001
	Asia	4.08		
	Central Europe	3.71		
	Northern Europe	3.87		
	Western Europe	3.63		
	Eastern Europe	3.57		
	Southern Europe	3.46		
	Other	3.36		
Personal attitude towards eWOM	North America	3.67	4.32	0.000
	Asia	3.78		
	Central Europe	3.53		
	Northern Europe	3.29		
	Western Europe	4.17		
	Eastern Europe	3.76		
	Southern Europe	3.91		
	Other	3.28		
Characteristics and content of eWOM	North America	4.11	4.16	0.000
	Asia	3.71		
	Central Europe	4.00		
	Northern Europe	3.27		
	Western Europe	3.34		
	Eastern Europe	3.42		
	Southern Europe	3.52		
	Other	3.43		

Source: Authors' research

Table 10 shows the mean differences in the levels of influence of all three groups of factors/reasons for using eWOM as an information source about Montenegro with respect to the respondents' region of origin. All three factor groups show significant variations in terms of their levels of impact on respondents' reason of choice. "Need for guidance from experienced tourists" ($F=3.64$; $p<0.005$) comes to the fore among the respondents coming from North American ($M=4.16$) and Asian ($M=4.08$) countries. In general, the difference between the mean values based on all eight regions of the respondents' origin is moderate ($\text{Eta square}=0.06$), but it confirms the presence of the most significant impact of this factor group on cultural tourists coming from North America and Asia compared to others. "Personal attitude towards eWOM" ($F=4.32$; $p<0.005$) is emphasised among the respondents coming from Western Europe ($M=4.17$) and Southern Europe ($M=3.91$). The difference between the mean values of all eight regions of the respondents' origin is moderate ($\text{Eta square}=0.07$), but it confirms the presence of the most significant impact of this factor group on cultural tourists coming from Western Europe and Southern Europe, compared to other regions of origin. "Characteristics and content of eWOM" ($F=4.16$; $p<0.005$) had the biggest impact on respondents' coming from North America ($M=4.11$) and Central Europe (4.00). The difference between the mean values of all eight regions of the respondents' origin is moderate ($\text{Eta square}=0.07$), but it confirms the presence of

the most significant impact of this factor group on cultural tourists coming from North America and Central Europe.

Table 11: Hypothesis Test Results Summary

Hypothesis	Estimated Value (β value)	Standard Error	Critical Ratio	P-value	Result
H0	0.949	0.049	3.877	0.000	Confirmed
H1	0.802	0.041	4.008	0.000	Confirmed
H2	0.709	0.036	4.186	0.000	Confirmed
H3	0.851	0.044	3.994	0.000	Confirmed

Source: Authors' research

Table 11 illustrates the results of hypotheses that have been tested by this research. Hypotheses are significant and can be accepted only if they meet the criteria of the value of the critical ratio > 1.968 and P-value of < 0.05 . Therefore, the results of hypothesis that were tested show all values of t_{value} greater than $t_{\text{table}} = 1,968$ ($n=376$). H0: direct effect of eWOM in easing the process of choosing a destination by cultural tourists (0.949 and $p < 0.000$) shows a positive and significant influence. H1: direct effect of eWOM in inspiring cultural tourists to include cultural attractions and activities during their stay in Montenegro (0.802 and $p < 0.000$) also shows a positive and significant influence. H2: the extent to which a destination is known on the tourism market (0.709 and $p < 0.000$) proved to have a direct, positive, strong and significant effect on cultural tourists' decision to use eWOM as a source of information about Montenegro prior to their visit and H3: direct effect of eWOM in lowering the level of perceived uncertainty as to what cultural tourists can expect from Montenegro as a destination (0.851 and $p < 0.000$) shows a positive and significant influence. Therefore, all four hypotheses in this study are accepted. These findings and insights offer contributions to cultural tourism, marketing communications and consumer behaviour literature.

Conclusion

To better understand the reasons why cultural tourists use eWOM prior to visiting Montenegro, the respondents were given a list of carefully chosen factors to assess the level of influence of each factor on their decision to use eWOM as a source of information about this destination. Several interesting findings emerged from this study. Besides the processed data confirming the significant positive relationship between convenience and ease of accessing information and motivation for using eWOM (Khan & Khan, 2016; Abubakar, 2016; Doosti et al.), this research expended the list of motives for using eWOM and offered more concrete answers from the cultural tourist's point of view. It showed that the practical and useful side of eWOM linked to offering ideas and inspiring cultural tourists which attractions, sites and activities to include during their stay in Montenegro, especially among the respondents who could not ask anybody from their immediate social circle for a piece of advice, since nobody in their family or circle of friends had ever had the chance to visit Montenegro. Research has also shown that cultural tourists

used eWOM since it made them feel more confident in making choices, it reduced the level of uncertainty in what to expect in the destination, especially among the respondents who know very little about Montenegro. Another very interesting motive driving cultural tourists to use eWOM as a source of information prior to visiting Montenegro is linked to getting access to first-hand experiences from people who had the chance to visit this destination. This insight is very interesting since it explains why the respondents used eWOM considering the abundance of other sources of information about this as well as other destinations. This indicates a strong role of horizontal communication between cultural tourists.

Another interesting observation emerged from analysing relationships between reasons/motives grouped in three groups of factors of influence and the demographic characteristics of the respondents. Results showed that the main cause for consulting eWOM was linked to the personal attitude of the respondents combined with the need for guidance or need for a piece of advice from an experienced cultural tourist. The results indicated no great differences in the level of influence of all factor groups in using eWOM as a source of information about Montenegro with respect to gender, but therefore significant differences were found with respect to age, level of education and country of origin. The research results confirmed all hypotheses showing a positive and significant influence of eWOM on easing the respondents' process of choosing a destination (H0), confirming a positive and significant effect of eWOM on inspiring cultural tourists to include cultural attractions and activities during their stay (H1), showing the presence of a direct, positive, strong and significant interdependence between the respondents' level of familiarity with a destination and willingness to turn to eWOM (H2), as well as proving the existence of a positive and significant influence of eWOM on lowering the level of uncertainty as to what the cultural tourists could expect from Montenegro during their vacation (H3).

These findings extend current knowledge about the behavioural patterns of cultural tourists in terms of reasons for consulting eWOM while gathering information about a destination. Since the mentality, culture and system of values have a big impact on how people act, think, and get information, future studies could focus more on analysing differences in behaviour, needs and preferences of cultural tourists based on these socio-demographic characteristics. Since the analysed sample size ($n=376$) is small, the findings should not be generalised. The major factor that contributes to this is the fact that a high percentage of guests exploring the Montenegrin cultural offer are visitors who stay only a couple of hours in this destination since they are cruise ship guests or guests staying in neighbouring countries who cross borders and explore cultural attractions and sites only for a few hours without staying overnight. Because of the fact that the targeted sample were tourists (people staying in a destination, which is not the place of their permanent residence, longer than 24 hours), not cultural visitors or excursionist, the sample size could not be bigger. The primary method of collecting data was via printed questionnaire and future studies could explore behavioural patterns of cultural tourists by conducting digital surveys.

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THE DECLINE OF DEFINED BENEFIT PENSION PLANS IN DEVELOPED COUNTRIES

Abstract

Defined benefit pension plans have played an important role in pension sectors of developed countries in North America, Great Britain and Western Europe for several decades. However, with the beginning of the 21st century, altered demographic trends and global financial market fluctuations have significantly disrupted the financial position of defined benefit pension plans. The aim of this paper is to examine the long-term movement of indicators of the importance of defined benefit pension plans in the pension systems of four developed countries: the United States, Canada, the Netherlands and Great Britain. In these countries defined benefit pension plans still have an important role. The analysis shows that the number of occupational defined benefit pension plans in private sector in the observed countries is declining, along with the continuously decreasing number of participants and increasing problems in achieving a sustainable financial position in the long run.

Key words: *Defined benefit pension plans, Occupational pension plans, Long-term sustainability, Pension plan funding*

JEL classification: *G11, G17, J26, J32*

СМАЊЕЊЕ ЗНАЧАЈА ПЕНЗИЈСКИХ ПЛАНОВА СА ДЕФИНИСАНИМ ПЕНЗИЈСКИМ НАДОКНАДАМА У РАЗВИЈЕНИМ ЗЕМЉАМА

Апстракт

Пензијски планови са дефинисаним пензијским надокнадама су у периоду од неколико деценија имали важну улогу у пензијским секторима развијених земаља у Северној Америци, Великој Британији и земљама Западне Европе. Међутим, са почетком 21. века, до изражаја долазе измењени демографски трендови и флукуације финансијског тржишта које су значајно нарушиле финансијску позицију пензијских планова са дефинисаним пензијским надокнадама. Циљ рада се огледа у испитивању дугорочног кретања показатеља заступљености пензијских планова са дефинисаним пензијским надокнадама у пензијским системима четири развијене земље: Сједињене Америчке Државе, Канада, Холандија и Велика Британија. У овим земљама пензијски планови са дефинисаним пензијским надокнадама

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и даље имају значајну улогу. Анализом је показано да је број компанијских пензијских планова са дефинисаним пензијским надокнадама у приватном сектору у посматраним земљама у значајном опадању, са све мањим бројем осигураника и све већим проблемима у постизању дугорочно одрживе финансијске позиције.

Кључне речи: *Пензијски планови са дефинисаним пензијским надокнадама, Спонзорисани (компанијски) пензијски планови, Дугорочна одрживост, Фундираност пензијских планова*

Introduction

Until the 1990s, defined benefit (DB) pension plans were considered one of the most important institutions of social security in developed countries in North America and Europe. Companies have sponsored DB pension plans to attract and retain the most productive employees. DB pension plans became especially popular during the 1950s and 1960s when many companies established pension plans. This trend was encouraged by favorable demographic trends (baby boom generation) and macroeconomic parameters. Considering the legally defined obligation of fixed monthly retirement benefit payments inherent to DB pension plans, young population of employees with sustainable average age and life expectancy and a decades-long trend of economic growth provided suitable conditions for the formation of DB pension plans. Thus, occupational DB pension plans in private sector became key carriers of pension insurance in a number of developed countries (e.g., the United States, Canada, Great Britain, the Netherlands, Ireland, Finland and others).

However, starting in the early 1990s, managing DB pension plans became increasingly complex. The main reason lies in demographic factors, i.e., the increase in both life expectancy and the average time period during which pensions are paid to pension plan participants. This trend is specific to all the previously mentioned countries. According to Turner & Hughes (2008), a large number of occupational pension plans in Ireland were facing problems in financing retirement benefits even during the 1980s. During the 1990s, the share of occupational DB plans' members in total population of employees in private sector declined steadily, although this period was marked by upward trend in global financial market. In Great Britain, from the mid-1990s onwards, a downward trend in the number of defined benefit pension schemes' members was recorded. The decline in the number of occupational DB plans' participants in the United States began during the 1980s, with the simultaneous strengthening of the position of defined contribution (DC) pension plans. A similar development took place in Canada. On the other hand, in countries where the participation in DB plans is mandatory, such as in the Netherlands and Finland, DB plans have shown much greater resilience to demographic trends in terms of both the number of active pension plans and the number of participants.

In the first decade of the 21st century, DB pension plans faced two financial crises: dot.com crisis in 2000-2001 and Global Financial Crisis in 2008. Financial market disruptions have led to a deterioration in the financial position of DB plans. Even in

the Netherlands, which still has one of the most solvent pension systems in the world, financial shocks have seriously undermined the funded status of pension funds. Hence, one of the most interesting research issues in the field of private pension insurance is the long-term financial sustainability of occupational DB pension plans in private sector.

The paper is organized as follows. In the first part, the theoretical background of the corresponding research issue is provided. The second part presents the methodology used in the analysis. In the third part, overview of indicators of the strength of occupational DB pension plans in North America (the United States and Canada) is given. The fourth part of paper deals with the indicators of the strength of DB pension schemes in Western Europe (Great Britain and the Netherlands). In the final part, conclusions are given.

Theoretical background

The decline of DB pension plans is well documented in a number of papers (Broadbent, Palumbo & Woodman, 2006; Munnell, 2008; De Thierry, Lam, Harcourt, Flynn & Wood, 2014; Mees, 2019). Broadbent, Palumbo and Woodman (2006) examined the shift from DB to DC pension plans in four countries (Australia, Canada, the United Kingdom and the United States) in the period from 1985 to 2005. The authors used the secondary data on number of pension plans, plan members and asset allocation to examine the shift away from DB plans in these countries. The analysis results confirmed the sharp decline of DB pension plans in Australia and the United States, while in the United Kingdom and Canada the decline was confirmed to be less pronounced. Munnell (2008) analyzed the shift from DB to DC plans in the second tier of pension systems in the United States and the United Kingdom in the period from early 1980s to the beginning of the 21st century. The evidence provided by the author suggests that the shift from DB to DC pension plans is evident in these countries, but has put the retirement security of many individuals at risk. De Thierry, Lam, Harcourt, Flynn and Wood (2014) dealt with the consequences of the decline of DB pension plans for the employers and employees in the United Kingdom, by using critical literature review. Their findings suggest that the gradual shift from DB to DC plans in the United Kingdom began in 1980s, but the changes in the accounting and disclosure rules in 2001 accelerated this trend. Mees (2019) examined the decline of DB pension schemes in Australia, by using the historical data analysis. The author found that the transition from DB to DC pension plans had been supported with the improved overall financial performance. Contrary to the belief that the decline of DB plans is an adverse outcome to employees, the shift from DB to DC plans was beneficial for Australian workers.

A general consensus exists regarding factors that lie behind the decline. Demographic trends have substantially endangered the financial viability of DB pension plans. The increase in expected life expectancy, although beneficial for the society, poses a challenge for pension plans since they are legally obliged to pay retirement benefits in a longer time period. Between 1960 and 2015, life expectancy for the total population in the United States increased by almost 10 years, from 69.7 years in 1960 to 79.4 years in 2015 (Medina, Sabo & Vespa, 2020, p. 3). The feature that is particularly important to DB pension plans is the ratio between the inflow of young participants and the overall population of retired participants. According to

OECD (2020), the share of young population (aged 15 or less) has been continuously decreasing in OECD countries, from 28.4% in 1970 to merely 17.7% in 2018. This limits the ability of pension plans to provide themselves with continuous accrual in active participants. Also, the share of old population (aged 65 or above) has been continuously increasing, from 5.3% in 1970 to 9.1% in 2019 (World Bank, 2020). If the demographic structure of insured population in pension plans is reflected in the structure of the global population, this means that pension plans are facing diminishing fraction of young population along with the rapidly growing fraction of older population. Also, the average time period in which benefits are paid substantially impacts the financial position of DB pension plans. For example, according to Office for National Statistics (2019a), life expectancy at age 65 in 1981 for males in Great Britain was 14 years while in 2019 it was 20 years. Projections show that in 2050 life expectancy at age 65 for males in Great Britain will be 22.8 years. These features substantially increase pension obligations that has to be met from DB pension plans' assets in the long run.

Methodology

Regarding the challenges DB pension plans have been facing in the previous period, it is particularly important to analyze the historical trends concerning the decreasing number of pension plans, decline of the number of the participants and gradual freezing and termination of pension plans. In line with these features, the research question that is to be analyzed in the paper is stated:

Are occupational defined benefit pension plans in private sector able to provide a sustainable financial source for retirement benefits payments to employed population in the long run?

In considering this question, the data on the movements of three relevant indicators in the long-term time horizon are examined, by using the appropriate theoretical argumentation:

- 1) Number of pension plans and the composition of pension plans' participants - active, inactive and retired;
- 2) Average funding position of DB pension plans;
- 3) Position of DB pension plans regarding termination and „freezing” of the pension arrangement.

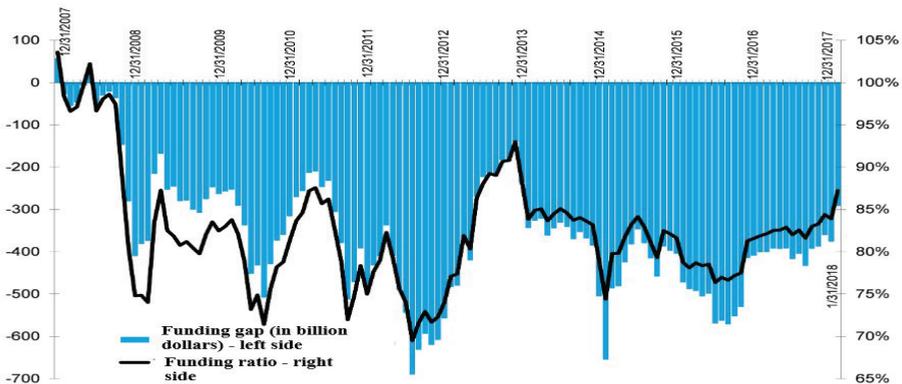
For the analysis of long-term movements of the selected indicators, secondary data have been used. In the case of the number of pension plans, the composition of pension plans' participants and the funded status available data from national statistical agencies, regulatory agencies and pension supervisors are selected (Employee Benefits Security Administration in the United States, Statistics Canada and the Financial Services Commission of Ontario in Canada, De Nederlandsche Bank in the Netherlands and Department for Work & Pensions and Office for National Statistics in Great Britain). The periods for which the data were collected vary from country to country due to the availability of data: the United States (1975-2017), Canada (2009-2017), the Netherlands (1997-2019) and Great Britain (1997-2018).

By examining these indicators, the basic trends in the development of DB pension plans in the future will be pointed out, with a final assessment of their financial sustainability. Data analysis is performed for the four most developed countries in which DB pension plans are still significantly represented in national pension systems (the United States, Canada, the Netherlands and Great Britain). It should be emphasized that these countries were chosen based on criteria of the strength of occupational DB pension plans in private sector. Pension plans from these countries (both public and private) reported the largest assets under management globally with the addition of Australia. However, Australia is excluded from the analysis since DC pension plans are dominant in its pension system while DB pension plans are of minor importance.

The decline of defined benefit pension plans in North America

Regarding the United States, DB pension plans in the private sector have been generating funding gaps for many years. Figure 1 shows the aggregate funding position of DB pension plans sponsored by Standard&Poor’s 1500 companies between 2007 and 2017. The funded status has been far from satisfactory for many years.

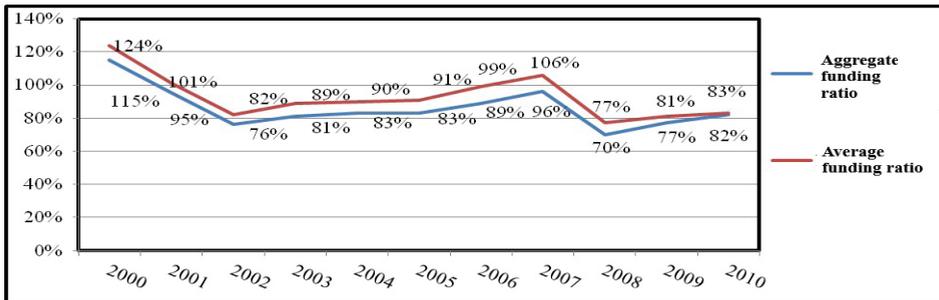
Figure 1: Funding gap and the aggregate funding position of Standard&Poor’s 1500 occupational DB pension plans



Source: Mercer LLC (2018). *S&P Pension Funded Status Increased*. Retrieved October 4, 2020, from <https://www.mercer.com/newsroom/january-1500-pension-funded-status-increased.html>

Funding gaps in occupational DB plans in the United States became particularly apparent at the beginning of the 21st century. From Figure 2 it can be seen that the funding position of Fortune 1000 DB pension plans was satisfactory until the dot.com crisis in 2001. However, the dot.com crisis adversely affected the funded status of U.S. pension plans. The entire period until 2007 is characterized by rising but insufficient funding levels. An improvement in the funded status was recorded in 2007 due to property investments and housing bubble, but then in 2008 the funding gap rose again. Unlike dot.com crisis in 2001, from the effects of which pension plans recovered in the following years, Global Financial Crisis has damaged the financial position of pension plans in the long run, as the funded status has not improved to date.

Figure 2: Funded status of Fortune 1000 occupational DB pension plans, 2000-2010



Source: *Warshawsky, M. (2012). Corporate Defined Benefit Pension Plans and the Financial Crisis: Impacts, and Sponsor and Government Reactions. In R. Maurer, O. Mitchell & M. Warshawsky (Eds.), Reshaping Retirement Security: Lessons from the Global financial Crisis (pp. 161-187). Oxford, UK: Oxford University Press, p. 163*

Contrary to the trend of increasing funding gaps, which is particularly evident after the beginning of the Global Financial Crisis, the decreasing trend in the number of DB pension plans in the private sector and the number of active members in these plans is of a longer-term nature. Table 1 reports the number of DB pension plans in the United States between 1975 and 2015 that has been continuously decreasing since the mid-1980s (in the late 1970s legal framework for the inception of DC pension plans was introduced).

Table 1: Number of occupational DB pension plans in US, number of active members, pension plan assets, contributions, and benefit payments, 1975- 2017

	Number of DB plans	Number of members (thousands)	Number of active members (thousands)	Pension plans' assets (\$ millions)	Contributions (\$ millions)	Benefits disbursed (\$ millions)
1975	20,035	33,004	27,214	185,950	24,242	12,903
1980	24,505	37,979	30,100	401,455	42,626	22,148
1985	24,742	39,692	28,895	826,117	41,996	54,466
1990	19,242	38,832	26,205	961,904	23,026	66,363
1995	17,087	39,736	23,395	1,402,079	41,423	85,134
2000	13,557	41,613	22,218	1,986,177	33,369	127,510
2005	11,557	41,925	20,310	2,254,032	92,662	136,555
2010	10,155	41,423	17,172	2,448,361	131,055	169,645
2015	8,715	37,286	14,405	2,862,402	108,552	235,800
2016	8,394	36,028	13,866	2,923,233	124,484	232,395
2017	8,090	34,960	13,475	3,208,820	158,963	243,439

Source: *Employee Benefits Security Administration (2018). Private Pension Plan Bulletin Historical Tables and Graphs. United States Department of Labor*

This trend has been accompanied by a continuous decrease in the number of active members (paying contributions individuals). Total number of members (active, inactive

and retired) decreased, but to a much lesser extent, which means that in the same period there was an increase in the number of retired and inactive members. As a result, annual contributions have been significantly lower than annually disbursed retirement benefits since the mid-1980s, and this trend has continued to date.

When considering the liquidation and freezing of pension plans, it should be noted in the first place that these are not the same procedures. Pension plan termination implies that the sponsor is released from all costs and obligations regarding pension plan contractual agreement. A pension plan enters the termination procedure if it has been insufficiently funded in the prolonged time period or if the pension plan sponsor is financially distressed. Company shifts the burden of retirement obligations to the government agency that guarantees the payment of retirement benefits. A sponsor can also terminate fully funded pension plan, but in that case the accumulated retirement benefits must be paid, as a lump-sum payment or by purchasing lifelong annuities (Levine & Golumbic, 2014). The termination procedure is complex and involves a large number of different costs. Hence, sponsors more often decide to freeze the pension plan. This procedure takes several forms, such as: closing the pension plan for the admission of new members, preventing future increases in benefits for active members attributed to additional years of working career or salary growth (so-called “hard freeze”) or allowing increases in pensions benefits only for salary growth (so-called “soft freeze”).

Table 2: The evolution of Fortune 500 DB pension plans, 2000-2019

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Open	95%	93%	92%	89%	84%	79%	72%	62%	58%	52%
Closed	2%	3%	3%	5%	7%	10%	13%	18%	19%	21%
Frozen	3%	4%	4%	6%	9%	10%	14%	18%	22%	26%
Terminated	<1%	<1%	<1%	<1%	<1%	1%	1%	1%	1%	1%
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Open	48%	43%	39%	36%	32%	29%	28%	26%	25%	23%
Closed	22%	23%	24%	24%	24%	24%	22%	23%	23%	22%
Frozen	28%	32%	34%	37%	41%	42%	44%	45%	46%	46%
Terminated	2%	2%	2%	3%	3%	4%	5%	5%	6%	8%

Source: McFarland, B. (2020). *Retirement offerings in the Fortune 500: 1998-2019. Insider*, 30(6). Willis Towers Watson, p. 3

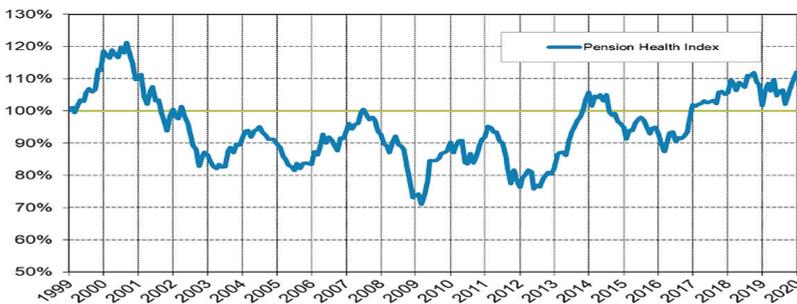
The share of pension plans involved with the termination or freezing has increased since the beginning of the 21st century. According to McFarland (2020), in 2019 as much as 46% of Fortune 500 companies (the 500 largest US companies) have frozen their retirement plans, and 22% of the retirement plans were closed to the admission of new members (Table 2). In addition, 8% of companies have been sponsoring terminated pension plans in 2019, and only 23% of companies kept their pension plans open to new entrants.

Regarding occupational DB plans in Canada, in the last decade there have been some doubts regarding their sustainability in the future. Although DB pension plans from public sector and private sector still comprise almost 80% of the total number of

the insured employees, the number of new DB pension plans has been continuously decreasing from year to year. Also, an increasing number of existing plans are becoming closed to new members. Pension plan sponsors are progressively shifting toward DC pension plans. Although the declining trend of the importance of DB pension plans in Canada has not been as rapid as in the United States, there are expectations that it will accelerate in the future.

As in other countries, unfavorable demographic trends in Canada have led to the maturation of pension plans, given that the insured population is getting older on average. As a result, pension liabilities are continuously rising. On the other hand, financial market fluctuations at the beginning of the 21st century have reduced investment returns, causing the deterioration of financial position of DB plans. Government regulations in Canada require pension plan sponsor to make additional contributions to the pension plan if there is a large funding gap, which significantly increases the cost of sponsoring the pension plan.

Figure 3: Mercer Pension Health index, 1999-(Q1)2020



Source: Mercer LLC (2020). *A long month in the long life of Defined Benefit plans as markets react to coronavirus pandemic*. Retrieved October 5, 2020, from <https://www.mercer.ca/en/newsroom/defined-benefit-plans-plummet-in-q1.html>

For the assessment of the funded status of pension plans in Canada, Mercer Pension Health Index is used. This indicator is calculated as the ratio of assets and pension liabilities for the modeled pension plan. At the beginning of the observed period, this indicator is arbitrarily set at the level of 100%. In the following time periods index is calculated under the assumptions that the paid contributions are equal to the sum of the normal cost (servicing cost) and additional payments in case of a funding gap of pension plan, and that there are no further adjustments in the pension arrangement. Figure 3 shows that the funded status of DB pension plans in Canada was satisfactory at the beginning of the 21st century, as the funding level was approximately 120%. In the following years the index has decreased, so that, in the period from 2002 to 2014, DB pension plans have been facing a problem of insufficient funding. In the last few years, the funded status of DB pension plans has improved, due to favorable trends in the stock market and the long-term bond market, but the funding level is still lower than at the beginning of the 21st century (about 112% at the end of 2019).

The problem of insufficient funding has become especially relevant with the onset of the Global Financial Crisis. Table 3 shows the trends in the number of insufficiently

funded pension plans and the number of participants in pension plans in the province of Ontario in Canada, in the period from 2009 to 2017, based on annual DB pension plan funding reports periodically published by the Financial Services Commission of Ontario. It can be noticed that the problem of insufficient funding has been gradually mitigated since 2014. However, in 2017 every fifth pension plan from the observed sample was insufficiently funded. In addition, what is particularly worrying is the fact that approximately half of the participants in the observed sample of pension plans were members of underfunded DB pension plans.

Table 3: Number of underfunded pension plans and the number of participants in the underfunded pension plans in Ontario, Canada, 2009-2017

	Number of pension plans	Underfunded plans	Number of participants in the underfunded pension plans	Share of underfunded pension plans	Share of participants in the underfunded pension plans
2009	1,539	605	-	39%	-
2010	1,506	682	1,074,141	45%	58%
2011	1,438	752	1,182,681	52%	65%
2012	1,387	753	1,264,105	54%	69%
2013	1,361	687	1,300,179	50%	70%
2014	1,311	471	1,168,013	36%	64%
2015	1,283	396	1,109,485	31%	60%
2016	1,333	395	1,089,889	30%	58%
2017	1,378	304	961,965	22%	51%

Source: Financial Services Commission of Ontario (2018). Report on the Funding of Defined Benefit Pension Plans in Ontario. Retrieved October 3, 2020, from http://www.fSCO.gov.on.ca/en/pensions/actuarial/Pages/risk-based_supervision.aspx

Beside the share of insufficiently funded pension plans in the total number of pension plans, it is important to determine the magnitude of the funding gaps. Table 4 shows the distribution of funding level in the observed sample of pension plans, in the period from 2007 to 2017. It can be observed that the share of pension plans with a funding level of less than 60% was particularly high in 2008 (approximately 8%), but also in 2011, when almost every tenth pension plan faced a grave funding gap. However, in the following years the share of pension plans with an extremely low funding level dropped significantly.

Table 4: Funded status of occupational DB pension plans in Ontario, Canada, 2007-2017

	<60%	60%-80%	80%-90%	90%-100%	100%-120%	>120%
2007	2.0%	17.6%	33.5%	27.0%	15.2%	4.7%
2008	7.7%	53.0%	18.9%	10.0%	7.7%	2.7%
2009	2.1%	41.0%	36.9%	12.2%	6.0%	1.8%
2010	1.7%	31.2%	40.9%	17.4%	6.7%	2.1%
2011	10.6%	65.0%	15.6%	4.8%	2.8%	1.2%
2012	6.0%	66.1%	18.6%	5.2%	2.2%	1.9%
2013	0.8%	8.4%	28.7%	38.1%	21.7%	2.3%

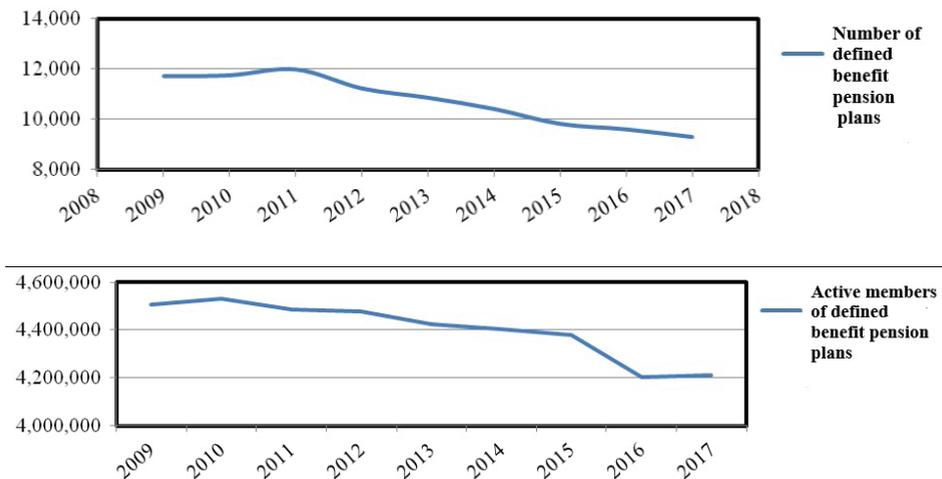
2014	2.8%	32.6%	19.7%	19.1%	21.8%	4.0%
2015	5.4%	30.0%	23.8%	20.8%	16.1%	3.9%
2016	1.6%	13.4%	38.2%	32.3%	12.0%	2.4%
2017	3.3%	11.2%	30.3%	34.0%	17.5%	3.7%

Source: Financial Services Commission of Ontario (2018). Report on the Funding of Defined Benefit Pension Plans in Ontario. Retrieved October 3, 2020, from http://www.fSCO.gov.on.ca/en/pensions/actuarial/Pages/risk-based_supervision.aspx

The situation is similar with pension plans with funding levels in the range 60%-80% and 80%-90%. In 2009, the number of pension plans that had a funding level greater than 120% was relatively low, but this number continued to increase in the following period. In 2017, approximately 21% of the total number of observed pension plans were fully funded and overfunded, while almost 4% of pension plans had an extraordinary funded status (greater than 120%), compared to only 1.2% in 2011. On the other hand, the fact that is raising concerns is the share of underfunded pension plans (funding level less than 100%) that at 2017 stood at approximately 79%.

Due to the aforementioned trends, the number of occupational DB pension plans in Canada had been continuously declining between 2009 and 2017, which can be seen in Figure 4. This trend was particularly pronounced from 2011 onwards. In the same period, the number of active members in DB pension plans had been decreasing.

Figure 4: Number of DB pension plans and active members in Canada, 2009-2017

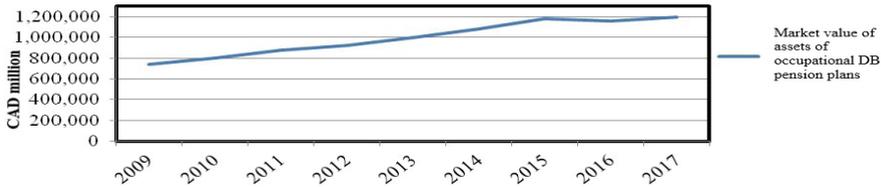


Source: Statistics Canada (2020a). Registered pension plans (RPPs), active members and market value of assets by special retirement conditions. Retrieved October 4, 2020, from <https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1110006201>

This trend had been particularly pronounced in DB pension plans in the private sector, unlike the public sector. Although the number of active members decreased, the

market value of assets in DB pension plans shows an upward trend between 2009 and 2017 (Figure 5). This trend can be explained by favorable developments in Canadian financial market in the observed period, i.e., the stabilization of the financial market after 2009. In the last few years, the market value of assets is in a phase of stagnation, which is a consequence of the declining number of active members and the amount of paid contributions.

Figure 5: Market value of assets of occupational DB pension plans in Canada, 2009-2017 (CAD million)



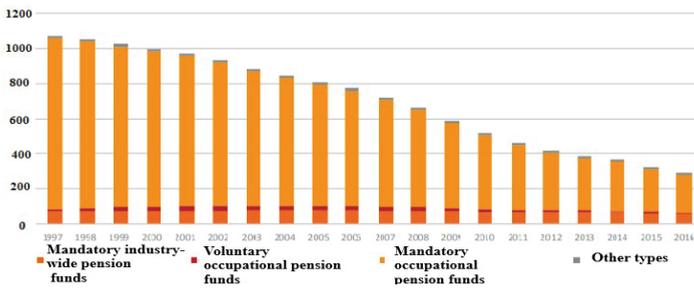
Source: Statistics Canada (2020b). Registered pension plans (RPPs), active members and market value of assets by age and service condition for special retirement. Retrieved October 4, 2020, from <https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1110006301>

Decline of defined benefit pension plans in Western Europe

The average funding level of Dutch pension funds in 2007 was an extraordinary 1.46 (the funding ratio of 1 indicates that the pension plan is fully funded at the moment of valuation), while in 2008 the average funding level decreased to 1.02 (Figure 6). It should be noticed that even after ten years the funded status has not considerably improved, so the average funding ratio in mid-2018 was 1.084, which is substantially lower compared to funded status before the Global Financial Crisis (De Nederlandsche Bank, 2018). In addition, approximately 25% of the total number of pension funds do not meet the statutory minimum funding level criterion (104.2% in 2018). A special problem lies in the fact that insufficiently funded pension funds have 3.2 million active members, 1.9 million pension retirees and 4.1 million inactive members, which is approximately 50% of the total number of DB pension funds' participants in the Netherlands.

The number of pension funds in the Netherlands is continuously declining. According to PricewaterhouseCoopers (2017), the total number of pension funds (industry-wide, mandatory occupational and voluntary occupational) fell from more than a thousand funds at the end of 1997 to only 268 pension funds in 2017 (Figure 7).

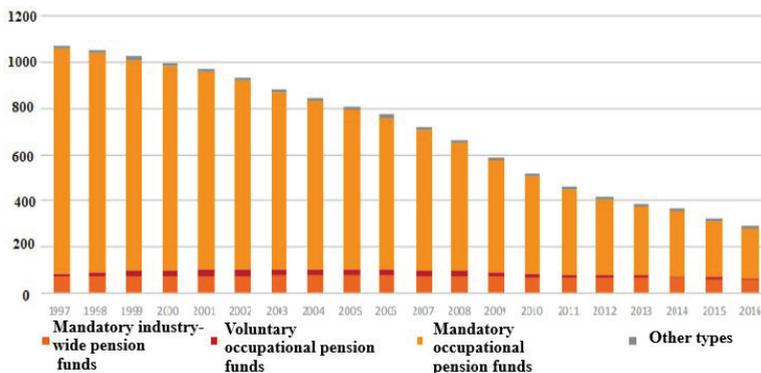
Figure 6: Funding level of Dutch DB pension plans, 2007-2013



Source: De Haan, L. (2015). Recovery measures of underfunded pension funds: higher contributions, no indexation, or pension cuts. *Journal of Pension Economics & Finance*, 17(4), p. 438

These developments are caused by the consolidation of Dutch pension fund sector, i.e., the merger of small pension funds with large pension funds. The consolidation of the pension insurance sector made possible for newly formed pension funds to operate with low costs, due to the use of economies of scale. In addition, major innovations have been introduced in the Dutch pension system in the past few years, which have additionally affected the pension fund sector. The formation of general pension funds (so-called APFs) in early 2016, as a special type of pension funds for one or more companies (which may or may not be part of the same business group), further increased the competitive pressure that “traditional” occupational pension funds have been facing.

Figure 7: Number of DB pension funds in the Netherlands, 1997-2016



Source: PricewaterhouseCoopers (2017). *Pension 2025 – Scenarios for the future of the pension sector*. p. 10

Dutch employers have been increasingly establishing a hybrid form of pension funds, the so-called “collective defined contribution pension schemes”. In these schemes, the retirement benefit is calculated by using the pension formula, in which the basis for calculation is the average salary during the working career. However, unlike traditional DB pension plans, the employer has no additional financial obligations if the investment returns are lower than expected. Longevity risk and investment risk are borne by the

participants. On the other hand, unlike defined contribution pension plans, there are no individual pension accounts, but all the assets are consolidated in a single pension fund, thus reducing unit costs. Due to the introduction of new pension schemes, the number of active members in traditional pension funds has been continuously declining.

Table 5: Number and composition of Dutch DB pension funds' members, 2007- 2020(in thousands)

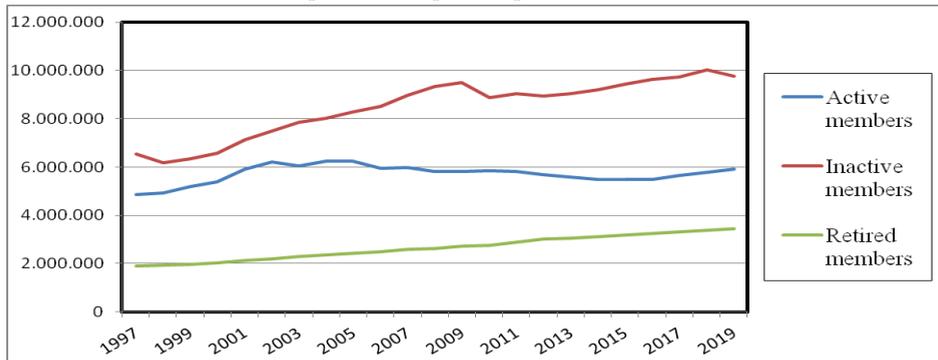
	Active members	Final salary	Average salary	Combined
2007	5,459	189	5,204	66
2008	5,406	74	5,261	71
2009	5,373	63	5,250	60
2010	5,373	60	5,256	57
2011	5,434	55	5,325	54
2012	5,363	36	5,275	52
2013	5,226	33	5,143	50
2014	5,213	22	5,047	54
2015	5,000	5	4,959	36
2016	4,947	11	4,912	24
2017	4,957	11	4,943	3
2018	4,938	11	4,926	1
2019	5,093	10	5,082	1
2020	5,212	12	5,199	1

Source: De Nederlandsche Bank Database (2020a). Number of active members in thousands.

Retrieved October 1, 2020, from <https://statistiek.dnb.nl/en/downloads/index.aspx#/details/pension-agreements-year/dataset/d2c03ef8-1d7a-4132-bc31-35ab45588df/resource/4cd41bde-134d-4257-8e23-9259b1902bba>

From Table 5, it can be seen that in the period from 2007 to 2020 the number of participants in pension funds in which the final salary pension formula is used for the calculation of retirement benefits decreased. The situation is similar for the combined approach (different combinations of final salary and the average salary pension formula). In 2020, participants for whom the pension is calculated by using the average salary pension formula dominated the total population of pension funds' participants. In the same period, due to unfavorable demographic trends, an increase in the number of inactive and retired participants occurred, which was accompanied by a simultaneous previously stated decrease in the number of active participants (Figure 8).

Figure 8: Number of active, inactive and retired members in Dutch industry-wide and occupational DB pension plans, 1997-2019



Source: De Nederlandsche Bank Database (2020b). Total Pension Funds. Retrieved October 1, 2020 from <https://statistiek.dnb.nl/en/downloads/index.aspx#/details/number-of-pension-fund-members/dataset/d2f52a5d-130b-45c0-b3b5-3b148b3a034c/resource/c585c951-4d2f-433e-9431-5f63dbbca8cb>

As for Great Britain, the declining trend in the importance of DB pension schemes has long-term characteristics that are similar to the trend observed in the United States. Table 6 reports that the number of active participants in DB pension schemes in the private sector has been continuously decreasing in the period from 2000 to 2018. It should be noticed that the overall number of active members in private occupational pension plans rose in the same period, from 5.7 million in 2000 to 11.0 million in 2018. Also, the number of members in occupational pension schemes in private and public sector rose from 10.1 million in 2000 to 17.3 million in 2018.

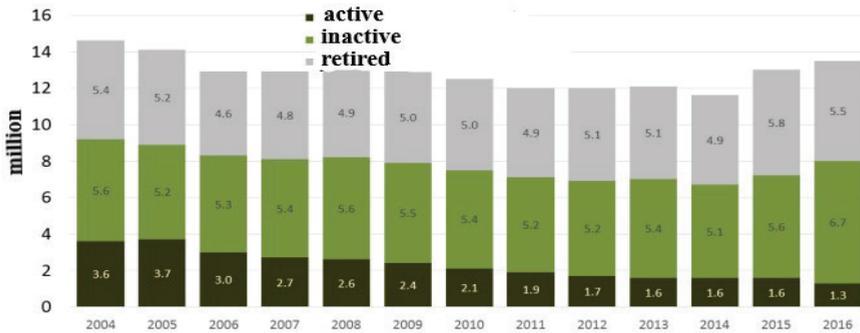
Table 6: Number of active members of occupational DB and DC pension schemes in Great Britain, 2000- 2018 (millions)

	Private sector	DB pension schemes	DC pension schemes	Public sector	Total
2000	5.7	-	-	4.4	10.1
2005	4.7	3.7	1.0	-	-
2010	3.0	2.1	1.0	5.3	8.3
2011	2.9	1.9	0.9	5.3	8.2
2012	2.7	1.7	1.0	5.1	7.8
2013	2.8	1.6	1.2	5.3	8.1
2014	4.9	1.6	3.2	5.4	10.2
2015	5.5	1.6	3.9	5.6	11.1
2016	7.7	1.3	6.4	5.7	13.5
2017	8.8	1.1	7.7	6.3	15.1
2018	11.0	1.1	9.9	6.3	17.3

Source: Office for National Statistics (2019b). Occupational Pension Schemes Survey, UK: 2018. p. 6

On the other hand, in the same period the number of active participants in private DC pension plans and in public pension plans has been increasing (the upward trend is particularly evident in DC plans, starting with the introduction of automatic enrolment in 2013). Although the number of active participants in DB pension schemes is continuously decreasing, the number of inactive and retired participants did not decrease significantly in the observed period (Figure 9).

Figure 9: Composition of the insured population in occupational DB pension schemes in Great Britain, 2004-2016



Source: Thurley, D. & Mor, F. (2018). *Defined Benefit Pension Schemes – 2018 White Paper. Briefing Paper, No. CBP – 8219. House of Commons, p. 6*

Moreover, the number of inactive participants in the period from 2004 to 2016 increased from 5.6 million to 6.7 million. Such developments have caused a deterioration in the financial position of pension schemes, given the rising gap between the amount of contributions and pension liabilities.

Figure 10: Gap between pension liabilities and assets of DB pension schemes in Great Britain, 2006-2016



Source: Department for Work & Pensions (2017). *Security and Sustainability in Defined Benefit Pension Schemes. Williams Lea Group on behalf of the Controller of Her Majesty's Stationery Office, p. 25*

Figure 10 shows the trend of continuous increase in the gap between the value of pension liabilities and the market value of DB plans' assets since 2007. Accordingly, the funding position of pension schemes is becoming increasingly unfavorable. In addition, the fact that the funding problem has worsened in the past few years is particularly worrying, as can be seen in Figure 11, which shows the deficits of pension schemes sponsored by the FTSE 350 companies.

Figure 11: Funding gap of FTSE 350 DB pension schemes, 2015-2017



Source: Willis Towers Watson (2017). *FTSE 350 DB Pension Scheme Survey 2017*, p. 6

In Figure 11 it can be seen that the funding gap of pension schemes in only one year (end of 2015 - end of 2016) increased from 50 billion pounds to as much as 200 billion pounds, and that in the following period a slight decrease in the funding gap occurred.

As it can be seen from the previous discussion, the decline of DB pension plans has been particularly pronounced in the United States and Great Britain. The number of pension plans and pension plans' members has been continuously declining during the past two decades, while the funded status has been worsening in the same period. This is in line with the previous research efforts carried out by Broadbent, Palumbo and Woodman (2006) and Munnell (2008). Also, the decline is much less noticeable in Canada and the Netherlands which is in consistence with the conclusions given in Munnell (2008). Unlike pension plans in the United States and Great Britain, pension plans in Canada and Netherlands are still reporting satisfactory funded status, though the number of active members has decreased in both countries, while the number of retired and deferred members is on the rise.

Conclusion

Over the last two decades, the shift from DB pension plans to DC pension plans and hybrid pension plans has become evident. In some countries (e.g., Great Britain and the United States), this trend is encouraged through regulation (automatic enrollment or employer's matched contributions in DC pension plans). The number of newly opened DB pension plans is decreasing from year to year, which suggests that the pure DB pension model is outdated. However, DB pension plans still have an important role in

the global financial market. This is supported by the fact that most of the largest pension plans globally are defined benefit pension plans. The size of DB pension plans can be attributed to the decades-long investing in financial market and accumulation of assets.

The decline of DB pension plans is particularly striking in the private sector. In the public sector, occupational DB plans will continue to be a dominant model of pension insurance. The level of their dominance will depend on the ability of government, which is ultimately the public pension plans' sponsor, to compensate for the funding gaps of pension plans and guarantee the payment of retirement benefits to public servants. In private sector, companies that sponsor pension plans guarantee the payment of retirement benefits with their own business income, without the possibility of transferring that risk to a third party in the long run.

Based on the presented data for four countries with the most developed occupational DB pension plans, it can be seen that their financial position has significantly deteriorated in the previous period, not only regarding the number of participants but also the long-term financial sustainability. The analyzed trends in the observed countries are of a decades-long property, without significant possibilities for their reversal in the future, especially when it comes to demographic factors. In addition, it should be stated that in the observed countries private sector is dominant with a large number of companies that have sponsored DB pension plans for decades. The trend of freezing and termination of pension plans, which became particularly evident after the Global Financial Crisis, implies that companies are less and less oriented towards preserving DB pension plans.

As for the scientific contribution of the paper, it should be emphasized that, to the best of the authors' knowledge, this research issue has not yet been analyzed in the Republic of Serbia, although there are many research efforts internationally that dealt with this subject. The main weakness of the paper is the absence of the empirical analysis. By using some of the statistical tests to prove the existence of the downward trend in the importance of DB pension plans, an empirical confirmation could be obtained that would improve the quality of the paper. This remark also provides the recommendation to further research.

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EMPLOYEES' SATISFACTION WITH COMMUNICATION IN THE ORGANIZATION

Abstract

Success of an organization is connected to employees' motivation and their satisfaction. Motivation growth in an organization is directly influenced by employees' communication at all levels. The subject of the survey is employees' satisfaction with communication in an organization. The aim of this work is to find out how 500 employees in Nis region estimate communication in an organization, the communication influence to the work motivation and work satisfaction in organization, how the employed managers value the superiors' communication to the employees, and which aspect of communication they are satisfied with, as well as how the employees and managers value the superiors' communication with the employees and which aspects of communication they are satisfied with. In the work the first to be analyzed were the relevant theoretical attitudes on the influence of employees' communication and communicational pleasure amongst them. The results of the realized empirical survey show that even though the employees at all levels in organization are definitely conscious of the importance of communication in organization, the managers have more positive attitude than the employees concerning the influence of certain communication on the work motivation and job satisfaction. There are remarkable differences in estimating satisfaction with certain aspects of communication, too, and the higher the position level of the observed in the organizational hierarchy is the more positive attitude on communication as a motivational factor in communication satisfaction is.

Key words: *motivation, communication, organization, communication satisfaction.*

JEL classification: *M14, M12, D22.*

ЗАДОВОЉСТВО ЗАПОСЛЕНИХ КОМУНИКАЦИЈОМ У ОРГАНИЗАЦИЈИ

Апстракт

Успешност организације повезана је са мотивисаношћу и задовољством запослених. На повећање мотивације у организацији утиче комуникација међу запосленима на свим нивоима. Предмет истраживања је задовољство

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запослених комуникацијом у организацији. Циљ овог рада је да се утврди како 500 запослених у различитим организацијама нишавског округа оцењује комуникацију у организацији, утицај одговарајуће комуникације на повећање мотивације за рад и задовољство послом у организацији, како запослени и менаџери оцењују комуникацију запослених са надређенима и којим аспектима комуницирања су задовољни, али и како запослени и менаџери оцењују комуникацију надређених са запосленима и којим аспектима комуницирања су задовољни? У раду су прво анализирани релевантни теоријски ставови о задовољству запослених као фактору њихове мотивације, а потом и ставови о утицају који комуникација има на мотивацију запослених и задовољство комуникацијом међу запосленима у организацији. Резултати спроведеног емпијског истраживања показују да, иако су запослени на свим нивоима у организацији свесни значаја комуникације у организацији, менаџери имају позитивнији став од запослених о утицају одговарајуће комуникације на мотивацију за рад и задовољство послом у организацији. Такође, да постоје значајне разлике у оцени задовољства неким аспектима комуницирања и да са повећањем нивоа позиције испитаника у организационој хијерархији позитивније постаје мишљење о комуникацији као мотивационом фактору и задовољству комуникацијом.

Кључне речи: *мотивација, комуникација, организација, задовољство комуникацијом.*

Introduction

Without adequate evaluation and motivation of employees, organizations cannot create and successfully adapt their offer to requirements of the environment. There is a direct positive relationship between the level of achievement of the organization's goals on one hand, and motivation and satisfaction of their employees, on the other hand. Satisfied and loyal employees create foundation for efficient work of the organization. Aware of the impact of communication on increasing employee motivation and the importance of building a communication system that leads to increased motivation and job satisfaction, managers strive to improve communication at all levels in the organization. The subject of this research is to assess employee satisfaction with communication in the organization, and the goal is to determine: Are the employees satisfied with communication in the organization? How much can appropriate communication increase motivation for work and job satisfaction in the organization? How employees and managers evaluate employees' communication with superiors and what aspects of communication are they satisfied with? How employees and managers evaluate superiors communication with employees and which aspects of communication are they satisfied with?

In order to prove that communication among employees at all levels increases employee motivation and job satisfaction in the organization, and that there is a difference between managers and employees in assessing satisfaction with some aspects of communication, the authors systematized and analyzed knowledge from relevant sources and conducted empirical research of employees satisfaction with communication

in the organization. The authors analyze employee satisfaction as a determinant of their motivation, the impact of communication on development of employee motivation in the organization, and satisfaction with communication among employees in the organization, explain applied research methodology, and present results of empirical research and discuss the results.

Employee satisfaction as a determinant of motivation

In the era of accelerated economic processes, with frequent, sudden and unpredictable changes, organizations see employees as a key resource for achieving goals and a crucial factor of competitive advantage (Krstić, 2009). Employees are the basis of functioning of the organization, because only highly motivated and satisfied employees lead organization towards the set goals. The increase in success in performing employees tasks directly contributes to increase in the overall success of the organization. The efficiency of engaging human resources as a segment of total intellectual resources becomes a crucial factor in assessing economic strength of the organization (Veselinović, Krstić & Veselinović, 2021).

Motivation and satisfaction of employees with work they perform become the key to success of the organization (Tanasijević, 2007). Job satisfaction is a pleasant or positive emotional state that results from a work experience (Locke & Latham, 1990). It is the result of the employee's perception that his job enables him to achieve what is important to him and acquires a positive and mutual relation with life satisfaction (Judge & Watanabe, 1993) and the impact of satisfaction on personal, social and working life (Sempene, Rieger & Roodt, 2002).

Development of enthusiasm among employees who focus their efforts on achieving goals of the organization leads to better results (Vorina, Simonič & Vlasova, 2017). Paying attention to employees can increase their productivity, increase level of job satisfaction and meeting needs through rewards for achievement, because it is in human nature to expect a reward for performing a certain activity (Vroom, 1964), while avoiding vaguely defined roles of team members, lack of trust between them, and inadequate reward system (Lazarević & Lukić, 2018).

In order to increase business management efficiency in the organization, managers assign employees to those job positions where their characteristics can best be expressed (Petković & Stanković, 2011), strive to “enrich” the work of employees through: creativity, innovation, greater autonomy in work, flexibility of working hours, teamwork, and the compensations that employees receive for successfully performed jobs and special efforts are harmonized with the recognized needs of employees that are different and require defining an appropriate reward system (Đorđević & Đukić, 2005).

Employee satisfaction depends on their expectations and the extent to which they are achieved, and is measured by discrepancy between level of aspiration and achieved results. The quality of employee satisfaction assessment is conditioned by defining priorities of their needs. It is not possible to assess employee satisfaction without knowing the hierarchies of needs that are specific for them (Tanasijević, 2007). Job satisfaction is directly related to life satisfaction (Stepanov, Paspalj & Butulija, 2016). Public sector research shows that four dimensions of organizational climate: reward orientation,

responsibility, structure, and participation are significant factors of job satisfaction (Pangil, Yahya, Johari, Md Isa, & Daud, 2011).

Doing jobs that employees do not like leads to dissatisfaction, frustration, unfulfillment, apathy, envy, and a whole range of other negative states and emotions. A successful and fulfilled life of an individual who has realized himself is directly related to his ability to discover potentials he was born with, and to use them. As people often lack the ability of self-awareness, it is up to managers to discover what talents, knowledge and abilities employees have, and which they can develop. Encouraging employees to develop their potentials raises level of employees' ability to do their jobs more efficiently. Self-realization and self-affirmation of employees increase their satisfaction, efficiency and effectiveness of the organization increases, a successful organization invests in development of employee potential through adequate communication, and employees further increase efficiency of their work.

Based on how much the organization manages to provide high quality employees, and then to organize and motivate them, the greater success will be in functioning of the organization. Due to the diversity of personality structure, specific knowledge and skills, different needs and preferences, employees are a specific factor of success of organizational functioning (Franceško & Mirković, 2008). Organizing and motivating employees by harmonizing their different characters and expectations is a demanding task for the manager, especially if we keep in mind that employees primarily strive to achieve personal interests that may or may not be in line with organizational goals. In organizational culture development, the balance between business and private life can play a crucial role, employees focus on work activities, while at the same time creating a healthy counterbalance in the form of personal interests and family activities, and thus ultimately increasing productivity and other business performances of the organization (Mladenović & Krstić, 2021).

Influence of communication on employees motivation in the organization

As the most important life skill for a person, represented in almost all human activities, communication is inseparable from work, and is a prerequisite for success in any business. To achieve high business performances of the organization, the quality of employees, their competencies, loyalty and commitment are important. It depends on building loyalty and commitment of employees to work they perform whether and to what extent employees will become factor of competitive advantage of the organization, and this can be crucially influenced by communication in the organization (Auer Antoncic & Antoncic, 2011).

Communication is seen as a process of transmitting thoughts and ideas from one person to another (Francesco & Gold, 2005, p. 70) in a way where it is expressed in a form the recipient can properly understand. It is the most common mean of exchanging information between employees at work, and between the organization and business environment. By exchanging information, between employees in the organization themselves, and between the organization and the business environment, relationships are established between people in which they exchange meaningful and clear messages of importance for whom they are intended.

Communication is the basic element of socialization of each individual with a key role in creating relationships on private and business level (Bolfek, Milković & Lukovac, 2017) and an important factor influencing employee satisfaction that results in higher productivity and business success. It is difficult to imagine business activities without communication, so naturally organizations are directed to communication, with successful communication among employees in the organization required for success (Kolev & Tadić, 2017). Communication among employees in an organization is a strong factor of job satisfaction (Pettit, Goris & Vaught, 1997).³

Communication, realized between all participants within the organization and through organization's contacts with environment, affects satisfaction of employees with work, and thus with success of the organization. Behavior of employees in the organization is directed in a way where they can meet their own needs, while meeting goals of the organization, because people become part of the organization guided by personal interests in meeting certain needs (Stepanov, Paspalj & Butulija, 2016). Within the working hours that employees spend performing tasks, up to 80% are spent in communication: 9% in writing, 16% in reading, 45% in listening and 30% in conversations with other employees (Kaser, 2013).

Problems in managing an organization are most often caused by poor communication - the recipient does not always have to understand what the sender of the message wanted to communicate, given that they have their own limitations and that there is much influence on message itself during transmission between them. Communication that is established at a satisfactory level between employees at all levels of the hierarchy and in both directions - both with superiors and with subordinates - is desirable. In order for the message to be adequately understood, it is assumed that the sender and the recipient have a common basis (Clark & Brennan, 1991), such as education, experience, origin, value system, attitudes (Đorđević & Ivanović Đukić, 2013).

Satisfaction with communication in the organization

Employees have different expectations from their communication relationships with immediate and senior executives (Pincus & Ravfield, 1987). Managers' communication with employees, expressed through willingness to hear their problems and help solve them, will lead to a sense of security among employees, an increased sense of belonging to the community and self-affirmation. By sending incentive messages to employees, managers encourage their self-confidence and efficiency (Mihajlov & Mihajlov, 2010). The greatest impact on employees feeling that the organization shows respect for their commitment and work results has the introduction of advanced technologies and modern means of work, with an increase in wages and a fairer distribution of income.

³ Having used the data collected from 302 employees in two different production companies by using of moderated regression analysis, the authors have investigated the influence of communication between the employees in organization to relationship of performance results and work satisfaction, and concluded that horizontal communication coordinates the relation between salary satisfaction and performance results, while the information accuracy has shown the close connection between the work satisfaction and performance results, where communication dimensions of highest influence were information accuracy, interaction needs, communication pressure, confidence in the superior, the influence of the superior, and communication satisfaction.

Communication increases job satisfaction and consequently develops work motivation (Milanović, & Dragičević Radičević, 2019), there is a relation between satisfaction with communication in the organization and job satisfaction and work performances (Pincus, 1986)⁴, increase of communication efficiency between employees leads to increase in motivation of employees and increases their work capacity (So, et. al., 2018). There are no differences in the assessment of job satisfaction and communication among and between subordinate and superior groups (Steele & Plenty, 2015)⁵. Socio-demographic characteristics of employees have a significant influence on certain dimensions of satisfaction with communication in the organization. The results of research on the importance of socio-demographic characteristics and personality dimensions of employees on communication satisfaction, in a sample of 119 employees was presented that, except for the gender structure of respondents, all other examined socio-demographic characteristics have an impact on certain dimensions of communication satisfaction (Nedeljković Knežević, Mijatov & Nedeljković, 2019)⁶. Communication in the workplace can have a lasting effect on employee motivation: good communication raises quality of employee engagement, a sense of satisfaction with job, commitment to organization, and increase of trust in the workplace (Rajhans, 2012)⁷. The study concludes that there is a demand for effective communication as a result of employee relationship management, because communication in the organization plays a vital role in employee motivation and performance; modern organizations face a new reality - increased employee workload, longer working hours, greater emphasis on performance and risk, and communication among employees plays a crucial role in management efforts to redirect employees confused by changes, and informs and motivates those who adapt more easily.

Internal communication has a significant positive effect on employee satisfaction, and internal communication and employee satisfaction significantly influence internal integration, which subsequently affects external integration with business partners

⁴ In a field study conducted on a sample of 327 nurses, Pincus (1986) investigated relationship between perceived satisfaction with communication in the organization and job satisfaction and work performances, and found significant positive relationships between: a) satisfaction with communication and job satisfaction, and b) satisfaction with communication and work performances.

⁵ The study examined communication competences, satisfaction with communication, and differences in job satisfaction within and between groups in the supervisor-subordinate relationship, as well as the relationship between three communication phenomena and satisfaction in a sample of 152 subordinates and 20 superiors in a public enterprise.

⁶ Correlations were determined between certain dimensions of personality (extraversion, pleasantness, conscientiousness, openness to new experiences, neuroticism) and certain dimensions of employee satisfaction with communication (communication climate, communication with superiors, organizational integration, media quality, communication with employees, staff feedback, perspective of organizations).

⁷ The paper presents a study with findings on effects that communication in the organization has on employee motivation and performances, in an example of Vanaz Engineers Ltd., a large manufacturing company, known in India for various and quality products, specializing in the production of alternative fuels, auto components, valves, pressure/flow control devices, automatic LPG filling stations.

(Jacobs, Yu & Chavez, 2016)⁸. The process of internal communication directly affects building of relationships between managers and employees, effective communication improves climate in the work environment, increases employee awareness of activities and plans of the organization, through feedback managers receive employee suggestions, which fully uses accumulated experience of all its employees, improves the role of manager and gives a more positive attitude towards changes in the organization, increases opportunities to solve problems before they escalate into crises, creates and maintains employee commitment and concentrates efforts on ongoing tasks, while achieving company goals at the same time (Hola, 2012). Good internal communication depends on knowing and taking into account opinions of employees; if neglected, it can result in lack of motivation, resignation, and ultimately abandonment of the organization in favor of competition (Constantin & Baiasa, 2015).

Satisfaction with communication among employees in the organization plays a significant role in increased employee engagement, internal communication and employee engagement are “powered” in a continuous virtual circle (Tkalac Verčić & Pološki Vokić, 2017)⁹. Good communication between managers and other employees contributes to meeting basic needs of employees. They primarily enter into organization and “alliance” with other people in order to provide security, belonging and self-affirmation as basic needs, and communication itself is one of basic means to meet these needs. The communication climate among team members has a positive effect on creativity and internal motivation, further encouraged by external motivation (Zhu, Gardner & Chen, 2016).

Research methodology

Research of employee satisfaction with communication in organizations of Nisava district was realized by applying a survey with 45 questions. The sample included 500 respondents: both sexes; different years of age and years of service; different education; social parents background; household type; employment status; current positions in the organization; number of employees in the organization; form of organizing organization; manufacturing, trade, banking, telecommunications, traffic, service, and administrative activities. 412 valid questionnaires were used for analysis.

Analysis of relevant theoretical sources in the field of management, psychology, sociology and marketing, and empirical research of employee satisfaction with communication in the organization, conducted using the survey method, are aimed at understanding relationship between employee position in the organization with communication satisfaction and aspects of communication, defined by the authors, which are satisfying for the managers and employees.

The method of generalization was used in determining basic concepts, starting points and appropriate assumptions; comparative method was used to record differences

⁸ From the perspective of social capital theory, the study has investigated the effect of internal communication and employee satisfaction on supply chain integration, in an example of 214 Chinese manufacturers.

⁹ The results of study showed that employees are most satisfied with feedback, informal communication and communication during meetings.

between individual categories, in order for these categories to be more completely determined in relation to each other; in order to record and consider key features of certain factors, methods of analysis and description were used; in order to contribute to adequate analysis of influence of employee behavior factors, methods of synthesis and logic were applied; in order to reach appropriate solutions from the initial hypotheses used in the research, the deductive method was used, and the inductive method was used to form and formulate appropriate conclusions. Quantitative data collected using the survey technique were processed in SPSS, and the use of statistical methods - descriptive statistics, χ^2 test, correlation analysis via Spearman's correlation coefficient, Mann Whitney and Kruskal Wallis test, contributed to formulation of reliable conclusions.

Out of 412 respondents, 35 (8.50%) are in top management, 57 (13.83%) are the middle management level, and 61 (14.81%) are first level of management, ie a total of 153 (37.14%).) managers. There are 259 (62.86%) respondents in the position of employees: 128 (31.07%) in the position of administrative jobs (a.j.) and 131 (31.79%) employees in the position of technical jobs (t.p.).

In the research of employee satisfaction with communication in the organization, the authors asked following research questions:

1. *Are employees satisfied with communication in the organization?*
2. *How much can appropriate communication increase motivation for work and job satisfaction in the organization?*
3. *How do employees and managers evaluate employees' communication with superiors and which aspects of communication are they satisfied with?*
4. *How do employees and managers evaluate communication of superiors with employees and which aspects of communication are they satisfied with?*

Research results and discussion

1) In assessing satisfaction with communication among employees in the organization, 16.50% of respondents said that communication is very good, 17.48% that it is good, 40.29% took a neutral position, expressing opinion that communication among employees is satisfactory, 18, 69% say it is weak, while 7.04% of respondents think that communication among employees in the organization is very poor. The above data indicate that the respondents do not think that communication among employees in the organization is good (1/3 of respondents, or 33.98%), while 40.29% consider it satisfactory. (Table 1).

Table 1. Assessment of respondents about communication among employees

Evaluation of communication among employees	Number of respondents	% of respondents
a) very good	68	16,50
b) good	72	17,48
c) satisfying	166	40,29
d) weak	77	18,69
e) very bad	29	7,04
Total	412	100,00

Source: Author's research

2) Of the total number of respondents, 35.68% believe that appropriate communication can greatly increase motivation for work and job satisfaction of employees in the organization, and 43.93% believe that appropriate communication can significantly increase motivation for work. The data above indicate that $\frac{3}{4}$ respondents (79.61%) believe that appropriate communication can greatly and significantly increase the motivation for work and job satisfaction of employees in the organization. On the other hand, 17.48% of respondents believe that communication does not affect work motivation too much, and 2.91% of respondents believe that communication cannot affect work motivation at all (Table 2).

Table 2. Assessment of the impact of communication on increasing motivation for work and employee satisfaction with work in the organization

Assessment of communication impact on increasing work motivation and employee job satisfaction	Number of respondents	% of respondents
a) greatly	147	35,68
b) quite	181	43,93
v) not too much	72	17,48
g) not at all	12	2,91
Total	412	100,00

Source: Author's research

The Kruskal Wallis test was used to examine differences in opinion on the influence of appropriate communication on work motivation between respondents at different positions in the organization (Table 3).

Table 3. Average values of attitudes about the impact of appropriate communication on the motivation for work of respondents at different positions

Position in organization	Average value	Standard deviation	sig
a) top management	1,67	0,68	0,000
b) middle level management	1,79	0,68	
v) first level management	1,60	0,72	
g) employees at administrative positions	1,81	0,85	
d) employees at technical positions	2,15	0,79	
Total	1,87	0,80	

Source: Author's research

Based on obtained significance, it can be noticed that there is a significant difference (sig = 0.000) between respondents at different positions in relation to opinion on influence of appropriate communication on work motivation. Average values show that managers have more positive attitude about the impact of appropriate communication on work motivation than employees, with first level managers having the most positive, and employees in technical jobs the most negative attitude.

The χ^2 test was used to analyze influence of position in the organization on attitude about influence of appropriate communication on work motivation (Table 4).

Table 4. χ^2 test results of position influence in the organization on attitude about influence of appropriate communication on work motivation

Communication increases work motivation	Management			Employees		χ^2	sig
	top	middle level	first level	adm.jobs	techn. jobs		
a) greatly	16	21	32	52	28	44,93	0,000
b) quite	15	28	20	56	59		
v) not too much	4	8	9	12	40		
g) not at all	0	0	0	8	4		

Source: Author's research

Based on results of χ^2 test, it can be seen that there is a connection between evaluation of appropriate communication impact on motivation to work with position of respondents in the organization. From the presented frequencies, it can be seen that all five categories of respondents according to positions in the organization generally positively observe impact of appropriate communication on work motivation, but it is noticeable that percentage of managers with positive opinions is significantly higher than percentage of employees with high grades.

To verify the fact that employees in all positions in organization generally positively perceive impact of appropriate communication on work motivation and that percentage of managers with a positive opinion is much higher than percentage of employees with high grades, Spearman's correlation coefficient was used (Table 5).

Table 5. Spearman's correlation coefficient of position in the organization and assessment of appropriate communication impact on work motivation

Correlation of position in organization and assessment of appropriate communication impact on work motivation	Communication increases work motivation	
Position in organization	R_s	0,225
	sig	0,662

Source: Author's research

The value of Spearman's correlation coefficient is statistically significant and positive. This confirms the fact that with increase of respondents position in organization, opinion about communication as a motivating factor becomes more positive.

3) In order to determine whether there are differences in employee satisfaction in communication with superiors in organization, data for employees and managers were separated.

Employees are most satisfied with availability of superiors to employees (3.76), using power that superior has to help employees solve problems at work (3.38) and existence of superiors' trust in employees (3.34), and least satisfied with stimulating employees in appropriate manner (2.95), frequency of meetings with employees (2.99), and creating opportunities for development and improving employees work skills (3.07) (Table 6).

Table 6. Assessment of employees' degree of satisfaction with communication between employees and superiors

Aspects of communication between employees and superiors	Min.	Max.	Average value	Stand. deviat.
a) immediate superiors are available to employees	1	5	3,76	1,16
c) superior uses his power to help employees solve problems at work	1	5	3,38	1,25
e) superior has confidence in employees	1	5	3,34	1,12
b) superior knows problems of employees and helps solving them	1	5	3,34	1,14
l) superior recognizes potential of employees	1	5	3,33	1,30
j) is open and ready to hear remarks of employees	1	5	3,27	1,34
h) sends feedback to employees during implementation of daily tasks	1	5	3,25	1,14
k) is open to new ideas and initiatives of employees	1	5	3,20	1,22
e) supports employees and is ready to pledge his authority	1	5	3,17	1,36
n) there is great trust of employees in superior	1	5	3,10	1,27
d) additionally motivates employees by getting involved in decision making	1	5	3,09	1,26
i) creates opportunities for development and improvement of business skills of employees	1	5	3,07	1,16
m) superior often holds meetings with employees	1	5	2,99	1,42
f) stimulates employees in appropriate manner	1	5	2,95	1,31

Source: Author's research

Managers are most satisfied with availability of immediate superiors to employees (3.96), using the power that superiors has to help employees solve problems at work (3.70) and sending feedback to employees during daily tasks (3.60), and existence of great trust of employees in superior is assessed the least strong (3.23), stimulation of employees in appropriate manner (3.25) and frequency of meetings with employees (3.28), which expressed the attitude that there is a lack of trust of employees in their superior, not to stimulate employees in an appropriate manner and not to hold meetings with employees often enough (Table 7).

Table 7. Assessment of managers' degree of satisfaction with communication between employees and superiors

Aspects of communication between employees and superiors	Min.	Max.	Average value	Stand. deviat.
a) immediate superiors are available to employees	1	5	3,96	1,01
c) superior uses his power to help employees solve problems at work	1	5	3,70	1,06
h) sends feedback to employees during implementation of daily tasks	1	5	3,60	1,02
d) the superior has confidence in employees	2	5	3,57	0,96
b) superior knows problems of employees and helps solving them	1	5	3,55	1,08
j) is open and ready to hear remarks of employees	1	5	3,53	1,17
k) is open to new ideas and initiatives of employees	1	5	3,47	1,12
i) creates opportunities for development and improvement of business skills of employees	1	5	3,44	1,10
l) superior recognizes potential of employees	1	5	3,43	1,11
e) supports employees and is ready to pledge his authority	1	5	3,39	1,24
g) additionally motivates employees by getting involved in decision making	1	5	3,29	1,11
m) superior often holds meetings with employees	1	5	3,28	1,16
f) stimulates employees in appropriate manner	1	5	3,25	1,20
n) there is great trust of employees in superior	1	5	3,23	1,17

Source: Author's research

To determine whether there is a statistically significant difference between employees and managers in assessing satisfaction degree of communication between employees and superiors in the organization, the Man Whitney test was performed (Table 8).

Table 8. Results of the Man Whitney test to compare differences between average values of employee satisfaction with communication with superiors, between employees and managers

Aspects of communication between employees and superiors	Employee		Managers		sig
	Average value	Stand. deviat.	Average value	Stand. deviat.	
a) immediate superiors are available to employees	3,76	1,16	3,96	1,01	0,138
b) superior knows problems of employees and helps solving them	3,34	1,14	3,55	1,08	0,075
c) superior uses his power to help employees solve problems at work	3,38	1,25	3,70	1,06	0,020

d) the superior has confidence in employees	3,34	1,12	3,57	0,96	0,116
e) supports employees and is ready to pledge his authority	3,17	1,36	3,39	1,24	0,176
f) stimulates employees in appropriate manner	2,95	1,31	3,25	1,20	0,028
g) additionally motivates employees by getting involved in decision making	3,09	1,26	3,29	1,11	0,170
h) sends feedback to employees during implementation of daily tasks	3,25	1,14	3,60	1,02	0,002
i) creates opportunities for development and improvement of business skills of employees	3,07	1,16	3,44	1,10	0,003
j) is open and ready to hear remarks of employees	3,27	1,34	3,53	1,17	0,072
k) is open to new ideas and initiatives of employees	3,20	1,22	3,47	1,12	0,037
l) superior recognizes potential of employees	3,33	1,30	3,43	1,11	0,544
m) superior often holds meetings with employees	2,99	1,42	3,28	1,16	0,081
n) there is great trust of employees in superior	3,10	1,27	3,23	1,17	0,322

Source: Author's research

Based on obtained significance of differences between employees and managers, in assessing degree of satisfaction with communication between employees and superiors in the organization, it can be seen that statistically significant difference between managers and employees exists in assessing satisfaction with following aspects of employee communication with superiors: the superior uses his power to help employees solve problems at work (sig = 0.020); supports employees and is ready to pledge his authority (sig = 0.028); sends feedback to employees during implementation of daily tasks (sig = 0.002); creates opportunities for development and improvement of employees business skills (sig = 0.003); is open to new ideas and initiatives of employees (sig = 0.037). Managers are more satisfied with all these aspects of communication.

The Kruskal Wallis test was used to examine differences in average values of employee satisfaction with communication with superiors, between respondents in different positions in the organization (Table 9).

Table 9. Average values of satisfaction ratings of communication between employees and superiors for each position in organization

Aspects of communication between employees and superiors	Management			Employees		sig
	top	middle level	first level	admin.	tech.	
a) immediate superiors are available to employees	4,11	3,93	3,93	3,84	3,67	0,172
b) superior knows problems of employees and helps solving them	4,00	3,50	3,40	3,41	3,24	0,004

c) superior uses his power to help employees solve problems at work	4,22	3,71	3,40	3,44	3,30	0,000
d) the superior has confidence in employees	4,00	3,50	3,47	3,25	3,39	0,015
e) supports employees and is ready to pledge his authority	4,11	3,36	3,07	3,19	3,12	0,001
f) stimulates employees in appropriate manner	4,00	3,29	2,87	3,00	2,85	0,000
g) additionally motivates employees by getting involved in decision making	3,78	3,50	2,93	3,09	3,03	0,001
h) sends feedback to employees during implementation of daily tasks	3,78	3,50	3,53	3,41	3,12	0,004
i) creates opportunities for development and improvement of business skills of employees	4,00	3,50	3,13	3,19	2,91	0,000
j) is open and ready to hear remarks of employees	4,00	3,50	3,40	3,34	3,15	0,012
k) is open to new ideas and initiatives of employees	3,78	3,71	3,13	3,38	3,00	0,000
l) superior recognizes potential of employees	4,11	3,29	3,20	3,47	3,18	0,001
m) superior often holds meetings with employees	3,78	3,36	2,93	3,16	2,82	0,001
n) there is great trust of employees in superior	3,89	3,21	2,87	3,19	3,00	0,001

Source: Author's research

Based on the obtained significance of differences in average values of employee satisfaction with communication with superiors, between respondents in different positions in the organization, it can be said that a statistically significant difference between these categories of respondents exists in assessments of following aspects of communication: superior knows problems of employees and helps solving them (sig = 0,004), superior uses the power he has to help employees solve problems at work (sig = 0,000), stimulates employees in an appropriate way (sig = 0,000), sends feedback to employees during implementation of daily tasks (sig = 0,004), creates opportunities for development and improvement of employees business skills (sig = 0,000), is open and ready to hear remarks of employees (sig = 0,000), is open to new ideas and initiatives of employees (sig = 0,012), superior recognizes the potential of employees (sig = 0,001), the supervisor often holds meetings with employees (sig = 0,001); top managers are most satisfied with these aspects of communication, and employees in technical jobs are the least satisfied; the superior has confidence in employees (sig = 0,015); top managers are the most satisfied, and employees in administrative jobs are the least satisfied; supports employees and is ready to pledge his authority (sig = 0,001), additionally motivates employees by getting involved in decision-making (sig = 0,001), there is great trust of employees in superiors (sig = 0,001); top managers are the most satisfied, and first-level managers are the least satisfied.

The relationship between degree of satisfaction with communication between employees and superiors and position of respondents in the organization was examined by analyzing Spearman's correlation coefficient (Table 10).

Table 10. Spearman's correlation coefficient of position in the organization and degree of satisfaction with communication of employees with superiors

Aspects of communication between employees and superiors	Position in organization	
	a) immediate superiors are available to employees	Rs
	sig	0,018
b) superior knows problems of employees and helps solving them	Rs	-0,156
	sig	0,002
c) superior uses his power to help employees solve problems at work	Rs	-0,175
	sig	0,000
d) the superior has confidence in employees	Rs	-0,109
	sig	0,027
e) supports employees and is ready to pledge his authority	Rs	-0,133
	sig	0,007
f) stimulates employees in appropriate manner	Rs	-0,180
	sig	0,000
g) additionally motivates employees by getting involved in decision making	Rs	-0,143
	sig	0,004
h) sends feedback to employees during implementation of daily tasks	Rs	-0,184
	sig	0,000
i) creates opportunities for development and improvement of business skills of employees	Rs	-0,235
	sig	0,000
j) is open and ready to hear remarks of employees	Rs	-0,155
	sig	0,002
k) is open to new ideas and initiatives of employees	Rs	-0,196
	sig	0,000
l) superior recognizes potential of employees	Rs	-0,116
	sig	0,018
m) superior often holds meetings with employees	Rs	-0,162
	sig	0,001
n) there is great trust of employees in superior	Rs	-0,114
	sig	0,020

Source: Author's research

Based on significance of Spearman 's correlation coefficient, there is a statistically significant correlation between employee satisfaction with communication with superiors and position of respondents in the organization in all aspects of communication. It can be noticed that all significant correlations are negative, which means that with increase of levels in organizational hierarchy, satisfaction with communication between employees and superiors also increases.

4) In order to determine whether there is a difference in satisfaction with communication between superiors and employees in organization, data for employees and managers are separated.

Employees are most satisfied with responsible behavior of employees in relation to directives that are given to them (3.60) and responsibility of employees to send information towards superiors (3.51), and the worst rated was non-overburdening of superior with communication with employees (3.13) and sending necessary information from employees to their superior, even before they are asked (3.24) (Table 11).

Table 11. Assessment of employees' degree of satisfaction with communication between superiors and employees

Aspects of communication between employees and superiors	Min.	Max.	Average value	Stand. deviation
d) employees act responsibly in relation to directives addressed to them	1	5	3,60	1,08
b) employees have responsibility to send information to superiors	1	5	3,51	1,06
e) employees accept evaluation of their work, suggestions and criticism	1	5	3,41	1,25
c) employees send necessary information to their superiors even before they are asked	1	5	3,24	1,06
a) the superior is not overburdened with communication with employees	1	5	3,13	1,17

Source: Author's research

Managers are most satisfied with responsible behavior of employees in relation to directives addressed to them (3.60) and the responsibility of employees to send information to superiors (3.58), while they are least satisfied with non-overburdening superiors in communicating with employees (3.38) and sending necessary information from employees to superior even before they are asked (3.43) (Table 12).

Table 12. Assessment of managers' degree of satisfaction with communication between superiors and employees

Aspects of communication between employees and superiors	Min.	Max.	Average value	Stand. deviation
d) employees act responsibly in relation to directives addressed to them	1	5	3,60	0,97
b) employees have responsibility to send information to superiors	1	5	3,58	1,01
e) employees accept evaluation of their work, suggestions and criticism	1	5	3,49	0,98
c) employees send necessary information to their superiors even before they are asked	1	5	3,43	0,93
a) the superior is not overburdened with communication with employees	1	5	3,38	0,97

Source: Author's research

To determine existence of statistically significant difference between employees and managers, in satisfaction degree assessment of communication between superiors and employees in the organization, the Man Whitney test was performed (Table 13).

Table 13. Results of the Man Whitney test to compare differences in average values of ratings of communication satisfaction of superiors with employees between employees and managers

Aspects of communication between employees and superiors	Employees		Managers		sig
	Aver. val.	Stand. deviat.	Aver. val.	Stand. deviat.	
a) the superior is not overburdened with communication with employees	3,13	1,17	3,38	0,97	0,084
b) employees have responsibility to send information to superiors	3,51	1,06	3,58	1,01	0,582
c) employees send necessary information to their superiors even before they are asked to do so	3,24	1,06	3,43	0,93	0,039
d) employees act responsibly in relation to directives addressed to them	3,60	1,08	3,60	0,97	0,743
e) employees accept evaluation of their work, suggestions and criticism	3,41	1,25	3,49	0,98	0,694

Source: Author's research

Based on obtained significance of difference between employees and managers in assessing degree of satisfaction with communication between superiors and employees in the organization, it can be concluded that statistically significant difference between managers and employees exists in assessment of satisfaction with communication aspect: “employees send necessary information to their superior even before they are asked to do so” (sig = 0.039). Managers are more satisfied with this aspect of communication than employees.

Examining differences in average values of communication satisfaction ratings of superiors with employees between respondents at different positions in the organization was performed using the Kruskal Wallis test (Table 14).

Table 14. Average assessment values of satisfaction with communication between superiors and employees for each of the positions in organization

Aspects of communication between employees and superiors	Management			Employees		sig
	top	middle level	first level	adm.	techn.	
a) the superior is not overburdened with communication with employees	3,33	3,43	3,33	3,28	3,00	0,083
b) employees have responsibility to send information to superiors	3,78	3,50	3,53	3,66	3,36	0,141
c) employees send necessary information to their superiors even before they are asked to do so	3,67	3,57	3,07	3,50	3,03	0,000

d) employees act responsibly in relation to directives addressed to them	3,89	3,64	3,27	3,88	3,39	0,000
e) employees accept evaluation of their work, suggestions and criticism	3,78	3,57	3,13	3,44	3,42	0,070

Source: Author's research

Based on obtained significance differences in the average values of satisfaction assessments of communication between superiors and employees, between respondents in different positions in the organization can be seen that a statistically significant difference between these categories of respondents exist in satisfaction assessments of the following aspects of communication between superiors and employees: employees send necessary information to their superiors even before being asked (sig = 0.000); top managers are most satisfied, and employees in technical jobs are least satisfied; employees behave responsibly in relation to directives addressed to them (sig = 0.000); top managers are most satisfied, and first-level managers are least satisfied.

Connection between degree of satisfaction with communication between superiors and employees and position of respondents in organization was examined also by analyzing Spearman's correlation coefficient (Table 15).

Table 15. Spearman's correlation coefficient of position in organization and degree of satisfaction with communication between superiors and employees

Aspects of communication between employees and superiors	Position in organization	
	Rs	sig
a) the superior is not overburdened with communication with employees	Rs	-0,118
	sig	0,016
b) employees have responsibility to send information to superiors	Rs	-0,077
	sig	0,118
c) employees send necessary information to their superiors even before they are asked to do so	Rs	-0,187
	sig	0,000
d) employees act responsibly in relation to directives addressed to them	Rs	-0,085
	sig	0,085
e) employees accept evaluation of their work, suggestions and criticism	Rs	-0,035
	sig	0,481

Source: Author's research

Based on Spearman's correlation coefficient significance, there is a statistically significant correlation between superior satisfaction with communication with employees and position in the organization in terms of communication: “superior is not overloaded with communication with employees” (Rs = -0.118, sig = 0.016) and “employees send necessary information to their superiors even before they are asked to do so” (Rs = -0.187,

sig = 0.000). It can be noticed that significant correlations are negative, which means that with increase of levels in organizational hierarchy, satisfaction with communication between superiors and employees also increases.

Conclusion

Summarizing results of empirical research, it can be concluded:

1) Employees and managers evaluate communication among employees in the organization as good and satisfactory.

2) Appropriate communication can increase greatly and to quite extent motivation for work and job satisfaction of employees in organization, managers have more positive attitude about impact of appropriate communication on work motivation than employees, and with increasing position of respondents in organization, the more positive opinion on communication as a motivational factor becomes.

3) The results of the survey on employee communication satisfaction with superiors show following:

- a. Employees are most satisfied with availability of superiors to employees, using power that superiors have to help employees solve problems at work, and existence of superiors' trust in employees, and least satisfied with stimulating employees appropriately, frequency of meetings with employees, and creating opportunities for development and improvement employee work skills.
- b. Managers are most satisfied with availability of immediate superiors to employees, using power that superior has to help employees solve problems at work and sending feedback to employees in implementation of daily tasks, and least rated is existence of great trust of employees in superior, stimulating employees appropriately and frequent holding meetings with employees, thus expressing the view that employees lack trust in their superior, that employees are not stimulated in appropriate manner, and that meetings with employees are not held often enough.
- c. Significance of differences between employees and managers in assessing communication satisfaction between employees and superiors in the organization shows that managers are more satisfied than employees with following aspects of employee communication with superiors: superior uses his power to help employees solve problems at work, supports employees and is ready to pledge his authority, sends feedback to employees during implementation of daily tasks, creates opportunities for development and improvement of business skills of employees and is open to new ideas and initiatives of employees.
- d. A statistically significant difference between respondents at different positions in organization exists in assessment of following aspects of communication:
 - Top managers are most satisfied, and employees in technical jobs are least satisfied with aspects of communication: superior knows problems of employees and helps solve them, superior uses power he has to help

- employees solve problems at work, stimulates employees appropriately, sends feedback to employees during implementation of daily tasks, creates opportunities for development and improvement of employees work skills, is open and ready to hear comments from employees, is open to new ideas and initiatives of employees, superior recognizes employee potential, superior often holds meetings with employees.
- Top managers are most satisfied, and employees in administrative jobs are least satisfied with communication aspect: superior has confidence in employees.
 - Top managers are most satisfied, and first-level managers are least satisfied with communication aspect: supports employees and is ready to pledge his authority, additionally motivates employees by involving them in decision-making, there is great trust of employees in superiors.
- e. As the level in the organizational hierarchy increases, so does the satisfaction of employees communicating with superiors.
- 4) The results of survey on satisfaction with communication between superiors and employees show following:
- a. Employees are most satisfied with responsible behavior of employees in relation to directives given to them and responsibility of employees to send information to superiors, and they have rated with lowest grades the non-overburdening superior with communication with employees and sending necessary information to employees even before being asked.
 - b. Managers are most satisfied with responsible behavior of employees in relation to directives given to them and responsibility of employees to send information to superiors, while they are least satisfied with non-overburdening superiors with communication with employees and sending necessary information to employees even before being asked.
 - c. The significance of difference between managers and employees in assessing degree of satisfaction with communication between superiors and employees in organization shows that managers are more satisfied than employees with communication aspect: employees send necessary information to superiors even before they are asked.
 - d. There is statistically significant difference between respondents in different positions in organization in assessing satisfaction with following aspects of communication between superiors and employees:
 - Top managers are the most satisfied, and employees in technical jobs are the least satisfied with communication aspect: employees send necessary information to their superiors even before they are asked.
 - Top managers are the most satisfied, and first-level managers are the least satisfied with communication aspect: employees behave responsibly in relation to directives given to them.
 - e. As the level in organizational hierarchy increases, so does the satisfaction with communication between superiors and employees.

Although the research, according to statistical population, is extensive, it also has limitations that are reflected in coverage of local geographical area in which the

research was conducted, and the use of data from one period - period when research was conducted. These limitations can be removed by future researching with a larger coverage of statistical population in a wider geographical area and by repeating the research.

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IMPLEMENTATION OF QUALITY MANAGEMENT SYSTEM AND THE LEVEL OF MATURITY OF THE COMPANY IN THE DAIRY INDUSTRY OF SERBIA

Abstract

The aim of this paper is to point out the existence of differences in the application of quality management systems as well as the level of maturity in the companies of the dairy industry in the Republic of Serbia. The initial assumption is based on the defined goal which states that the application of quality management systems and the level of maturity in these companies differ depending on their size. The research was conducted on the basis of QMMG - Quality Management Maturity Grid model of maturity. The initial assumption test was performed using the Kruskal-Wallis test as a nonparametric alternative to one-way analysis of variance of different groups. In addition to this method, the methods analysis, the synthesis method and descriptive statistics were also used. Using the mentioned statistical methods, six aspects of the quality management system were processed (Management understanding and attitude, Quality organisation status, Problem handling, Cost of quality as percent of sales, Quality improvement actions and Summary of company quality posture) as well as the entire quality management system in selected companies. Statistically significant deviations were found in five of the six aspects as well as in the overall quality management system. The contribution of this research is reflected in the diagnosis of the level of maturity in the companies covered by this research together with the possibility of improving certain aspects of the quality management system in order to develop the skills needed to increase the companies' quality performance.

Key words: quality management, maturity models, company performance

JEL classification: L15, M11, O33

ИМПЛЕМЕНТАЦИЈА СИСТЕМА УПРАВЉАЊА КВАЛИТЕТОМ И НИВО ЗРЕЛОСТИ ПРЕДУЗЕЋА У ИНДУСТРИЈИ МЛЕКА У РЕПУБЛИЦИ СРБИЈИ

Апстракт

Основни циљ овог научног рада је да се укаже на постојање разлика у примени система управљања квалитетом као и нивоа зрелости у предузећима индустрије

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млека у Републици Србији. На основу постављеног циља дефинисана је полазна претпоставка да се примена система управљања квалитетом и ниво зрелости у овим предузећима разликује у зависности од њихове величине. Истраживање је спроведено на основу QMMG - Quality Management Maturity Grid модела зрелости. Испитивање полазне претпоставке извршено је применом Крускал-Валис-овог теста као непараметарске алтернативе једносмерној анализи варијансе различитих група. Поред ове методе коришћене су и метод анализе, метод синтезе и дескриптивне статистике. Помоћу наведених статистичких метода обрађено је шест аспеката система управљања квалитетом (разумевање управљања квалитетом, статус квалитета организације, решавање проблема, трошкови квалитета као % од продаје, активности побољшања квалитета и резиме става компаније о квалитету) као и целокупан систем управљања квалитетом у изабраним предузећима. Утврђена су статистички значајна одступања у пет од шест аспеката као и у целокупном систему управљања квалитетом. Допринос овог истраживања огледа се у дијагностификовању нивоа зрелости у предузећима обухваћеним истраживањем као и могућности унапређења појединих аспеката система управљања квалитетом како би се развиле способности потребне за повећање квалитета пословања.

Кључне речи: управљање квалитетом, модели зрелости, перформансе предузећа

Introduction

The concept of quality management is based on a management philosophy that is guided by the expectations and requirements of consumers, in other words the market. An efficient quality management system is required to consistently provide products and services that meet user requirements as well as all stakeholder requirements, which in business world today imposes the need for continuous quality improvement of products and services.

An important pillar of quality management is standardization which is the basis for ensuring a quality system in each business system and the economy as a whole. Therefore, when it comes to quality, we always start from the assumption that the issue of standardization has been previously resolved, because it is considered that it is not possible to provide quality without the existence of appropriate standards. Most countries around the world today apply quality management systems based on the International Organization for Standardization (ISO). The most common are certainly the standards from the 9000 series, but also many other standards of this organization ISO 14001, ISO 45000, ISO 22000, ISO 26000, etc.

The standards of this organization were created on the basis of international experience in different areas of business and thus provide systematic quality improvement in all companies to implement them in business. Acceptance of these standards also means a simpler comparison of the experiences of companies around the world and find a solution for any shortcomings in the work. (Stepanov S, et al 2017, p. 83-96)

Standard ISO 9001:2015, as well as previous versions, is based on the process approach. The emphasis is on the adoption of the process approach in all segments of organisation management which improves effectiveness and efficiency of the quality system management

and thus fulfills users' needs and demands and increases their satisfaction. It is essential to understand interrelated processes within a system and their management that are defined by quality politics and strategic direction of the organisation. (Mihajlović M, 2018 p 221-238)

By establishing a quality management system based on a series of ISO standards the foundations has been laid which has created the conditions for standardization that enables the comparison between organizations as well as monitoring the performance of the organization over time. However, it is very important to point out that obtaining a quality management system certificate from the group of ISO standards is not enough for the great achievements of the organization because a certified quality management system serves only as a good basis for its further improvement.

Continuous improvement is a very important factor in the process of certifying and maintaining the quality management system (Valadao A. F. C. et al 2013 p 96–110.) By providing continuous improvement of quality, it is necessary to develop a set of planned activities for improving the functioning of the organization, which are directly related to its systematic review and evaluation.

As a very good means of continuous improvement of business quality, maturity models have appeared, on the basis of which the level of maturity of the quality management system in a certain organization is assessed. Maturity models allow organizations to accurately identify strengths and weaknesses as well as areas that need improvement in a particular case.

Maturity models show the evolution of an enterprise through individual stages on its way to increase the performance quality and their main purpose is to describe the phases and ways of the company's mature growth. When it comes to their application in practice, maturity models make it easier to identify the gap between the current and desired level of maturity, as well as the abilities that need to be improved to bridge this gap. Therefore, it can be said that their purpose is to diagnose and develop the skills needed to increase the quality performance.

In order to point out the existence of differences in the application of the quality management system as well as the difference in the level of maturity, this paper presents a research conducted in the enterprises of the dairy industry in the Republic of Serbia. The research was conducted on a stratified sample of 14 companies. The representativeness of the sample was ensured on the basis of selection criteria for the companies covered by the research, such as: the importance of individual market participants, installed production capacities, their position in regional market segments as well as the number of employees.

In accordance with the aim of the research, the initial assumption was defined

H1: The implementation of the quality management system and the level of maturity in the dairy industry vary by company size.

which was examined using the QMMG model of maturity and statistical analysis of the data obtained by the research. The results of the statistical analysis showed significant deviations in the implementation of the quality management system and therefore the level of maturity.

Literature Review

Companies are constantly looking for ways to improve their business while striving to achieve business excellence at the same time. As achieving excellence in a dynamic, global environment is very challenging, many authors have developed and proposed maturity models with the intention of facilitating the gradual improvement of the quality performance.

One of the first maturity models was created by Philip Crosby. The Quality Management Maturity Grid - QMMG was published in 1979 in his famous work “Quality is free” (Crosby, 1979). It is aimed for companies or organizations as an indicator of how mature their processes are and how well they are embedded in their culture, given the management of the quality of services or products. The success of the application of this maturity model has served many authors in creating their own maturity models for validation and measurement of quality management.

- World-Class manufacturing (Schonberger R., 1986)
- The reliability and validity of eight critical factors of quality management (Saraph, J.V, et. al. 1989 p 810–829.)
- Seven key dimensions of quality management (Flynn, B.B, et. al. 1994 p 339–366.)
- Identifying seven underlying dimensions of quality management based on 14 Points of Deming (Anderson, J.C, et. al. 1995 p 637–658)

Over time, due to the unequal view of TQM, Business Excellence Models – BEMs have been developed. These models are created based on the TQM methodology and contain criteria by which the level of business excellence that the organization has achieved is assessed. The diversity of criteria for business excellence models, although they represent the operationalization and quantification of TQM elements, is conditioned by the cultural, technological, organizational and socio-economic characteristics of a particular country, its companies, organizations and people. Each criterion is broken down into a number of sub-criteria whose application, both vertically through all levels of the organization’s business functions as well as horizontally in all areas and processes, is examined and evaluated. In this way, not only is the general level of business excellence of the organization determined, but also the possibilities for improving business performance are realized.

Business Excellence Models (BEMs)

- The Malcolm Baldrige National Quality Award – MBNQA (1988)
- Shingo Prize (1988)
- HKMA – Quality Award in Hong Kong (1991)
- European Foundation for Quality Management (EFQM) – Excellence Model (1992)
- The Japan Quality Award (1996)

Quality management maturity models represent the operationalization of process orientation. In that sense, they contain a number of elements which level of maturity (development, quality) should be measured, monitored and improved, in order to increase the level of maturity of quality management. Given the number of maturity models of process management, it is not logical to expect their authors to agree on the level of maturity or number of stages that the company goes through on its path of implementation and development of process management. Hence the number of models is not surprising

- Business Process Management Maturity (BPM) model (Rosemann M., & de Bruin T., 2004)
- The Process Performance Index (Rummler-Brache Group, 2004)
- Maturity of Business Process Re-engineering (BPR) programmes (Maull R. S., et. al. 2003 p 596-624)
- The Business Process Maturity Model (Fisher D., 2004 p 11-15).
- Process Management Maturity Assessment PMMA (Rohloff M. 2009).

- Business Process Orientation (BPO) maturity model (McCormack K., 2007)
- Process and Enterprise Maturity Model PEMM (Hammer M., 2007 p 111-123).
- Evaluating Business Process Maturity (Harmon P., 2004 p 1-11).
- Business Process Maturity Model version 1.0. (Weber C., et. al. 2008)
- Business Process Maturity Model (BPMM) for measuring and improving business process competence. (Lee, et.al. 2007)

However, all models certainly include phases that follow a logical sequence that shows improvement in business process management practice, so that the results and achievements of one phase or achieved at one level are the basis for the transition to a higher level of maturity.

For the purpose of this research which results are presented in this paper, one of the best known and most applied models was taken into consideration, Crosby's Quality Management Maturity Grid - QMMG, which can be used to determine, simply, the stage of quality management maturity in a particular company.

Crosby Matrix 5x6 shows the different stages of a company's quality management maturity in relation to six different categories of quality management (Quality management understanding and attitude, Quality organisation status, Problem handling, Cost of quality as % of sales, Quality improvement actions, Summary of company quality posture). Depending on the stage of implementation of quality management, the maturity of the company is determined, which Crosby divided into five phases (Crosby, 1979):

- Uncertainty,
- Awakening,
- Enlightenment,
- Wisdom,
- Certainty.

Table 1: Quality Management Maturity Grid – QMMG

Quality Management Maturity Grid (Crosby) Assessor				Department	
Measurement Categories	Stage 1: Uncertainty	Stage 2: Awakening	Stage 3: Enlightenment	Stage 4: Wisdom	Stage 5: Certainty
Management understanding and attitude	No comprehension of quality as a management tool. Tend to blame quality department for "quality problems".	Recognising that quality management may be of value but not willing to provide money or time to make it all happen.	While going through quality improvement programme learn more about quality management; becoming supportive and helpful.	Participating Understand absolutes of quality management. Recognise their personal role in continuing emphasis.	Consider quality management as an essential part of company system.
Quality organisation status	Quality is hidden in manufacturing or engineering departments. Inspection probably not part of organisation. Emphasis on appraisal and sorting	A stronger quality leader is appointed but main emphasis is still on appraisal and moving the product. Still part of manufacturing or other.	Quality department reports to top management, all appraisal is incorporated and manager has role in management of company.	Quality manager is an officer of company; effective status reporting and preventive action. Involved with customer affairs and special assignments.	Quality manager on board of directors. Prevention is main concern. Quality is a thought leader.

Problem handling	Problems are fought as they occur; no resolution; inadequate definition: lots of yelling and accusations.	Teams are set up to attack major problems. Long-range solutions are not solicited.	Corrective action communication established. Problems are faced openly and resolved in an orderly way.	Problems are identified early in their development. All functions are open to suggestion and improvement.	Except in the most unusual cases, problems are prevented.
Cost of quality as % of sales	Reported: Unknown Actual: 20%	Reported: 3% Actual: 18%	Reported: 8% Actual: 12%	Reported: 6.5% Actual: 8%	Reported: 2.5% Actual: 2.5%
Quality improvement actions	No organised activities. No understanding of such activities	Trying obvious "motivational" short-range efforts.	Implementation of a multi-step programme (e.g. Crosby's 14-step) with thorough understanding and establishment of each step.	Continuing the multi-step programme and starting other proactive / preventive product quality initiatives.	Quality improvement is a normal and continued activity.
Summary of company quality posture	"We don't know why we have problems with quality".	"Is it absolutely necessary to always have problems with quality?"	"Through management commitment and quality improvement we are identifying and resolving our problems."	"Defect prevention is a routine part of our operation."	"We know why we do not have problems with quality."

Source: Crosby P., (1979). *Quality Is Free: The Art of Making Quality Certain*, McGraw-Hill, New York.

Research Methodology

Based on the presented theoretical framework of the quality management system, an empirical research is conducted among economic entities within the dairy industry on the territory of the Republic of Serbia. The data were collected through a questionnaire and interview method. Structured questionnaire consisting of three parts. The first part concerned the general information about the company. The second part was related to information on implemented quality management systems and process orientation of the company, which determines the level of maturity of the company. The third part of the questionnaire was about improving the quality of business processes. In this scientific paper, the results of the second part of the questionnaire are presented, covering the following aspects of the quality management system: quality management understanding and attitude, quality organisation status, problem handling, cost of quality as percent of sales, quality improvement actions and summary of company quality posture.

The aim of the paper is to point out the existence of differences in the implementation of the quality management system and maturity level according to the size of the respondents (companies). For this purpose, an empirical survey was conducted, which included a sample of 14 respondents (companies) of different ownership, the number of employees in the company, and different organizational structures from the territory of the Republic of Serbia. According to the form of ownership, the sample consists of 7 limited liability companies (50.0%) and 7 joint stock companies (50.0%). When it comes to the number of employees (company size), 7 respondents (50.0%) have up to 50 employees and belong to the category of small enterprises, 1 respondent (7.1%) has 51-250 employees and belongs to the category of medium-sized enterprises and 6 respondents (42.9%) have over 250 employees and fall into the category of large

enterprises. By organizational structure, 8 respondents (57.1%) have a functional, while 6 respondents (42.9%) have a process oriented structure of the company.

Using a Likert scale, respondents rated six aspects of the quality management system (quality management understanding and attitude, quality organisation status, problem handling, cost of quality as percent of sales, quality improvement actions and summary of company quality posture) with grades from 1 to 5, whereby a higher grade implies a higher level of maturity of the company. The overall assessment of the quality management system and the level of maturity of the dairy industry was obtained as the sum of the results of each individual aspect. Then, the total score was divided with six (the number of the quality management system aspects).

Based on the analysed theoretical background and appointed objective of the research, the following hypothesis was made:

H_1 : *The implementation of the quality management system and the level of maturity in the dairy industry vary by company size.*

Hypothesis testing is provided by the application of Kruskal-Wallis' test. Data processing and testing of the proposed hypothesis were conducted in the statistical software of IBM SPSS version 21.

Research results and Discussion

The minimum, maximum, mean, standard deviation and variance were used to obtain descriptive statistical indicators of the quality management system (Table 1).

Table 2: Descriptive statistics of quality management system

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Kolmogorov-Smirnov	Shapiro-Wilk
Quality Management Understanding and Attitude	14	2	5	3.86	1.17	1.36	0.009	0.010
Quality Organisation Status	14	1	5	2.86	1.79	3.21	0.004	0.003
Problem Handling	14	1	5	3.00	1.18	1.39	0.042	0.090
Cost of Quality as % of Sales	14	1	5	3.07	1.90	3.61	0.002	0.001
Quality Improvement Actions	14	2	5	3.71	1.38	1.91	0.016	0.001
Summary of Company Quality Posture	14	3	5	4.00	0.96	0.92	0.004	0.001
Quality Management System	14	1.83	5.00	3.42	1.27	1.61	0.052	0.016

Source: Author's calculation, SPSS output table

The range of results obtained is from 1 to 5, while the average value of the aspects is as follows: quality management understanding and attitude 3.86, quality organisation

status 2.86, problem handling 3.00, cost of quality as % of sales 3.07, quality improvement actions 3.71, summary of company quality posture 4.00. The overall quality management system has an average value of 3.42, which indicates the third level of maturity of the dairy industry. The results of the Kolmogorov-Smirnov and Shapiro-Wilk tests for individual aspects and the quality management system indicate that the assumption of normality of distribution is not confirmed, i.e. the magnitude of significance is less than 0.05, which requires the use of non-parametric statistical techniques.

Determining the difference in the implementation of the quality management system and the level of maturity in relation to the size of the company was investigated using the Kruskal-Wallis test (Table 2), as a non-parametric alternative to one-way analysis of variance of different groups.

The Kruskal-Wallis test is used to compare the results of a continuous variable - individual aspects and a total quality management system for three or more groups of company size (up to 50 employees, 51-250, over 250). When the significance level is less than 0.05, it is concluded that the difference in the obtained values of the continuous variable between the groups is significant (Coakes, 2013, p. 202). Then accompanying research (Table 3) is applied, which, most often, involves converting the results into ranks, and comparing mean values of ranks and medians (Green, M., Salking, N., 2014, p. 410).

Table 3: Test Statistics^{a,b}

	Quality Management Understanding and Attitude	Quality Organisation Status	Problem Handling	Cost of Quality as % of Sales	Quality Improvement Actions	Summary of Company Quality Posture	Quality Management System
Chi-Square	11.361	11.361	11.197	7.533	7.563	5.185	10.539
df	2	2	2	2	2	2	2
Asymp. Sig.	.003	.003	.004	.023	.023	.075	.005
a. Kruskal Wallis Test							
b. Grouping Variable: Number of employees (company size)							

Source: Author's calculation, SPSS output table

The Kruskal-Wallis test revealed a statistically significant difference in quality management understanding and attitude according to company size (Gp1, n = 7: up to 50, Gp2, n = 1: 51-250, Gp3, n = 6), $\chi^2(2, n = 14) = 11.361, p = 0.003$. Quality management understanding and attitude is at the highest level in companies with over 250 employees (Mean Rank = 11.50, Md = 5.0), and at the lowest level in companies with up to 50 employees (Mean Rank = 4.07, Md = 3.0).

The Kruskal-Wallis test revealed a statistically significant difference in the quality organisation status according to company size (Gp1, n = 7: up to 50, Gp2, n = 1: 51-250, Gp3, n = 6), $\chi^2(2, n = 14) = 11.361, p = 0.003$. Quality organisation status is at the highest level in companies with over 250 employees (Mean Rank = 11.50, Md = 5.0), and at the lowest level in companies with up to 50 employees (Mean Rank = 4.07, Md = 1.0).

The Kruskal-Wallis test revealed a statistically significant difference in problem handling according to company size (Gp1, n = 7: up to 50, Gp2, n = 1: 51-250, Gp3,

$n = 6$), $c2 (2, n = 14) = 11.197, p = 0.004$. Problem handling is at the highest level in companies with over 250 employees (Mean Rank = 11.50, Md = 4.0), and at the lowest level in companies with up to 50 employees (Mean Rank = 4.07, Md = 2.0).

The Kruskal-Wallis test revealed a statistically significant difference in cost of quality as % of sales according to company size (Gp1, $n = 7$: to 50, Gp2, $n = 1$: 51-250, Gp3, $n = 6$), $c2 (2, n = 14) = 7.533, p = 0.023$. Cost of quality as % of sales are at the highest level in companies with over 250 employees (Mean Rank = 10.67, Md = 5.0), and at the lowest level in companies with up to 50 employees (Mean Rank = 4.71, Md = 1.0).

Table 4: Ranks and median

Aspects and Overall Quality Management System	Number of employees (company size)	N	Mean Rank	Median
Quality Management Understanding and Attitude	Up to 50	7	4,07	3,00
	51-250	1	7,50	4,00
	Over 250	6	11,50	5,00
	Total	14		
Quality Organisation Status	Up to 50	7	4,07	1,00
	51-250	1	7,50	3,00
	Over 250	6	11,50	5,00
	Total	14		
Problem Handling	Up to 50	7	4,07	2,00
	51-250	1	7,50	3,00
	Over 250	6	11,50	4,00
	Total	14		
Cost of Quality as % of Sales	Up to 50	7	4,71	1,00
	51-250	1	8,00	4,00
	Over 250	6	10,67	5,00
	Total	14		
Quality Improvement Actions	Up to 50	7	4,79	2,00
	51-250	1	7,00	4,00
	Over 250	6	10,75	5,00
	Total	14		
Summary of Company Quality Posture	Up to 50	7	5,21	3,00
	51-250	1	11,50	5,00
	Over 250	6	9,50	5,00
	Total	14		
Quality Management System	Up to 50	7	4,00	2,00
	51-250	1	8,00	3,83
	Over 250	6	11,50	4,58
	Total	14		

Source: Author's calculation, SPSS output table

The Kruskal-Wallis test revealed a statistically significant difference in quality improvement actions according to company size (Gp1, $n = 7$: up to 50, Gp2, $n = 1$: 51-

250, Gp3, n = 6), c2 (2, n = 14) = 7.563, p = 0.023. Quality improvement actions are at the highest level in companies with over 250 employees (Mean Rank = 10.75, Md = 5.0), and at the lowest level in companies with up to 50 employees (Mean Rank = 4.79, Md = 2.0).

The Kruskal-Wallis test did not reveal a statistically significant difference in the summary of company quality posture according to the size of the company (Gp1, n = 7: up to 50, Gp2, n = 1: 51-250, Gp3, n = 6), c2 (2, n = 14) = 5.185, p = 0.075 > 0.05.

The Kruskal-Wallis test revealed a statistically significant difference in the implementation of quality management system according to company size (Gp1, n = 7: up to 50, Gp2, n = 1: 51-250, Gp3, n = 6), c2 (2, n = 14) = 10.539, p = 0.005. The quality management system is most implemented in companies with over 250 employees (Mean Rank = 11.50, Md = 4.58) and at least in companies with up to 50 employees (Mean Rank = 4.00, Md = 2.0). At the same time, this implies that large companies have the highest level of maturity, while small companies have the lowest level of maturity.

Considering that in five of the six aspects of the quality management system, as with the overall quality management system, are determined a significant difference compared to the size of company, it may be noted that the proposed assumption of H_1 is accepted.

Conclusion

Empirical research has performed calculations of the level of maturity of the quality management system for individual organizations based on the QMMG model. Kruskal-Wallis test compares the results of quality management systems variable (individual aspects) and based on statistically significant deviations in five of the six aspects it can be argued that the starting hypothesis *The implementation of the quality management system and the level of maturity in the dairy industry vary by company size* is proven. Additional analysis of the results obtained by the research found that the most significant deviations are in aspects of Cost of Quality as% of Sales and Quality Improvement Actions.

Considering that all enterprises covered by this research apply the ISO 9001 standard and that due to the characteristics of their products they also apply other standards ISO 14000, ISO 22000, ISO 45000, with the latest revisions of the standards ISO 9001: 2015, ISO 14001: 2015, ISO 22000: 2018, ISO 45001 : 2018 the application of these standards is greatly facilitated by creating the possibility of creating an integrated management system. In addition to easier integration with other management systems thanks to the same high-level structure, identical basic text as well as common terms with key definitions, a reduction in **quality costs** should be expected.

Most of the enterprises covered by this research are based on a fairly traditional organizational culture. In order to achieve better results, it is necessary to improve the management, which would encourage participative organizational culture. In order for the process of continuous improvement to work, it is necessary that the value systems of quality management be built into the entire structure of the organization because it requires the full participation and commitment of all employees. **Continuous quality improvement** of business processes should contribute to the increase of the efficiency, productivity and profitability of their performance. In that way, it directly affects the improvement of the

overall performance of the organization, and thus the realization of higher profits, as well as long-term growth.

Based on the conducted research, it can be stated that the applied maturity model has proven to be valuable in measuring the level of maturity of the quality management system. The model presented in this paper and applied in the research can be useful to managers when measuring the level of maturity of their own quality management system. Using this model, many aspects of the quality management system within the organization can be analysed and compared, which makes this model a useful tool for comparison with others in terms of the level of maturity of the quality management system.

Even though maturity models represent a kind of map for enterprise management and a guide for the improvement of certain aspects of the quality management system, they should not only be viewed closely related to the improvement of certain segments. It is necessary that the chosen maturity model, above all, has a general organizational focus, instead of just focusing on individual aspects and in that sense provide a common framework for improving company performance that will enable sustainable growth and the company's development as well as better competitiveness in the end.

In that sense, the applied methodology and the results obtained by theoretical and empirical research presented in this paper, should serve to researchers and managers as a basis for further research of the most important factors of maturity and opportunities to improve overall quality in order to improve the business competitiveness regardless of the type of business.

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INTERPLAY BETWEEN DIGITAL TECHNOLOGIES AND BUSINESS PERFORMANCE IN BANKING INDUSTRY: GLOBAL AND REGIONAL PERSPECTIVES

Abstract

In order to remain competitive on both domestic and global market as well as to satisfy evolving consumers' needs, modern banks must not ignore the potential of digital and smart technologies. Taking into consideration the importance of digitalization as a new standard in business practice, the aim of this paper is to evaluate the impact of digitalization on the performance of banking sector globally and in SEE region. The main purpose of this paper is to test if the investments in information and communication technologies (ICT) contribute to the growth of profitability of banking sector as well as to the reduction of OPEX. In order to test the influence of investments in ICT on banking performance adequately, the static panel data models of fixed effects models were used. The results indicate that the influence of investments in ICT on OPEX defers on global and regional level. The results also indicate statistically significant positive relationship between investments in ICT and banks' profitability in SEE region.

Key words: digital technologies, smart technologies, investments in ICT, OPEX, profitability, banking industry

JEL classification: C1, F3, G2

МЕЋУСОБНА ПОВЕЗАНОСТ ИЗМЕЂУ ДИГИТАЛНИХ ТЕХНОЛОГИЈА И ПОСЛОВНИХ ПЕРФОРМАНСИ У БАНКАРСКОЈ ИНДУСТРИЈИ: ГЛОБАЛНА И РЕГИОНАЛНА ПЕРСПЕКТИВА

Апстракт

Како би остале конкурентне на домаћем и глобалном тржишту, и како би задовољиле потребе потрошача чије се потребе континуирано мењају,

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савремене банке не смеју да игноришу потенцијал дигиталних и паметних технологија. Полазећи од значаја дигитализације као новог стандарда у пословној пракси савремених организација, предмет овог рада представља оцена утицаја дигитализације на пословне резултате банкарског сектора – глобално и у региону ЈИЕ. Рад има за циљ да оцени да ли улагања у информационо-комуникационе технологије (ИКТ) доприносе расту профитабилности банкарског сектора, односно смањењу ОПЕХ. У циљу адекватног тестирања утицаја улагања у ИКТ на банкарске перформансе, коришћени су статички ФЕ модели панел анализе. Резултати указују да се утицај инвестиција у ИКТ на ОПЕХ разликује на глобалном и регионалном нивоу. Резултати такође упућују на присуство статистички значајне позитивне везе између инвестиција у ИКТ и профитабилности банака у региону ЈИЕ.

Кључне речи: *дигиталне технологије, паметне технологије, улагања у ИКТ, ОПЕХ, профитабилност, банкарска индустрија*

Introduction

The traditional financial services industry is confronted with tremendous challenges, which result in substantial structural developments. In order to remain competitive on both domestic and global market, it is of great importance for financial institutions to concentrate on and understand the factors that drive these developments (Gerlach, 2020).

The importance of banks as financial intermediaries for the functioning of the contemporary economic systems is essential (Lončar et al., 2016). Banking environment has changed significantly in the last decade, redefining the main attributes of competition in traditional business models. In order to adequately understand the course of action banks should follow in the future, challenges which banking industry is currently confronted with must be observed first. All changes can be observed on two levels – the macro and the micro level.

Macro (external) environment. In macro environment, it is widely accepted that banks hold a unique intermediary role in sustainable development, but also have a difficult position after the 2008 financial crisis (Yip & Bocken, 2018). Therefore, in the aftermath of the Global Crisis, conventional monetary policy has been constrained by low interest rates in many major economies (Lilley & Rogoff, 2020). The era of low or even negative interest rates (on both European and US market) has changed the banking environment tremendously. Lowering the key rates by major central banks in order to recover the economy after the global financial crisis, expectedly transmitted to banks' offering rates imposing pressure on their earning ability. Thus banks were forced to change their operating models in order to find new ways to survive in circumstances banking sector has never been before. Since then, changes in banking industry worldwide seem only to be increasing.

Diminished interest rates firstly affected smaller banks which, following their size and no proportionally diminished OPEX, were acquired by the larger ones. In the era of low interest rates and no proportionally changed OPEX economy of scale seems to be an

important factor to improve the overall competitiveness. In order to obtain larger number of clients (both corporate and retail), some banks dumped their selling prices (i.e. offering rates) even further. The other strategy that has been widely used refers to rising efficiency in providing services. Practically the “rat race” among the banks during the last decade has substantially changed their traditional role – in order to compete successfully on the global level in the era of thin profit margins and more restrictive regulative environment, banks regard technology and innovation as a top priority.

However, by digitalizing their operations banks become more efficient and more competitive. Digitalization also enable banks to reduce OPEX size by reducing the number of employees which are replaced by software solutions. In traditional banks, approximately 40% of OPEX belongs to employees’ salaries. On the other hand, by digitalizing their operations banks also respond to changing consumer’ behavior as well as evolving customers’ needs (the so called “new digital generations”). In new digitalized environment products and services are more tailored-made in order to reflect distinctions in customers’ needs and behavior. Banks are increasingly adopting and leveraging advanced technologies to deliver innovative financial products and services, such as artificial intelligence, advanced data analytics, machine learning, cloud computing, distributed ledger technology and application programming interfaces. With ICT now affecting every aspect of financial services, as well as with the presence of customer-centric approach in all the major business models, digital platforms became an essential mechanism for engaging with existing and potential customers.

Micro (internal) environment. Consumer behavior and expectations are evolving, forcing not just banks, but the financial services industry to redefine their priorities (Hinton, 2020). In general, digitalization is highly derived by new generation i.e. digital civilization where consumers’ expectations are oriented towards digital channels, so banks cannot afford to ignore it. If banks decide not to follow the path of digitalization they would easily lose the market shares by Fin-Tech companies which are increasingly present (firstly in the payment processing but also other segments of banking activities). Younger generations are in high demands for the banking sector to be up to date with the new digital solutions. Their expectations are based on features such as real-time reports, online, fast, paperless and customized loans, analytics of a customer’s financial standing, investment decisions and other real-time actions. Accordingly, it is highly recommended that banks constantly monitor and evaluate the behavior of the Millennials (generation of young professionals which is important for banks both in terms of size and of high demand for banking services) in order to successfully satisfy their needs and expectations. Furthermore, it is also important to already start evaluating the behavior of the so-called “Z generation” - the youngest customers whose demand for banking services is expected to rocket in the following years.

Along with the changing preferences of new generations and their increasing usage of financial technologies, another challenge that has recently been observed in micro banking environment coincide with the raising popularity of FinTech companies. Based on the EY FinTech Adoption Index, the percentage of FinTech users increased significantly from 16% in 2015 to 64% in 2019, with the current awareness of FinTech on very high level (Ernst & Young, 2019). These developments emphasize the importance of identifying potential drivers of FinTech adoption. According to EY Survey (Ernst & Young, 2020) FinTech (and BigTech) companies benefit from the absence of legacy systems, which

allow them to invest in the latest technology and customer experiences, rather than just keep existing systems ticking over. Accordingly, traditional banks are facing a dilemma on how to address FinTech as new competitors - co-operative or competitive (Gomber et al., 2017). Valverde and Fernandez (2020) consider that competition between traditional banks and tech companies is mostly driven by their relative ability to manage information sharing. Authors came to conclusion that regulation is still considering ways of providing a level playing field while industry participants are reacting with a mixture of strategies, many of them based mostly on cooperation.

Taking into account the main challenges that banking industry is currently facing as well as the importance of digitalization as a new standard in business practice, the subject of this paper is to evaluate the impact of digitalization on the performance of banking sector globally and in SEE region. The main purpose of this paper is to test if the investments in ICT contributes to the growth of profitability of banking sector as well as to the reduction of OPEX. The main contributions of this study primarily refer to the comparison of regional and global performance and the implications to the management of respective regional banks. The authors believe that there is significantly positive correlation between investments in ICT and the quality of banking services and products. In order to adequately test the influence of investments in ICT on banking performance, the static panel data models of fixed effects models were used. The rest of the paper is organized as follows. After the introductory remarks, the second part provides a brief overview of relevant literature in the field. The third, fourth and fifth parts refer to data used, methodology and empirical results. The conclusion is given in the last, sixth part.

Literature review

Digital transformation is becoming standard feature in an increasingly digital world, which has contributed to significant changes in business processes all over the world (Rodrigues et al., 2020). Industry 4.0 or Digital Revolution has changed the way we live by changing interactions with clients and companies, with business models and financial services as no exception (Mekinjić, 2019). Changes that business environment is constantly confronted with call for their identification, monitoring and a constant adapting of operations to new conditions. An adequate response of the companies requires them to evaluate and make proper use of the possible chances and avoid or minimize potential threats (Swacha-Lech, 2017). Kim et al. (2016) focus their research on the use of new technologies that enable the development of innovative, disruptive and differentiated financial services or products. Philippon (2016) believes that these services and products have the potential to disrupt existing industry structures and set new boundaries.

Today's key challenge for firm growth relies in the integration of digital technologies and their use in new business models (Bouncken, 2020). Whilst the banking industry is well-known for being conservative, when it comes to change and the implementation of new technologies, it is time for the commercial banks to increase their speed of innovation, focusing on out-of-the-box thinking in constantly changing environment (Hinton, 2020). Some authors (Mekinjić, 2019) consider the digitalization of banking process to be in its full capacity, taking into account that this process also includes other component parts of the Industry 4.0, such as blockchain networks, artificial

intelligence, IoT, biometrics, cooperation of banks with FinTech companies, preparation of the platform and other services for the Generation Z. Banks and other financial organizations are going toward transition and establishing structures that accommodate the use of digitalized customer services and operations, in order to increase the level of organizational performance (Kioko, 2014). In their paper group of authors (Nadella et al., 2017) emphasized that according to Cap Gemini about 87% of companies consider implementation of new technologies to be the major competitive advantage, highlighting that “going digital” is a top priority for everyone and for banks especially. Nevertheless, it is believed that the optimal level of digitalization ultimately depends on customer base.

Digital banking has modified banking industry considerably, rising its efficiency and productivity while in the same time delivering ultimate customer satisfaction. Digital transformation allows banks to provide superior services which result in better customers' experience (Belk, 2013; Hoffman et al., 2013; Sheth & Solomon, 2014; Gunter, 2016; Rodrigues et al., 2020). Banks and other financial institutions thus pay attention to the development, acquisition, and incorporation of related technologies to profit from these developments. (Nylund et al., 2018). Furthermore, accelerated digitalization has made banks intensively re-examine traditional business models in order to respond quickly and efficiently to the new demands of their clients while offering safe and user-friendly services (Mekinjić, 2019). According to Price Waterhouse Cooper's report (Price Waterhouse Cooper, 2011) digital banking is ready and set to overtake branch banking practices and networks as a preferred channel by customers, both corporate and individual. Hinson and Sorensen (2006) find that benefits of this practice are visible in terms of speed, accessibility, trackability, serving wider market segments, connecting specific market audiences, no content restrictions, worldwide circulation, efficient use of technology, modern touch and 24/7 availability.

Changes which have been taking place require banks to take bold action to transform, to make the most of evolving technologies, stay ahead of new competitors and meet customer demands (Ernst & Yung, 2020). Effective implementation of ICT contributes to faster exchange of data and information which has positive implications to companies' performance (Ready & Zimmerman, 2000). ICT offers tremendous potential and variety of opportunities for the banking industry. On the first hand, it provides a cost-effective, rapid and systematic provision of services to the customer. On the other hand, ICT saves the time of the customers and employees, cuts down the OPEX and facilitates the network transactions. However, some authors (Serebrennikova et al., 2019) find competitiveness and sustainable development of modern banks to be mainly dependent on innovation and implementation of new technologies. Sustainable competitiveness encourages nations not only to meet the needs of the current generation but also to sustain or even expand national wealth in the future without depleting natural and social capital (Delgosha et al., 2020). Delgosha et al. conducted research on panel data from 127 countries which led them to conclusion that advancing companies' perception of how to access ICT infrastructures and capabilities, combined with the adoption and usage of ICT could result in different degrees of sustainable competitiveness which is of substantial importance to the overall economic growth and prosperity.

Pousttchi et al. (2015) considered the topic of digital transformation in retail banking. Consequently, focusing on ICT, digitalization of business processes, models and networks lead to the new opportunities for profit growth. It is clear that the fast

development of the Internet as well as the usage of new possibilities which the digital technologies have brought about, have made significant changes in all the areas of business (Prokopović et al., 2016).

In the end, security and trust are still key determinants of banking business (Mekinjić, 2019). An efficient use of the opportunities offered by digitalization process allows banks not only to tailor their services to customer expectations, streamline processes and reduce costs, but also to increase transactional security by reducing money laundering and terrorist financing (Swacha-Lech, 2017). While the ICT mostly presents opportunities, it may also pose new sources of risks. Relying on innovative technologies requires effective IT support as well as the implementation of other risk management processes. Besides that, ICT can be developed in-house or outsourced depending on internal strategy.

Liberalization of the financial market of the SEE region has been carried out in the last 20 years and was followed by the adaptation to standards and regulation of the European Union. Accordingly, authors believe that the existing gap between performance of the global and regional banks is narrowing which implies that the end-users benefit by higher quality of banking services and products. By comparing the impact of ICT investments on banking performance in SEE region and on global level the research conducted in this study aims to fill in the gap in the existing literature.

Data and methodology

In order to adequately investigate the effects of digital technologies on business performance in banking industry on global and regional level, two different types of analysis were conducted. Firstly, the impact of investments in ICT on bank's operating expenses was investigated globally and in SEE region. Secondly, the impact of the investments in ICT on the profits of respective regional banks was estimated. For this purpose, the study employed two different panel data sets. **The first panel data set** consisted of 12 leading banks in SEE region over the period of 2015 and 2019. The choice of banks was based on their regional presence. The following regional banks were analyzed: Addiko bank, Intesa Sanpaolo, Erste Group, Eurobank holding, KBC Group, NLB Group, OTP Group, Pireus Bank SA, Procredit Holding, Sberbank international, Raiffeisen Bank International, Unicredit Bank Group. It is important to highlight that in order to adequately analyze regional performance of the selected banking groups that operates in SEE region, balance positions related to the parent company were isolated from the respective consolidated reports. In some consolidated reports data were already separated by countries, while with others the data were separated by headquarters from the consolidated reports.

The second panel data set consisted of 30 world's leading banks across the globe over the same period. The following global banks were analyzed: Agricultural Bank of China, China Construction Bank Corporation, HSBC, Industrial and Commercial Bank, JP Morgan, Bank of China, BNP Paribas, MUFG Bank, Japan Post Bank, Credit Agricole, Bank of America, Sumitomo mitsui banking corporation, Wells fargo, Banco Santander, Mizuho Bank, Deutsche bank, Société Générale, BPCE, Citibank, Postal Saving Bank of China, Barclays Bank, The Toronto Dominion Bank, Royal bank of Canada, ING bank, The Agricultural Development Bank of China, China merchants bank, UBS AG, Unicredit Group Goldman Sachs, Intesa Saopaulo.

The data for both panel data sets were obtained from official financial reports of the respective banks, as well as from management presentations intended for external shareholders. With that regard, data on net profit, investments in nontangible assets and operating (non-interest) expenses – OPEX were obtained. Furthermore, data on net profit and investments in nontangible assets were obtained directly from the reports, while OPEX was generated by calculating all non-interest expenses (administrative expenses, salaries etc.).

As a preliminary analysis, the summary statistics for the variables within first panel of banks are presented in Table 1.

Table 1: Panel summary descriptive statistics for regional banks

	Operating expenses of Banks (opex) (mio Euro)	Profits of Banks (netprofit) (mio Euro)	Investment in smart information and communication technologies (AINVESTNINTAS) (mio Euro)
Mean	2961.826	887.5983	150.5783
Median	998.8000	574.0000	69.00000
Std. Dev.	3563.748	2327.250	177.5569
Skewness	1.361477	-2.119937	1.456380
Kurtosis	3.622619	16.75624	4.139498
Jarque-Bera	19.50534	509.3928	24.45656
Probability	0.000058	0.000000	0.000005

Source: authors' calculation

Summary statistics presented in Table 1 indicate that all series are leptokurtic and they do not have normal distributions provided by Jarque-Bera test results. Also, there is high volatility in banks' operating expenses comparing to their profits and investment in smart information and communication technologies as indicated by standard deviation. Moreover, profits of banks seem to be more volatile than the investments. Banks in sample differ in several factors: market share, internal structure, customer base etc. Taking into account the importance of digital technologies in modern society, the low volatility of investments in ICT in sample is expected. On the other hand, net profits are highly determined by main characteristics of client base – both retail and corporate, which is the main factor to explain their high volatility.

The summary statistics for global banks are presented in Table 2.

Table 2. Panel summary descriptive statistics for global banks

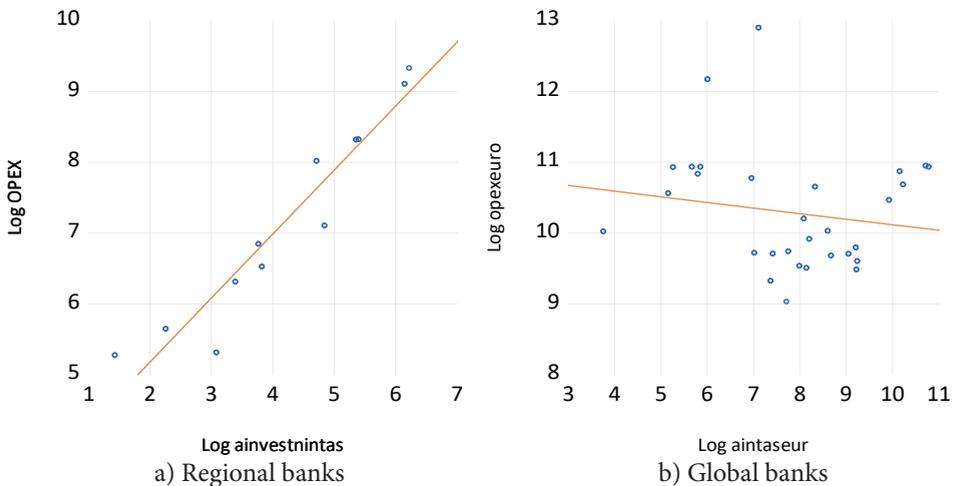
	OPEXEUR	INTASSETEUR
Mean	23312.60	8351.40
Median	20272.07	3027.50
Std. Dev.	13640.18	13498.05
Skewness	1.18	2.45
Kurtosis	3.64	8.77
Jarque-Bera	37.23	358.40
Probability	0.0000	0.0000

Source: authors' calculation

Results presented in Table 3 clearly indicate that both series are leptokurtic and that they do not have normal distributions (Jarque-Bera test). Also, there is high volatility in banks' intangible assets, indicated by standard deviation. Position of intangible assets per banks showed some volatility which is in line with intensity of investment activity per banks. Some banks are more intensive and have higher intangible assets' size, other are within investment processes and value of digital investment is not fully presented (booked) among intangible assets position (it is booking gradually). Also, different accounting standards may also impact the aforementioned volatility.

Figure 1 displays the scattergram between period averages of the logarithmic values of banks' operating expenses (log opex) and their investments in smart information and communication technologies (log AINVESTNINTAS) – regionally and globally.

Figure 1: The scattergram between period averages of the logarithmic values of banks' operating expenses (log opex) and their investments in ICT (log ainvestnintas)



Source: authors' calculation

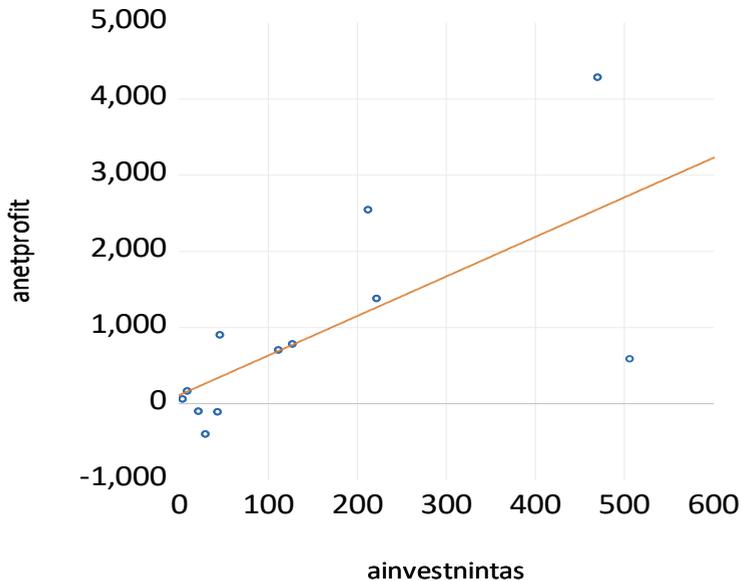
On average, there is a positive relationship between two variables in first subsample. The scattergram displays significant differences in terms of the relationship between two variables for the respective regional banks (a). For example, two Italian banks Intesa Sanpaolo (Italy) (2) and Unicredit Bank Group (Italy) (12) have the largest amount of investments and operating expenses as oppose to lowest amounts of Procredit Holding (Germany) (9) and NLB Group (Slovenia) (6). Addiko bank's (Austria) (1) operating expenses are relatively low comparing to its investments. Eurobank holding's (Greece) (4) variables exhibit almost positive perfect correlation. Pireus Bank SA (Greece) (8), Sberbank international (Austria) (10) and OTP Group (Hungary) (7) banks' amount of both variables are less than that of Erste Group (Austria) (3), KBC Group (Belgium) (5) and Raiffeisen Bank International (Austria) (11).

On average, in the second subsample (scattergram b) there is a negative relationship between two variables which is expected.

Figure 2 shows the scattergram between period averages of banks' profits

(anetprofit) and their investments in smart information and communication technologies (ainvestnintas) for regional banks.

Figure 2: The scattergram between period averages of the banks' profits (anetprofit) and their investments in ICT (ainvestnintas)



Source: authors' calculation

On average there is a positive relationship between two variables. However, when examined closely, scattergrams show significant differences in terms of the relationships between two variables. For example, Addiko banka (Austria) (1), Eurobank holding (Greece) (4) and Pireus Bank SA (Greece) (8) suffers from loses over the period on average. Sberbank international (Austria) (10) invests relatively small amount money in smart information and communication technologies, but makes high profits. Although amount of investments of Erste Group (Austria) (3) and KBC Group (Belgium) (5), the latter makes more profit than the former. Unicredit Bank Group (Italy) (12) makes highest investment, but earns relatively less profit. Moreover, Intesa Sanpaolo (Italy) (2) makes almost close amount money to investment with Unicredit Bank Group (Italy) (12), but earns highest profit. Procredit Holding (Germany) (9) and NLB Group (Slovenia) (6) invest relatively small amount of money, but still earns profit. Scatter points of OTP Group (Hungary) (7) and Raiffeisen Bank International (Austria) (11) are on the line, representing perfect example if implied positive relationship between two variables.

Following the suggestion of group of authors (Samargandi et al., 2015), we use the static panel data models of fixed effects models to obtain the cross-sectional effects. In addition, to estimate the effects of banks' intangible assets on operating expenses, it is reasonable to assume that the estimator has common slopes and variance, but bank

specific effects. To estimate this relationship, Fixed Effect Model (FEM) was used. The model employed in this paper is presented in Eq. (1):

$$y_{it} = \alpha_i + \beta x_{it} + u_{it} \quad (1)$$

where the dependent variables y_i are the operating expenses of banks (OPEX) in the first estimation and net profits of regional banks in the second (anteprofit) and independent variable in both exercises x_i is the investments of banks in smart information and communication technologies. Notice in Eq. (1) that an i subscript is added to only intercept α_i but the slope coefficient (β) is same for all cross-sectional units. Including an individual constant term, it is aimed to control for individual-specific and time-invariant characteristics, because FEM assumes time-invariant individual-specific effects. That intercepts are called fixed effects. Fixed effects capture the individual heterogeneity, which refers to unobservable bank-specific factors that are time-invariant. Also, as it is mentioned in Tebaldi et al. (2018), the presence of heterogeneity causes regression coefficients to be biased and inconsistent.

To select the most appropriate model in both estimates, two sets of tests are carried out. With the help of first group of tests, it has been decided whether to use the model of Common Effect (CE) or Fixed Effect. For this purpose, three sets of tests were used for testing the significance of cross-section and period fixed effects. In the first set of tests, by using Cross-section F and Cross-section Chi-square (Chow-test), the significance of cross-section fixed effects is tested. In the second sets of tests, it is tested whether or not period fixed effects are significant by using Period F and Period Chi-square tests. Finally, we test joint significance of cross-section and period fixed effects by using the Cross-Section/Period F and Cross-Section/Period Chi-square tests.

Results and discussion

Before estimating the relationship between banks' operating expenses (Log opex) and their investments in smart information and communication technologies (log ainvestnintas) for the regional banks, the above tests were carried out to determine the appropriate model. The Chow-test results (computed value of test statistic 182.668989 and its p-value 0.0000) show that the FEM can be used to estimate the stated relationship above. The results only indicate significant cross-section fixed effect not the period effects. Moreover, Hausman test was used to check whether Random Effects Model (REM) is as good as FEM. Since computed value of Hausman test statistic (Chi-square: 67.699133 and its associated p-value is 0.0000) is greater than table Chi-square value (also p-value of test statistic is less than 5% percent level of significance, it was decided to use FEM instead of REM. Besides the formal test results, to estimate the effect of the investment in smart information and communication technologies on the operating expenses of the banking sector, it is logical to assume that the model has common slopes and variance, but bank specific effects. The same tests were also carried out for global banks. Again the results of the Chow-test results (computed value of test statistic 188.195902 and its associated p-value 0.0000) indicate that the cross-section fixed effects are significant; but the period effects are not leading to the conclusion that the FEM is appropriate to estimate the same relationship between variables for the global banks as well. These results are also verified by Hausman test.

However, the same tests were carried out to determine the appropriate model to estimate the relationship between banks' profits (anetprofit) and their investments in smart information and communication technologies (ainvestnintas). Chow tests' results indicate significant cross-section fixed effects, but not the period fixed effects. Since computed value of Hausman test statistic (Chi-square: 5.448218 and its associated p-value is 0.0196) is greater than table Chi-square value (also p-value of test statistic is less than 5% percent level of significance, we decide to use FEM instead of REM). Besides the formal test results, to estimate the effect of growth of investment in smart information and communication technologies on the growth of profitability of the banking sector, it is logical to assume that the model has common slopes and variance, but bank specific effects.

In Table 3, the results of FEM for both global and regional banks are presented.

Table 3: The results of panel data models for global and regional banks

	Cross-section fixed model for regional banks	Cross-section fixed model for global banks
Variables		
Constant	6.897'	10.41'
LINTASSETEUR	0.065'	-0.072'
* indicates that coefficients are statistically significant at 1-percent significance level.		

Source: authors' calculation

According to FEM results for regional banks, there is a positive relationship between two variables. The results indicate that 1 per cent increase in amount of investments of banks in smart information and communication technologies will lead to approximately 0.065 per cent increase in banks' operating expenses on average. On the other hand, unlike the regional banks, there is an inverse relationship between two variables. Estimated value of the elasticity of OPEX with respect to intangible assets indicate that one-percent increase in intangible assets of banks in sample, on average, will lead to approximately 0.072 percent decrease in operating expenses of banks. This is the consequence of the fact that regional banks in the sample do not develop "in-house" ICT, but rather use parent bank software instead. Other explanation refers to outsourcing of certain modules of core banking information systems, which increases the OPEX (not investments) - in the balance sheets it is not recorded as intangible assets, but as an expense. This is related to existing trend that CAPEX is transformed in OPEX. Unlike regional banks, global banks mainly develop "in-house" ICT by investing billions of dollars or euros which is followed by lesser extent of the outsourcing of certain segments of the information system. Within the largest global banks billions of data are collected in information silos, which are later analyzed with artificial intelligence in order to adequately personalize the customers' needs and to make multi-channels platforms.

Table 4 presents the bank specific cross-sectional effects for regional banks.

Table 4: Cross-section effects for the regional banks

Banks (Cross-section ID)	Cross-section effects
Addiko banka (Austria) (1)	-1.790816
Intesa Sanpaolo (Italy) (2)	1.809654
Erste Group (Austria) (3)	1.073538
Eurobank holding (Greece) (4)	-0.299051
KBC Group (Belgium) (5)	1.072505
NLB Group (Slovenia) (6)	-1.399407
OTP Group (Hungary) (7)	-0.120816
Pireus Bank SA (Greece) (8)	-0.824989
Procredit Holding (Germany) (9)	-1.728986
Sberbank international (Austria) (10)	-0.633744
Raiffeisen Bank International (Austria) (11)	0.814424
Unicredit Bank Group (Italy) (12)	2.027688

Source: authors' calculation

The negative values of cross-section effects for certain banks in SEE region are mainly due to layoffs, reduction of the number of branches and sub-branches, and not an increase in efficiency which is a consequence of higher investments in ICT. For example, in the case of Addiko bank (1) the negative cross section effect in the observed period is probably the consequence of change in organizational structure and management aimed at a general reduction of costs caused by the loss of competitive position in the regional market. NLB Group (6) also records negative cross section effect mostly due to radical haircuts and cost reduction strategies in order to clean balance sheet.

Table 5 presents the bank specific cross-sectional effects for global banks.

Table 5: Cross-section effects for global banks

Banks (Cross-section ID)	Cross-section effects
Agricultural Bank of China (1)	0.218837
China Construction Bank (2)	0.047288
HSBC (3)	0.736646
Industrial and commercial Bank of China (4)	0.123650
JP Morgan (5)	1.249412
Bank of China Limited (6)	0.112214
BNP Paribas (7)	0.384347
MUFG Bank (8)	0.071499
Japan Post Bank (9)	-0.894198
Credit Agricole (10)	-0.188204
Bank of America National Association (11)	1.182219
Sumitomo Mitsui Banking Corporation (12)	-0.641644
Wells Fargo Bank National Association (13)	1.192583
Banco Santander SA (14)	0.991192
Mizuho Bank Ltd (15)	-2.092997

Deutsche Bank AG (16)	-0.172544
Société Générale (17)	-0.105195
BPCE (18)	-0.182821
Citibank NA (19)	0.794445
Postal Savings Bank of China Co Ltd (20)	-0.288727
Barclays Bank PLCn (21)	-0.142466
The Toronto-Dominion Bank (22)	-0.304350
Royal Bank of Canada (23)	0.050169
ING Bank NV (24)	-0.564873
The Agricultural Development Bank of China (25)	0.188064
China Merchants Bank Co Ltd (26)	-0.818595
UBS AG (27)	0.212972
UniCredit (28)	-0.347139
Goldman Sachs (29)	0.081990
Intesa Sanpaolo (30)	-0.893772

Source: authors' calculation

Cross-section effects presented in Table 5 show that vast majority of respective banks in our sub-sample record an inverse relationship between investment in information and communication technologies and OPEX. The vast majority of significantly negative cross section effects are recorded in Japanese banks. This is the consequence of huge investments in sophisticated technological solutions in all of the three banking segments (back office, middle office and front office) which lead us to conclusion that investments in ICT have positive impact on efficiency of all the banking operations.

The conclusions reached in this study implicate the tendency of smaller banks to follow the strategy of the largest ones – to base their core operations on digital processes and platforms. Practically, digitalization process is a matter of necessity. It impacts cost decrease (as has been showed in our study) which leaves room for banks to increase their competitiveness by lowering their offering rates. On the other hand, digital solutions improve time efficiency in providing banking services which is in high demand on the market. The results also suggest the potential for market concentration in banking industry in years to come. Digitalization is followed by large investments in ICT (CAPEX) which usually takes several years to give full result on profitability. Taking into consideration that smaller banks do not have capacity to invest large amount of money and wait for long run return, the mergers and acquisitions in banking industry are expected.

After exploring the regional and global effects of banks' investments in smart information and communication technologies on operating expenses, the impact of these investments on net profit of respective banks in SEE region is evaluated. Based on all relevant tests, after concluding that the usage of FEM is appropriate to estimate the relationship between profitability of the banking sector and investments in smart information and communication technologies, the Eq. (1) is estimated by using OLS.

Table 6 represents the results of FEM by using 12 banks data over the period of 2015-2019.

Table 6: The results of FEM

Variables	Cross-section fixed model
Constant	-1618.11
INVESTNINTAS	16.61
* indicates that coefficients are statistically significant at 1-percent significance level.	

Source: authors' calculation

As it is indicated in scattergram, the results imply positive and statistically significant relationship between investments in smart information and communication technologies (INVESTNINTAS) and banks' profitability (NETPROFIT).

Table 7 displays bank-specific effects.

Table 7: Cross-section effects

Banks (Cross-section ID)	Cross-section effects
Addiko banka (Austria) (1)	1150.058
Intesa Sanpaolo (Italy) (2)	-1919.357
Erste Group (Austria) (3)	-1064.003
Eurobank holding (Greece) (4)	785.0559
KBC Group (Belgium) (5)	623.5931
NLB Group (Slovenia) (6)	1619.660
OTP Group (Hungary) (7)	275.0074
Pireus Bank SA (Greece) (8)	717.9462
Procredit Holding (Germany) (9)	1603.751
Sberbank international (Austria) (10)	1752.271
Raiffeisen Bank International (Austria) (11)	456.1183
Unicredit Bank Group (Italy) (12)	-6212.902

Source: authors' calculation

In this case, the cross-section effects basically indicate individual profitability of banks that could be related to the cross-bank variations in unobserved time-invariant factors, or to be more precise to factors which did not considerably/at all change in relatively time span comprised by the sample, such as quality of management, ownership structure etc. Difference between cross-section effects for two banks in this case can be interpreted as a difference in profitability due to time-invariant factors that are observed at the same level of investment in non-tangible assets. For example, if Addiko bank (1) and Intesa Sanpaolo (2) are compared, estimated cross-section effects indicate that at given X level of investment in non-tangible assets, Addiko bank makes on average $1,150.1 - (-1,919.4) = 3,069.5$ mil EUR higher net profit than Intesa Sanpaolo as the result of better utilization of time-invariant bank-specific factors.

As it can be observed from the results presented in Table 8, investments in ICT recorded growth in almost all banks in the sample, which had the positive impact on the overall banking profitability. However, it can also be noted that certain banks recorded a negative cross-sectional effect which may be a consequence of the time required to optimize new investments. Accordingly, in the forthcoming period the positive effects of ICT investments on the profitability of these banks are expected.

Concluding remarks

The results indicate that the influence of investments in ICT on OPEX defers on global and regional level. On average, there is positive relationship between investments in digital and smart technologies and operating costs of banks within sub-sample of regional banks. This is the consequence of the fact that regional banks mostly do not develop „in-house“ ICT, but rather use parent bank software instead. Other explanation refers to outsourcing of certain modules of core banking information systems, which increases the OPEX (not investments) - in the balance sheets it is not recorded as intangible assets, but as an expense. Unlike regional banks, global banks mainly develop “in-house” ICT by investing billions of dollars or euros which is followed by lesser extent of the outsourcing of certain segments of the information system. Within the largest global banks billions of data are collected in information silos, which are later analyzed with artificial intelligence in order to adequately personalize the customers’ needs and to make multi-channel platforms. Investments in ICT also have impact on the structure of employees: they eliminate the jobs with predominantly manual activities, while in the same time increase the number of employees in the IT sector. In the end, the results of the research conducted also indicate statistically significant positive relationship between investments in ICT and banks’ profitability in SEE region.

The conclusions reached in this study imply the tendency of smaller banks to follow the strategy of the largest ones – to base their core operations on digital processes and platforms. Practically, digitalization process is a matter of necessity. It results in reducing costs (as has been showed in our study) which leaves room for banks to increase their competitiveness by lowering their offering rates. On the other hand, digital solutions improve time efficiency in providing banking services which is highly required on the market. The results also suggest the potential for market concentration in banking industry in the future. Digitalization is followed by large investments in ICT (CAPEX) which usually takes several years to give full result on profitability. Taking into consideration that smaller banks do not have capacity to invest large amount of money and wait for long run return, the mergers and acquisitions in banking industry are expected.

Digitization in banking is more than a change based on technology. Moreover, the existing knowledge has to be upgraded and adopted without being lost. The whole new technology process has strong impact on the business, relation with customers, market and regulation. Technical part, data models, reports, and interfaces should be adjusted to enable better decision making, better performance measuring and customers’ behavior tracking. Banks should be focused on new digital possibilities such as cloud computing, big to smart data models, business intelligence etc.

The change from manual processes, which may be time and money consuming, to automatic processes which may help banks to better understand customers’ needs, cost drivers, and causes of risk is going to mark years to come. However, overall banking market is going to operate between digital and physical. Several factors should keep this balance as follows:

- Strategies should be focused on customers’ satisfaction rates, with convenience becoming primary concern. The easier way to achieve customer satisfaction is by providing ability to open any type of account through a mobile device rather than a branch visit (or both).

- Traditional compensation and targets may be the hugest obstacles banks are confronted with when planning digital strategy. New focus should be followed by new targets which are going to be set to employees. No in-branch products' sales should be in targets.
- Change in demographic also affects digitalization era (especially visible in influence of millennials).

In the end, due to data restrictions (especially their availability) the study fails to use some alternative dynamic panel models. Thus, as we manage to access the more data on the banks in the sample, the future study will be developed by using dynamic panel methods especially considering the cross-sectional dependence and slope homogeneity.

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THE INFLUENCE OF THE EXCHANGE RATE ON THE TRADE BALANCE OF SERBIA

Apstrakt

Subject of this research is contained in its title. We examined the connection and the influence of the foreign exchange rate on the foreign trade balance of Serbia as an independent state in this century, that is, in the period 2007-2017. The aim was to determine whether the theoretical paradigm applies in concrete terms, and that the decline in the value of the domestic currency leads to an improvement in the balance of payments, given the role of price elasticities of import and export demand as well as the level of domestic consumption. The SPSS software package was used for statistical data processing. The observed variables: foreign exchange foreign trade deficit, the exchange rate, the effective nominal exchange rate and the effective real exchange rate are from the point of view of the Scale type. The data were taken from official sources, primarily from the National Bank of Serbia and the Ministry of Finance of Serbia. The obtained results unequivocally confirm that in specific conditions depreciation of the dinar is favorable to the reduction of the deficit of the foreign trade balance. The basic value of this result is that such a policy should continue if the goal is to improve the liquidity of Serbia in international payments. We conclude that the policy of the exchange rate of the dinar in the observed period was properly conducted, and that within the framework of other measures of economic policy, primarily monetary and fiscal, in that sense, gave satisfactory results. In the paper itself, we first defined the basic concepts related to the types and exchange rate regimes. We have added additional conditions for the effectiveness of this policy in order to improve the balance of external trade. By testing the hypotheses we verified the validity of the initial hypotheses of the research. We concluded that the economic policy in this domain in the mentioned period was conducted with due diligence.

Keywords: exchange rate, nominal exchange rate, foreign trade balance.

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УТИЦАЈ ДЕВИЗНОГ КУРСА НА ТРГОВИНСКИ БИЛАНС СРБИЈЕ

Апстракт

Тема овог истраживања је садржана у самом наслову. Испитивали смо повезаност и утицај девизног курса на спољнотрговински биланс Србије као самосталне државе у овом веку, односно у периоду 2007-2019. Циљ је био да утврдимо да ли у конкретним условима важи теоретска парадигма да обарање вредности домаће валуте води побољшању платног биланса, обзиром да ту имају улогу и ценовне еластичности увозне и извозне тражње, као и ниво домаће потрошње. За статистичку обраду података коришћен је програмски пакет SPSS. Посматране променљиве: дефицит спољне трговине Србије и девизни курс, су са становишта мерења типа Scale. Подаци су узимани из званичних извора, пре свега од Народне банке Србије и Министарства финансија Србије. Добијени резултати недвосмислено потврђују да у конкретним условима депресијација динара погодује смањењу дефицита спољнотрговинског биланса. Основна вредност овог резултата је да овакву политику треба наставити уколико је циљ побољшање ликвидности Србије у међународним плаћањима. Закључујемо да је политика курса динара у посматраном периоду вођена правилно, и да је у склопу других мера економске политике, пре свега монетарне и фискалне, дала у наведеном смислу задовољавајуће резултате. У самом раду смо прво дефинисали основне појмове везане за врсте и режими девизних курсева. Навели смо и додатне услове за ефикасност ове политике у циљу поправљања биланса спољне трговине. Поступком тестирања хипотеза смо проверили валидност полазне хипотезе истраживања. Закључили смо да је економска политика у овом домену у наведеном периоду вођена сврсисходно.

Кључне речи: *девизни курс, номинални девизни курс, спољнотрговински биланс.*

Introduction

In this century, Serbia is characterized by a permanent deficit in foreign trade, which is also the main cause of the chronic deficit of payments balance. This, on the other hand, in practice affects high external indebtedness. Therefore, it could be said that one of the basic current tasks of economic policy of every Serbian government the elimination, or at least mitigation, the problem of high deficit of the trade balance with foreign countries.

It is only by itself understood that the key would be to reduce imports and increase exports, seen in value terms. Current trends in Serbian politics definitely do not make administrative measures the first choice for action in this direction. Foreign policy repercussions, such as the drive for EU membership (hereinafter EU), and the World Trade Organization (WTO) policy, which opposes non-tariff restrictions on imports, direct Serbia to reduce its import demand primarily through restrictions on the overall domestic demand. These measures are already in use, especially since the half of the second decade of this century. Referred to so far primarily to budgetary restrictions, especially when it comes to pensions and public sector wages and employment of budget

users. Also, inflation was kept under successful control by keeping a restrictive monetary policy.

On this side, the government, elected in 2017, did what it could from the aspect of its jurisdiction over the conduct of economic policy in this short term. It is also the National Bank of Serbia (hereinafter NBS), pursued a consistent, fundamentally monetarist, targeted inflation policy. At the moment, we should be interested in another aspect of the foreign trade deficit, which is the possibility of increasing the competitiveness of Serbian exports. Taking into account the already explained conditions advocated by the EU and WTO, as well as budgetary restrictions, it seems that the only remaining short-term policy is the exchange rate policy. In theory and practice, the prevailing attitude is that the weakening of the domestic currency, in general, positively affects the foreign trade balance.

When we take into account all the exposed items, we estimate that it is an interesting question of whether, how and to what extent, exchange rate manipulation can correct the trade balance of a country. More precisely, the aim of our research is to determine the link between the movement of the foreign exchange rate of the dinar and the foreign trade balance of independent Serbia in this century, in the period from 2007 to 2019.

General issues of exchange rate and trade balance

At the beginning of the presentation, methodologically, it would be most useful first to define the meaning of the terms to be dealt with in our analytic, in order to avoid any possible ambiguities and misunderstandings that are possible due to insufficiently precise use of terms. Let's first see what we mean by the exchange rate. In simplest terms, the exchange rate is the price at which one currency is exchanged (bought and sold) for the other currency. If we wanted to be scientifically correct and maximum precise, this definition means the nominal exchange rate, in the following presentation, we will use even terms such as real viewing exchange rate, effective, effective nominal and effective real exchange rate. So, we announce that in this work, when we say only the exchange rate, we will only think about the nominal, what we encounter normally in banks and exchange offices, everyday life and regular business.

If we aspire to the maximum deflection of any possible ambiguity in terminology, by the term exchange rate, if we do not use it with some additional heading, will mean in his speech already mentioned the nominal exchange rate and with the implementation of direct notation.

In the previous presentation we have already mentioned the adjustment of the nominal exchange rate. Because the real and effective exchange rate are calculated categories, which essentially represent adjustments to the nominal exchange rate, results that a country can only make adjustments to the nominal exchange rate. Namely, the policy of the foreign exchange rate of any country is in fact reduced to the adjustment, i.e. change, of the nominal exchange rate of the national currency. How will these changes affect the real effective exchange rate, it depends on inflation and structures of international economic relations of a country and its main partners in the world economy.

As the exchange rate policy is implemented in practice, this is explained by different models, i.e., exchange rate regimes. According to the classification of the International Monetary Fund (hereinafter: the IMF), there are the following types of exchange rate regimes:

1. Exchange rate arrangements without special means of payment;
2. Arrangements of the Currency Board;
3. Other conventional fixed PEG arrangements;
4. The fixed exchange rate is within the horizontal range;
5. Crawling exchange rate;
6. Exchange rate inside the crawling frame;
7. Managed floating exchange rate without a predetermined way;
8. Independent fluctuating. (Josifidis, Alegret & Beker, 2009)

The seventh model implies that the monetary authority is trying to influence the course without a predetermined target exchange rate. Indicators for this course management may be different, which are usually the balance of payments, foreign exchange reserves or market disturbances. Intervention during course management can be direct and indirect. This exchange rate regime does not operate according to the automatic principle, it is a modality of discretionary economic policy.

Since our research is dealing with Serbian economy, the fluctuating exchange rate model (model No. 7), which is applied throughout the period to which our research relates, is important to us here. (Marčetić, 2017) This seems to be the optimal choice, since it is applied by many transitional economies. (Jovović, 2011) The National Bank of Serbia (hereinafter referred to as the NBS) intervenes in its discretion in the circumstances when it assesses that market forces in the foreign exchange market move the dinar exchange rate from what it considers acceptable, taking into account the balance of payments situation and the difference between domestic investment and the one in the markets important for the Serbian economy. So, as we have already said, the module is most applicable, which most resembles the seventh variant of the IMF classification.

In practice, the system works by determining daily middle exchange rate of the euro (since 2011 and US dollars) at the interbank meeting. The average exchange rate is the average weighted price achieved on that interbank foreign exchange trade. According to its estimation, the NBS is involved in trade in the purchase or sale of foreign exchange to influence the exchange rate.

And what is the significance of the change in the exchange rate? The exchange rate policy has multiple significance for every economy and in every situation. For less developed countries, as well as for transition economies, the exchange rate has the most impact on the five aspects that we will list. Firstly, in the context of substantially the price level in the domestic market, the exchange rate is an important resource allocation factor. Secondly, the economic development of these countries, the exchange rate, in correlation with other measures of economic policy, can also accelerate from the aspect of industrialization and productivity growth through foreign trade. In market-oriented developing countries, as well as in transition economies, the exchange rate significantly affects the stability of the financial market. Fourth, in conditions of significant import dependence, an adequate exchange rate policy can be an important anti-inflationary tool. In the end, but from the aspect of our research and, most importantly, the exchange rate has a major impact on the balance of payments, as it depends on the relative relation between domestic and foreign prices of goods and services.

Therefore, the basic problem of the Serbian economy in the sphere of international economic relations is the current account deficit. More precisely, the long-term problem is

a chronic deficit in exchange of goods and services abroad, and foreign trade balance. The significance of this statement is especially difficult for the tendency of the long-term decline in foreign exchange in flows based on remittances of workers from abroad. It should be noted that the trade deficit is a regular occurrence in countries like Serbia, in a middle and lower level of development, which is expressed in the import dependence of the economy due to the high demand for investment periods rhyme, raw materials and technology that cannot be met from domestic sources. Regardless of the fact that there is always a factor in the import of consumer goods and services, the fact is that the deficit cannot be solved completely by suppressing domestic consumption. The only sustainable long-term solution is in the growth of the creation of goods and services for the foreign market and the competitiveness of such exports.

Shortly, there is a necessity for the growth of exports, above all, with reductions in the import, which would not be at the expense of the development of economy. So it would be equalized just to enter the balance as the key of equalized balance of payments as a whole. This is, of course, an indicator of the current economic policy, where an exchange rate policy can play an important role. Thus, we should see how the exchange rate policy affects the trade balance of a country.

With all the basics postulates in mind, the way of thinking could be very simple. Thus, the weakening of national currency (exchange rate growth), regardless of whether it is a devaluation (fixed mode) or depreciation (fluctuating mode), it must be beneficial to eliminate the trade deficit. How this mechanism works? Simply, the weakening of the currency stimulates exports, and destimulates imports.

The previously stated logic of thinking is traditionally very rooted. It is very common in everyday reflections on this issue, in numerous media, politics, and with several economists. However, there are numerous theories in this field that argue that things are not as simple as it seems at first glance, and as we have shown it in our simplified model. Therefore, in the next presentation, we will present in short terms the basic idea of the most famous theoretical considerations of this problem.

At the center of all theories dealing with the influence of the exchange rate on the correction or balancing of the negative foreign trade balance is the idea that this is not enough only for the manipulation of the exchange rate, i.e., the collapse of the value of the domestic currency. In order to achieve the potential positive results according to the simple model logic described above, it is necessary to fulfill some additional conditions. This is completely understandable when we know how complicated the macroeconomic processes are, and especially those related to the foreign trade balance.

Our presentation in this section will begin with the introduction of Marshall-Lenart's theorem. This theorem can be summarized in a single sentence shortly. It says that the weakening of the domestic currency in terms of the growth of the real exchange rate will have a positive effect on leadership in the trade balance if the sum of the price elasticity of foreign demand for domestic goods and domestic demand for foreign goods is greater than one. (Marčetić, 2017) This certainly depends on the existing economic structures, both in the country and abroad, given that these elasticities are different for each branch. (Popović, 2009)

It should be noted here that, in case of satisfying elasticity conditions, two phenomena should be taken into account. Firstly, a positive effect on the trade balance will be seen in the longer term, which is not shorter than a year, as it takes some time to adjust production and income. The other thing is, the almost regular occurrence of the J curve effect, that is,

the improvement of the trade balance due to the drop in the value of the domestic currency, comes only after the initial deterioration. The main reason for this is that in the first period after the change in the foreign exchange rate, foreign trade contracts, which are concluded up to the previous period, are realized as a rule. The size of the effect depends on the structure of the contracts according to the currencies in which they are made. (Đelić, 1993)

In addition to this basic idea of the theory of elasticity that is briefly exposed, we consider another important direction of thinking within this issue important for mentioning in this place. This is the so-called absorption model, which essentially deepens the analysis of the impact of depreciation (and devaluation) on the foreign trade balance. Namely, the change in the exchange rate in this direction will affect the balance in line with the stated elasticities, but these processes are also related to adjusting production, income and demand in the domestic economy, which again also affects the foreign trade balance. Thus, this theory, by complicating the model, takes us closer to real economic developments by considering new variables. There are also other factors involved, such as the propensity of import and savings are added.

In this model, it is basically argued that for positive changes in the foreign trade balance due to depreciation, it is necessary that there is domestic real savings, that is, that real expenditures are lower than real incomes. The logic is simply that domestic demand does not “eat” surpluses for exports. So, the economy is a complex model, and must take into account the changes in supply and demand in the domestic market because of this greatly affect the final aim of the trade balance, not just the price elasticity of demand for imports and export.

Therefore, the basic idea of the model is that in addition to depreciation, if the foreign trade balance is desired, the domestic consumption should be limited by the measures of monetary and fiscal policy. Everything is based on the famous Keynesian idea, that the surplus of the trade balance is in fact a surplus of total domestic production.

The basic equation shows that domestic production (Y) represents exactly the sum of the absorption (A) and the trade balance (X - M), i.e. net exports, where X represents export, and M imports. It follows:

$$Y - A = X - M$$

Therefore, the excess domestic production above total domestic consumption (absorption) is the only possible source of positive difference between exports and imports. If domestic consumption is higher than domestic production, it will have a trade balance deficit. This means that this surplus of production above the absorption is a necessary condition for improving the foreign trade balance even in the conditions when there is depreciation to domestic currency, and the sum of the price elasticities of domestic and foreign demand for import goods and services meets the previously explained conditions.

We have drawn two of the most influential ones, and for us, really the two most important theories to be kept in mind when pursuing economic policy in this field. Of course, economic reality is so complex that in any theory and model it is impossible to include all relevant factors, make their quantification, and precisely define mutual relations. However, we have so far been said to be a completely sufficient basis for further discussion on the link between the exchange rate and the foreign trade balance.

After all that we have already said, we can now begin our discussion of the link between the foreign exchange rate and the foreign trade balance of Serbia in the period from 2007 until 2019. Our starting hypothesis will be that the depreciation of the

exchange rate of the dinar against the euro is not firmly related to the reduction of the deficit of the foreign trade balance.

Empirical study of exchange rate movements and foreign trade balance

In order to study the mentioned macroeconomic issues, which relate to foreign exchange rate and foreign policy, it is best to use official published data from authoritative sources such as specialized international organizations as well as official national authorities. So we will rely on the data contained in official publications of the World Bank (WB), Eurostat, NBS, the Ministry of Finance of the Republic of Serbia and the Republic Institute for Statistics.

Once again, we will remind that the subject of research from the mentioned aspects is the economy of modern Serbia. Here we have in mind Serbia, which in the 21st century became a state of autonomy in mid-2006. That is why we selected the period between 2007 and 2019 for the period of study. We believe that more than one decade is a sufficient period for some reliable conclusions regarding the subject of our research to be carried out.

Therefore, we will try to perceive the quantitative and qualitative aspect of the relationship between the movement of the foreign exchange rate of the Serbian national currency and the balance of its foreign trade. The first one will deal with the exchange rate towards the euro that “covers” in the mentioned period for the largest part of Serbia’s foreign trade. In the following, we will not discuss the modalities of the effective exchange rate, taking into account other relevant currencies, which are apart from the euro and the dollar, as well as the Swiss franc, the British pound, the Chinese and the Japanese currency. This is because a broader analysis would go far beyond the format of this article.

We will methodology expose our report by starting from the foreign trade balance, and then we will analyze the movement of the exchange rate and investigate the relationship between it and the balance.

For a statistical data processing we will use a software package SPSS. The observed variables foreign exchange foreign trade deficit, the exchange rate, the effective nominal exchange rate and the effective real exchange rate are from the point of view of the Scale type.

We already know that the economy is continuously following the chronic deficit of the foreign trade balance. The following figure gives an overview of the deficit in the exchange of goods and services in the period we are studying, expressed in millions of euros.

Table 1: Deficit of foreign trade of Serbia (goods and services) in mil. EUR

YEAR	DEFICIT	YEAR	DEFICIT
2007	-7,376.2	2014	-4,028.7
2008	-8,854.2	2015	-4,047.9
2009	-5,365.7	2016	-3,635.8
2010	-5,030.1	2017	-4,345.2
2011	-5,808.6	2018	-5,636.6
2012	-5,973.9	2019	-6,341.6
2013	-4,472.5		

Source: Ministry of Finance, from the site www.mfin.gov.rs (accessed on April 7, 2020)

By observing the variable Foreign Trade Deficit of Serbia in the period from 2007 to 2019, we can notice that:

1. the average deficit of foreign trade amounts to EUR 5381.28 million ;

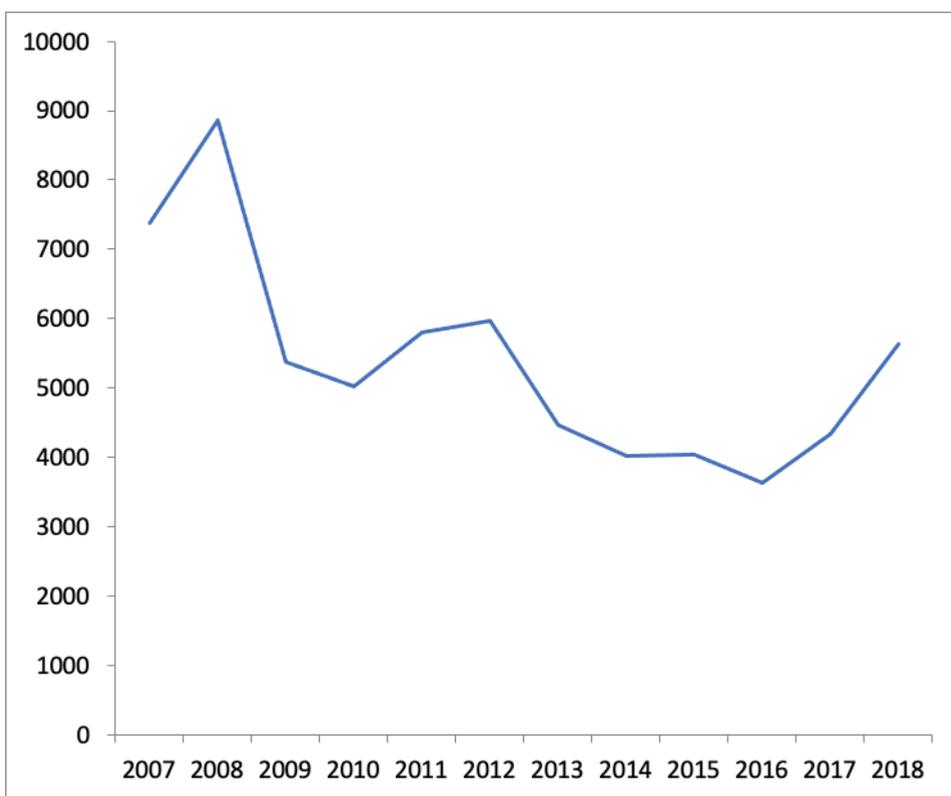
95% confidence interval is (4417,38 - 6345,19) which means that with a probability of 95% we claim that the deficit is moving in this interval;

the data in the series are not homogeneous since the coefficient of variation

$$v = \frac{s}{\bar{x}} \times 100 = \frac{1517,08}{5381,28} \times 100 = 28,19\%$$

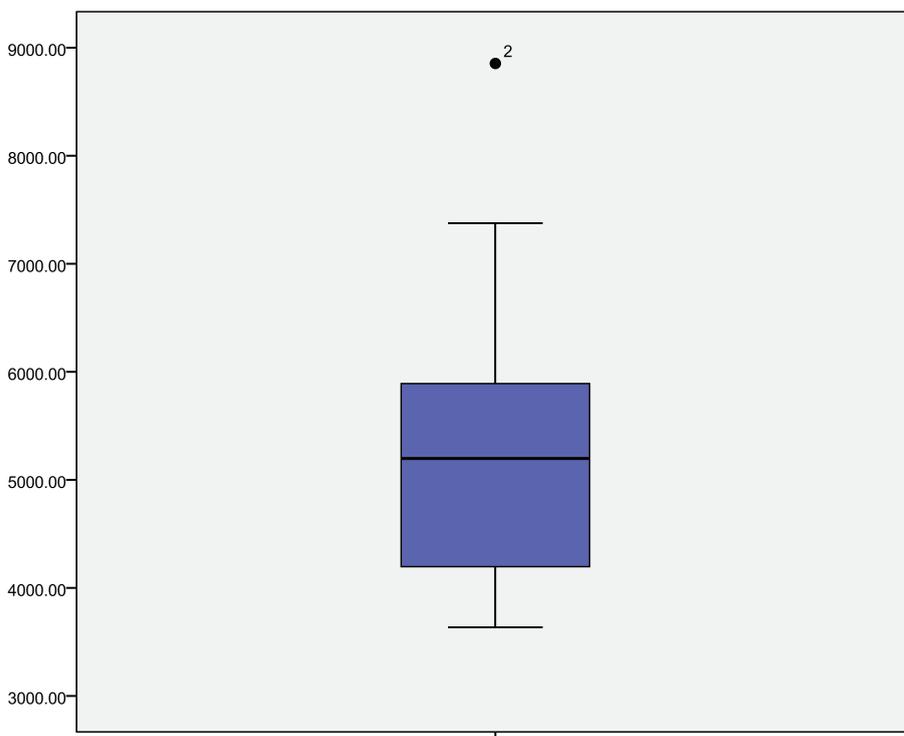
smaller than 30%.

Figure 1. Deficit of Serbian trade in the period 2007 – 2019



Source: Authors, according to Ministry of Finance data, available at www.mfin.gov.rs (accessed 7.4.2020.)

Figure 2. Box-plot diagram Foreign trade deficit of Serbia in the period 2007–2019.



Source: Authors, according to Ministry of Finance data, available at www.mfin.gov.rs (accessed 7.4.2020.)

On the box-plot chart (Figure 2) Foreign trade deficit for the period 2007-2019. year, we can see one outlier (an exclusive point, an observation that is different from the others) data and the value of the foreign trade deficit for 2008.

Now, let's take a look at how the nominal exchange rate of the dinar and the euro in the same period.

Table 2: Exchange rate RSD for EUR (end of period)

YEAR	EXCHANGE RATE	YEAR	EXCHANGE RATE
2007	79.24	2014	120.96
2008	88.60	2015	121.63
2009	95.89	2016	123.47
2010	105.50	2017	118.47
2011	104.64	2018	118.19
2012	113.72	2019	117.59
2013	114.64		

Discussion of work results

At first, it should be noted that this study we access just because we have the impression that in our professional public these works are not sufficiently represented. Namely, in the past twelve years of Serbian statehood, in our opinion, this problem was not addressed enough by economists. Occasionally and partially there were critical texts about some aspects of this issue. The profession is quite justified, for example, against the fixed exchange rate at the beginning of the transition. However, the impression is that not enough attention paid to the influence of the foreign exchange rate on the trade balance of Serbia as an independent state in the first decade of its existence in the 21st century.

In our wider, but also in professional public, there was certainly a reaction to certain exchange rate fluctuations. It was an assessment that at certain moments the current course corresponds to the “import lobby”, or that the policy itself is not enough to reduce the trade deficit of Serbia. Of course, these issues, and that we pointed out in the paper, are very complex. Therefore, we have decided to specifically quantify only one aspect, and to try to give a clear answer to at least one question from this complex set of macroeconomic problems. How and in which extent the course influenced the foreign trade balance of Serbia in the mentioned period. We finally offered an unambiguous answer to that.

In this we see the contribution of this paper. We picked out a precisely defined question and gave it a clear answer. We consider such an approach important for all macroeconomic issues of Serbia in the conditions of its new independence. It should come out of endless theoretical discussions and outwits. It is necessary to solve one and the same question in a clear and argued way and redirect to the next ones to meet. Maintenance is done to serve the dilemma. Which course to choose? What course policy do you take? It cannot always be at the beginning. Is there any progress in transition?

We made the effort to contribute to this work by checking the theory in concrete practice. We believe that the previous analysis showed that in the conditions of the Serbian economy in the period 2007-2017, the course would be a very important element of foreign trade policy. Its influence on the foreign trade balance of Serbia in the mentioned period is undisputed and fully in line with the ruling theory. In other words, we think that topic which is being studied and the period, the practice fully confirmed the theory.

The practical implication for foreign policy makers of Serbia would be to continue with the practice of depreciation of the nominal dinar exchange rate against the euro and that any other behavior would lead to deterioration of the foreign trade balance.

Conclusion

In this paper we were shortly dealing with what is indicated in the title, so the impact of the exchange rate on the balance of payments of Serbia. We have considered the basic categories of exchange rates and foreign exchange regimes, as well as the most important relations between them. We also highlighted the main elements of the balance of payments. We also looked at the main theories explaining the modalities for alleviating the problem of the deficit of the foreign trade balance. Research, which could possibly be called a case study of the independent state of Serbia in this domain during the period 2007-2019, focused on the verification of the link between the exchange rate and the foreign trade balance. Having

explained the indisputably great importance of the nominal dinar exchange rate against the euro, we have just placed the emphasis here. The purpose was to determine and quantify this relationship on a concrete case. We wanted to check the theory and practice, to end the unfruitful discussions and to evaluate the economic policy that is being conducted.

As we have already pointed out, focus of the research was at the exchange rate which is the most important for Serbia. First, the euro is unmatched most important currency for foreign trade of Serbia, and secondly, the nominal exchange rate is the only domain of foreign exchange policy that has a great influence on the foreign trade balance. In concrete case, the connection between theory and practice is confirmed. Namely, the diminution of the value of the dinar (the growth of the euro exchange rate against the dinar) is very much in line with the reduction of the deficit of Serbia's foreign trade. At the same time, it does not corroborate the initial hypothesis that the depreciation of the exchange rate of the dinar against the euro is not in tandem with the reduction of the deficit of the foreign trade balance. In the investigated decade, in the case of Serbia, it was undoubtedly quantified that the depreciation of the exchange rate of the dinar against the euro was very firmly related to the reduction of the deficit of the external trade balance.

This research has unequivocally and surely resulted in the claim that the movement of the nominal exchange rate between the euro (direct invoicing) is affecting the reduction of Serbia's foreign trade deficit (2007-2017), which fully corresponds to the prevailing theory of foreign exchange rates and foreign trade. Certainly, the course of this exchange rate was also influenced by the significant price elasticity of imports (and exports) of Serbia and its main foreign trade partners. If it was not there, or it is insufficient, the effect of the exchange rate would be minimal. Likewise, the correction of the external trade balance through both values of the domestic currency was facilitated by the restriction of domestic consumption by keeping inflation under control and by reducing the budget deficit. [9] However, all this does not change anything on the conclusion nor undermines the result of the research. The balance would not be corrected without such an exchange rate policy. This is supported by a slight rise in the deficit in 2017, which also corresponds to a slight increase in the value of the dinar.

With this work we wanted to show three things. Methodologically we had the intention to promote the approach that it is most appropriate to conduct macroeconomic analysis of the Serbian economy starting in 2017, because it is only to the first years of independence the country after many decades. This is simply the case, although we often encounter an approach where the Serbian economy is analyzed for a much longer period than the last decade. In our opinion, it is justified in the context of a historical approach on which occasion the emphasis would be on the position of Serbia within several states in which it was composed after the First World War. For current economic analyzes, in our opinion, it was sensible to act only as we did on this occasion.

We also consider the choice of the topic as a certain contribution because we consider that the papers dealing with the policy of the foreign exchange rate of Serbia in the mentioned period are missing. As if this is a little important topic that does not deserve the attention of economists, and as if everything is clear in itself. The fact is that, in the last decade, it has the least problems in terms of the exchange rate and foreign trade balance, but we consider it to be shown, proven and confirmed decisively.

Thirdly, the fact is that the phenomena described in this paper on the line of predominance, could be said to be a “classical” economic approach. Such an approach, where, in this context, the correction of the foreign trade balance is considered to be a useful

use of the fluctuating exchange regime, the fall in the value of the domestic currency, inflation control and the balancing of the budget deficit is, at the same time, the general approach of the IMF. In this period, this organization has had a considerable influence on the conduct of macroeconomic policy in Serbia. We would like to state once again that such an approach obviously gives results in this area. Namely, for this period, governments mainly criticize the work of the expert public on the direction of the IMF because of the fact that this does not lead to higher rates of economic growth. However, it should be kept in mind that this organization primarily deals with the problems of external liquidity of its members, and that it is not a development agency. In this sense, this policy seems to be the best option. Here, we dealt with exchange rate and foreign trade deficit, and economic development is another, more complex topic that still requires more serious analysis in the coming period.

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THE IMPACT OF ECONOMIC DEVELOPMENT ON THE EFFICIENCY OF THE FINANCIAL SECTOR

Abstract

A stable financial sector creates economic development. Speculative actions in financial markets cause disturbances and are an indicator of economic instability. The growth of a modern market economy more than two centuries ago is interconnected with the growth of the financial system. The averment that there is a connection between the growth of the financial and real sectors of the economy is as old as economics science. A developed financial system encourages competition, expands the market, and increases the efficiency of financial institutions. The depth and the breadth of financial markets are growing, which are transmission to the performance and structure of the economy. Through linking savings and investments, the financial system controls and manages the risks that are characteristic of financial operations and facilitates the interaction of production and consumption. The financial systems of transition countries are not sufficiently developed, so this paper aims to point out the interconnectedness and impact of the financial system on macroeconomic stability.

Key words: *economic development, financial markets, economy, macroeconomic stability.*

JEL classification: *E00, E60, O11,*

УТИЦАЈ ПРИВРЕДНОГ РАЗВОЈА НА ЕФИКАСНОСТ ФИНАНСИЈСКОГ СЕКТОРА

Апстракт

Стабилни финансијски сектор обезбеђује стабилни привредни развој. Шпекулативне радње на финансијским тржиштима проузрокују поремећаје

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и показатељ су привредне нестабилности. Развој савремене тржишне економије више од два века уназад нераскидиво је повезан са развојем финансијског система. Тврдња да постоји веза између развоја финансијског и реалног сектора привреде, стара је колико и сама економска наука. Развијен финансијски систем подстиче конкуренцију, проширује тржиште и повећава ефикасност финансијских институција. Дубина и ширина финансијских тржишта расте, што се преноси на перформансе и структуру привреде. Кроз повезивање штедње и инвестиција, финансијски систем контролише и управља ризицима који су карактеристични у финансијском пословању и олакшава интеракцију производње и потрошње. Финансијски системи земаља у транзицији нису довољно развијени, стога је циљ овог рада да укаже на повезаност и утицај финансијског система на макроекономску стабилност.

Кључне речи: *привредни развој, финансијска тржишта, привреда, макроекономска стабилност.*

Introduction

The economy and economic subjects perform their activities within the financial system, which are composed of a large number of participants and institutions that are in the function of companies, individuals, and governments. The main goal of every national economy is to establish a financial system that will provide economic growth. Any financial system aspires to connect savings and investments through financial markets. If the financial market is healthy, then the system is ready for quick adjustments and efforts required by any development.

Economic development implies the new needs of economic entities, which are reflected in the financial sector. Analysis of economic development and the financial sector is crucial for understanding their interdependence. In a period of slow economic development, inflation is often used as an instrument to achieve goals, and especially to stimulate employment growth. High inflation rates reduce the credit potential of banks as a financial sector, which increases liquid reserves. Interdependence exists because rising consumer prices lead to a decrease in aggregate demand, which slows down economic activity and a decline in credit demand.

Despite the existence of dilemmas about the interdependence of financial market development and economic growth, there is great agreement on the connection between economic growth and financial market development as an integral part of the financial system. “The misunderstanding arises over the question of whether the development of the financial market is the driver of development (supply argument) or economic development causes the development of the financial market (demand argument).” (Brealey Myers Marcus, 2007). Another question that arises is whether the banking or non-banking sector and the capital market are more important at a certain economic level? These and many other issues make this topic attractive for processing and analysis.

A more comprehensive understanding of the impact of the growth of the financial system on economic growth is possible if other functions of the financial system are analyzed control of business operations, risk management, and facilitation of exchange of goods and

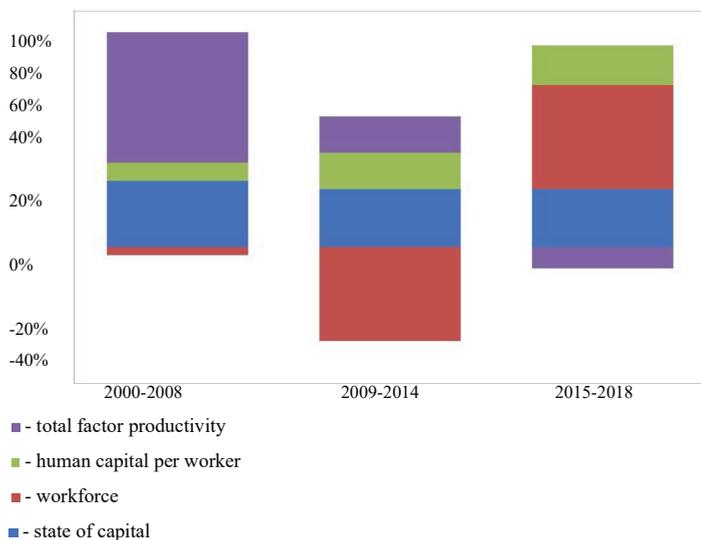
services. Each of these functions has an influence on the basic determinants of economic growth (accumulation of capital, technological innovation, increase in total factor productivity). In this regard, the good functioning of the financial system allows national economies to make full use of development potentials, as secure that investment projects finance at a minimal cost.

Financing of economic development

The driver of the national economy is economic development. The basis of economic growth is domestic savings, which is a deficit factor for developing countries. In such conditions, developed countries resort to engaging savings from abroad, which are the supplement the domestic savings. “Savings are a voluntary renunciation of current consumption, for the sake of higher consumption in the future.” (Ristanović, 2017) Savings can be at the level of individuals, the economy, and the state. It is the savings of individuals that are the form of financing economic development in less developed national economies, while in developed countries, it is important part of the financing.

In addition to domestic savings, foreign sources of financing are of great importance to the economy. Sources financing outside the domestic one refers to foreign direct investments and portfolio investments. According to Dašić (2011), the contribution of foreign direct investment to a country and its economic development is reflected in the waning of regional inequalities. (Dašić, 2011) Economic growth is the most pertinent macroeconomic parameter, which assesses the country’s progress and is appearing in terms of GDP. Economic growth is realized through GDP growth. The incentive of economic growth covers monitoring of other indicators, such as the level of capital, employment, imports, exports.

Graph 1. Structure of components that accelerate economic development



Source: World Bank budget based on SBS data total factor productivity

Investment opportunities and institutional frameworks are often analyzed, to assess the absorption power of the economy, which further affects the different dynamics of foreign direct investment. The more developed the country, the higher the share of domestic savings in investment financing, so in developed countries, home

savings are moving from 85-95%. (Economic Analysis Division, UN / ECCE, 2000) Conversely, less developed countries and countries in transition finance their investment activity mainly from foreign sources, foreign savings, regardless of the form in which these savings or capital come.

Direct investment is the simplest method of transferring funds from surplus to deficit entities and is probably the most efficient if the conditions are right. (Rose & Marquis, 2012) However one of the problems of direct investment is the mismatch between the desires and economic needs of savings and investment entities. Savings mobilization is the process of pooling free funds for investment. By performing the function of mobilizing savings, the financial system overcomes the problems of connecting savings and investment entities, such as high transaction costs and a lack of information on the other side. Therefore, efficiency of the financial system in consolidating the savings of individuals can significantly affect the increase in savings, and consequently the accumulation of capital and economic growth.

The question that arises for many national economies is whether to use the domestic accumulation of foreign capital. This question has been asked by the simultaneous action and presence of inflation, the balance of payments deficit, chronic unemployment. Such relationships pose a new dilemma, which is the limit of external borrowing of the economy, what is the system of using foreign capital, but also the efficiency of its use. What is important is that foreign direct investment stimulates economic growth, but if this process is not followed by the growth of domestic savings, then it is not possible to maintain long-term and stable rates of economic growth and development.

National savings as an important source of financing economic development must imperatively respect the difference between the socio-economic environment of market economies, on the one hand, and developing countries and economies in transition, on the other. The former has an auspicious savings structure since the domestic currency is convertible there is no difference between savings in domestic and savings in foreign currencies. In economically developed countries money savings are covered by real accumulation, production of goods in whose structure, high-performance products usually dominate. Developing countries are characterized by extremely low savings in relative terms as a percentage of the social product, and especially in absolute terms. Money savings are generally not covered by real accumulation due to the destructive effect effects of inflation, while money convertibility cannot be talked about, while the financial market is underdeveloped. (Dragutinović, Cvetanović, Filipović, 2005)

If the Republic of Serbia could introduce changes that would improve each of the above components of economic development, it would lead to the expansion of the national economy. Economic growth is the result of three factors that interact with each other, capital, labor, and productivity. “Foreign direct investments, which were in the form of taking over domestic companies, made a great contribution to the economic development of the Republic of Serbia.” So there was an improvement in their business, but also GDP growth. However, there was also an unsuccessful implementation of the privatization process of large companies, which made this growth not achieve even more significant results.” (Simić, 2014)

Macroeconomic sustainability is a precondition for economic development because it reduces uncertainty for investors but also for consumers. Capital as a physical means of production should be maintained and increased through investment. Labor and human capital represent workers who use physical capital to produce economic results and whose productivity affects economic growth. Great emphasis is placed on the labor market as a key driver of economic development, especially for less developed national economies. The faster the efficiency of the labor force increases, the higher the GDP growth and the growth of wages without stimulating inflation, which ultimately has a positive coupling.

A crucial problem in financing economic growth and development for underdeveloped countries is the low volume of savings, which has stabilized for decades, and the main growth factor is the import of foreign accumulation. The factor of structural problems is related to the more dynamic growth of aggregate demand and final consumption in relation to the growth of gross domestic product.

The impact of the financial sector on economic flows

The development of a modern market economy is linked to the growth of banking and the entire financial sector. Through basic functions, risk linking, maturity transformation, banks provide depositors with investment insures, while at the same time having a high level of liquidity. On the other hand, banks are traditionally an external source of financing for both companies and household consumption. In this way, the banking sector has a large influence on economic flows.

Creating an optimal financial infrastructure will be in the function of economic growth for every national economy are an important question. It is closely related to the current socio-economic circumstances that affect the performance of the economy, strategic commitment, and future directions of development. To achieve social and development goals, it is necessary to establish a strong financial institution that will be able to significantly influence economic flows.

Weaknesses and scope of private capital in the financial system, regardless of whether it is economic motives, interests, or opportunities, can limit the basic assumptions of economic development. (Brkovic, 2013) For this reason, a large number of countries have special institutions that deal with issues of financing economic development. These institutions are an integral part of the banking and financial system and their specific purpose and goals differ from commercial banks. National development banks, which are established to support economic development, also affect the expansion of overall services provided by the banking and financial sector.

One of the definitions that best shows the essence of the existence of development banks is that they are “financial institutions established with the aim of economic development, taking into account the goals of social development and regional integration, by providing long-term financing or providing financing for projects that generate positive externalities “. (UN DESA, 2005) It is especially important to indicate long-term financing, which is the essence of the existence of development banks.

A significant statement of how banks help the growth of the real sector can be found in Bagehot (1873), who points out that a higher degree of banking development,

through the mobilization of savings, positively stimulates the development of the economy. Bagehot's understanding of the role of banks in a market economy is the basis of the dominant view that growth in the capacity of the financial sector is beneficial to the development of the real sector of the economy. According to this paradigm, a higher level of development of financial intermediation measured by the ratio of the level of issued loans and GDP leads to a higher level of investment and a higher level of GDP. (Urošević, Živković, Božović, 2011)

In general, national financial systems, which are efficient in mobilizing savings, contribute significantly to the growth of economic activity. The financial market and financial institutions enable the efficient consolidation of existing financial assets in the economy and the financing of production technologies that require a high level of the initial investment. Besides, the pooling process allows financial intermediaries to diversify risks associated with individual investment projects and offer savers higher expected returns.

The development of the financial system implies easing credit constraints for indigent households, allowing them to undertake productive investments, such as investing in education. (Honohan P & Beck T, 2007) In addition to long-term economic growth, financial development also has an impact on reducing inequalities in income distribution. The gap between rich and poor and the degree to which this gap changes from generation to generation are the consequence, among other things, of the availability of financial products and services and the possibility of their use by the poor.

The financial system of the Republic of Serbia, although it have passed the path of transition, has failed to develop all its elements. To what extent the financial system is ready to support economic growth, it is necessary to analyze the banking sector, financial markets, as well as the role of the state to adequately direct the most important source of financing economic growth (household savings). According to the data of the National Bank of the Republic of Serbia, the share of banks in total financial assets is about 90%, while the relative share of other institutions is much smaller, which is an indicator of a one-sided and underdeveloped financial system.

Table 1. Savings of the population of the Republic of Serbia in billion dinars

Year	Dinar savings	Foreign currency savings
2010	13,4	732,0
2012	17,7	910,4
2014	38,0	1014,3
2016	50,3	1070,9
2018	61,1	1075,0

Source: NBS Statistics, Ministry of Finance of the Republic of Serbia

With the enactment of the Law on Public Debt Regulation in 2002 (Official Gazette of RS, No. 108/2016, 113/2017, 52/2019), the state committed itself to the return of foreign currency savings of citizens through the issuance of bonds, which is accompanied by the consolidation of the banking system and the restoration of trust. The population in the new banks led to a gradual increase in savings. The successful start of fiscal consolidation after 2014 removed the risks, but a large number of structural problems remained and are an obstacle to further growth and development. “Credit

support of the banking sector to industrial investments and the new model of economic growth of the Republic of Serbia has remained very modest even after 2010.” (Ćorović, 2019) The transition period in the Republic of Serbia is characterized by unfavorable conditions for lending to the economy (and households), so that loan users often paid interest and fees, which are the highest in Europe. Such conditions affect the outflow of capital from the real to the banking sector. (Aničić, Aničić, Kvrđić, 2019)

The importance of the financial system in the process of mobilizing savings is also indicated by historical facts. Berthélemy and Varoudakis (1996) that at the beginning of the 19th century in many countries there was enough accumulated money to finance industrialization while the main challenge was to mobilize these funds and direct them to the most productive purposes. This process required the redintegrate of a mechanism for collecting unused funds and distributing them to entrepreneurs who would invest in industrial enterprises. Continuing this area, Levin (2004) points out that the difference between developed and less developed economies is that developed financial systems have the potential to mobilize funds for large projects so that productive investments do not fail.

Globally, the financial system, performing the function of mobilizing savings, overcomes the problems of connecting savings and investment entities, such as high transaction costs and lack of information on the other side. Therefore, the efficiency of the financial system in consolidating the savings of many individuals can significantly affect the increase in savings and the accumulation of capital and economic growth. We cannot talk about economic development without emphasizing the importance of encouraging investment. Investments in all their forms must be a priority of the economic policy for the national economy to achieve a sustainable rate of economic growth.

Financial sector efficiency indicators

Banks are the most pertinent part of the financial sector of a national economy. Their growth can be follow using a large of indicators, which are defined in both theoretical and empirical literature. Empirical studies based on standard quantitative indicators for the calculation data are available in appropriate databases.

Alternative indicators of the size of the financial system include calculating the share of monetary aggregates (M1, M2, M3) in GDP. The relatively low contribution of the monetary aggregate M1 in GDP shows that the population does not keep a large part of cash outside formal financial flows, which is an indicator of a developed financial system. (Beck, Demirgüç-Kun & Levine R, 2009) For the reliability of the obtained results, as an alternative indicator of the size of the financial sector, the share of banks' liabilities based on deposits in nominal GDP is used, which excludes cash in circulation from the wider money supply M2. To determine the effectiveness of the financial sector, the ratio of private sector claims to deposits of commercial banks is used. It shows the percentage of savings transferred to private-sector loans. Another indicator of the efficiency is the net interest margin, as the ratio of the book value of net bank interest income and total bank assets.

The condition for market liquidity is the existence of many participants, both on the supply side and on the demand side, who provide transactions at the same value as the

previous ones. Besides, the market must it is necessary to absorb the purchase and sale of large quantities of stock exchange material, without affecting the price. The efficiency of the financial system described in this way is measured by the turnover ratio. The ratio of turnover and market capitalization shows how many times the securities have changed owners, how much the turnover is. “The ratio of total turnover to the market capitalization of companies is known as a turnover ratio or turnover rate.” (Marinković, 2011) In the literature, this indicator can also be called the liquidity ratio. A small but liquid financial market has a relatively high turnover ratio, while a large but less liquid market has a relatively lower turnover ratio.

To determine the efficiency of the financial market, in addition to the liquidity ratio, the purchase range is used, which is the difference between the highest price that the buyer is willing to pay and the lowest price at which the seller is willing to sell. The small buying range is a direct consequence of the high degree of liquidity. The degree of financial market instability can be measured in several ways. One of them is volatility, which is a consequence of random changes in prices of financial instruments.

Important determinants of the growth of the financial system of the Republic of Serbia are the parameters that determine the depth of the financial system, access and use of financial services, efficiency and stability of the financial system. The parameter of financial depth shows that the financial system is a significant segment of the socio-economic system in the Republic of Serbia. The banking sector is the most important part of the financial system Republic of Serbia, which accounts for over 90% of the total assets of the financial sector.

According to the World Bank for the Republic of Serbia, the indicator of the depth of financial institutions shows growth since 2000. The share of bank loans granted to private entities about GDP in the Republic of Serbia in 2015 was at the level of 48.2% and the share of this indicator has been growing since 2000 (when it amounted to 26.7%), which indicates a positive impact of approved loans of economic growth⁴.

The relative importance of the role of the financial market concerning GDP in the Republic of Serbia shows growth. The capitalization of the stock exchange grew in the period from 2000. to 2015., while the total value of shares on the stock exchange traded reached a low share in GDP compared to the CE5 countries.

Table 2. Determinants of the development of the financial system in the Republic of Serbia, period 2005-2015. years

Indicators	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Financial institutions											
Private bank loans in relation to GDP	22,2	17,0	19,2	23,8	27,3	29,7	35,6	43,0	47,6	50,3	48,2

⁴ The average for CE5 countries in 2015 was 64.4%, while the share of approved loans in GDP in the euro area was 119.8%.

Assets of deposit-taking financial institutions in relation to GDP	22,8	18,4	21,4	26,3	29,5	31,4	37,0	46,9	53,3	59,9	60,7
Financial markets											
Total value of shares traded in relation to GDP	0,3	1,5	2,0	2,0	3,3	5,0	4,1	1,9	0,9	0,6	0,7
Efficiency of the financial system											
Net interest margin	6,3	8,9	7,1	7,2	8,2	8,1	8,4	7,4	6,0	5,6	5,2
Non-interest income	71,8	63,7	80,7	71,9	70,4	50,6	27,7	72,6	73,9	76,3	76,1
Operating costs	4,6	9,9	17,9	10,8	12,7	7,2	5,0	15,8	11,9	15,9	15,7
Return on equity	-29,7	7,4	-11,1	3,4	8,4	7,9	6,5	2,7	3,5	3,9	2,5

Source: World Bank

According to the indicators that determine the efficiency of the financial system, it is concluded that in the Republic of Serbia the efficiency of financial institutions is at a higher level concerning the efficiency of the financial market. The efficiency of the financial system is burdening by the growth of operating costs, which show a growth trend much higher concerning countries with the same level of development. The stability of the financial system of the Republic of Serbia has maintained thanks to the liquidity of the banking sector, which after the global crisis in 2009 showed a downward trend and since 2010 a gradual upward trend.

The model of economic growth after 2008, which is based on the growth of exports and investments, is largely conditioned by economic trends, but also by the strengthening of external demand. It is very important to stimulate state and private investments and fulfill the preconditions for better business, such as a more efficient financial system, efficient administration, and improved competitiveness. In the area of financial sector growth, it is necessary to establish financial discipline and efficiently resolve problem loans, the banking sector is a dominant part of the financial system.

Conclusion

Economic growth and development of the national economy depend on numerous factors, in addition to the development of the financial system, time is also important factor. The economic development of countries in transition lags behind that of developed countries, where one of the main reasons is the insufficient fragmentation of financial markets. The main reason for the underdevelopment of the financial market

is underdeveloped institutions and the fact that access to external sources of financing is limited. Economic growth indicates the depth and capacity of the financial system, including the availability and liquidity of credits, share capital, insurance, and other financial products.

The interdependence and interaction between economic growth and financial stability are manifested through financial markets, which enable risk-taking and financing of more productive and risky projects. Developed financial markets facilitate the process of risk diversification while providing SMEs with access to finance. Through capital allocation, the financial system provides a higher level of project productivity. A developed financial system provides an efficient payment system, which significantly reduces transaction costs. If the structure of the financial system is disrupted, there is not only a disturbance in financial intermediation but also an outflow of capital. That is why a stable, resilient, and regulated financial system is the basis for a stable economy.

Financial support to the economy and expensive business loans are the leading factors in the unfavorable economic environment. The unavailability of additional financial resources is a limiting factor for the growth and development of the economy. The stability of the financial system and the development of the financial market depend primarily on general reforms, which create more favorable business environment and improving basic macroeconomic indicators can contribute to the progress of this segment. The financial markets are not perfect, priority of modern economic systems is to mobilize savings at the lowest possible cost. More efficiently mobilize savings, it is desirable to perform internal diversification of the financial sector, through the activation of diversified forms of banking.

The creators of economic policy are set a great task, to create such an environment that will have a positive effect on the financial system with the help of adequate economic measures. In the Republic of Serbia is concerned, it is necessary to continuously monitor the dynamics of bank loans and accompanying risks, special attention must be paid to the low share of loans to the private sector in GDP and at the same time high share of non-performing loans in the total loan portfolio. For all the above activities to give positive outcomes, first of all, political stability and the existence of a democratic society are necessary as necessary preconditions for the development of the financial and economic system of a country.

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EXCLUSIVE PURCHASING AGREEMENT AS A SPECIAL TYPE OF DISTRIBUTION AGREEMENT – THE CONCEPT, LEGAL NATURE AND SOURCES OF LAW

Abstract

It is noticeable in business practice that direct sales of goods are very rare which means that economic entities in the market, which mainly operate at different levels of production or distribution, are often part of complex distribution systems by which the product reaches from the producer to the final consumer in the fastest and easiest way. These distribution systems are formed by means of distribution agreements, which according to their specifics, can be divided into an exclusive distribution agreement, a non-exclusive distribution agreement, a selective distribution agreement and an exclusive purchasing agreement. An exclusive purchasing agreement, as a special type of distribution agreement, is a framework, unnamed agreement, with permanent obligation, which contains certain elements of exclusivity and thus restricts competition, so it is very important to harmonize it with the relevant provisions of competition law. The subject of this paper is the study of the exclusive purchasing agreement through the determination of its concept, basic features, legal nature and sources of law which are applied to it.

Key words: vertical agreements, distribution agreement, exclusive purchasing agreement, goods, competition law

JEL classification: K20, K21, K29

ПОЈАМ, ПРАВНА ПРИРОДА И ИЗВОРИ ПРАВА УГОВОРА О ИСКЉУЧИВОЈ КУПОВИНИ КАО ПОСЕБНЕ ВРСТЕ УГОВОРА О ДИСТРИБУЦИЈИ

Апстракт

У пословној пракси је уочљиво да је директна продаја робе веома ретко заступљена, што значи да су привредни субјекти на тржишту, који углавном послују на различитом нивоу производње или дистрибуције, често део сложених дистрибутивних система, помоћу којих производ најбрже и најлакше доспе од произвођача до крајњег потрошача. Ови дистрибутивни системи се формирају

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помоћу уговора о дистрибуцији, који се, спрам својих специфичности, могу поделити на уговор о ексклузивној дистрибуцији, уговор о неексклузивној дистрибуцији, уговор о селективној дистрибуцији и уговор о искључивој куповини. Уговор о искључивој куповини, као посебна врста уговора о дистрибуцији, јесте оквирни, неименовани уговор, са трајном облигацијом, који у себи садржи одређене елементе искључивости и на тај начин ограничава конкуренцију, па је веома важно ускладити га са одговарајућим одредбама права конкуренције. Предмет овог рада је проучавање уговора о искључивој куповини кроз одређивање његовог појма, основних особина, правне природе и изворе права која се на њега примењују.

Кључне речи: *вертикални споразуми, уговор о дистрибуцији, уговор о искључивој куповини, роба, право конкуренције*

Introduction

The modern market economy is now facing with increasing competition, overproduction and business expansion. These market conditions impose on every manufacturer or service provider to thoroughly consider all ways that can enable them to conquer new markets, as well as to expand their share in the markets where they are already present. Constantly growing demand for many products and services, as well as a wide range of them, literally imposes on producers need to establish their own distribution system through which distributors can place and sell their products as quickly, easily, efficiently, successfully and as much as possible.

As a result of overcoming these problems, the practice has developed a distribution agreement, which is often a part of a complex network of contractual relationships between multiple entities. An exclusive purchasing agreement, as a special type of distribution agreement, will be the subject to further detailed consideration in this text, through its definition, sources of law, separation compared to other types of agreements and other details that are specific to this type of agreement.

Concept and types of distribution agreement

Distribution agreement can be defined as a general, framework agreement on vertical cooperation, according to which the distributor undertakes to buy goods permanently from the manufacturer or seller on the basis of future individual agreements, as well as to place and to distribute purchased goods in its own name and for its own account, at its own risk, but at the same time integrating in the sales organizational network of the manufacturer (Vilus, Carić, Šogorov, Đurđev, Divljak, 2012, p. 271). Based on the existing general contract, the parties subsequently conclude individual contracts by which further specify the details of delivery, as well as all other related duties (Spasić, 2013, p. 74). From the economic aspect, distributors can be characterized as intermediaries in trade whose role in this contractual relationship has more similarities with the role of the agent than with the role of the buyer in classical contract law (Vilus, Carić, Šogorov, Đurđev, Divljak, 2012, p. 273).

There are different types of distribution agreements and in theory the most common and most widely accepted division is into an exclusive distribution agreement, a non-exclusive distribution agreement, an exclusive purchasing agreement and a selective distribution agreement.

Concept of exclusive purchasing agreement

Exclusive purchasing agreement is a contract by which one contracting party undertakes to purchase the contracted goods for resale, exclusively from the other contracting party or from a third party designated by the other contracting party (Bogaert, Lohmann, 2000, p. 39; Christou, 2011, p. 76). Horak (2005) states that in this agreement "the purpose of the purchase must be further resale of the goods, not the further processing of the goods, which means that the goods must retain the same economic identity" (p. 75). In this contractual relationship is particularly significant that the distributor is not assigned an exclusive territory to which distributor will be reselling the goods as is the case with the exclusive distribution agreement. Therefore, distributor's position is different from the distributor's position in exclusive distribution agreements, as he is exposed to competition from other distributors who also procure goods directly from the same supplier, but are not limited in terms of the territory in which they can resell the contracted goods (Horak, 2005, p. 71; Parivodić, 1996, p. 35; Divljak, 2004, p. 241). In addition to what is just stated, it is also significant that the distributor can not use the services or to purchase the contracted goods from other manufacturers or suppliers, except from the one that is specified in the contract (Spasić, 2013, p. 72).

Contracting parties of the exclusive purchasing agreement

Contracting parties are distributor (dealer) and manufacturer or supplier. Both parties are autonomous and legally independent business entities, operating in its own name for its own account and they independently bear the risk of their business. Suppliers are usually large producers of goods, but often they can be smaller manufacturers, who specialize in a particular type of product, while in the role of the distributor can appear larger or smaller companies and individual traders who are also usually specialized in the sale of certain types of goods (Spasić, 2013, p. 75).

Features of the exclusive purchasing agreement

In principle, an exclusive purchasing agreement is informal but since it's a contract of commercial law that appears in business practice, it is usually made in written form which is not a condition of validity of the agreement, but it serves for easier proving.

Keeping in mind that these contracts are derived from business practice, they are not legally regulated in the legal system of Serbia, as well as in the most legislations in comparative law, and they belong into the category of unnamed contracts. As an unnamed contract, an exclusive purchasing agreement may be concluded by the contracting parties

who are free to regulate their relations at their will, but in the limits of compulsory regulations, public order and good customs (Article 10 of the Law on Obligations). Exclusive purchasing agreements are double mandatory contracts because they create mutual obligations of the contracting parties.

These contracts are a kind of framework contracts, which constitutes the general legal framework for future individual contracts which are concluded by the distributor and the supplier and by which is specified e.g. delivery, exact quantity and type of goods, price, method of payment, etc. In addition to the above, another important feature of these contracts is that they are contracts with a permanent obligation and contracts with permanent performance of obligations. (Perović, 2010, p. 362).

The *intuitu personae* element of the exclusive purchasing agreement is especially characteristic, because in this contract, as in other types of distribution agreements, the personal relationship which is established here is of the special importance, since the supplier chooses the distributor based on his personal qualities and abilities such as market reputation, knowledge and experience, sales network, which is all of particular importance for this contractual relationship because it's often the deciding factor for contracting.

Subject of the exclusive purchasing agreement

The subject of the contract is a special right of purchasing certain goods from the manufacturer or supplier or from a third party which is designated by the manufacturer (or supplier). The purchased goods are only an indirect subject of the contract because the distributor is not an ordinary buyer, whose role is limited to the reselling of goods to consumers, but he is focused on organizing the placement of goods and achieving established sales goals (Vilus, Carić, Šogorov, Đurđev, Divljak, 2012, p. 272).

The subject of purchasing is usually goods or products which have no major differences in their type, such as e.g. fuel or food products, like ice cream or beer. Basically, it is goods that is in massive use (Spasić, 2013, p. 75). The effect of such an agreement is reflected in the fact that other producers have difficulties to access to the market, as well as to the end consumers, and thus limit competition between the same products which are differently branded or which carry different trademarks (Horak, 2005, p. 71).

In terms of determining the characteristics and amount of goods the general rules of contract law are applied and common business terms are often used in practice to specify the goods that is the subject of the contract, while certain types of goods often require additional detailed specifications. (Spasić, 2013, p. 75).

Legal nature of the exclusive purchasing agreement

An exclusive purchasing agreement is a contract that is very common in practice and it's represented widely in all branches of the economy. This contract, like other types of distribution agreements, is a complex contract which contains elements of several so-called “classic contracts”. It contains elements of a special sales agreements, consecutive

delivery agreement, commercial agency agreement, mandate agreement, commercial or sales concessions. Although this contract generally contains all the elements of all the aforementioned contracts, in theory there is agreement that an exclusive purchasing agreement is a *sui generis* contract. It is noticeable in practice that sometimes is difficult to distinguish whether it is some type of distribution agreement or of any of its ilk contracts.

In particular, in the case of an exclusive purchasing agreement, the distributor in its own name and for its own account buys goods which he will further resell to consumers while he bears all the business risk. By purchasing the contracted goods, the distributor acquires ownership of the goods and pays a certain price to the supplier for it. Since this is a more permanent business relationship, it is possible that the quantity of goods is not precisely determined by the general contract, but in that case it must be determinable, whereby the general contract determines only the unit price while the total price will be determinable and the exact quantity of goods and the price for the same will be determined separately and precisely by each individual contract between the distributor and the supplier (Spasić, 2013, p. 75). In addition to the above, payment is usually carried out successively or in installments, depending on the deliveries and it's possible to determine the dynamics of payment by contract depending on the further sale of goods to consumers by distributors and the distributor's earnings are reflected in the difference between purchase and sale price (Spasić, 2013, p. 75).

Horak (2005) points that in the business world, exclusive purchasing agreements “have an important business function, as they guarantee the sure sale to one contracting party and the continuous supply to the other contracting party” (p. 71). Namely, unlike classic sales agreements, as well as framework sales contracts, the goal of the exclusive purchasing agreement, beside further placing the purchased goods on the market, is primarily the organization of placement of purchased goods, achieving established sales goals and as well as the establishment of more permanent mutual business cooperation, everything with the purpose of functioning of the formed distribution system.

In accordance with the above, it is obvious that exclusive purchasing agreements have certain similarities with sales agreements but also significant differences which are sufficient to single them out and define them as a special type of contract. In addition, these agreements also have certain similarities with franchising agreements. In the broadest sense, franchising agreement is a type of distribution where the franchisor undertakes to make periodic deliveries and certain business services, as well as to transfer his knowledge and experience in manufacturing and placing to the franchisee while the franchisee undertakes to pay a fee to the franchisor for rendered services and also to abide by all obligations under this contract (Vilus, Carić, Šogorov, Đurđev, Divljak, 2012, p. 266; Spasić, 2013, p. 77). The obligation of the franchisor to supply the franchisee with goods is one of the elements of the franchising agreement which it makes in its broadest sense a type of distribution while all other elements distinguish it from distribution. Spasić (2013) points “what is the essence of franchising is the cession of the sales right and perform services under the franchisor's name, using the franchisor's trademarks and distinctive signs, with the transfer of business knowledge and experience (know-how), using the franchisor's marketing methods, and with the obligation of the franchisor to train the franchisee's staff and provide the franchisee with business assistance” (p. 77). Franchisee during the term of the contract pays a fee to the franchisor for all ceded

rights and knowledge and thus enters into a franchisor's business system, operating in franchisor's framework, as an independent business entity, but in its own name, for its own account and at its own risk (Spasić, 2013, p. 77). Bearing in mind the foregoing, we conclude that exclusive purchasing agreements, as a special type of distribution agreement, do not have all the elements of franchising agreement, and therefore these contracts are a lot less complex than franchising agreements.

Taking into account all the above, no doubt it can be concluded that the exclusive purchasing agreements are contracts of their own kind, ie contracts *sui generis*.

Sources of law

Bearing in mind that the distribution agreement is a contract that has originated in business practice, as well as the fact that in the most European and world legislation it is not regulated by the law, it is still partially in the phase of legal formation, since this contract belongs to the category of unnamed contracts. In the absence of specific legislation, to these contracts in most states are applied a common business practice and autonomous sources of business law, such as model contracts, general business conditions, standard contracts, etc., such as e.g. Principles of European Contracts Law – PECL, UNIDROIT Principles of International Commercial Contracts, Principles of European Law on Commercial Agency, Franchise and Distribution Contracts, Draft Common Frame of Reference – DCFR, The Common Frame of Reference – CFR, Distributorship: The ICC model distributorship contract: sole importer – distributor, ICC Publishing, 2011, ICC Model Contract on Distributorship, ICC Publication, No. 776E, 2016 and other. In addition to autonomous law, the general provisions of the obligation law, as well as the provisions of competition law, are certainly applied to these agreements, since these agreements or their certain provisions restrict competition in the area in which they are concluded between different market participants (Vilus, Carić, Šogorov, Đurđev, Divljak, 2012, pp. 272 - 273; Spasić, 2013, pp. 79 - 80; Perović, 2010, pp. 361 - 365; Bogaert, Lohmann, 2000, pp. 101 - 102). From a comparative point of view, most of the other states legislations don't regulate distribution agreements by the law. Belgium is the exception in Europe, whose legislation regulate certain issues of exclusive distribution by the special law from 1961, with amendments from 1971 (Bogaert, Lohmann, 2000, pp. 123 - 138). Namely, the special law in Belgium regulates the issue of termination of an exclusive distribution agreement concluded for an indefinite period and the issue of “fair“ fee to the distributor upon termination of an exclusive distribution contract concluded for an indefinite period (Bogaert, Lohmann, 2000, p. 123, pp. 130 - 138).

European Union law

At the level of the European Union, the primary sources of rights for distribution contracts are the provisions of Art. 101 – 106 of the Treaty on the Functioning of the European Union (hereinafter: TFEU). The provisions of Art. 101 and 102 TFEU regulate restrictive agreements and abuse of a dominant position. Under the provisions of Art. 101 different types of restrictive agreements are regulated, which can certainly include an exclusive purchasing agreement and contract practice.

Secondary sources of law include decrees, instructions and decisions, which were adopted by the Council and the European Commission (hereinafter: The Commission) in order to implement the mentioned provisions of the previous Establishment Contract (Vukadinović, 2014, p. 392). The Commission, on the basis of its own legislative powers, passed regulations on block exemptions in which the agreements are stated, which as such, by their nature, are considered allowed and exempted from the application of Art. 101 (1) TFEU, and their admissibility does not require individual approval, but it is sufficient for interested parties to draw up their agreement in accordance with a particular regulation and to invoke such a block of exemptions before the court (Vukadinović, 2014, p. 430). Thus, among other things, some previous regulations granted block exemptions for agreements, which refer to the right of exclusive purchase (Vukadinović, 2014, pp. 430 – 431).

The source of the law for exclusive purchasing agreements was at first one of the regulations, which regulated the block of exemptions, namely Commission Regulation no. 1984/83 (Commission Regulation (EEC) No 1984/83 June 22nd, 1983 on the application of Article 85 (3) of the Treaty to categories of exclusive purchasing agreements), and Commission Notice concerning Regulations 1983/83 and 1984/83 (Commission notice concerning Commission Regulations (EEC) No 1983/83 and (EEC) No 1984/83 of June 22nd, 1983 on the application of Article 85 (3) of the Treaty to categories of exclusive distribution and exclusive purchasing agreements). Regulation 1984/83 comprised of many provisions, taking into account the specifics of exclusive purchasing agreements, and the provisions limiting the scope and duration of block exemptions for exclusive purchasing agreements were of particular importance (Horak, 2005, p. 71). Furthermore, this regulation also had special provisions, which regulated contracts for the delivery of beer, as well as the sale and distribution of fuel to gas stations.

The mentioned decree was valid until December 31st, 1997, and with the new Commission Regulation no. 2790/1999 (Commission Regulation (EC) No 2790/1999 of December 22nd, 1999 on the application of Article 81 (3) of the Treaty to categories of vertical agreements and concerted practices), which came into force on January 1st, 2000, the positive trend in the application of block exemptions continued. The new regulation also regulated vertical agreements and replaced previous regulations, which regulated exclusive distribution, exclusive procurement and franchising (Zindović, 2019, p. 14; Vukadinović, 2014, p. 404). Regulation 2790/1999 ceased to be valid on May 31st, 2010, and was replaced by a new Commission Regulation no. 330/2010 (Commission Regulation (EU) No 330/2010 of April 20th, 2010 on the application of Article 101 (3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices), which began to be applied on June 1st, 2010, and will be valid until May 31st, 2022. In general, this decree sets three conditions, which must be met by the agreements in order to be exempted from the prohibitions under Art. 101 (1) TFEU. The first condition is that the agreement must not contain any “hard limit” (Article 2 of Regulation 330/2010), the second condition is that the share in the relevant market must not exceed 30% for both suppliers and distributors (buyers), and finally, the Regulation sets special conditions (Article 4 of Regulation 330/2010) for three vertical restrictions, for non – competitive obligations during the contract and after its termination and when excluding special brands from the selective distribution system (Vukadinović, 2014, p. 434).

Moreover, significant sources of law are court practice, especially the practice of the Court of Justice of the European Union (English: Court of Justice of the European Union, French: Cour de justice de l'Union européenne) and the General Court, in the so – called leading cases in which the Court of Justice in the procedure of deciding on previous issues interpreted certain provisions of primary or secondary legislation (Vukadinović, 2014, p. 394). The best – known judgments for exclusive purchasing agreements are in the case of *Braserie de Haecht Sa vs. Wilkin* (1967), in which the Court of Justice ruled that exclusive purchasing agreements may fall under Art. 81 (1) of the Treaty establishing the European Communities (now Article 101 (1) TFEU), and that the overall economic and legal context of the treaty should be taken into account when assessing these treaties, then in *Delimitis vs. Henniger Brau AG* (1991), *Lagnese - Iglo vs. Commission* (1993), as well as many other judgments. Also, Commission decisions, such as *BP Kemi* and *Leibig Spices*, are a direct source of law.

Law of the Republic of Serbia

In the law of the Republic of Serbia, the sources of law for exclusive purchasing agreements, for now, are regulations in the field of competition law. Law on Protection of Competition (“Official Gazette of RS”, No. 51/2009 and 95/2013, hereinafter: LPC) the provisions of Art. 10 – 14 regulate restrictive agreements, and the provisions of Art. 11 – 13 envisage and determine the conditions for exemption from the ban, as well as individual exemptions and exemptions from the ban by categories of agreements. It is stipulated that restrictive agreements can be exempted from the ban, if they contribute to the improvement of production and trade, i.e. encourage technical or economic progress, and provide consumers with a fair share of benefits, provided that they do not impose restrictions on market participants, which are not necessary to achieve the objective of the agreement, i.e. not to exclude competition on the relevant market or its essential part (Article 11 of the LPC). The provision of Art. 12, section 3 of the LPC stipulates that the period to which the individual exemption applies cannot be longer than eight years, while the provision of Art. 13 of the LPC stipulates that the exemption from the prohibition of a restrictive agreement may apply to certain categories of agreements, if the conditions from Art. 11 of the LPC are complied, as well as other special conditions, which refer to the type and content of the agreement, i.e. its duration, and that restrictive agreements, which meet the stated conditions, are not submitted to the Commission for exemption, as well as that the Government determines the categories of agreements and prescribes in detail the special conditions for such exemptions.

Draft version of the draft of the new Law on Protection of Competition (hereinafter: Draft LPC) in Art. 29, section 1 prescribes that agreements between market participants may be contracts, certain provisions of the contract, explicit or tacit agreements, harmonized practices, as well as decisions on the form of association of market participants. Draft LPC in Art. 29, section 5 defines the concept of restrictive agreements as agreements, which have the goal or consequence of significantly restricting, violating or preventing competition on the territory of the Republic of Serbia or its part. The provision of Art. 29, section 4 of the Draft LPC defines vertical agreements as agreements between market participants operating at different levels of

production or distribution (agreements of non – competitors, one of which is in the downstream and the other in the upstream market). Further, section 6 stipulates that restrictive agreements are especially agreements which directly or indirectly determine purchase or sale prices or other conditions of trade, bidders coordinate and harmonize participation in public procurement procedures, restrict and control production, market, technical development or investment, apply unequal conditions doing business on the same jobs in relation to different market participants, which puts some of them at a disadvantaged position compared to competitors, conditions the conclusion of contracts or agreements by accepting additional obligations that due to their nature and trade customs and practice are not related to the subject of the agreement, directly or indirectly exchange information that reduces uncertainty between competitors in the market and that may affect the business decisions of market participants, market participants agree to exclude from the market or prevent the entry of a potential competitor (collective boycott), market sharing and/or sources of procurement. Draft LPC in Art. 30 stipulates that restrictive agreements are exempted from the general prohibition if, throughout their duration, they contribute to the improvement of production or trade (distribution), i.e. the encouragement of technological or economic progress, provide customers and users with a fair share of benefits, do not impose unnecessary restrictions on market participants in order to achieve the objective of the agreement and do not exclude competition in the relevant market or a significant part of it. Draft LPC in Art. 31, 32 and 34 prescribes special conditions for restrictive agreements, and if these agreements meet the stated conditions, they will be neither prohibited nor null and void by the force of law.

It is interesting that the draft LPC separates only the contract on selective distribution from distribution agreements, and in Art. 32, section 1 defines the concept of selective distribution system as networks of agreements, which obliges the seller to directly or indirectly sell goods or services only to distributors selected on the basis of clear and objective criteria, and these distributors bind not to sell those goods or services to anyone outside the system. Other types of distribution agreements can be subsumed under Art. 30 and 34, provided that their term is nowhere specifically defined. Article 34 of the Draft LPC defines the notion of an agreement of minor importance. In Art. 1 agreements of minor importance are defined as agreements between market participants, which may result in restriction, distortion or prevention of competition, but which do not significantly restrict competition in terms of Art. 29 of this law and are allowed if the total market share of the participants in the horizontal agreement does not exceed 10% in the relevant markets where the agreement has effect (competitor agreement), the market share of each participant in the vertical agreement does not exceed 15% in any relevant market in which the agreement produces effect (non – competitor agreement), the total market share of the participants in the agreement does not exceed 10% in the relevant markets in which the agreement has effect, and has the characteristics of horizontal and vertical agreement or where it is difficult to determine whether vertical or horizontal, the total market share of participants in parallel networks with the same or similar restrictions producing a foreclosure effect of more than 40% of the relevant market, shall not exceed 30%, provided that the individual share of each participant in the agreement referred to in points 1), 2) and 3) of this paragraph does not exceed 5% in the relevant market produce effect (Articles 33 and 34 of the draft version of the draft Law on Protection of Competition). The following paragraph stipulates that agreements of minor importance

are allowed even if the market shares of the participants in the agreement referred to in section 1 during two consecutive calendar years increase up to 2%.

In addition to the LPC, a significant source of law for exclusive purchasing agreements is the Regulation on agreements between market participants operating at different levels of production or distribution exempted from prohibition (adopted by the Government of the Republic of Serbia and published in the Official Gazette of RS, No. 11/2010 of March 5th, 2010, hereinafter: The Decree). The mentioned regulation defines an exclusive purchasing agreement as a contract, by which the buyer directly or indirectly obliges to purchase the contract product exclusively from one seller (Article 3 of the Regulation). The provision of Art. 4, section 1 of the Regulation stipulates that vertical agreements are exempted from the ban, provided that the market share of each of the parties to the agreement in the relevant market does not exceed 25%. Under the provision of Art. 5 of the Regulation, certain restrictions have been set regarding the content of vertical agreements. Namely, this provision stipulates that vertical agreements are not exempted from the prohibition if they directly or indirectly, independently or together with other factors under the control of the contracting parties contain restrictions aimed at directly or indirectly restricting the buyer's right to freely determine the resale price, which does not preclude the seller's right to set a maximum or recommended selling price, on condition that this does not allow fixed or minimum selling prices to be determined by coercion, business restrictions or convenience, restriction of the territory in which the buyer may sell products subject to the agreement or restricting the sale of contract products to a certain group of end customers, restricting the right of members of the established selective distribution system, operating in the retail market, to actively or passively sell the contract product to end users, not excluding the right to prohibit each member of the selective distribution system from selling the contract product outside the approved point of sale, restricting mutual supply between members of a single selective distribution system, including supplying members, who do not operate at the same level of sales, and restricting the parts seller, who sells those parts to the buyer to make a new product, to sell those parts as spare parts to end users or repairers or other service providers not authorized by the buyer to repair or service its products. The following paragraph stipulates that vertical agreements, which contain restrictions aimed at restricting the territory in which the buyer may sell the products covered by the agreement, or restrict the sale of contract products to a certain group of end customers, may exceptionally contain provisions aimed at restricting active sales to the buyer in the territory or group of buyers that the seller has kept for himself, or in the territory or group of buyers that the seller has exclusively assigned to another buyer, provided that this does not restrict further sales by the customer, restricting the right of the customer operating at the wholesale level to actively and passively sell the contract product to end users, restricting the right of members of a selective distribution system to actively and passively sell a contract product to distributors who are not members of that distribution system and restricting the right of the buyer to sell parts he procures to make a new product to end users who would use those parts to produce a competing product. The last paragraph stipulates that vertical agreements are not exempted from the ban if there are several vertical agreements on the relevant market, which due to the cumulative effect do not meet the conditions for exemption from the prohibition from the Law and this Regulation, especially when agreements containing similar restrictions cover more than 40% of the relevant market (Article 5 of the Regulation).

Preliminary analyses are given from the point of view of competition law, primarily because the exclusive purchasing agreement, as well as other types of distribution agreements, or its individual provisions restrict competition in the area in which they are concluded and between different market participants. Additionally, it is necessary to make a brief analysis of certain provisions of the Draft Civil Code of the Republic of Serbia (hereinafter: The Draft Civil Code).

The Draft Civil Code in Art. 1232 defines the concept of distribution agreement, and stipulates that the distribution agreement obliges one contracting party – the supplier, to continuously supply the other contracting party – distributor with products, and the distributor undertakes to buy these products for sale to other persons – customers, in its own name and for its own account. Further, under the provision of Art. 1233, special distribution cases are determined, namely the exclusive distribution agreement, the selective distribution agreement and the exclusive purchasing agreement. An exclusive purchasing agreement is defined as a contract by which the distributor undertakes to purchase products only from the supplier or from a person designated by the supplier (Article 1233, paragraph 3 of the Draft Civil Code of the Republic of Serbia).

The provisions of Art. 1237 – 1243 of the Draft Civil Code prescribe the basic obligations of suppliers, namely the obligation to supply, the obligation to apply the rules of sale to the obligations of suppliers, the obligation to retain ownership, the obligation to notify distributors during the contract, the obligation to notify reduced supply capacity, the obligation to provide advertising materials and preserving the reputation of the product by the supplier. Analyzing the provision of Art. 1239 of the Draft Civil Code, which prescribes the obligation to retain property rights, we come to the conclusion that nomotechnically it would be much more correct if this provision was provided as the right of the supplier, and not as his obligation. This is primarily due to the fact that in the case of retention of title to products, which the supplier supplies the distributor with, until the distributor pays the agreed price in full, it actually protects the rights and interests of the supplier, not the distributor, thus it is much more correct that this provision is provided as the right of the supplier. In section 4, which contains the provisions governing the termination of the distribution agreement, the provision of Art. 1259 prescribes another obligation of the supplier in case of termination of the contract, namely the obligation to purchase supplies, spare parts and materials at a “reasonable price“ at the request of the distributor. This provision stipulates that in the event of termination of the distribution contract based on cancellation or termination by one of the contracting parties, the supplier is obliged, at the request of the distributor, to buy the remaining supplies, spare parts and materials from the distributor at a reasonable price, if the distributor cannot sell them to third parties at the usual market price. The notion of reasonable price has not been defined, and it will be left to business, court and arbitration practice for a framework definition.

The provisions of Art. 1244 – 1253 of the Draft Civil Code prescribe the obligations of distributors, namely the obligation to sell in its own name and for its own account, the obligation to promote and protect the interests of suppliers, the obligation to hire sub – distributors, the obligation to notify suppliers during the contract, the obligation to inform about reduced orders, the obligation to apply sales to the obligations of the distributor, the obligation to hold to the instructions, the obligation to provide service, the obligation to provide control by the supplier and the obligation to preserve the reputation

of the product by the distributor. As with the prescribed obligation of suppliers to retain property rights, we have the same situation with the prescribed obligations of distributors, with the obligation to hire sub – distributors. Here, it would be nomotechnically much more correct as well, if this provision was envisaged as a distributor’s right, and not as distributor’s obligation, especially because the provision of Art. 1246 stipulates that the distributor may engage a sub – distributor or agent to sell in a certain product territory, which distributor procured from the supplier, unless otherwise agreed, and that in that case the distributor is responsible to the supplier for all legal affairs and actions taken by the sub – distributor or agent. Thus, a simple linguistic interpretation of the text of the provision leads to the conclusion that this represents the possibility of the distributor, which depends solely on his will, and that it does not represent his obligation, and therefore should not be provided as an obligation of the distributor, but as his right.

Soft law sources

It has already been stated above that distribution agreements fall into the category of unnamed contracts, thus in the absence of special legislation, these contracts are subject to common business practice and autonomous sources of business law in most countries. The Principles of European Law on Commercial Agency, Franchise and Distribution Contracts (hereinafter: PEL CAFDC) regulate distribution agreements in Part 4. Part 4 of the PEL CAFDC contains 3 sections, namely general, obligations of suppliers and obligations of distributors, which contain a total of 12 articles. The general section covers the field of application and definition (Article 4:101). The section prescribing the obligations of the supplier contains the obligation of the supplier to deliver products ordered by the distributor (Art. 4:201), the obligation of the supplier to inform the distributor about the terms of sale during the contract (Art. 4:202), the obligation of the supplier to warn the distributor of reduced supply capacity (Art. 4:203), the obligation to provide advertising materials needed for distribution (Art. 4:204) and the obligation to maintain the reputation of the product (Art. 4:205). The section prescribing the obligations of the distributor includes the obligation to act actively – sales effort (Art. 4: 301), the obligation to inform the supplier of all lawsuits, claims or infringements of intellectual property rights of the supplier during execution by third parties (Art. 4:302), the obligation to warn of a reduced request (Art. 4:303), the obligation to follow the instructions of the supplier (Art. 4:304), the obligation to allow inspection and control by the supplier (Art. 4:305) and the obligation to refrain from damaging the reputation of the product (Art. 4:306) (Hesselink, Rutgers, Bueno Diaz, Scotton, Veldman, 2006, pp. 257 - 292). Having in mind the above, we can conclude that PEL CAFDC, in the absence of a hard law source, greatly simplifies the very process of concluding distribution agreements, as well as their implementation.

Conclusion

Taking into account the aforementioned, it can be undoubtedly concluded that the exclusive purchasing agreement, as a special type of distribution agreement, is an

extremely complex agreement, with a very complex structure and legal nature. When we add to this the fact that this agreement is not legally regulated, neither nationally nor internationally, it is quite clear that in practice there are often misunderstandings between the parties, which often result in long and costly disputes. Problems often arise during the execution of these contracts, because the contracting parties do not pay enough attention to some important clauses, which in practice could regulate many controversial issues. These problems can be avoided by providing such contractual clauses, which are primarily in the interest of the contracting parties and which regulate in a precise, clear and unambiguous manner their rights and obligations during the term of the contract, as well as after its termination.

In the business world, exclusive purchasing agreements, which are most often concluded within the oil and food industry, for the distribution of goods that are in mass use, such as fuel, beer, ice cream, etc., have an increasingly widespread application in practice. Due to their beneficial effects, these contracts are in practice the ones that are most often concluded and are therefore among the most developed contracts in relation to other commercial law contracts. Their positive effects are certainly reflected in the fact that customers, end consumers, constantly have a wide selection of offers of various products, which is most important for them. On the other hand, negative effects can be noticed in the reduction of competition between sellers of the same products, but different labels, i.e. different brands. These effects are certainly eliminated by adequate legal and by – law protection of competition, because “healthy” competition is one of the biggest drivers of a successful economy.

Certainly, these contracts are a good driver of the economy, and it is up to the contracting parties to really adapt each specific contract to their own needs and the needs of a specific market, by doing their best to find optimal solutions in the practice of concluding and executing exclusive purchasing agreements and by striving to improve competition with each specific contract.

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- Commission Regulation (EU) No 330/2010 of 20 April 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices.

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