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EFFICIENCY ASSESSMENT OF HIGH-TECHNOLOGY EXPORTS USING THE DATA ENVELOPMENT ANALYSIS

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ABSTRACT

The purpose of this study is to assess the efficiency performance of high-technology exports. The empirical analysis uses the sample of selected South East Europe (SEE) and European Union (EU) countries in the year 2017. To provide the empirical evidence, we have used the data envelopment analysis (DEA). Our study does not only evaluate the performance of the countries of interest, but also aims to explain the differences in the efficiency scores. For this purpose, it uses Tobit regression. The findings of DEA analysis suggest the relatively small countries to be efficient. With regards to Tobit regression, exports share is found to have a direct positive link with the efficiency scores obtained from DMUs whereas the coefficient with The Global Innovation Index (GII) is not found to be significant.

KEYWORDS

ASSESSMENT, EFFICIENCY, DEA, HIGH-TECHNOLOGY

JEL CLASSIFICATION CODES

C01, G14, C55

1. INTRODUCTION

Technology tends to play very important role nowadays. Thereby, the role of technology and science in production has received much attention among research community. Taking into account the fact that technology can play a significant role in the cost reduction; entrepreneurs as well as the governments have both recognized its significant role in business. As a result, the investment in technology and science has become a very important objective for policy makers worldwide leading to the great increase in the sources directed to the science and technology (Zhou, 1999).

Although there is a significant development of technology in South East and European Union countries, there is still much room for the progress compared with Japan or United States. This is especially true for South East countries in the fields of high-tech industry. Apart from the fact that governments play a great role in the development of science and technology, business sector should also make a great effort for improvements in this light. Thereby, to have the improvements it is of crucial importance to have the

input-output analysis of the efficiency of high-technology exports what was the motivation to conduct this study.

Lu et al. (2017) display the importance of the enterprises to introduce the new technology especially in developed economies. Bearing in mind that technology is in general connected to the macro level, there are many studies to date conducting the input-output analysis of the efficiency of exports. However, the efficiency of high-tech exporters has not been explored quite often. The necessity to conduct this research lies in the fact that these enterprises engaged in high-tech and tending to provide the new technological solution presented by their research team can significantly contribute to the economic growth as well as the development of technology.

Thereby, this research aims to examine the completion of high-tech export in South East and European Union countries. The motivation behind lies in the fact that the *Strategic Framework EU 2020* requires a balance in the level of development among EU countries. This analysis should result in a benchmark EU country that will be a role model for South East European countries seeking to become a full EU member state. High-tech products are related to IT industry, pharmacy, air transport etc. The most important characteristic of these products is high intensity in terms of research and development (Satrovic and Muslija, 2018). There are huge differences among EU member states in terms of the exports of high-tech products. Differences are substantial among OECD countries as well. High-tech and medium high-tech industries are the most intensive in Japan. In addition to research and development expenditure, special attention should be also given to knowhow as a positive externality.

This paper aimed to conduct the empirical research while including the most recent data. The last available are the data from 2017. Hence, the database in this paper includes input and output variables for the year 2017. The data sources are The World Bank, Eurostat and Global Innovation Index Report for 2017. The empirical analysis is conducted in two steps. In the first step, we have applied Data Envelopment Analysis (DEA) to estimate the efficiency scores for every single country in our sample. Furthermore, we have applied Tobit regression to give a possible explanation of the differences between inefficient regions. The Tobit regression differs from DEA since it prefers indirect inputs as well as externalities to direct inputs. From the best of our knowledge this is the first attempt to analyze the efficiency of high-tech export using the selected countries of interest what represents the first contribution to the literature. The second contribution is connected to the fact that we have employed the latest available data, while the third contribution arises from the fact that this research tends to provide the possible explanation of the differences between inefficient regions.

It turns out that economies of smaller countries (i.e., those of Luxembourg, Ireland and Malta) are more efficient than economies of Germany, France, and United Kingdom. Similar results are obtained by (Cullmann et al., 2009), applying different outputs and inputs. In order to explain these differences, Tobit model is employed. After the introductory remarks we have given a brief overview of the literature in Section 2. Section 3 presents the sources of the data as well as brief introduction to methodology. Empirical results concerning efficiency differences across South East Europe and European Union countries are represented in Section 4. This section also introduces Tobit model that is used to explain efficiency differences. Paper ends with concluding remarks and references.

2. LITERATURE REVIEW

Data envelopment analysis has been used for decades to evaluate the efficiency of high-tech export (knowledge-based export). For instance, Staníčková and Skokan (2012) have collected data for 27 European Union countries. They have employed DEA. Data of four input and two output indicators are collected. The results of this paper suggest there are only three countries that are efficient in the time span of interest. There are also five countries in the group “highly efficient” with the index close to one. Apart from these, all other countries are considered inefficient.

Saljoughian et al. (2013) attempted to measure the efficiency of the selected countries in the year 2009. The data were extracted from the World Bank database, which is a reliable source of information. The countries were ranked using the Andersen-Petersen model. This analysis has distinguished the efficient countries from the inefficient ones based on the six factors of science and technology. Based on the calculations, 19 countries were identified as efficient, and the remaining nine were classified as inefficient. Moreover, the roadmap to efficiency was suggested for some of the inefficient countries.

Main objective of Afzal and Lawrey (2012) study is to explore the efficiency of some of the Asian countries in terms of the knowledge-based economy. The empirical results suggest that the most efficient countries are Indonesia and Philippines (CRS assumption). Apart from these findings, the most efficient countries are Singapore, Thailand, Indonesia and the Philippines. The authors indicate that the benchmark country should be Philippines.

Importance and determinants of high-tech export were exploring by the different researchers (Todo, 2011; Ming, 2016; Sandu and Ciocanel, 2014, Movahedi, 2013; Yüksel, 2017; Harris and Moffat, 2011; Aw et al.2011) in large number of studies as well in different sample of countries (developing, more and less developed). The most important findings of these papers suggest the correlation between the exports of high-tech and R&D expenditure to be positive.

Lu et al. (2017) explore 10 high-technology enterprises and their efficiency for the sample of 29 provinces while Kabaklarli et al. (2018) conduct the similar research in the case of OECD countries in the time span between 1989 and 2015. The findings of this paper also advocate the positive impact of high-technology exports on economic growth in the long-term. The technology efficiency was the matter of interest in Xu and Liu (2017).

Manufacturing sector has recorded a decline over the last few decades in the many industrialized countries (Coad and Vezzani, 2017). In terms of the productivity of manufacturing sector it is important to emphasize the findings of Pradeep et al. (2017) in the case of Indian companies. Findings from this research indicate that foreign presence has a significant positive spillover effect on the productivity of Indian manufacturing firms when compared to alternative spillovers from R&D and export initiatives.

With regards to the high-tech exports, many researchers to date have treated the determinants of this macroeconomic variable. To mention a few, Śledziewska and Akhvlediani (2017) have conducted this analysis in the case of Visegrad countries. In addition, it is also of key importance to emphasize the fact that the link between high-tech exports and economic growth has been a popular research question in the last decades. For instance, Mehrara et al. (2017) suggest the positive link in the case of developing countries. These results are confirmed in the case of China by Wang et al. (2011).

Usai et al. (2013) analyzed both input (R&D expenditure) and output indicators (patent applications) for the 27 European countries and the 16 European Neighboring Countries. Applying data envelopment analysis, they have analyzed the main factors influencing the innovation process. Main idea was to adopt both parametric and non-parametric methods to investigate about the knowledge production function at the country level. The analysis is mainly speculative due to the absence of information about some potentially important phenomena, such as human capital. Nevertheless, main results are robust and confirm previous analysis at the country and regional level. Moreover, they add some original findings about the potential for catching up of European Neighboring Countries.

3. METHODOLOGY AND VARIABLES

Mathematical programming, which applies nonparametric DEA technique, provides the possibility to determine the efficiency of observed units in comparison to other units included in analysis, based on output and input variables. Thus, the efficiency curves create units that are relatively efficient in comparison to the other observed units, by maximizing their output variables with specified inputs. In subsequent economic and mathematical analysis two modified models: Charnes-Cooper-Rhodesov (CCR) model and

Banker-Charnes-Cooperov (BCC) model were derived from the model which was established by Charnes, Cooper and Rhodes in 1978. BCC model is used for the purpose of analysis conducted in this paper.

This model has been established in 1984 by Banker, Charnes and Cooper (BCC). It assumes that inputs are increased by *m*, and output increases by more than *m*. The model is specified in the following way:

$$\max h_k = \sum_{r=1}^{s} u_r y_{rk} + u_* \tag{1}$$

subject to:

$$\sum_{i=1}^{m} v_i x_{ik} = 1. \tag{2}$$

The most important step in the formulation of a DEA model is input and output variables selection since it can significantly improve the quality of results in further steps. The most important precondition in choosing BCC model input and output variables in this paper is to cover the high-tech export performance.

The first step in developing a model that is used to evaluate the high-tech export efficiency in the sample of interest is to identify the outputs which represent desired goals as well as its main inputs. Outputs that give the best description of the observed process, as well as of the overall business should be selected. The largest restriction of this model is subjectivity in the selection of type of the model and outputs. Analysts, researchers and decision makers should be aware of this restriction. In terms of DEA, authors face the most issues while selecting input and output variables. Even though it is a very difficult step, it requires great effort from authors since the quality of analysis highly relies on the selection of input and output variables. Special attention should be also given to the ratio between these variables in order to provide results as realistic as possible. There is no strict rule, but according to the practice the total number of outputs and inputs should be at least 3 to 5 times lower than the number of observed units (Jacobs, 2001).

In order to test the main idea of this research we propose four input variables (X): higher educational labor force, R&D expenditure as a percentage of GDP, number of researchers, university-business research collaboration. Output variables (Y) are high-tech export and GDP. The brief explanation of these variables is given below.

X_1: Employment rate of higher educational labor force is used as an indicator of the growth of intangible capital. In the last 30 years, European economies have given monetary effort to promote the production and dissemination of knowledge by investing in education, R&D activities and training.

X_2: The share of research and development expenditure in GDP (GERD) indicates the incentives of a given country in terms of research and innovation. Europe 2020 (EU development strategy) highly relies on the research, development as well as the innovation.

X_3 (number of researchers per mil people): This variable includes researchers and professionals engaged directly in the field of research and development), including persons providing direct services, such as managers, administrators, and clerical staff.

X_4: University-Business research collaboration. The focus of this measure is on the quality of the collaboration between universities and firms.

Y_1: Output variable (high–tech export): Commercialization and creating new technologies is one of the main objectives of the strategic framework of the EU strategy 2020. Eurostat and the European Commission have prepared many studies that analyze innovation both in the EU countries, and in the candidate countries. The share of high-tech exports in total exports is used as an output variable in this research. By the experts of the European Commission, this high-tech sector represents an essential driver of economic growth, labor productivity and generates value added.

Y_2: Output variable - gross domestic product (GDP) is used as a proxy of economic growth (Satrovic, 2018; Ahmad et al., 2019; Ullah et al., 2020).

Second phase of this research uses Tobit regression models to explain differences in the efficiency scores. The Tobit model can be estimated by the maximum likelihood method under the assumption of normally distributed errors. First Tobit regression was established for testing how related are the household

expenditures on durable goods and the income. Today this is a tool for modeling variables in a wide range of fields such as econometrics, biometrics, agriculture and engineering. There is a large number of researchers that have used this tool to conduct empirical research: Amemiya, (1973), McConnel and Zetzman (1993), Anastasopoulos et al. (2008). The Tobit model can be formalized as (Eq. 3):

$$y^* = m(X) + \varepsilon$$

$$Y = \begin{cases} y^*, & y^* < 0 \\ 0, & otherwise \end{cases} \quad (3)$$

where:

Y* (dependent variable) - efficiency score retrieved from the DEA (Table 1);

X_1- exports share (Export Share By Country; Total Products as the percentage of the World total) X_2 - The Global Innovation Index.

4. RESULTS OF THE RESEARCH

Initially, we have analyzed the data by calculating the descriptive statistics (Table 1). The table displays an average value of X_1 to be 82.33%. The minimum value of 70.8% is reported in the case of Greece, while the maximum-recorded value of 90.2% is reported in the case of Malta. With regard to the GERD, it reaches the value of 1.38% on average. The maximum value is reported in the case of Sweden while the lowest value is displayed in the case of Bosnia and Herzegovina. Moreover, the table outlines the average value of X_3 to be 1.54. The maximum value is reported in the case of Austria while the lowest data can be again found in the case of Bosnia and Herzegovina. With regard to the X_4, the maximum university-business research collaboration is found in the case of Finland while the lowest value belongs to Greece. At last, the mean descriptive statistics is presented in the case of output variables.

Table 1. Summary statistics

Variable	Obs. numb	Mean	Std. Dev.	Min	Max
Employment rate- higher educational labor force	33	82.33	5.74	70.80	90.20
GERD	33	1.38	0.88	0.22	3.25
Researchers	33	1.54	0.79	0.22	2.92
University-Business research collaboration	33	3.98	0.91	2.55	5.64
High–tech export	33	10.73	7.20	1.20	34.30
GDP	33	23.15	17.20	4.58	80.30

The results of this research advocate the significant differences in efficiency in the case of countries of interest. It turned out that the Luxembourg, Ireland and Malta are only efficient countries considering high-tech export performance (Table 2). Staníčková and Skokan (2012) display the similar results in the last year of their research (2010). According to their research Malta and Luxemburg were efficient. In addition, Ireland is recognized as highly efficient country in the year 2010 by Staníčková and Skokan (2012).

France is positioned first in terms of inefficient countries followed by: Finland, Sweden, Cyprus, Netherlands and Hungary. An appealing result is the fact that Serbia is the best positioned out of the selected SEE countries. Portugal takes lowest level of efficiency. The fact that some countries as Bosnia and Herzegovina employ a high percentage of highly educated labor force, and take very low position in individual efficiency in high-tech exports is especially considering. These findings suggest that the most efficient countries in terms of high-tech exports are those with the highest level of university-business research collaboration and high-tech export. Taking into account these statistics in the countries of interest, the results in the Table 2 are in accordance with the expectations.

The Tobit regression analysis uses the efficiency scores as the dependent variables. Several different techniques can be used to determine the link between the technical efficiency score and the other factors. One of the most important methods is Tobit regression. This is why it has been employed in the present research. Table 3 provides brief summary statistics on the variables used in Tobit model.

Table 2. Efficiency/inefficiency rank

	Efficient DMUs	Frequency of reference
1	Luxembourg	1
1	Ireland	2
1	Malta	3
Inefficiency	Inefficient DMU	Rank
0.865453	France	4
0.852284	Finland	5
0.804298	Sweden	6
0.774278	Cyprus	7
0.720027	Netherlands	8
0.697375	Hungary	9
0.660447	Denmark	10
0.659454	Greece	11
0.648833	Latvia	12
0.634477	Germany	13
0.602912	Slovakia	14
0.599574	Austria	15
0.58895	Slovenia	16
0.586767	United Kingdom	17
0.582426	Czech Republic	18
0.570082	Belgium	19
0.565609	Croatia	20
0.563859	Italy	21
0.549021	Poland	22
0.536994	Spain	23
0.516911	Montenegro	24
0.493147	Serbia	25
0.478655	Romania	26
0.464706	Estonia	27
0.444255	FYR Macedonia	28
0.405233	Turkey	29
0.366795	B&H	30
0.337534	Lithuania	31
0.330096	Bulgaria	32
0.290719	Portugal	33

The brief explanation of the variables is given as following: Y (dependent variable) - efficiency score retrieved from the DEA (Table 2); X1- exports share (Export Share by Country; Total Products as the percentage of the World total) and X2 - The Global Innovation Index (GII) is used to describe the performance of 126 economies globally in terms of the innovation.

Table 3. Descriptive statistics of variables in Tobit model

Variable	Obs	Mean	Std. Dev.	Min	Max
Efficiency	33	0.29	0.20	0.29	1.00
Exports share	33	1.08	1.58	0.01	7.67
GII	33	47.12	9.08	29.8	63.3

Out of the 33 observed SEE and EU countries, the maximum value of export share of 7.67% is reported for Germany. The lowest level of exports shares (0.01) has been recorded in the case of Montenegro. On average, exports share is showed to be 1.08. According to results in Table 4, highest level of Global Innovation Index is 63.3 for Netherlands and the lowest level is for FYR Macedonia. On average, GII is displayed to be 47.12.

Table 4. Tobit regression

					Number of obs =	33
					LR chi2(2) =	19.50
Log likelihood = 12.690744					Prob > chi2 =	0.0001
					Pseudo R2 =	-3.3169
Efficiency	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Exports share	0.015	0.003	4.36	0.000	0.008	0.022
GII	0.001	0.020	0.06	0.956	-0.039	0.042
Cons	0.072	0.155	0.47	0.644	-0.244	0.388
/sigma	0.151	0.019			0.111	0.190
Obs. summary:		0 left-censored observations				
		31 uncensored observations				
		2 right-censored observations at efficiency>=1				

As indicated in methodology, this research proceeds to the estimation of Tobit regression. Table 4 summarizes the obtained results. We employ Tobit regression to test the comparative advantage principle in Ricardo and Heckscher-Ohlin model of international trade. Both of these models may be used as a conceptual basis for the arrangement of trade relations. First of this two models, Ricardo's comparative advantage model is based on relation between trade and labor productivity with different levels of technology.

Exporting countries that dispose with the high amount of the factor labor will in general produce and export labor-intensive products. However, those that pay much attention to the knowledge as a factor of production, will produce the goods with the higher value added. Thus, our results are in line to this theory since exports share has a significant positive impact on the efficiency level. This research can be of great importance for policy makers since it suggests that countries need to improve the exports share in order to catch up the efficient high-tech exporters. Moreover, the Table 4 suggests that GII has no significant impact and cannot help to decrease the gap between efficient and inefficient high-tech exporters. Thus, the particular attention should be paid to the structure of the exported products. There is a necessity for countries to conduct a serious research to find and specialize in a certain high-tech product and to be more competitive compared to the other high-tech exporters. These results suggest the great importance of the specialization.

5. CONCLUSION

Main subject of this paper was the investigation of efficiency differences of the high-tech export performance for selected SEE and EU countries in the year 2017. To evaluate country's high-tech export, Data Envelopment Analysis (DEA) has been applied in first stage of analysis. For the second stage of this research, Tobit regression models have been used. This paper uses four input variables and two output variables.

According to the DEA estimates in efficiency, it turned out that the Luxembourg, Ireland and Malta are only efficient countries, considering high-tech export performance. Inefficiency results indicate that almost all of the SEE's countries have lower efficiency level comparing to EU countries. For inefficient countries, the highest rank has been reported in France followed by: Finland, Sweden, Cyprus, Netherlands and Hungary. Serbia is the best positioned out of selected SEE countries. Portugal is the least efficient country. The fact that some countries as Bosnia and Herzegovina employ a high percentage of highly educated labor force, and report low level of high-tech exports efficiency is especially considering. These results are clear indicator for policy makers in Bosnia and Herzegovina that there is a necessity to improve the efficiency of high-tech exports since there is a huge potential in terms of human capital. This is even more important since high-technology exports tend to be an important determinant of economic growth especially in developing countries.

Second part of the study employs Tobit regression model. Explanatory variables include GII and exports share while efficiency scores are used as the dependent variable. The results of this paper suggest a positive impact of exports share, while the impact of GII is not found to be significant for a 5% level of significance. Luxembourg, Ireland and Malta are found to be the benchmark countries. Thus, in order to improve the high-tech exports efficiency, there is a necessity for both, SEE and EU member states to learn a positive praxis from these three countries and to try to use these examples in order to improve the statistics in terms of high-tech exports efficiency. Thus, policy makers need to bear in mind the positive praxis of these three countries while creating strategies on the high-tech exports. The recommendation for future research is to take into account more periods of time in order to make a comparison. Besides that, the sample of the countries can be enlarged. As the last recommendation, it would be interesting to employ time-series methodology to check the link between the variables of interest for the best and least ranked countries.

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THE NEW ECONOMIC ORDER AFTER GLOBALIZATION, ANTIGLOBALIZATION AND COVID 19

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ABSTRACT

The dstinctive marks of the late 20th and early 21st centuries are globalization, anti-globalization and the novel coronavirus (Covid-19). Many authors and experts have talked about the benefits of globalization. Globalization is a fact of life. It is a growing economic, social, political and cultural integration of nations around the world. It has brought a lot of benefits to both, developed and developing countries. The last, fourth wave of globalization 4.0, that coincidies with the 4th Industrial revolution is characterized with digitalization, Internet of things, artificial inteligence, robotics, nano-technology, self-driving and eco-friendly vehicles and big data.Thanks to the globalization, people could enjoy the free movement of goods, services, ideas, information. Globalization makes it easier than ever to access foreign culture, including food, movies, music, and art.

While globalization offers many benefits, it's not without challenges. Pascal Lamy, the ex-Director General of the WTO, noted that „globalization is incredibly efficient, but also so far incredibly unjust". Globalization is not a perfect process. Anti-globalists blame globalization for inequality in the world, the westernization of world economic and political life, the homogenization of cultures, and the emergence of new problems, such as international organized crime, global terorrism, worldwide environmental problems, violence, women trafflicing, etc.

And it could be said that everything was fine until the new coronavirus appeared which caused a great lockdown and the biggest global economic crisis in the 21st century. The novel coronavirus was declared as a pandemic by the World Health Organisation in March, 2020. It was called „Once in a century pandemic", or a „Wuhan virus" as it has firstly appeared in the Chinese city of Wuhan in December 2019. From September 2020 every economy in the world was in a recession or depression. Coronavirus overshadows globalization by closing borders, national quarantines and lockdowns, restrictions on movement of people, products, services, business closures, high unemployment, health crisis. Will the coronavirus bring the end of globalization?

Based on the economic indicators, experts have proposed many scenarios about what will happen after the pandemic. Will the world be the same? What economic order do people can expect? One thing is certain, that globalization will continue and will not vanish so easily. Angela Merkel, the Chancellor of Germany gave a thought for the forthcoming globalization, that „the globalization needs to be shaped politically, it needs to be given a human face, but we cannot allow to fall back into plagued globalization times". So, probably we will live in a globalized world for a long time to come.

KEYWORDS

Globalization, Anti-globalization, pandemic, Covid-19, New economic order

JEL CLASSIFICATION CODES

F02, P00

1. INTRODUCTION

Although many people think that globalization means that "poor countries are entering the rich world", it has brought great benefits to all countries in the world. Globalization was a hot topic, especially in the late 20th century. It rapidly spread, worldwide, some dominant social, cultural and political norms and practices. (Ghai, 1997).

In the sphere of economics, globalization was reflected in the increasing acceptance of free markets and private initiative as the principal mechanisms for promoting economic activities. Its growing importance is captured in such indices as trade in goods and services, private capital flows in different forms, foreign investment, technology transfers, operations of transnational companies, business travel and communications, and migration. The social sphere comprises social relations and customs (family relations, social organizations, etiquettes of social behavior) and consumption patterns and lifestyles (consumer goods and services such as consumer durables, fashion and designer articles, food and beverages). The cultural dimension includes the important domain of values, religion and identity. It also embraces such leisure pastimes as television, videos, popular music, dance, night clubs, sports and foreign travel. At the political level, globalization is reflected in the spread of pluralist systems, multi-party democracies, free elections, independent judiciaries and human rights.

What are the benefits of globalization? According to the Velocity Global (2020) the most important benefits of globalization are:

A. **Access to new cultures**: globalization makes it easier than ever to access foreign culture, including food, movies, music, and art,
B. **The spread of technology and innovation**: knowledge and technological advances travel quickly among countries,
C. **Lower costs for products**: globalization allows companies to find lower-cost ways to produce their products. It also increases global competition, which drives prices down and creates a larger variety of choices for consumers. Lowered costs help people in both developing and already-developed countries live better on less money.
D. **Higher standards of living across the globe**: developing nations experience an improved standard of living—thanks to globalization. According to the World Bank, in 2010 extreme poverty decreased by 35% since 1990. Across the globe, nearly 1.1 billion people have moved out of extreme poverty.
E. **Access to new markets**: businesses gain a great deal from globalization, including new customers and diverse revenue streams.
F. **Access to new talent:** in addition to new markets, globalization allows companies to find new, specialized talent that is not available in their current market.

However, globalization is not a perfect process. In this direction, the words of the ex-President of the USA Jimmy Carter are important, who said: "Globalization, as defined by rich people like us, is a very nice thing. You are talking about the Internet, you are talking about cell phones, you are talking about computers. This doesn't affect two-thirds of the people of the world".

And while the debate over the pros and cons of globalization was still raging, a global Covid-19 pandemic occurred. "The Great Lockdown" has disrupted the globalization threaten the international economic and trading system. However, the pandemic will be over one day. This paper aims to discuss the various scenarios that might happen after the pandemic.

2. LITERATURE REVIEW

The most significant marks of the late 20th and the beginning of the 21th century are globalization, anti-globalization and coronavirus.

There are many definitions of globalization, but the following ones can be singled out as more important and widely accepted. Globalization is the spread of products, technology, information and jobs across national borders and cultures. (Investopedia, 2021). According to the World Health Organization (WHO), globalization can be defined as the increased interconnectedness and interdependence of peoples and countries. The WHO explains that this definition would be complete by fulfillment of two conditions, one opening of the international borders for fast flows of goods, services, finance, people and ideas and second the establishment of institutions and policies at national and international levels that will facilitate or promote those flows. Globalization is the process of interaction and integration among people, companies and governments worldwide. It is a free movement and exchange of goods and services, human beings, capital, technologies, ideas and cultural practices all over the planet. Globalization is a phenomenon driven by technology and the movement of ideas, people, and goods. (Ghai,1997) Globalization describes a process by which national and regional economies, societies, and cultures have become integrated through the global network of trade, communication, immigration, and transportation.

In 2000, the International Monetary Fund (IMF) identified four basic aspects of globalization: a) trade and transactions, b) capital and investment movements, c) migration and movement of people, and d) dissemination of knowledge.

So, when did the globalization begin and when it really dominated the world? Experts gathered on the World Economic Forum (Vanham, 2019) and discussed about the history and future of globalization. Globalization is not a new concept. We live in an era of Globalization 4.0.

Globalization started with the increased trade and transport of luxury products from China to Rome, across the Silk Road in the 1st century. Silk was a luxury good, and so were the spices that were added to the intercontinental trade between Asia and Europe. In the world level, it still was not a real globalization, but opening the borders and global trade routes was a good start. Trade was often interrupted because of the blockages by local enemies of Rome and China. In the period from 7-15th century, thanks to the Islamic merchants who also spread the new religion from its Arabian homeland, the trade increased in the Mediterranean area, Indonesia, Spain, countries around the Indian Ocean. Spices were the most important export merchandise on this Arab Sea Route.

The period between 15th and 18th century is known as Age of Discovery due to the Scientific Revolution in the fields of astronomy, mathematics, physics, shipping as well as finding new lands. Raw materials were the leading exports, for the leading nations like the UK, Portugal, Spain and Netherlands. Export was still very low related to the World GDP (below 5%). With the new innovations, such as compass, ships, the GDP increased in Europe. This period is a period of colonization and discovery of America.

Globalization 1.0 is the first wave of globalization and also called Pre-war globalization. (Baldwin, 2018) It happened during the First Industrial Revolution (1780-1914). With the discovery of steam engine and the industrial weaving machine in the UK, the export of industrial goods and textile increased to 14% of the World GDP. In this period, the UK dominated the world, not just technologically, but also geographically and the Great British Empire was established. Most traded goods were those which were in a great demand, such as iron, textile, manufacturing products. For some countries, this period was a Dark age, especially for African ones that were divided among European trading countries. By 1900 Ethiopia was the only independent country on the continent.

Globalization 2.0 happened in a Post-war period (1945-1989) which was fundamentally characterized by a shift in power from West to East. (Future Learn, 2021). This Globalization coincides with the Second Industrial Revolution (1870-1910) that brought planes, trucks, cars to the world.

The third wave of globalization 3.0 dominated in 1989-2008 and happened with the collapse of the socialist systems in the USSR and other Eastern European countries, or known as a “fall of the Iron curtain”. (Friedman, 2004). The collapse of the socialist systems encouraged nations all over the world to open their

borders, to enter the WTO or the regional free trade agreements. This period was characterized with the 3rd Revolution, the Internet, that made communications and transportations, as well as the global supply chains easier. People and companies were connected in a more direct way. The global integration through Internet enabled companies to do R&D in one country, sourcing in other, production in third one, distribution all over the world.

We now live in the era of globalization 4.0 that is about using of digital goods and services, cyber space, e-commerce, 3D printing, artificial intelligence, self-driving cars, Internet of Things, electric vehicles, nano-technology, biotechnology, big data, robots. It corresponds to the 4th Industrial revolution (2000-2010) that made two countries very powerful, the USA and China. And this globalization would probably develop eve more, but it has been interrupted by the pandemic Coronavirus.

However, "negative globalization" cannot be neglected. (Vanham, 2019) Some people, institutions, countries view the globalization as a beneficial for economic development and international trade and others regard it with hostility due to increased inequality within and between nations, high unemployment rates and low living standards. Also globalization threats the environment and has a devastating effect on world's biodiversity. Chinese president Xi Jinping in a speech in Davos in 2017 said: "Some blame globalization for the chaos in the world. It has now become the Pandora's box in the eyes of many."

And who knows how the globalization would continue, if there wasn't an interruption made by the powerful Coronavirus. For the time being, so called Turbo capitalism, Market fundamentalism, Casino-capitalism, McWorld, Cocacolanization is stopped. A lot of experts are questioning what will happen after the Coronavirus. Did the pandemic "kill" the globalization? What people can expect?

3. RESEARCH METHODOLOGY

For this paper a profound scientific and systematic search of relevant information was made and mostly the descriptive design was implemented. The descriptive and historical methods produced a picture of the phenomena that the author wanted to explain.

The paper aims to determine what outcome can be expected after a pandemic based on economically valid information. As the topic is very new, current and interesting, the author uses new literature by foreign and domestic authors.

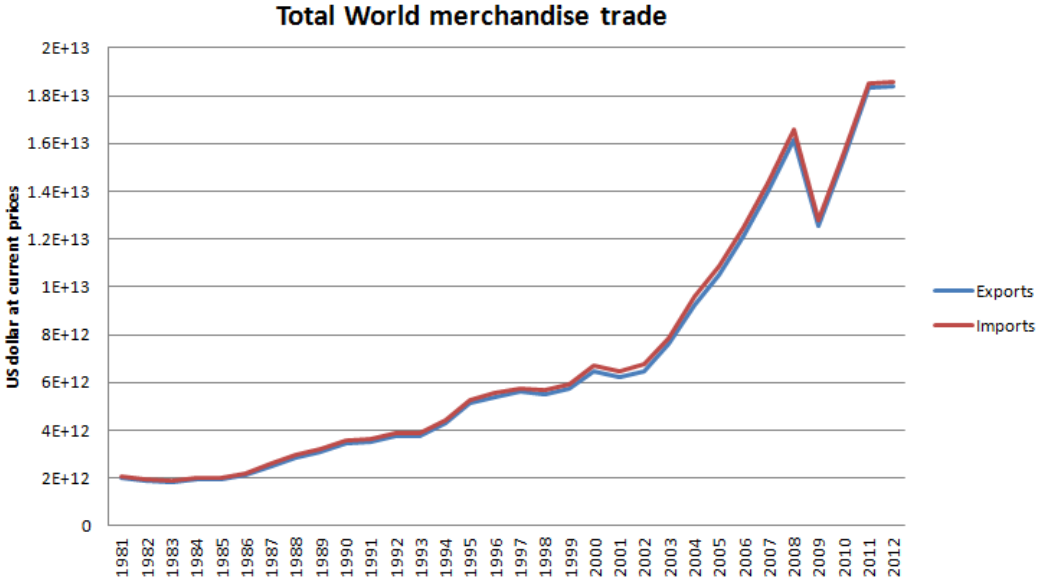
For the research study the data has been collected by secondary means. This secondary data has been collected from international journals, text books, Internet, expert's opinions given in blogs, economic summits, webinars, specific websites.

4. ANALYSIS AND DISCUSSON

Globalization, understood as a growing integration of national economies, encompasses not only the economic globalization, but cultural, political and social integration as well. (Ghai, 2017). Economic globalization is for "single world market" that will be based on open borders, free trade, ruling of the supply and demand, encouraging the private initiative, competition, production, IT transfers, migration of workers. Globalists and supporters of the globalization have always emphasized the positive sides of the economic globalization, such as wide availability of goods, reduced prices due to the competition, easier access to capital, resources utilization, total economic growth and better living standards.

The WTO chart below shows how globalization positively affects economic development and the level of the world trade.

Table 1: The impact of Globalization on the World trade



Source: The Political economist, 2013, http://im-an-economist.blogspot.com/2013/11/gated-globalization.html

Social globalization mainly is related to the improved way of living and creating a new lifestyle in fashion, food, drinks, cars. Also, it allows an access to the world TV programs, Internet, videos, films, magazines.

Thanks to the cultural globalization, people can travel and get knowledge and respect for other cultures, there is less stereotyping, all the world events (FIFA world cup, Eurovision, Oscar movie nights, music rock, pop, folklore concerts and festivals, Olympic games, etc.) are accessible to everyone.

Positive sides of the political globalization are the spread of pluralist systems, multi-parties' democracies, free and fair elections, independent judiciary, human rights protection, etc. Also, it helps to keep the world peace, increases the cooperation among countries, promotes a lot of international organization activities, supports developing and poor countries with international aid and financial programs, etc.

However, no matter from which angle one can analyses the globalization, whether economic, cultural or political, both the opportunities and drawbacks are numerous. According to Simon Oliver (2013), the main objections to the globalization can be grouped as follows:

a) Inequality in the world relates to the economic globalization that also provokes other problems such as: strong bargaining power of multinational companies vis-à-vis local governments, "contagion effect", some countries struggle to compete, extractive behavior of some foreign companies and investors in resource-rich countries preventing economic diversification, problems of "social dumping", etc.

b) Homogenization of cultures, which also implies spread of commodity-based consumer culture, Westernization, cultural imperialism or cultural colonialism, some small cultures may lose their distinct features, dangerous or violent ideals can also spread faster, etc.

c) Political globalization is overly western-dominated which means that state sovereignty is reduced, the functioning of international and supranational organizations is often not "democratic" in terms of representation and accountability, big countries can shape decisions in supranational organizations, sometimes countries can veto decisions and slow down decision making processes, coordination is difficult and expensive **and**

d) Creating new global problems (global terrorism, violence, drug trafficking, prostitution, environment pollution, etc.).

These shortcomings of globalization are highlighted in the large number of anti-globalization protests. Anti-globalization movements are known as social movements, anti- corporate movements, anti-neoliberal or global justice movements.

Table 2: Some of the Anti-Globalization movements

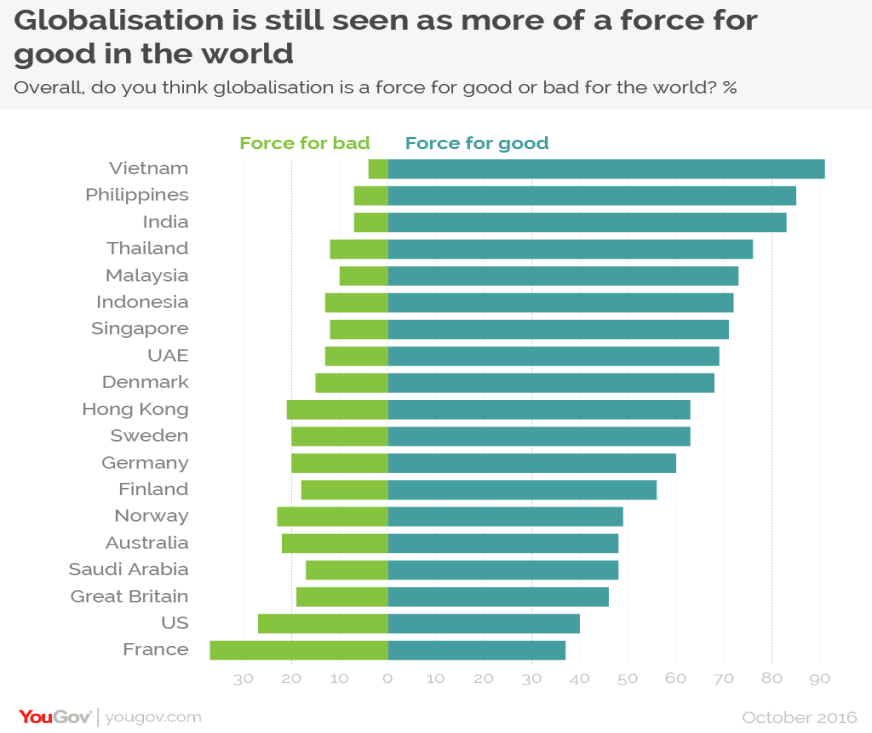
Anti-globalization movements
Berlin, Germany, 1988: against annual meeting of IMF & WB
Paris, France, 1989: Summit against G7, motto: "That is enough"
Madrid, Spain, 1994: 50th Anniversary of the IMF and WB, motto: "50 years is enough"
London, Oregon, Eugene, J18: June 18, 1999, Carnival against capital
Seattle/ N30: 30 November, WTO meeting, "The battle in Seattle"
Davos, USA, 2000: against World Economic Forum, January 2000
Prague, Czech Republic, 2000: against annual meeting of IMF & WB
Genoa, Italy, 2001: against G8 meeting
Washington, 2002: against annual meeting of IMF & WB

Source: Author's research

The UK ex-Prime minister Tony Blair, in this sense will say that: "If globalization works only for the benefit of the few, it will fail. The test of any decent society is not the contentment of the wealthy and strong, but the commitment to the poor and weak"

However, overall majority of the peoples more believe in the good of the globalization, that can be seen in the following graph:

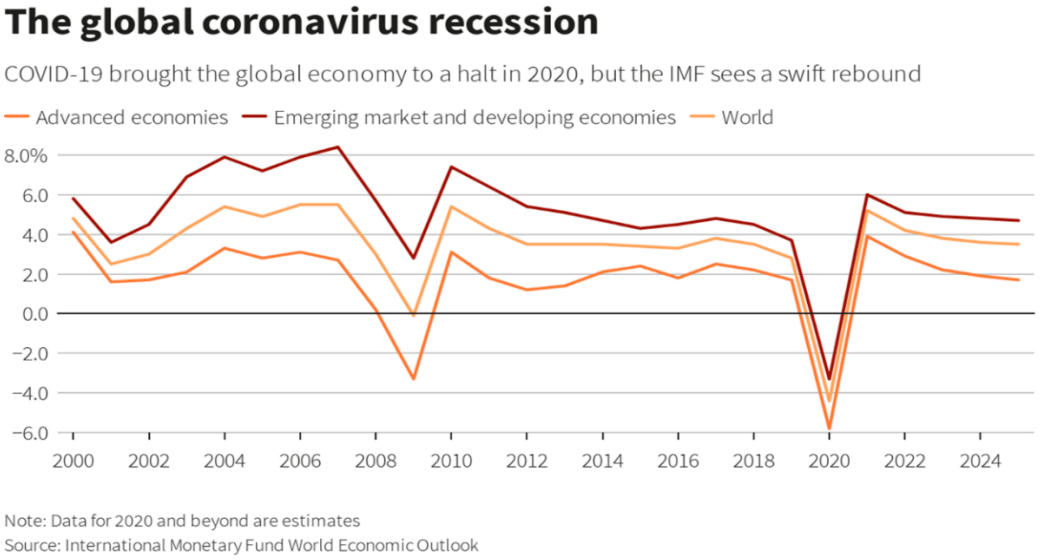
Table 3: Globalization is still seen as more of a force for good in the world



Source: YouGov, 2016

And perhaps globalist and anti-globalist movements would have developed further if the world had not been hit by the global Coronavirus crisis in 2020. The effect of coronavirus in the world can be illustrated in the following graph:

Table 4: Globalization and Coronavirus



Source: International Monetary Fund, World Economic Outlook, 2020

In March 2020, the World Health Organization proclaimed the pandemic that will hit almost all the countries in the world. Coronavirus, also called "The Great Lockdown" stopped the process of globalization through the states measures such as travel restrictions, quarantines and national lockdowns, business closures, breakage of the global supply chains. The coronavirus has threatened globalization and its progress. Globalization has taken a back seat for a while, but will it return?

Experts, based on economic indicators, talk about two scenarios after the pandemic: (Szymborska Hanna, 2020),

I Scenario: New economic order and

II Scenario: New-Old economic order.

According to the First scenario, after the Coronavirus, people can expect a better world, based on respect of family traditions, religious habits, patriotism, care for environment. The economic order will be more fair, humane and based on principles of justice. There will be a world government that will care about the economic equality in and between countries, political freedom, free movement of goods, services, people, technology, open trade, etc. According to the experts, people "will learn the lesson" from the pandemic and be more social and cooperative. However, this scenario seems to be very naïve and utopist.

According to the New-old economic scenario, the capitalism will continue and the most powerful countries, such as the USA, EU, Russia, China and Japan will grab the most of the world's pie. For the current level of development, the capitalism is the best solution of modern society. The capital still hasn't finished its role in the human history. Globalization will continue, slightly changed and will be based on the market forces (demand and supply), interconnectedness of economies of states, increased efficiency and productivity, competition, access to the advancements of the world civilization. No country can exist alone and isolated. This scenario has four pillars: a) economic integration, b) new information technology, c) free movement of goods, services, ideas, people, capital, information and d) regional and international cooperation. This scenario is more realistic for the near future.

5. CONCLUSION

The late 20th and early 21st centuries are characterized by processes of globalization, anti-globalization, and coronavirus.

Globalization has brought many benefits to countries around the world, such as access to new cultures, the spread of technology and innovations, lower costs for products, higher living standards across the globe, access to new markets, access to new talents. Globalization is not just about economics. It means connecting nations socially, politically and culturally. Mankind lives Globalization 4.0 which is characterized by digitalization, Internet of things, artificial intelligence, self-driving cars, nanotechnology, biotechnology, robots. Globalization has opened the borders of many countries and enabled international trade and free movement of goods, services, people, information, capital, ideas and technology.

However, there are movements that are anti-globalization in nature, but their messages refer to more humane globalization, care for the environment, stop for pollution, non-use of child labor, non-exploitation of workers, higher wages and salaries, respect for local traditions, religions, etc.

Globalization has been halted by the Coronavirus, which has brought not only the global health crisis and high mortality rates, but also the cessation of all business activities, high unemployment, disruption of production and distribution channels, national quarantines and lockdowns.

The question is what will happen after the coronavirus. Will globalization return to the way we know it? There are several scenarios for what might happen in the future, but the most realistic scenario is that globalization will continue, in a modified form. It is certain that it will not disappear. And as Kofi Annan, the Former Secretary-General of the United Nations used to say, "Arguing against globalization is like arguing against the laws of gravity".

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PRINCIPLES OF MANAGEMENT AS GUIDELINES FOR MANAGERS

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ABSTRACT

The scientific approach to management required that the management theorists dedicate significant attention to the management principles. Many of the classical management theorists are known for their principles. The paper points out the significant fact that even though many of the principles of management were set many, many decades ago, they are still valid nowadays, in this changing world.

Since the formal study of management began, numerous concepts have emerged as management principles. Even though nowadays many other, different, contemporary principles of management have been set, they do not lessen the importance of the "classical" principles. The paper focuses on Henri Fayol's 14 principles of management and their applicability nowadays.

The principles of management are considered to be important feature of the management thought. Their proper use can very likely improve the organizational performance. They provide appropriate set of guidelines that managers can use to create a work setting that can effectively and efficiently use the organizational resources.

KEYWORDS

PRINCIPLES, MANAGEMENT, ORGANIZATION, ORGANIZATIONAL PERFORMANCE

JEL CLASSIFICATION CODE

M10

1. INTRODUCTION

The scientific approach to management required that the management theorists dedicate attention to the management principles. The principles are important, since they are the beginning of the management thought.

The interest of the scholars for the principles of management is considerable even nowadays. Since the formal study of the management began, numerous concepts have emerged as management principles. However, even though, many other, contemporary principles of management have been set, they do not lessen the importance of the "classical" principles.

As Bacud (2020) notes a range of management principles are still being followed nowadays, largely based on the management concepts voiced by Henri Fayol.

This paper focuses on and mentions specifically only Henri Fayol's 14 principles of management.

As Nikolic (2001) points out the principles are basic knowledge that aids for better understanding of a certain scientific field. Management as a science has its own principles that can help the organization in increasing its efficiency. The demand for the management principles was established as a result of the endeavor to help the staff in organizations that are responsible for the management functions. For efficient execution of the management functions, there are certain rules and principles that the managers have to know.

Every person holding a managerial position should be familiar with the principles of management, but they also should know which ones they can optimally apply.

As Hicks and Gullett (1981) suggest the management principles should be viewed as being valid for most organizations under most circumstances. It is not necessary (since they are not laws) that they are valid for every possible situation every time. As it has been proven that the principles of management are valid most of the time, they are of important value for managerial use. Nevertheless, it is the manager's job to use sound logic and judgment in determining when and if to apply a certain principle.

2. GENERAL NOTIONS ON THE PRINCIPLES OF MANAGEMENT

As Wren and Voich (1994) note, like doctors need to know anatomy, and engineers need to know mathematics, the common notion is that there are some basic things that future managers need to know.

A management principle is a statement of a general truth about organizations or management. They may be thought of as being fundamental truths of organizations or management. Moreover, they prescribe a particular course of action. (Hicks and Gullett, 1981)

As Poperwi (2018) notes the principles of management are the ideas that form the basis of management. Moreover, they have a number of unique features, for instance: they are flexible, they have universal application, they are not absolute (they need to be applied in relation to the needs of the organization), and they need to be based on situation. (Bose, 2013)

Furthermore, according to Robbins and Coulter (2005) the principles are fundamental rules of management that can be taught at Universities and which can be applied in all organizational situations. Additionally, Koontz and Weihrich (1988) note that the principles of management are basic truth (or what is considered to be true at a given moment) and they can be descriptive or predictive, but they are not prescriptive. This notion implies that the principles can tell what can happen, however they do not "tell" managers what they should do. For instance, one of the Fayol's principles is the unity of command, which implies that the more an employee reports to a single superior, it is more likely that they will feel loyalty and commitment and it is less likely that there will be confusion with the instructions they are given. So, this principle predicts and it does not say that an employee should not report to more than one person. Essentially, this principle states that if individuals were doing this, their superiors need to be aware of the potential problems and take them into consideration. Koontz and Weihrich (1988)

Additionally, Rue and Byars (1992) point out to the difference between the principles of management and the principles in the physical sciences and also the major problems in developing the management principles. As they note, the laws in the physical sciences are developed through a research process involving controlled experimentation (experiment in which control can be maintained on many of the input variables). After the experiment is repeated many times with identical results, the hypothesis is converted into law or principle. However, this is not the case with the principles of management, since it is very difficult to conduct a controlled experiment in a management environment, because of the costs and the inability to have absolute control on one of the primary inputs – the people. According to them, the remaining logical alternative is using observation and deduction, which is how many of the principles have been developed.

Similar view on the principles is presented by Nikolic (2001), who states that the principles are immanent in all sciences, however they are more rigorous in the exact sciences, as compared to the sciences that study the human factor, as is the case with management. Likewise, Wren and Voich (1994) state that a principle is a basic element of knowledge in that it helps in predicting what will happen if that principle is

applied. Furthermore, they go on to explain that the principles in management are much less rigorous than the principles in the exact sciences since the physical phenomena behave less unpredictable than the humans. Furthermore, this view is also supported by Hicks and Gullett (1981), who assert that the principles used in the field of management are not to be compared to the principles used in the physical sciences.

An interesting notion was expressed by G.R. Terry citied in Poperwi (2018) that "the principles of management are to a manager as a "table of strength" of materials is to a civil engineer."

3. FAYOL'S 14 PRINCIPLES OF MANAGEMENT

Henri Fayol, known by many as "the father of modern management theory' was a French mining executive.

Fayol became posthumously famous and gained recognition for his work, after his book Administration Industrielle et Generale (translated to English as General and Industrial Management) was published. Fayol was the first author to look at the organization from the "top down"", to identify management as a process, to break that process down into logical subdivisions and to lay out a series of principles to make best use of people. Furthermore, his principles of management do not differ greatly from the characteristics of formal organizations as set out by Max Weber. (Chartered Management Institute, 2002)

The author of this paper encountered a challenge in determining Fayol's 14 principles. Namely, the principles (taking into consideration their importance for the management) are mentioned in almost all management textbooks. However, if one looks at different textbooks and translations it is noticeable that there are differences in the principles.

For this paper, 18 textbooks where the principles are mentioned were investigated. Some principles are in all 18 textbooks the same (like discipline, unity of command and esprit de corps), however, for some there are differences (like authority, scalar chain, stability of personnel). Furthermore, in some cases authors that refer to the same source, have differences in some principles.

In the following text, only one classification of the principles (adapted from Henri Fayol (General and Industrial Management, Constance Storrs (trans.) in (Bartol and Martin) 1998) will be noted, which the author finds most appropriate: 1. Division of work (work specialization can result in efficiencies and is applicable to both managerial and technical functions). 2. Authority (which is the right to give orders. It derives from the formal authority of the office and also from personal authority. With authority comes responsibility). 3. Discipline (that is absolutely necessary for the smooth running of an organization). 4. Unity of command (which means that an employee should receive orders from one superior only).5. Unity of direction (activities aimed at the same objective should be organized so that there is one plan and one person in charge). 6. Subordination of individual interest to general interest (the interests of one employee or group should not prevail over the interest and goals of the organization). 7. Remuneration (compensation should be fair to both, the employee and the employer). 8. Centralization (the proper amount of centralization/decentralization depends on the situation. The objective is the optimum use of the personnel's capabilities). 9. Scalar chain (a scalar chain of authority extends from top to bottom of an organization and defines the communication path) 10. Order (the right person should be in the right place). 11. Equity (employees should be treated with kindness and justice). 12. Stability of personnel tenure (high turnover should be prevented, because time is required to become effective in new job). 13. Initiative (managers should encourage subordinate initiative to the fullest). 14. Esprit de corps (which translates to group spirit. Since union is strength, harmony and teamwork are essential).

Even though Henri Fayol's principles are aimed mostly towards the management, not all of them are. Namely, some of them, like esprit de corps are aimed at maintaining good interpersonal relations, and some of them like division of work are emphasizing what can contribute to the organization's efficiency. However, all of them are essential for an organization performance.

The 14 principles of management laid out by Fayol are most commonly used and adapted in organizations, even though they vary according to how they are applied and accepted depending on the objectives and the willingness of the managers to adopt them. (Bacud, 2020)

Wreen and Voich (1994) note Fayol's remarks on the principles. Namely, according to Fayol, there is nothing absolute in management. Hence, the principles are flexible and should be used accordingly to the situation. The only thing that is important is, knowing how to apply them, which is an art that requires intelligence, experience and capability in coming up with the right decision. Every rule or managerial procedure that is improving an organization's performance can be considered a principle and remain being a principle as long as the practice verifies it.

4. CONTEMPORARY APPLICABILITY OF THE PRINCIPLES OF MANAGEMENT

Many scholars agree that the principles of scientific management (including Fayol's principles) are not only applicable still nowadays, but they also can be very beneficial for the organizations.

However, the management principles should be viewed as guides to action and not laws that must be followed without exception. For this reason, they ought to be followed except in situations when a divergence is justified on the basis of sound logic. (Rue and Byars, 1992)

As Nikolic (2001) notes Fayol states that his principles of management are flexible and applicable in all organizations. This is true even nowadays, even though the environments and circumstances that today's organizations operate in or are affected by, could not be more different than from the times when Fayol set forth the principles.

As Hicks and Gullett (1981) point out inherent in a principle of management is the repercussion that if the principle is followed, improved organizational performance will likely happen as a result. In the same way, if the principle is not followed, the performance of the organization will likely suffer.

Similar view is presented by Jones et al (2000) who state that the principles that both Fayol and Weber have set forth still (decades later) offer appropriate set of guidelines that managers can use to establish a work setting that can effectively and efficiently utilize the organizational resources. These principles even nowadays remain to be the foundation of the modern management theory. For instance, the principles of equity and for establishing appropriate links between performance and reward are essential topics in the contemporary theories of motivation and leadership.

The applicability of the principles of the scientific management (including Fayol's principles) nowadays, in these contemporary times, is also discussed by Robbins and Coulter (2005) who state that the functional approach to the managerial work can be attributed to Fayol's work and also his 14 principles serve as a framework for recommendations out of which many contemporary concepts of management were developed. They support their view by noting that for instance when managers analyze the job tasks, when they use time motion method to eliminate unnecessary motions, when they forecast stimulus reward – they are practically applying the principles of scientific management.

Furthermore, according to Hicks and Gullett (1981) the proper use of the management principles can probably improve the organizational performance. More specifically, if a manager can properly employ the available principles, than they would have a relatively high likelihood of realizing improved organizational performance. In the same way, a manager can fail to utilize the accumulated knowledge regarding organizations and management and in this situation, they are at a disadvantage when they are compared to a manager that applies the management principles.

As Godwin et al (2018) note "it is believed that every organization today one way or the other implement the Fayol's principles of management".

According to Koontz and O'Donnell (1968) cited in Poperwi (2018) the principles of management are useful and important because: they can increase managerial efficiency (as they provide guidelines as to how the managers should function in different situations), they can be used for training managers, for coordinating material and human resources, …among other things.

A study conducted by Bacud (2020) on Fayol's principles has come up with some insights into how the principles are applied. Most managers, according to this study, believed that imposing and maintaining discipline among the employees is one of the best management principles they practice. Moreover, some managers claimed to have given much attention to adherence to division of work as well as unity. Also, they responded that they agree with the saying "United we stand, divided we fall" as the best management principle being practiced and which they find most useful. Furthermore, according to the study, also, the best management principle most useful and still being adopted this present time includes the practice of fair play and equal treatment of employees. The respondents had also replied that they practice the principle of "unity of command" which demands that subordinates should not be reporting to more than one manager, to avoid confusion and chaos. Related to the principle of remuneration, according to them, people are believed to be more motivated to work when they are compensated sufficiently.

"In general, adoption of one or more of the 14 principles of management of Fayol has been claimed by the respondents of this study to lead to a more effective leadership. The application of the principles allowed them to exercise better governance which resulted to the success of the organization as a whole".

This study is important in that it proves the importance as well as the applicability of Fayol's principles in organizations nowadays.

5. CONCLUSION

Every manager should be familiar with the principles of management, but they also should know which ones they can optimally apply, since their adoption depends on many different variables. Even though many of the principles of management (including Fayol's principles) were set many decades ago, they are still valid nowadays, in this changing world.

The management principles, as the paper points out, should be viewed as guides to action and not laws that must be followed without exception.

The paper focuses on Henri Fayol's 14 principles of management and their applicability nowadays. Many scholars agree that the principles of scientific management (including Fayol's principles) are not only applicable still nowadays, but they also can be very beneficial for the organizations. They are flexible and applicable in all organizations. This is true even nowadays, even though the environments and circumstances that today's organizations operate in or are affected by, could not be more different than from the times when Fayol set forth the principles.

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APPLICATION OF SCENARIO PLANNING IN TURBULENT ENVIRONMENT: CASE OF FINANCIAL COMPANIES IN RNM

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ABSTRACT

Today's contemporary environment is characterized with high degree of uncertainty, dynamic changes and innovation. Such a turbulent environment requires from companies to develop ability for identifying and analyzing of factors that drive changes and an ability for anticipating solutions to potential threats. Throughout the history, forecasting and strategic planning have been continuously applied in practice, as ways to establish a vital link between the future of the company and the environment. However, both of these lack the ability to incorporate massive and unexpected political, environmental, economic and social changes into plans. With the advent of scenario planning, plans are being made for significant changes in the environment for which data are limited. Therefore, planners by telling more alternative stories about the future, companies can include structurally different and unexpected future events, factors and actors in their plans for their future environment and answers to them.

The main purpose of this research paper is to examine the degree of scenario planning application in the process of thinking and formulating alternative courses of action for the future in financial companies in Republic of North Macedonia. In order to present the application of scenario planning in turbulent environment this research paper makes literature review of scenario planning characteristics and its advantages and additionally, conducts descriptive statics by using data from author's empirical research conducted in 2016 which covered 9 financial companies (6 banks and 3 non-bank financial companies). The results showed that the degree of application of scenario planning is moderate to significant in Macedonian surveyed financial companies. Also, this research paper strives to encourage companies in financial sector in RNM to use scenario planning as a key technique for dealing with uncertainty in the future global business environment.

KEYWORDS

SCENARIO PLANNING, SCENARIO, TURBULENT ENVIRONMENT, FORECASTING.

JEL CLASSIFICATION CODES

O21, M19, C53

1. INTRODUCTION

The question of scenario planning is addressed by a number of authors and the sources that can be referred to in its definition, methodological explanation and practical usefulness mostly arise from articles by practitioners of scenario planning, literature dedicated to futures research and empirical research on scenario planning as a long-term planning technique. The overall research so far in this area seeks to emphasize the importance, but also the challenge for further study of scenario planning. In fact, there has been a great deal of interest in applying this method of planning in times of declining economic activity when companies face changes that are incomprehensible and unpredictable. In this context, the issue of scenario planning received special attention with the appearance of the first oil shock in 1973, when other planning methods used by companies failed to warn them of possible economic downturns and on the other hand, Royal Dutch Shell was prepared with answers by using their developed scenarios. As a result, scenario planning has been adopted by a number of companies from Western economies. The application of scenario planning method started decreasing its popularity during the 90s and the beginning of the new millennia, but when the economic crisis hit the world in early 2008, again practitioners and academics started researching and examining different methods of creating scenarios and using scenario planning method.

Thomas (1994) defined scenario planning as an inherent learning process that challenges current comfortable and common organizational thinking by focusing on how the future can be different from the present, while Schoemaker (1995) defined it as strictly defined methodology for creating possible futures in which organizational decisions take place. According to KPMG (2010) the term scenario planning encompasses the capabilities, processes, resources, and techniques involved in identifying, analyzing, and communicating selected scenarios. Scenario planning supports the decision-making, description and presentation of possible future events and situations. Therefore, it enables better planning and helps the company find a way to acquire or maintain existing flexibility, adaptability and capability.

The value of scenario planning is not in finding the true picture of the future, but in exposing all of the possible directions in future. In this way, companies are able to aggregate and prepare for a number of scenarios that can drastically affect their operations. Companies that integrate scenario planning into the organizational process of formal planning are aware that today's competition in a turbulent environment sets new rules in strategy building and the way in which economic, social, political, and industry trends interact. Developed and integrated scenarios in the entire organizational planning process keep the company awake and alert to any new changes. Scenarios require information about the deepest concerns of managers and CEOs. Wack (1973) noted that scenarios gained prominence because they met the greatest concerns of managers and according to Georganzas and Akar (1995), the ultimate goal of scenario planning is to enrich the way managers think, learn, and feel about a strategic situation by exploring what they care about most. Furthermore, Huss & Honton (1987) describe scenario planning as a hybrid of many disciplines that encourages planners and managers to think broadly about the future. According to Schwartz (1991), scenario thinking is an art in which macro environment scenarios allow managers to evaluate the answers to a wide array of possible futures. Additionally, scenario planning is recommended as a technique for improving decision-making in conditions of increased uncertainty, even in small companies (Foster, M.J., 1993, pp.123-129).

Dynamic and complex changes in the contemporary company environment impose new rules of "game" in the market. The systemic thinking that the company is an open system that is constantly influenced by changes in the environment means that monitoring, analyzing, anticipating and adapting to changes and development of the environment is a decisive factor for the success of companies. In the new economy, it is necessary to strike a balance between stability in the decision-making process and instability in the continuous adaptation to a turbulent environment.

Empirically, continuous success is recorded by the companies that strive to shape the future, i.e. by constantly asking the question "what if?" managers review company plans and goals in terms of possible future events. Taking business in the present in terms of opportunities or threats that the future brings is the essence of scenario planning. By developing scenarios, which means creating memories for the future and

their permanent integration into the organizational planning process companies create basis for continuous learning and preparing answers for changes in the macro environment.

Today, faced with the Covid 19 pandemic and its outcomes and challenges, companies more than ever should use the scenario planning method, which is most frequently used in conditions of increased turbulence in the global market. Therefore, the main purpose of this research paper is to examine the degree of scenario planning application in the process of thinking and formulating alternative courses of action for the future in financial companies in Republic of North Macedonia and to discover the usefulness that Macedonian financial companies have from the application of the scenarios.

2. CHARACTERISTICS OF SCENARIO PLANNING

In the past two decades, scenario planning has gained immense attention and commitment from research centers, consulting companies and for-profit and non-profit organizations, due to the turbulent global environment. The literature and practical findings point out to a number of scenario planning models that can be all categorized into three schools of scenario planning, i.e. the school of intuitive logic represented primarily by the father of scenario planning Herman Kahn, and then Piere Wack, and later their models to be the basis for a number of consulting firms to develop their own models of scenario planning, then a school of probabilistic modified trends represented by two different methodologies - trend impact analysis and cross-impact analysis, and finally the French school, which integrates the methods of intuitive logic and probable modified trends. This fact points out the importance that many researches, academics and international companies put on the scenario planning and the role that it has for initiating new way of thinking, which leads to increased caution in the future modern business environment.

Scenario planning requires a lot of time and financial resources and is a desirable art for a small number of business participants who understand the usefulness of the methodology. Scenario planning has the potential to affect the lives of all employees in the overall business system. But due to limited expertise, it is not available to many companies. Even today, when managers have many methodologies and consulting firms at their disposal that can guide the scenario planning process, it is difficult to decide on its application, although scenarios are powerful tools for many reasons. First of all, scenario thinking overlaps with the way the mind works, that is, the narrative form of the scenarios makes them easy to remember. One can believe in what can be visualized. Second, scenarios can reduce uncertainty in a complex business environment, but without simplification. Third, the scenarios represent qualitatively different futures. By thinking in qualitatively different directions, the ability to think the unthinkable and to anticipate unusual events is trained. The fourth reason refers to the ease with which scenarios are conveyed and discussed, thus creating a common language and outlook in the company, which in turn is especially important in the decision-making process. But if scenarios are so powerful, why do companies do not use them so much? According to Lindgren and Matts (2003, p.28):

1. Scenario planning does not result in a single future and therefore does not provide sufficient certainty for decision making.

2. According to managerial simplicity there is one correct answer to each question, that each problem can be divided into three parts and that each problem can be solved individually. Scenario planning is more of a holistic or systematic approach to planning than traditional methods.

3. Usually, scenario techniques are qualitative, based on reason and intuition, although they also contain thorough analysis. The results of scenario planning are presented in a descriptive narrative form that does not fit into traditional cultures that require numbers.

4. It takes a long time to conduct a thorough analysis and obtain results. To avoid this "disadvantage" of scenario planning, internal stakeholders can be involved in critical moments of scenario development, but well-selected members with relevant work experience and considerations should be involved in the whole process.

Hence it can be concluded that scenario planning is a complex process that requires a lot of information and communication throughout the company, organizational continuous learning and

development and continuous decision making in which decisions are interdependent, i.e. current decisions entail decisions in the future.

Key features that define the usage of scenario planning in a company, according to Ratcliffe (2002) are:

- creating current alternative images for the future instead of extrapolated trends from the present;
- inclusion of qualitative perspective and quantitative data;
- assessment of sharp and abrupt breaks in trends;
- constant revision and updating of the basic assumptions and
- creating a company that learns and has a common vocabulary and an effective basis for communication.

As a result of the scenario planning process, scenarios inform decision makers and influence and reinforce decision making. In this context, scenarios reshape the existing decisions by providing new context for decisions and identify contingent decisions through research that the company can do if certain circumstances arise.

Based on these characteristics the idea behind scenario planning is to plan for the future in order to minimize surprises and expand the scope of managerial thinking for different possibilities (Porter, M., et al., 1985). According to Wack, the violation of managerial assumptions is followed by a re-perception of reality and the discovery of new strategic openings that represent the essence of entrepreneurship. In this way, scenario planning represents the return of the manager to the state of mind that is needed to start a new business.

3. ADVANTAGES OF SCENARIO PLANNING

From the published literature on scenario planning so far it can be concluded that it differs from other planning methods due to its systemic thinking (compared to linear thinking) and consideration of more possible futures (compared to a presumed future). Hence, the advantages that companies may acquire when applying scenario planning are:

- The concept of "forecasting" is interpreted differently in scenario planning. In the past, attempts have been made to predict the future as accurately as possible, i.e. to have only one future. However, scenarios show several probable or desired futures that are placed next to each other.
- Scenarios open the mind to unimaginable possibilities and challenge the long-held internal beliefs of the company. In this manner, companies that use scenarios face changes in the corporate culture, and encourage managers to rethink the hypotheses on which their strategy is based.
- Scenarios lead to better decision-making for the future, as they involve decision-making centers in the process of learning the factors that shape the future, such as current attitudes and behaviors, patterns and trends.
- Scenario planning encourages employees, middle and top managers to constantly communicate, transfer knowledge and learn. In this way, individual attitudes towards the future are changed and actions are taken before certain problems or questions arise.
- Scenarios are an appropriate way of recognizing "weak signals", technological discontinuities or disruptive events and they are included in long-term planning. As a result, the company is more prepared to deal with new situations as they arise and to take proactive leadership activities.
- One additional benefit from usage of scenarios and its incorporation into business planning is improvement of communication. Scenarios lead to the creation of a common language for dealing with strategic issues by opening a strategic conversation in the company.
- Behind the planning aspect, scenario techniques have the function of coordination, i.e. in the scenario the process, goals, opportunities, risks and strategies are shared between the participants who support the coordination and implementation of activities. In fact, it improves the process of organizational learning and decision making.

- Scenarios provide a basis for testing the impact of current and proposed strategies on organizational performance in the future. This is also called "wind tunneling".

- Through the process of building scenarios, key events are identified that signal that certain technological changes or radical events will occur. In this manner, the company determines in which direction the future develops.

- Considering the fact that a number of different scenario techniques occur, scenario planning is a flexible process and can be adapted to a specific situation or task, in different industries, companies and organizational levels.

However, important to elaborate is that the application of scenario planning requires a lot of time and effort and for a scenario to be effective enough, planning needs to stimulate lengthy discussions, reflection, and debate, which many companies avoid organizing. In order for companies to build realistic and achievable scenarios, it is necessary for the participants in the scenario team to have expert knowledge in the field under research. Gathering data and information from a variety of sources for deeper research and understanding of the area that scenarios describe requires far more time and resources.

So far, the literature lists successful cases of application of scenario planning. Few studies analyze the relationship between scenario planning and organizational success. That's because building scenarios and planning is a practical approach. To overcome these weaknesses of scenario planning it is necessary to develop a method for evaluating scenario planning. And since it takes a lot of time and resources, it is considered that scenario planning is applied by large multinational corporations in general, but the same can be applied to small and medium enterprises. Scenario planning can be improved if it is combined with other methods for the future, such as the Delphi method, Monte Carlo simulation, techniques for encouraging creativity, etc.

Scenarios are tools for learning the unexpected and for thinking "out of the box". While several decades of experience in applying scenario planning has meant that it is a difficult technique, the fact is that scenario planning is more of an art than a science.

4. DATA AND RESULTS FOR APPLICATION OF SCENARIO PLANNING METHOD IN SURVEYED FINANCIAL COMPANIES IN RNM

In order to determine the level of application of scenario planning method in financial companies in Republic of North Macedonia, questionnaires were sent to 9 financial companies, which were supposed to be answered by upper or middle level managers included in the planning process. The questionnaire was sent in two ways: by submitting the questionnaire in hard copy to the selected respondents and by sending the questionnaire in electronic version via e-mail to the selected respondents. The questionnaire was submitted to and completed by managers or persons who are directly involved in the formal process of organizational planning in companies.

The questionnaire contained two parts related to: the character of company’s planning process in general and the level of application of scenario planning.

4.1. Character of business planning in Macedonian financial companies

The aim of the questions from the first part was to determine the character of the business planning process in Macedonian financial companies. The following points were investigated:

1. Degree of application of methods used for thinking about the future. Methods of thinking about the future are presented through several different management techniques applied in the formal planning process in the company, such as financial analysis, market research, Delphi method, SWOT analysis, BCG matrix, brainstorming, time series analysis, strategic planning, scenario planning and simulation modeling. In terms of systemic and situational thinking for the future, Bradfield et al. (2005)

recommends companies to apply other techniques and methods in addition to scenario planning, such as brainstorming, STEEP analysis, stakeholder analysis, Delphi method, time series analysis, morphological analysis, trend impact analysis, and simulation models. Therefore, the application of each of the above mentioned management techniques were evaluated by planners (or managers included in the planning process) on a Likert scale from 1 to 7[1].

The results show that financial analysis and strategic planning are regularly used among interviewed financial companies (weighted average is 7 and 6.67, respectively); market research is used periodically (5.33); SWOT analysis has weighted average of 4.67; brainstorming, time series analysis and scenario planning are rarely used (4, 3.67 and 4.22, respectively); simulation modeling is very rarely used (2.78); and Delphi method and BCG matrix are never used (1.44 and 1.22 respectively).

2. Specialization in planning. The question concerning the specialization in planning was presented as whether the financial companies have a planning department in their organizational structure. Eight respondents of the financial companies have a specialized department responsible for planning and this result implies that financial companies have the necessary precondition for building scenarios and integrating them into company's business plans.

3. Formal education and expertise of top management. According to Linneman and Klein (2001) possession of formal education, experience and expertise of top management indicates application of a complex methodology of scenario planning. Results from respondents show that 78% possess formal education for financial sector; 89% possess experience and 78% possess expertise in financial sector and this indicates that surveyed financial companies have the required knowledge, experience and expertise for applying scenario planning.

4. Type of data involved when decision making. According to Ratcliffe (2002), qualitative and quantitative data are included in the application of scenario planning. Therefore, in the questionnaire four values are added when financial companies for asked for the types of data they use when decision making: intuition; information obtained from informal sources; detailed elaborated data and reports from authoritative institutions - Chamber of Commerce, State Statistical Office, private consulting companies; detailed elaborated data and reports prepared by the planning department and additional open response.

The results show that 22% of the surveyed financial companies use intuition and information obtained from informal sources when making decisions about long term strategies; 56% use detailed elaborated data and reports from authoritative institutions - Chamber of Commerce, State Statistical Office, private consulting companies; and 67% use detailed elaborated data and reports prepared by the planning department. This finding indicates that surveyed financial companies use objective, independent and complete information when resolving strategic issues.

5. Planning goals. According to Chermack and Payne (2006) scenario planning can be applied for decision making at individual, process and organizational level. Furthermore, according to Lindgren and Bandhold (2003), scenario planning enables the integration of short-term, medium-term and long-term planning in the strategic thinking process and therefore, scenarios should be used at every level and whenever there is significant uncertainty in the decision context. In order for better determination of the planning character, financial companies were asked which the goals of their plans are. 44% responded that they used plans for conduction of daily activities, i.e. for routine decisions, 44% responded that they used plans for designing of operational processes, and all of the respondents used plans for strategic decision making.

This finding indicate that not all surveyed financial companies use plans at individual, process and organizational level, but they all consider the long term horizon when planning.

[1] where: 1 stands for "never used", 2 – "almost never used", 3 – "very rarely used" , 4 – "rarely used", 5 – "used periodically", 6 –"almost always used", 7 – "used regularly"

4.2. Scenario planning in Macedonian financial companies

The second part of the questionnaire contained questions related to usage of scenarios, benefits of using scenarios, degree of involvement of different individuals and groups in the scenario building process and the degree of barriers that financial companies face when creating scenarios. The main goal of this part of questions was to determine the level of application of scenario planning method in financial companies in RNM. However, as further exploiting the context in which financial companies use scenarios the author tries to analyze the involvement of different individuals and groups in the planning process, the advantages they have when using scenarios, and the obstacles they have when developing them.

Firstly, the application of scenario planning was measured by using scenario planning characteristics, which were used as criteria to determine the prevalence and degree of use of scenarios in the surveyed nine financial companies. Each of these criteria was evaluated according to given Likert scale from 1 to 7[2] where an average value was calculated. The results show the following:

- The degree to which the future of the company is observed as complex and uncertain is moderate, i.e. 4.11;
- The degree to which the company builds an active and creative attitude towards the future, ie believes that the future is created is significant, i.e. 5.11;
- The degree to which the assumptions for implementation of the formal planning process are continuously revised and updated is significant to high, i.e. 5.56;
- The degree to which in the process of planning and formulation of strategies, in addition to quantitative data, the company includes also and qualitative perspective is significant, i.e. 5.35;
- The degree to which the company continuously learns and creates a common vocabulary of communication is moderate, i.e. 4.44;
- The degree to which the company tests the current and / or newly proposed strategies in different scenarios is moderate to significant - 4.78.

Overall, according to the conducted descriptive statistics the average value of the degree of application of scenario planning in the surveyed financial companies is 4.89, i.e. moderate to significant degree. The highest degree of application of scenario planning is noted when financial companies continuously revise and update assumptions for implementation of the formal planning process, which actually is also one of the most important characteristic of the scenario planning.

Secondly, financial companies were surveyed for assessing the degree of involvement of different individuals and groups involved in the process of building scenarios on a Likert scale from 1 to 7[3]. According to the calculated weighted average values the highest degree of involvement, i.e. degree of periodic involvement with thinking about their regular involvement - 5.67 and 5.56 noted managers from intermediate level of management hierarchy (managers of sectors or business functions) and board of directors or other bodies of top management, respectively. The average value of the degree of involvement of lower level managers of the management hierarchy (managers of smaller organizational units operating within separate departments or business functions is 5. Slightly below this average value is the average value of the degree of involvement of employees from different business units who have specialized knowledge and experience, ie 4.56. Working groups composed of employees from different departments, functional managers and experts or outsiders are periodically included (weighted average 4), while external experts and consulting companies are very rarely included, i.e. 3.33.

These results show that there is an existence of cooperation between employees from different organizational levels and the support and commitment of top management in the process of formulating scenarios.

[2] where: 1 stands for "does not exist", 2 – "very weak degree", 3 – "weak degree", 4 – "moderate degree", 5 – "significant degree", 6 – "high degree", 7 – "extremely high degree"

[3] where: 1 – "not included and there is a thinking for their inclusion"; 2 – "not included, but there is a thinking for their inclusion"; 3 – "very rarely included"; 4 – "rarely included"; 5 – "periodically included"; 6 – "periodically included and there is a thinking for their regular inclusion"; 7 – "regularly included"

In the third question, financial companies were asked to determine the extent to which they note benefits when using scenarios on a Likert scale from 1 to 7[4]. According to a Linneman & Klein's survey conducted between 1977 and 1982 in the largest US and world corporations, 85% of companies surveyed used scenarios to assess the profitability of major investments, and 67% said they used scenarios to initiate new potential areas of business / product, market activity. The results from author's research show the following findings:

- The degree to which financial companies note the benefit of continuous updating of the business model in relation to the changing market conditions is moderate, i.e. 4.44;
- The degree to which financial companies note early warning of threats or an opportunity in the business environment is moderate to significant, i.e. 4.56;
- The degree to which financial companies note better anticipation of the future and preparedness with appropriate activities and strategies for sudden changes in the environment is significant, i.e. 5.22;
- The degree to which financial companies note discovery of new potential areas of business, product or market is moderate, i.e. 4.11;
- The degree to which financial companies note better profitability assessment of capital investments is moderate, i.e. 4.

Overall, the average value of the degree of advantages that financial companies in Republic of North Macedonia note from the usage of scenarios is 4.47, i.e. strongly moderate to a significant degree. The highest degree of noted usefulness when using scenarios is found when financial companies make better anticipation of the future and are prepared with appropriate activities and strategies for sudden changes in the environment. These results indicate that the surveyed financial companies acknowledge the significance that scenario planning has, especially when they face turbulent environment.

Lastly, surveyed financial companies were asked to select the degree to which they note obstacles when creating scenarios on a Likert scale from1 to 7[5]. The highest degree, i.e. with an average value of - 3.22, they assessed the obstacle that they do not have enough data and information about the industrial sector in which they operate. According to their responses, the following obstacles: "insufficient expertise and knowledge of the team implementing the scenario planning", "building scenarios takes a lot of time", "insufficient support from the management team", "unclear definition of the strategic problem or issue to be resolved with the scenarios", "too many created scenarios" and "inability of the scenario planning process to relate to existing processes in your organization", are rated as obstacles with very weak degree with intensity towards weak degree.

These results indicate that surveyed financial companies note weak degree of obstacles when creating scenarios, which means that they have the necessary information, data, expertise and support from the management team to apply the scenario planning method when preparing alternative courses of action for turbulent future.

5. CONCLUSION

Scenario planning is a complex process, which requires information and constant communication throughout the company, organizational continuous learning and development and continuous decision-making in which decisions are interdependent, i.e. current decisions entail decisions in the future. Hence the main features of scenario planning are: creating current alternative images for the future instead of extrapolated trends from the present, including a qualitative perspective and quantitative data, evaluating sharp and abrupt interruptions in trends, constantly revising and updating basic assumptions of a company that learns and possesses a common vocabulary and an effective basis for communication.

[4] where: 1 stands for "does not exist", 2 – "very weak degree", 3 – "weak degree", 4 – "moderate degree", 5 – "significant degree", 6 – "high degree", 7 – "extremely high degree"

[5] where: 1 stands for "does not exist", 2 – "very weak degree", 3 – "weak degree", 4 – "moderate degree", 5 – "significant degree", 6 – "high degree", 7 – "extremely high degree"

The results and findings from the conducted descriptive analysis show that the Macedonian financial companies use various methods for thinking about the future, have a specialized department responsible for planning, possess the required knowledge, experience and expertise for applying scenario planning, and use objective, independent and complete information when making strategic decisions. However, not all surveyed financial companies use plans at individual, process and organizational level and by using scenario planning they would be able to create plans at every level and integrate them all into the strategic thinking process. Also, all of them include the long term horizon when planning for the future.

According to the provided statements about the degree of application of scenario planning financial companies note moderate with high intensity towards significant degree of usage of scenarios. They have cooperation between employees from different organizational levels and support and commitment of top management in the process of formulating scenarios. Relating to the advantages that surveyed financial companies have when using scenarios, the results show that they have better anticipation of the future and are well prepared with appropriate activities and strategies for sudden changes in the environment. Most importantly to conclude is that the surveyed financial companies note weak degree of obstacles when creating scenarios.

Finally, it can be resumed that surveyed financial companies have the necessary information, data, expertise, organizational placement, attitude towards long term planning, and support from the management team to apply the scenario planning method when preparing alternative courses of action for turbulent future, but its usage is still moderate.

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THE IMPACT OF DIGITAL BANK MARKETING ON CONSUMER SATISFACTION AND LOYALTY
A CASE OF MACEDONIAN COMMERCIAL BANKS

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ABSTRACT

World banking analysts predict that in the near future the number of traditional banks will be reduced by 50% worldwide, through a mix of closures, mergers, acquisitions and spinoffs. This is due to the evolution of banks, which have grown from physical infrastructure (brick and mortar business) that served customers into electronic banks. Nowadays, in order to meet the sophisticated needs and wants of customers, banks offer a wider range of digital services. Thus, while the traditional banking comprised of straightforward loans, deposits, treasury, and insurance products, new "universal" banks slowly added more offerings such as derivatives, asset-backed securities, digital wallets, wealth management, and private banking. The banking is facing digital banking innovations across the spectrum of payments, cash, lending, money transfer, investment management, and lending, among other areas. The main objective is to understand the customers, their lifestyle, preferences and then custom build the product to add value and enhance the customer experience. In order to come closer to the consumers, banks use modern integrated marketing communications. However, the question is whether and how satisfied consumers are with the new digital banking services i.e. with the one-stop-shop access for all services. This paper contains a survey to analyze customer satisfaction from Macedonian banks, their operations and way of marketing communications.

KEYWORDS

TRADITIONAL BANKING, DIGITAL BANKING, MARKETING INNOVATIONS, INTEGRATED MARKETING COMMUNICATION, CUSTOMER SATISFACTION

JEL CLASSIFICATION CODES

M31, M37

1. INTRODUCTION

According to Jain (2021), in the next ten (if not five) years, the number of traditional banks surviving across the world will reduce by at least 50%, through a mix of closures, mergers, acquisitions, and spinoffs. In order to satisfy the sophisticated needs and wants of consumers, banks are under pressure to offer richer and wider range of digital services. So, banks have been evolved and changed from "brick and mortar" to digital ones. Thus, while the traditional banking comprised of straightforward loans, deposits, treasury, and insurance products, new "universal" banks slowly added more offerings such as derivatives, asset-backed securities, digital wallets, wealth management, and private banking. The aim is to provide one-stop shop access for all the banking services. Over the last five years, with the changes in technology, and especially

with the appearance of the global pandemic, we are seeing a completely different paradigm, where physical location has ceased to be essential. Adopting new technologies and using quick, iterative improvements to offer tailored service is the new paradigm for servicing customers.

Factors that have enabled a more intensive application of digital banking globally are: (Jain, 2021)

- **Seamless Integration** - Internet-facilitated technologies allow for better oversight and efficiency of demand, supply, and supply chain fulfillment banking operations.
- **Mobile Connectivity** - Mobile networks are more cost-efficient than their fixed-line equivalents and have allowed rapid infrastructure build-up, bringing large parts of a hereto unreachable audience in the "consumption" economy.
- **Increase in Data Availability**- Shifts to digital methods have brought large increases in data availability; both from conventional data (e.g., financial) to non-financial (social media, geotagging, AI-based models, etc.)
- **Reduced Cost of Acquiring and Servicing Clients** - In general, digital technologies are allowing banks to reduce their costs to acquire/service customers, by automating tasks that would have otherwise been performed by human labor.
- **Trust-based Transactions** - Digital social identities are allowing completely new ways to identify, monitor, assess, score, engage, and track customers. The objective nature of a digital footprint offers large incentives to play it fair and straight, and align transactional parties.
- **Cloud > Physical Infrastructure** - Physical location of most businesses, especially in services, has ceased to be a bottleneck for geographical growth. Companies in one corner of the world can now onboard and service customers on the other.
- **Scaling-up Businesses** - is becoming easier with cloud-based distributed and "pay-as-you-go" scalable infrastructure allows the rapid building of businesses at low fixed CAPEX costs.

The advent of e-banking has changed the traditional way of banking. Changes in technology, market competition and current operations have also affected the way banks operate. Previously, in order to perform certain banking activities, clients had to be physically present in the bank. However, with the introduction of digital banking, the same activities can be performed electronically in a much shorter time and lower transaction costs.

The earliest forms of digital banking emerged in the 1960s. It was a period when the first ATMs and debit cards were introduced. These products were revolutionary for many reasons. For one, for the first time in history, banking customers could access their funds 24/7. Until this point, consumers needed to go to their local branch to withdraw or deposit funds. This process could take considerable time. The introduction of the Internet changed digital banking forever. At first, banks relied on the Internet for internal functionalities such as monitoring accounts or fund transfers. However, by the late 1990s, banks began offering services such as balance updates and fund transfers directly from the digital banking portal. By this point, digital banking was on its way to becoming a major trend.

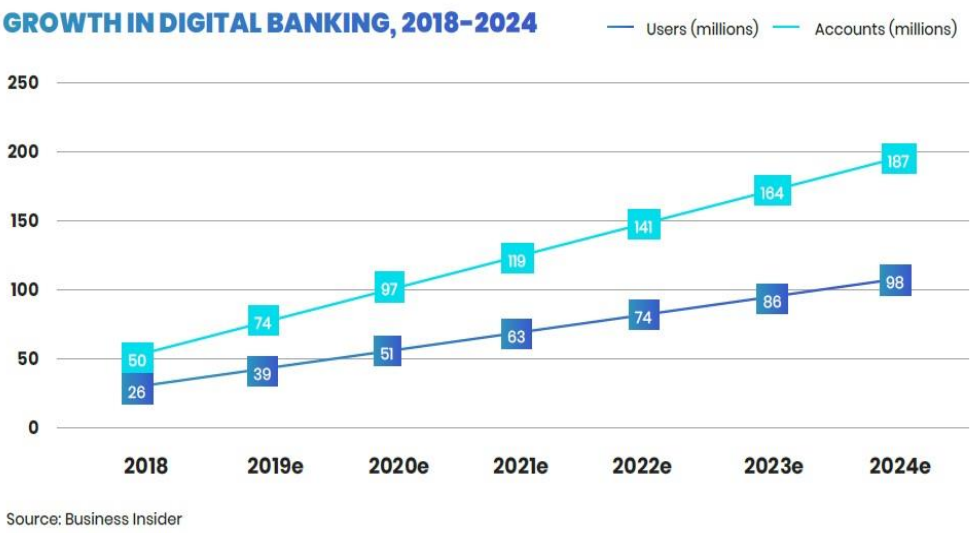
In less than a decade, the Internet saw a huge expansion in capabilities. The added data transmission and improved computer manufacturing techniques led to the creation of smartphones. Today, it's hard to imagine life without a smartphone. These handy pocket PCs enabled banks to offer a full suite of products from their portals.

Consequently, a host of new services emerged because of the availability of smartphones. Features such as photo check cashing began to emerge in the market place. This feature allows clients to deposit checks by taking a picture on their cell phone via their banking app.

Given all of the advantages digital banking brings to the sector, it's easy to see why today, every bank offers some form of digital banking to its clients. Both clients and banks have much to gain from this hi-tech integration.

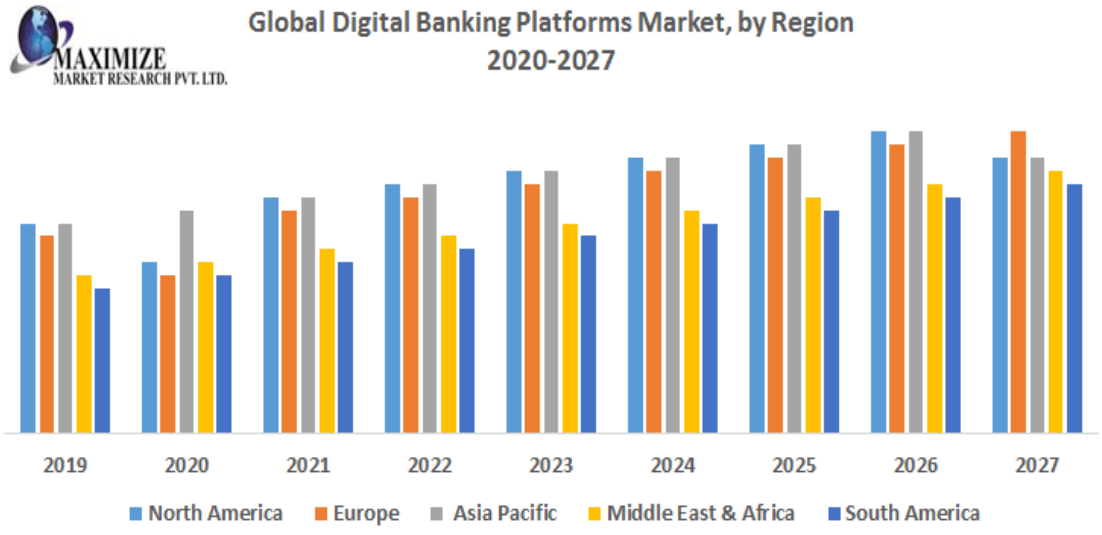
The following chart shows the global growth line of digital banking applications.

Chart 1: Growth in Digital banking, 2018-2024



Banks around the world have started adopting innovative, digital-first client services. Although still in its infancy in Europe and North America, fully digital banking is more advanced in Asia, the Middle East and Africa, where banks have fewer legacy systems to manage. This fact is presented on the following chart:

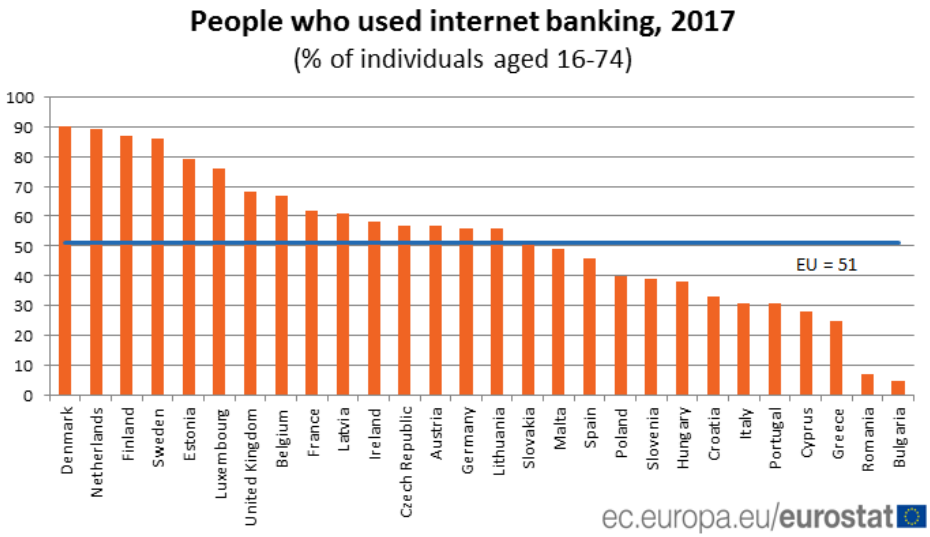
Chart 2: Digital banking by global regions, 2020-2027



Source: Maximize Market research PVT. LTD, 2017

The situation in Europe is presented on the Chart 3:

Chart 3: Digital banking application in Europe, 2017



Around half (51%) of adult Europeans use Digital banking. This share is constantly increasing and has doubled since 2007, when it stood at 25%. Internet banking is particularly popular among 25 to 34 year olds, with 68% using this facility. The use of Internet banking tends to increase in line with the education level of the user. While only 24% of those with low education use e-banking, 77% of those with high education use this service.

Among EU Member States, digital banking is most common in Denmark (where 90% of people aged 16 to 74 said they were using it) and the Netherlands (89%), followed by the other Nordic countries - Finland (87%) and Sweden (86%). The lowest shares were registered in Bulgaria (5%) and Romania (7%). Less than 30% of those between the ages of 16 and 74 use internet banking in Greece (25%) and Cyprus (28%).

The level of usage of digital banking in the North Macedonia is presented and elaborated below.

2. LITERATURE REVIEW

As the commercialization of the Internet and information technology evolved in the early 1990s, traditional brick-and-mortar banks began looking for ways to deliver online services to their customers. The definition of the digital banking differs between different experts because it covers different services that can be achieved through different devices and in different forms.

According to Forbes (2021), the term digital banking combines online and mobile banking services under one umbrella. Online banking means rendering banking services via bank's website and mobile banking is realized via mobile devices, such as smartphones or tablets. It provides regular banking services, but on a website or a mobile application. In digital banking, the Internet is key in order to open a bank account, transfer funds, set up direct debits, make remote payments, send remittances and do other bank operations without visiting a branch.

Digital banking means the automation of traditional banking services. Digital banking enables a bank's customers to access banking services via an electronic/online platform. Digital banking means to

digitize all of the banking operations and substitute the bank's physical presence with an online presence, eliminating a consumer's need to visit a branch.

Some advantages of online banking go hand-in-hand with simply being online; others are competitive advantages provided by online banks taking advantage of their cost structure. (Csiszar, 2017). The most important benefits provided by online banking include:

- **24/7 account and service access -** online banks are accessible 24/7, and some take this perk one step further, giving clients 24/7 phone access to a real-life customer service agent. This can be extremely helpful if a client doesn't have access to the Internet, or feel that needs the assistance of a human, rather than a computer algorithm. Online banking allows users to use banking services 24 hours a day, 7 days a week, 365 days a year, i.e. working hours are not limited. All banking services are available whenever the user needs them.
- **Speed and efficiency** – this is one of the most prominent benefit from digital banking and offers a great comparative advantage related to the traditional banking. So, if the customer needs to transfer money, apply for a new loan, or perform nearly any banking transaction, he/she would typically have to wait in line at a bricks-and-mortar banking location. With an online banking, there's never any waiting. Consumers can access their accounts, request a new credit card, or perform nearly any banking transaction they desire without driving down to a bank or waiting in line. Through online banking, the user is enabled to execute transactions quickly, without going to the bank and waiting at the counter, which allows the client to perform the necessary transactions in a much shorter time.
- **Online bill payment -** One of the great advantages of online banking that almost every consumer is using is online bill pay. It takes is a simple click for customer to automate and track the payments.
- **Low overhead can mean low fees -** Online banks don't have to pay for things like electricity, janitorial services, landscaping, or rent, so they can pass those savings along to customers. Typically, this means that online banks can charge fewer fees than traditional banks.

In spite of their many advantages, there are some drawbacks to using online banks as well. Here are some of the downsides of working with an online bank:

- **Technology issues -** online bank depends on the Internet connection. If there's a problem with the connection, the customer might not have any access to the accounts. While some banks offer a phone number for customer service, it might be overwhelmed if online access is down. With a real bank, customers can always find someone to talk to in the branch.
- **Security issues -** while many online banks are reputable and well-established, sometimes it can be hard to feel comfortable with a bank that doesn't have a physical presence, particularly when large sums of money are involved. There's also the risk of identity theft, or actual theft, if someone gains unauthorized access to the customer account via a hacked or stolen password.
- **Inefficient at complex transactions -** online banks might be able to transfer money between accounts or pay bills, but customers are more comfortable with an international, bricks-and-mortar bank if they have complex transactions.
- **No relationship with personal banker –** sometimes it is good for a customer to develop a relationship with a personal banker and talk and share openly his/her financial opportunities or problems. This cannot be done when online banking is used.

3. RESEARCH METHODOLOGY

For the research in this paper, basic analytical, synthetic and deductive methods are used, as well as statistical data. In order to collect appropriate and relevant information, professional literature from domestic and foreign authors, websites, as well as information from business practice, magazines and other journalistic articles from daily newspapers are used.

The paper also contains a survey (primary data) conducted electronically which included different groups of respondents, according to their age, level of education, profession in order to determine the knowledge and application of digital banking in the country.

4. ANALYSIS AND DISCUSSON

In continuation the results of a survey entitled "How much consumers know and use the digital banking products? are presented. The survey was conducted to determine the level of consumer awareness of the term digital banking, as well as whether and to what extent they apply it. The questionnaire was submitted to 70 people, of which 58 people, i.e. 83%, responded. The research period was May 2021. The questionnaire contains closed-ended questions, with multiple choice. The survey method was realized via e-mail, social networks, as well as personal contacts.

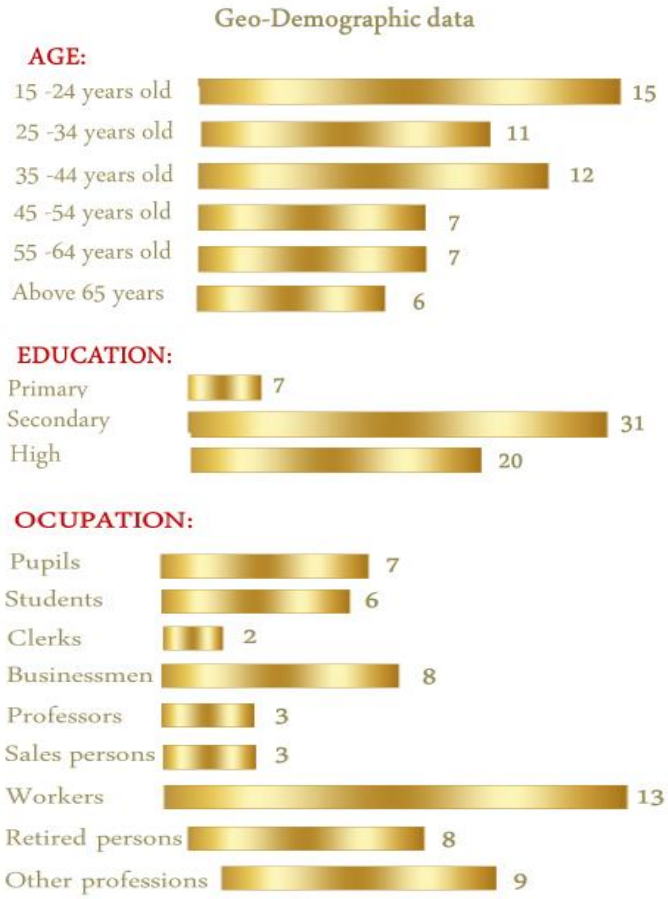
The questionnaire contains several geo-demographic questions (age, level of education, profession), as well as six research questions. The research covered people of different ages, with different professions and levels of education, in order to get an idea of whether and to what extent they influence the decision to use digital banking. Thus, the research included 15 people aged between 15 and 24 years, 11 people between 25 and 34 years, 12 people between 35 and 44 years, 7 people between 45 and 54 years, 7 people between 55 and 64 years and 6 people over the age of 65.

According to the level of education, 7 persons had completed primary school, 31 persons were with secondary education and 20 persons with higher education.

This research included people with different occupations.

The geo-demographic characteristics of the targeted population are presented in the following tables.

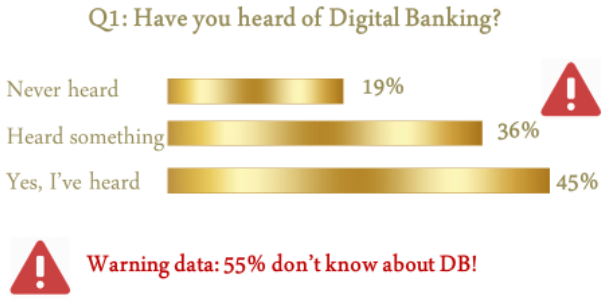
Table 1: Geo-demographic characteristics of the respondents



Following are the answers to the six research questions.

To the first question is "Have you ever heard about digital banking products?", 19% of respondents said they had never heard of digital banking (e-banking), and 36% said they had heard of it, but did not know what exactly it meant. A large part of the respondents, i.e. 45%, answered that they are familiar with this term. However, a total of 55% of respondents have not heard or do not know the meaning of digital banking, which is a really alarming fact. This percentage presents a worrying data for the banks, as it indicates the urgent need for them to take measures that would increase awareness of the features and benefits of digital banking. For those who answered this question that they have never heard of this term (19%), this is where the survey ends. Most of them are students and retirees.

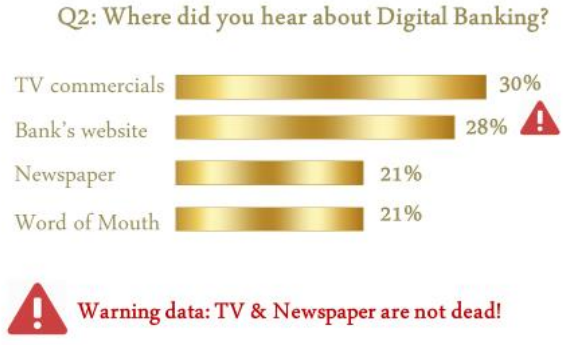
Table 2: Answers to the Question 1: Have you heard of Digital Banking?



R1: Banks need to provide more info on DB benefits!

To the second question "Where did you hear about Digital banking?", 30% of the respondents answered that they learned about the term digital banking from TV, 28% from the bank's website, and 21% from a newspaper. The same percentage of respondents (21%) answered that they had heard about digital banking from a friend, colleague, relative, brochures ("Word of Mouth" marketing). These percentages can be explained by the fact that younger respondents spend most of their time online, while older respondents most often follow information on TV and in the print media. The fact that more than half of the respondents (51%) found out about digital banking from traditional media (TV, newspapers), is a sign for banks not to neglect these media as a way of informing and communicating with the public. People still trust and follow the information from the traditional media.

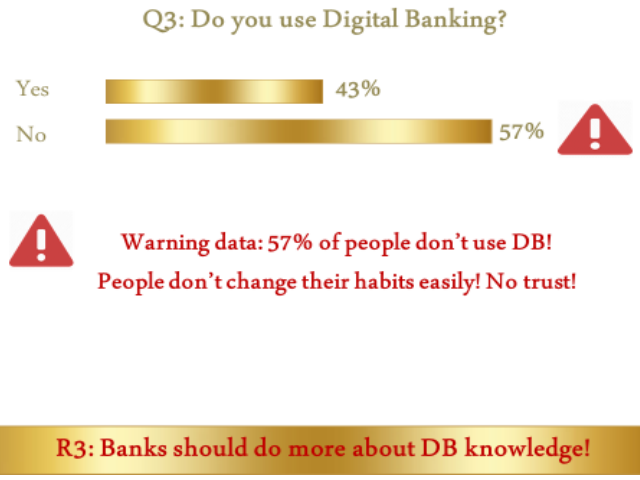
Table 3: Answers to the Question 2: Where did you hear about Digital Banking?



R2: Banks should use traditional marketing media, as well!

An alarming answer was received to the **third question: Do you use Digital banking?".** Namely, 43% of the respondents stated that they use digital banking, and a high percentage of 57% of the respondents do not use it. This result is somewhat expected given that digital banking in Macedonia is a relatively new concept, and most people usually accept innovation with distrust. People also change their habits slowly.

Table 4: Answers to the Question 3: Do you use Digital banking?



The next two questions reveal the reasons why the respondents use or do not use digital banking.

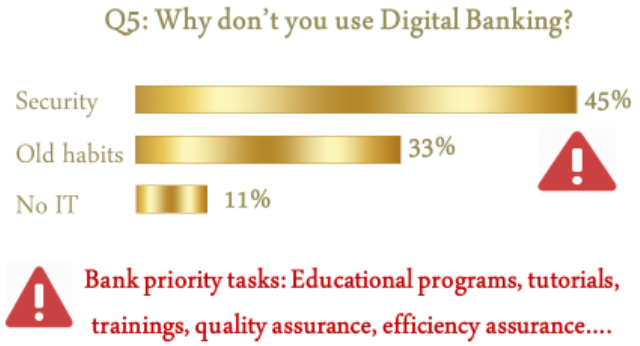
On the fourth question "Why do you use Digital banking?", respondents actually highlight the features and benefits of digital banking. They pointed out several reasons, such as: 35% of respondents use digital banking due to lower costs, 40% due to time savings, and 25% due to the possibility to be able to make financial transactions at any time and place. It is these benefits that banks should emphasize in their advertising and information messages.

Table 5: Answers to the Question 4: Why do you use Digital banking?

The fifth question "Why don't you use Digital banking?" is especially important because it indicates where more attention needs to be paid in the future in order to increase the number of e-banking users in the country. Most of the respondents - 45%, cite the security of the transactions as the main reason.

A smaller percentage - 33% do not use digital banking because they are used to traditional banking and do not want to change their habits, and 11% said they have no technical requirements (computer, Internet, mobile phone, tablets, etc.).

Table 6: Answers to the Question 5: Why don't you use Digital banking?



R5: Banks should promote DB better!

To the last question "What digital products have you used the most?", most of the respondents use digital banking for checking the account (55%). 25% of the respondents use it for payment operations, and 20% use it for payment of monthly overhead costs. From this data it can be concluded that despite the fact that electronic banking offers a number of services, it is most often used to check the status of user account. This is primarily due to the existence of a certain fear in terms of the security of financial assets and data, as well as their misuse.

Table 7: Answers to the Question 6: What digital products have you used the most?

R6: Banks should inform & promote DB better!

From the results of this survey, it can be concluded that the lack of information, the slow change of customer habits and the fear of inappropriate use and potential losses are the most common reasons for the slow growth of the number of e-banking users in recent years. To speed up this process, some of the

Macedonian banks are trying through various promotions and marketing actions to encourage the citizens to use e-banking services.

In principle, Macedonian banks offer some of the digital services that are similar in nature. Customers are satisfied with the services of banks. But banks need to inform customers more about the new uses and benefits of digital banking.

5. CONCLUSION

The rapid development of technology was reflected in banking, changed the way banks operated and enabled the introduction of new digital banking products. Digital banking, as the execution of banking transactions electronically, without a physical visit to a bank, has greatly improved and facilitated the work of both users and the banks themselves. Its significant advantages over traditional banking have contributed to its quick acceptance by many banking customers around the world.

Some digital banking services are also offered by Macedonian banks. The number of services available to Macedonian consumers is lower than the services available in developed European countries, but banks are gradually introducing new services in order to bring electronic banking closer to as many as possible to citizens and meet their needs. The research shows that the number of transactions performed through electronic banking in our country is relatively small, and most of the users most often use it to check their accounts. However, this banking in our country is still relatively new and the information about its features and opportunities is low, and the citizens usually slowly accept the innovations.

Hence, the following recommendations for Macedonian commercial banks can be suggested:

- Banks need to provide more information on digital banking benefits!
- Banks should use traditional marketing media for communication with target population!
- Banks should do their outmost to change the old habits of consumers! This they can do with promotional packages and messages! Most helpful are the tools of the sales promotion!
- Banks should emphasize the security and efficiency issues!
- Banks should provide educational programs, tutorials and training to the customers about digital banking!

The future is in digital banking and that is why banks must be prepared. Or as experts are saying:" Banks have to upgrade themselves or risk being burnt to the ground".

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THE EFFECT OF SOCIAL EXPENDITURES ON INCOME INEQUALITY IN POST-SOCIALIST AND CAPITALIST COUNTRIES: A PANEL DATA ANALYSIS

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ABSTRACT

Throughout the history of economics, income inequality has been one of the most debated issues. Since the 1990s, the issue of income inequality and welfare segregation has grown increasingly important for countries' economies around the world. One of the most important ways for the government to directly regulate income inequality is through social expenditure. The impact of government social spending on income inequality in selected European nations was explored in this study by examining social benefits and their impact on the Gini indices. On the one hand, post-socialist nations that have undergone transition, and on the other hand, capitalist countries that have never been under the social regime have been picked to be evaluated. Based on the obtained results, government social spending has a positive impact on income disparity for the post-socialist countries i.e. when the government spends more on social programs, income disparity decreases. The findings for the capitalist countries are inconclusive.

KEYWORDS

INCOME INEQUALITY, SOCIAL EXPENDITURES, PANEL DATA ANALYSIS

JEL CLASSIFICATION CODES

H53, D63, C23

1. INTRODUCTION

Since Adam Smith and David Ricardo, the founders of economics, there has been a continuing discussion regarding how to distribute post-production revenue fairly among individuals. In today's world, income inequality is seen as one of the most serious economic issues, particularly in emerging countries. Income inequality, which is a source of many societal problems, has been identified as the primary cause of economic instabilities. As a result, significant efforts are being made all across the world to overcome this problem. Government social spending is the most important economic policy utilized to address such a significant problem because governmental social policies have a direct impact on the poor (Ilker, 2018).

Every social state owes its citizens the right to a decent quality of living. As a result, the government provides social expenditure through the social spending system. While income inequality has always been at the forefront of economic debate, the relationship between government social spending and income

inequality is more current. Several scientific studies have looked at how economic factors including growth, international commerce, foreign capital investment, education, and democracy affect income inequality. In the scientific literature, there is very little research on the effects of government social spending on income disparity. As a result, one of the most important goals of this research, which looks at the effects of government social spending on income inequality, is to add to the literature and allow for more scientific research in this field. According to the scientific conclusions to be gained, another essential goal of this study is to assist in the selection of economic policies.

Econometric science was employed to investigate such a significant economic and social issue and to produce more effective scientific outcomes. Panel data analysis was performed on data from selected post-socialist and capitalist European countries from 2009 to 2019.

The study first covers the theoretical literature of the impact of government social spending on income disparity, followed by trend analyses of the government social spending in the selected nations and the income inequality measured by the Gini index. Finally, to wrap the analysis, the study uses panel data analysis where it observes the relationship between income inequality and government social spending in the selected post-socialist and capitalist countries. The findings are evaluated and policy recommendations are made in the conclusion section.

2. THEORETICAL FRAMEWORK BETWEEN SOCIAL EXPENDITURE AND INCOME INEQUALITY

There are two ways that social spending is applied (public or private). Social spending is referred as public when financial flows are regulated by the government. Sickness benefits, for example, are considered "public" if they are funded by the social insurance system, but they are categorized as "private" if they are paid directly to employees by companies. All financial flows of governmental institutions for social purposes are included in total public social expenditures. Specific social expenses are included in total net social expenditures. Government social spending refers to expenditures that shift resources from high-income to low-income groups (McMaken, 2015).

Government social spending has proven to be one of the most successful ways to decrease income inequality throughout history (Önen, 2010). Even now, government social spending is the state's primary method of combating poverty (Altan, 2006). It is used all around the world to safeguard living conditions that offer a steady income, as well as to prevent poverty, economic disparity, social exclusion, and marginalization (Lindert, 2002). Different applications of government social spending exist in each country, with instances from European countries being used as examples of institutionalization.

In the world, government social expenditure is applied in three ways. The first is to provide benefits to a certain socioeconomic class, such as low-income families with children. The second type of insurance is social insurance, which includes things like unemployment insurance and pensions, while the third type is the overabundance of in-kind or monetary benefits given to those who earn less than the minimum wage under the average income test, as well as to specific groups (the disabled and the elderly) (Lindert, 2002). Individuals who, despite working, do not meet the minimum subsistence level are, however, excluded in developing countries (OECD, 2016).

The literature that explores the topic of government social spending and income inequality through several methods has come to several conclusions:

- The relationship between income inequality and social spending is interdependent and therefore it is very important to choose income inequality measurement in order to better understand the effect of income inequality on social spending
- There may be differences in income redistribution models due to factors such as institutions and electoral mechanisms.
- The democratic countries where different policies have been applied in terms of social expenditures are discussed

Following the study looks at some of the existing literature that explores this topic.

3. EMPIRICAL LITERATURE

Li, Xie, and Zou (2000), used panel data to assess the impact of government social spending on income distribution. They have empirically proved that income taxes and government public spending diminish income disparity as a result of their research. Gregorio and Lee (2002) while investigating the effect of education on income distribution, have included government social spending. The conclusion was that government social spending had reduced income disparity. Smeeding ve Osberg (2004) also attempted to explain the impacts of income disparity and trust on government social spending using panel data analysis. Other studies that showed that government social spending reduces income inequality are Adelman ve Robinson (1988), Lindert ve Williamson (1985), Brenner, Kaelble ve Thomas (1991), Papanek ve Kyn (1986). These and other studies prove the significant and negative relationship between social expenditures and income inequality for different selected countries. Despite the fact that there are many factors which can affect the income inequality in a country, social spending is one of the main determinants that can control or influence the income inequality. This study tries to contribute to the existing literature by observing this correlation in the two sets of countries with different social regimes.

4. METHODOLOGY AND DATA

The study looks at two datasets consisted of seven post-socialist European countries and six capitalist European countries. The dataset of the post-socialist countries includes Slovakia, Czechia, Hungary, Poland, Romania, North Macedonia and Bulgaria, for the period from 2011 to 2019. These countries represent a set of comparable post-socialist cases because of their similar political and economic changes that acquiring a European membership implies (despite the fact that North Macedonia is so far an accession candidate only). Because of data limitations and in order to make the panels balanced with same numbers of observations, the short period of nine years is chosen for observation. The dataset for the European capitalist countries consists of Norway, Netherlands, Sweden, Switzerland, Ireland and Portugal, observed for the same time period 2011-2019.

The dependent variable in this analysis is the Gini index for each country/year observation. The data are gathered from the Eurostat dataset. Since there are differences in measurement across datasets, using a single source is most appropriate. As a result, a complete dataset with no missing values from Eurostat for the chosen set of countries, was chosen for the years 2011-2019.

The independent variable is the social spending (without transfers) as % of GDP for each country. Here the data are taken once again from the Eurostat database, with the exception for the data for North

Macedonia which are missing in the Eurostat. They are instead taken from the State Statistical Office of the country in form of absolute values and then calculated as % of the GDP by the author.

First the study looks at the statistical analysis of the acquired datasets and tries to find if there are indicators for the correlation between the income inequality and the social expenditures as % of GDP by looking in the overall % changes through the years. Next, it employs a panel data analysis, since the data sets consist of pooled cross section of time series. Random effects model (REM) and fixed effects model (FEM) are estimated based on the panel data and then Hausman test is performed in order to determine the preferred model for each set of data.

Pooling requires control for unmeasured heterogeneity across cases by estimating either random-effects or fixed-effects regression models (Amemiya 1985; Halaby 2004). First, while FEM are the most conservative approach because they control for any unmeasured time invariant variation across cases by removing all between-country variation, Tuma and Hannan (1984) showed that REM are asymptotically more efficient relative to FEM, which is especially helpful in the context of small sample. The Hausman test (1978) - the textbook procedure to determine which approach is appropriate - is a test of the hypothesis that ßfe~ßre = 0, for all ß. Differences across the two approaches raise concern that the unit effects are correlated with the regressors, and therefore that the RE estimates of ß are plagued with heterogeneity bias. Should the FEM and REM specifications reveal no substantive differences in ß, there is little reason to worry about such bias. We estimated Hausman tests across all specifications, to see if we can reject the hypothesis for insignificant difference in ß across the two estimating procedures.

5. OVERVIEW OF THE RELATIONSHIP BETWEEN SOCIAL EXPENDITURES AND INCOME INEQUALITY

What factors impact social spending in the post-socialist welfare state? The official ideology of socialism portrayed it as a system that ensures social justice and equality by providing universal education, health care, subsidized housing, and cultural goods. While genuine socialist regimes did not eliminate inequities (Szelényi 1978), experts unanimously agree that during the communist era, income inequality was significantly lower than in other systems at comparable levels of economic development (Boswell and Chase-Dunn 2000, Heyns 2005). State-level efforts to decrease inequality were largely abandoned once communist regimes fell apart. Following 1989, Central and Eastern European post-socialist countries soon adopted market exchange as the guiding economic concept and capitalism as the favored economic organization system. They also began to integrate into the global economy by allowing foreign direct investment, which had previously been barred under the socialist era (Ko & Min, 2019).

5.1 Review of the Income Inequality Measured Through the Gini Coefficients

Since the onset of these overarching transformations, social inequalities have varied through the years, throughout the post-socialist countries. The trends are depicted in Table 1, which shows levels of income inequality from 2011 to 2019 for seven Central and East European post-socialist countries. In 2011, the average Gini index was 31 across these countries, but decreased only slightly to 29.9 a decade later. Nevertheless, when we observe the changes of the income inequality by country, more significant changes will be noticed for the same period. While countries like Poland, Slovakia and North Macedonia have managed to achieve significant improvements in the income inequality levels of their countries, others have a decade of struggling with stabilizing their inequality levels.

When looking in their averages from the last decade, Gini indices for Romania, North Macedonia and Bulgaria are close to the high levels we find in Anglo-Saxon countries. On the other hand, inequality levels in the Slovakia and Czechia after years of market reform resemble those of Scandinavian countries, known for their relatively equitable income distribution. These cross-country variations can probably be explained by different aspects of the post socialist transformations, but that analysis will be left for other studies.

Table 1. Review of the Gini index in the post-socialist countries

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Slovakia	25.7	25.3	24.2	26.1	23.7	24.3	23.2	20.9	22.8	24.02
Czechia	25.2	24.9	24.6	25.1	25	25.1	24.5	24	24	24.71
Hungary	26.9	27.2	28.3	28.6	28.2	28.2	28.1	28.7	28	28.02
Poland	31.1	30.9	30.7	30.8	30.6	29.8	29.2	27.8	28.5	29.93
Romania	33.5	34	34.6	35	37.4	34.7	33.1	35.1	34.8	34.69
North Macedonia	39.4	38.8	37	35.2	33.7	33.6	32.4	31.9	30.7	34.74
Bulgaria	35	33.6	35.4	35.4	37	37.7	40.2	39.6	40.8	37.19
Average	31	30.7	30.7	30.9	30.8	30.5	30.1	29.7	29.9	30.47

The review of the growth and decline of the Gini index in the post-socialist countries is represented in Table 2. From the table can be seen that Bulgaria with 16.57% has the highest growth of Gini coefficient from 2011 to 2019, followed by Romania and Hungary with around 4% growth in the income inequality. This overall growth of the Gini index can present a threat to sustainable growth of the economies and the social welfare of the countries.

The highest overall decline of the Gini index from the observed countries, can be seen in the case of North Macedonia where the average decline for the observational period is -22.08%, followed by Slovakia with an overall decline of -11.28%. The single highest decline in the value of the Gini index is also registered in Slovakia in the year 2018 and 2019 when the Gini index has decreased for -9.91%. A fall in the Gini index might imply a reduction in economic and social inequality, as well as income segregation, which can contribute to the country's sustainable economic growth and social welfare improvement.

Figure 1. Gini indices in post-socialist countries

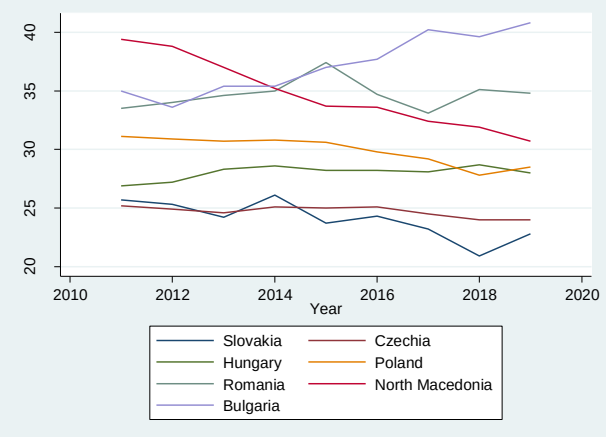
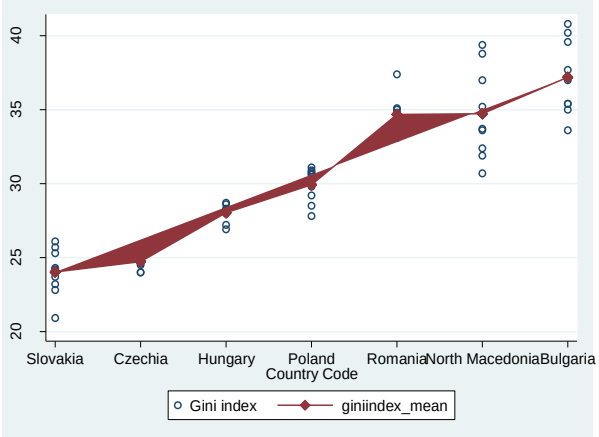


Figure 2. Mean values of Gini in post-socialist countries



The trend analysis of the Gini coefficients shows that Czechia has the most stable Gini indices, followed by Romania which apart from a slight increase in 2013, follows a narrow trend (Figure 1). North Macedonia and Slovakia show are significant decrease in their income inequality levels, while Bulgaria sky-rockets with the Gini indices in the last decade (Figure 1). The mean values of the Gini indices for the observed period of time are represented in Figure 2, where Bulgaria has the highest mean value of the Gini indices, followed by North Macedonia and Romania, then Poland, Hungary, and lastly in the best positions are Czechia and Slovakia.

Table 2. Review of the growth and decline of the Gini index in the post-socialist countries

YEAR	2012	2013	2014	2015	2016	2017	2018	2019	Overall % change
Slovakia	-1.56	-4.35	7.85	-9.20	2.53	-4.53	-9.91	9.09	-11.28
Czechia	-1.19	-1.20	2.03	-0.40	0.40	-2.39	-2.04	0.00	-4.76
Hungary	1.12	4.04	1.06	-1.40	0.00	-0.35	2.14	-2.44	4.09
Poland	-0.64	-0.65	0.33	-0.65	-2.61	-2.01	-4.79	2.52	-8.36
Romania	1.49	1.76	1.16	6.86	-7.22	-4.61	6.04	-0.85	3.88
North Macedonia	-1.52	-4.64	-4.86	-4.26	-0.30	-3.57	-1.54	-3.76	-22.08
Bulgaria	-4.00	5.36	0.00	4.52	1.89	6.63	-1.49	3.03	16.57

Following, the study observes the situation for the same time period but for selected European capitalist countries. The situation in the averages for all observed years shows that the situation is stable, starting with an average of 28.1 in 2011 to 28.4 in 2019. However, when we look closer in the specific countries, we will notice a completely different situation then the post-socialist countries. The majority of the selected capitalist countries, apart from Portugal and Ireland, have income inequalities which have sky-rocketed through the years. Still, when looking in their averages from the last decade, Gini indices for Portugal and Ireland are at the bottom of the list with highest income inequality levels compared to the peer countries.

If we compare the overall averages from the post-socialist countries and the capitalist countries, the later are in a better income inequality position, even though income inequality is more often associated with socialistic and communistic ideologies, rather than with capitalism.

Table 3. Review of the Gini index in the capitalist countries

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Norway	22.9	22.5	22.7	23.5	23.9	25	26.1	24.8	25.4	24.09
Netherlands	25.8	25.4	25.1	26.2	26.7	26.9	27.1	27.4	26.8	26.38
Sweden	26	26	26	26.9	26.7	27.6	28	27	27.6	26.87
Switzerland	29.7	28.8	28.5	29.5	29.6	29.4	30.1	29.7	30.6	29.54
Ireland	29.8	30.4	30.7	31	29.7	29.6	30.6	28.9	28.3	29.89
Portugal	34.2	34.5	34.2	34.5	34	33.9	33.5	32.1	31.9	33.64
Average	28.1	27.9	27.9	28.6	28.4	28.7	29.2	28.3	28.4	28.40

The review of the growth and decline of the Gini index in the capitalistic countries is represented in Table 4. The % changes are confirming the observations from the absolute values. Portugal and Ireland as the only two countries with improving absolute values in the Gini coefficients, have also a negative

overall % change of -6.73 and -5.03 respectively. The rest of the selected capitalist countries are struggling with increasing income inequality, with Norway on top of that list with a rise of 10.92% change.

The single highest increase in the value of the Gini index is also registered in Norway in the year 2016 when the Gini index has increased for 4.603%, which is somewhat unexpected for a Scandinavian country.

Table 4. Review of the growth and decline of the Gini index in the capitalist countries

YEAR	2012	2013	2014	2015	2016	2017	2018	2019	Overall % change
Norway	-1.747	0.889	3.524	1.702	4.603	4.4	-4.98	2.419	10.92
Netherlands	-1.55	-1.18	4.382	1.908	0.749	0.743	1.107	-2.19	3.88
Sweden	0	0	3.462	-0.74	3.371	1.449	-3.57	2.222	6.15
Switzerland	-3.03	-1.04	3.509	0.339	-0.68	2.381	-1.33	3.03	3.03
Ireland	2.013	0.987	0.977	-4.19	-0.34	3.378	-5.56	-2.08	-5.03
Portugal	0.877	-0.87	0.877	-1.45	-0.29	-1.18	-4.18	-0.62	-6.73

The same conclusions can be drawn from the trend analysis where Norway has the sharpest increase of the Gini indices through the years, Portugal has a decrease, while the rest of the countries are relatively stable (Figure 3). Even though Portugal is the country with the best improvement in terms of the income inequality, it is still with the highest mean value of the Gini coefficient in comparison to the other selected capitalist countries. Similar situation is with Norway, which despite the sharp increase in the income inequality, it is still the country with the lowest mean value of the Gini indices from this set of countries.

Figure 3. Trend analysis of Gini in capitalist countries

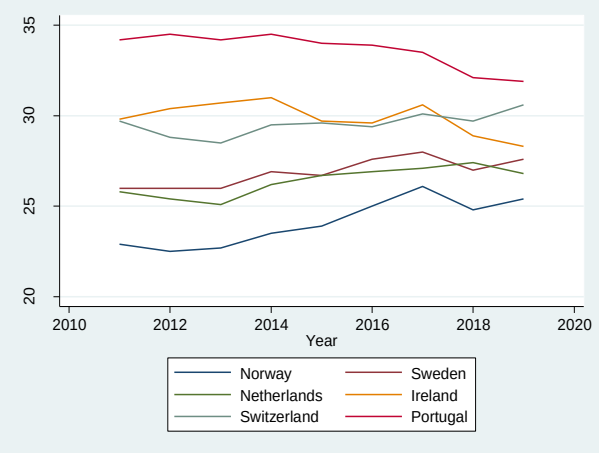
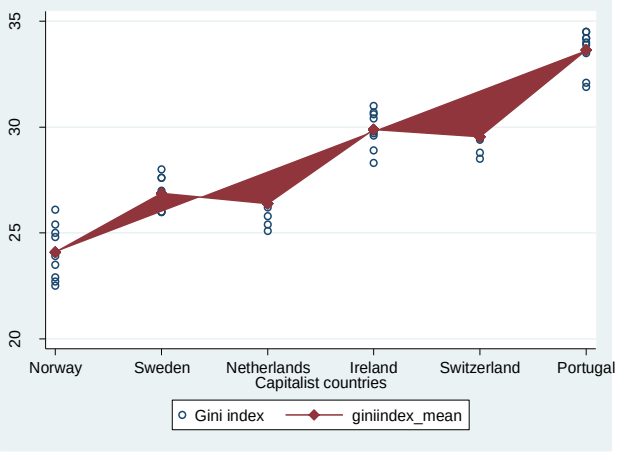


Figure 4. Mean values of Gini in capitalist countries



Studying trends in income inequality can help us better comprehend post-socialist shifts as well as changes in capitalist countries. Furthermore, the study encourages a closer look into how certain structural, political, and cultural factors have influenced social stratification through the years.

5.2 Review of the Social Expenditures

As the global effects of the financial and economic crisis became more apparent, the need for social transfers to the most vulnerable segments of the population grew. In recent years, the quantity of social

transfers has increased in line with the rise in the number of socially vulnerable persons. Social expenditures are often associated as one of the most significant determinants to income inequality. In order to confirm this relationship, the study looks at the social expenditures (excluding the transfers) as % of GDP in all countries, as well as the growth or decline in these social expenditures as % of GDP through the years. From the research results presented below it can be seen that North Macedonia and Poland with an average of 15% for the selected period of time, separate the highest percentage of their GDP as social protection expenditures. On the bottom part of the table, Bulgaria and Romania spend on average 11% form their GDP for the purposes of social protection, in comparison to the countries taken into consideration for the observed period. These results for the post-socialist countries correspond with the results from Table 2 for the overall % change in the Gini coefficients where Bulgaria and Romania had the highest increase in their income inequality levels. This can be seen as an indicator of the correlation between the income inequality and the social expenditures in the post-socialist countries.

Table 5. Review of the social transfers as a percentage of GDP in the post-socialist countries

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
North Macedonia	14.5%	14.9%	14.8%	14.9%	14.8%	15.0%	15.3%	15.2%	15.7%	15.0%
Poland	13.9%	14.0%	14.6%	14.5%	14.3%	15.2%	15.1%	14.9%	15.4%	14.7%
Slovakia	13.8%	13.9%	14.0%	14.0%	13.7%	13.9%	13.6%	13.2%	13.4%	13.7%
Hungary	15.2%	15.0%	14.7%	13.7%	12.8%	12.5%	11.9%	11.3%	10.7%	13.1%
Czechia	13.4%	13.6%	13.6%	13.2%	12.8%	12.6%	12.2%	12.2%	12.3%	12.9%
Bulgaria	11.1%	11.0%	11.9%	12.2%	11.9%	11.6%	11.1%	10.9%	10.6%	11.4%
Romania	12.0%	11.2%	10.7%	10.5%	10.6%	10.7%	10.8%	10.7%	11.0%	10.9%

Similar results are seen from the Table 6 for the overall % change of the social expenditures as % of GDP, where once again Poland is on the top of the table with 0.4% increase in the % share of GDP that goes for social expenditures, while at the bottom of the table are Bulgaria and Hungary, with negative 0.2% and 0.4% respectively as decrease of the % share of the countries' GDP that is spent on social expenditures. A positive surprise here is the positive % change in Romania which show a significant increase in the social expenditures as % of the GDP over the years.

Table 6. Review of the growth of social transfer expenditures in the post-socialist countries

YEAR	2012	2013	2014	2015	2016	2017	2018	2019	Overall % change
North Macedonia	0.46%	-0.14%	0.06%	-0.02%	0.13%	0.36%	-0.09%	0.45%	-0.01%
Poland	0.10%	0.60%	-0.10%	-0.20%	0.90%	-0.10%	-0.20%	0.50%	0.40%
Slovakia	0.10%	0.10%	0.00%	-0.30%	0.20%	-0.30%	-0.40%	0.20%	0.10%
Hungary	-0.20%	-0.30%	-1.00%	-0.90%	-0.30%	-0.60%	-0.60%	-0.60%	-0.40%
Czechia	0.20%	0.00%	-0.40%	-0.40%	-0.20%	-0.40%	0.00%	0.10%	-0.10%
Bulgaria	-0.10%	0.90%	0.30%	-0.30%	-0.30%	-0.50%	-0.20%	-0.30%	-0.20%
Romania	-0.80%	-0.50%	-0.20%	0.10%	0.10%	0.10%	-0.10%	0.30%	1.10%

Figure 5 shows the trend analysis of the social expenditures as % of GDP in the post-socialist countries. There is a significantly sharp decrease in the social expenditures as % of GDP for Hungary which had the highest negative % change from 2011 to 2019. Czechia also experience a decline with a small

negative overall % change. Romania and Bulgaria have the lowest mean values of social spending as % of GDP with no sight of improvement, apart from a slight increase in Bulgaria in 2013 and 2014.

Figure 5. Social spending in post-socialist

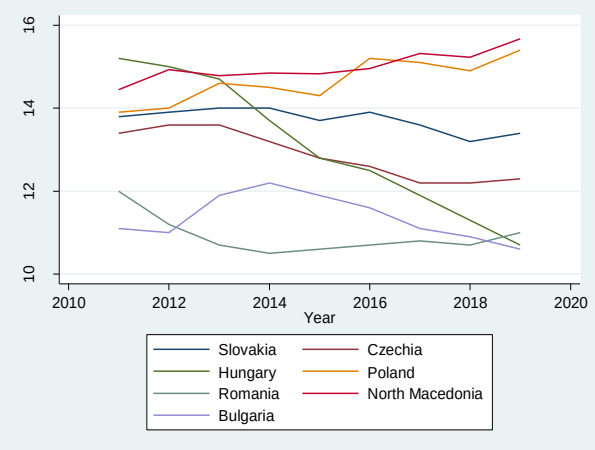
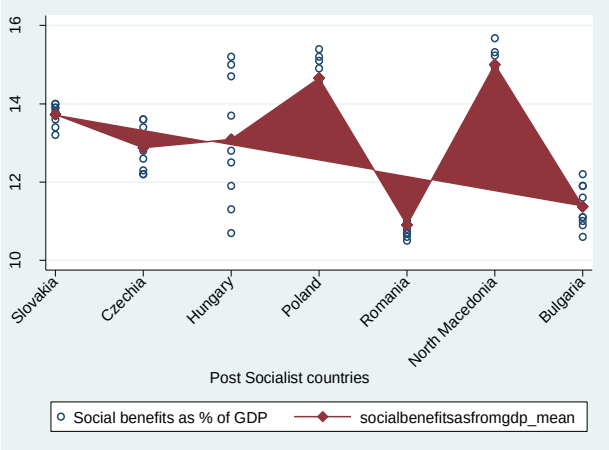


Figure 6. Mean values of social spending in post-socialist



Further on, the study looks at the situation in the capitalist countries and their level of growth or decline in the social expenditures as % of GDP. In Table 7 where the review of social spending as a percentage of GDP is represented for the selected European capitalist countries, there is one country which has a significant increase in their social expenditures, and that is Portugal. This corresponds with the results for the tables for the Gini coefficients which also showed that Portugal has the highest overall percentage change of improvement in their income inequality. Following is Norway with 14.1% of average social spending as % of GDP for the period 2009-2019, however this contradicts with the findings from the Gini coefficients tables since Norway was at the bottom with the highest increase in income inequality over the years.

Table 7. Review of the social transfers as a percentage of GDP in the capitalist countries

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Norway	13.2%	13.2%	13.3%	13.8%	14.8%	15.4%	15.0%	14.2%	14.7%	14.2%
Sweden	13.2%	13.8%	14.1%	13.7%	13.2%	13.1%	12.8%	12.6%	12.3%	13.2%
Netherlands	11.3%	11.6%	12.0%	11.9%	11.7%	11.5%	11.1%	10.7%	10.5%	11.4%
Ireland	14.0%	13.9%	13.2%	11.8%	8.8%	8.4%	7.7%	7.1%	6.8%	10.2%
Switzerland	9.6%	9.7%	9.8%	9.8%	9.9%	10.0%	10.0%	9.7%	9.8%	9.8%
Portugal	17.2%	17.8%	18.6%	18.0%	17.6%	17.2%	16.6%	16.3%	16.2%	17.3%

The figures below show the change in the social benefits as % of GDP and the mean values in the capitalist countries. Ireland is again in a negative condition as a result of a steep decrease in the social expenditures, which corresponds with the low mean value compared to the other capitalist countries. Portugal is also showing a slight decline in the social spending, however it is not of a major concern because their mean value is significantly higher than the other selected capitalist countries.

Figure 7. Social spending in capitalist countries

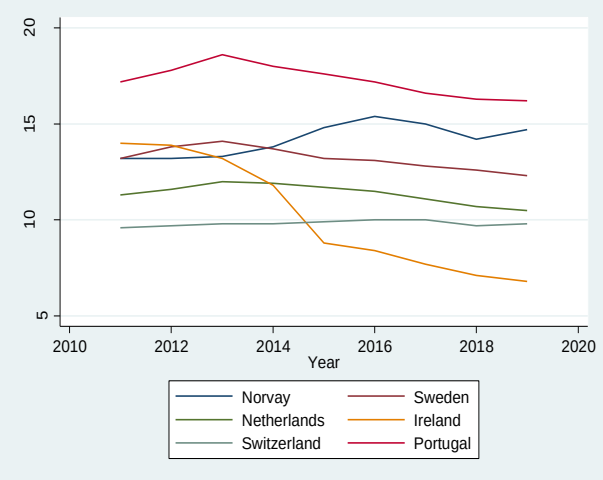
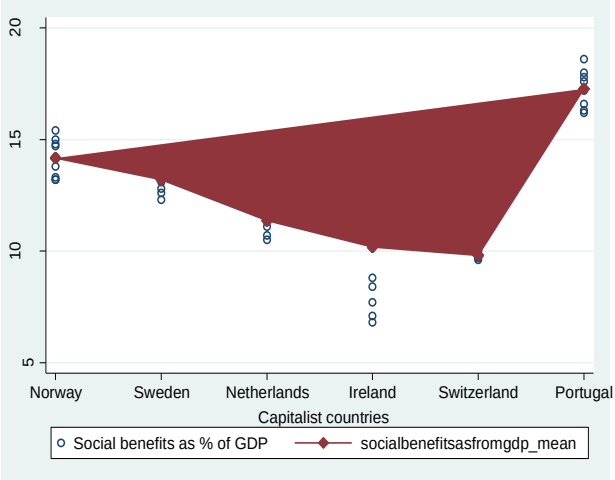


Figure 8. Mean values of social spending in capitalist



The situation in Table 8 where the overall growth/decline of the social expenditures are shown, shows that the best performing countries in income inequality from this dataset, Portugal and Ireland, are now with highest negative values of their overall % change in the social spending as % of GDP. This means that they have been decreasing their social expenditures as % of GDP through the years, and yet their income inequality levels have been improving. This contradicts with our assumptions and the findings for the post-socialist group of countries, which might indicate that the relationship of social expenditures and income inequality in the capitalist set of countries is not significant, i.e. one does not affect the other.

Table 8. Review of the growth of social transfer expenditures in the capitalist countries

YEAR	2012	2013	2014	2015	2016	2017	2018	2019	Overall % change
Switzerland	0.0%	0.1%	0.5%	1.0%	0.6%	-0.4%	-0.8%	0.5%	0.5%
Ireland	0.6%	0.3%	-0.4%	-0.5%	-0.1%	-0.3%	-0.2%	-0.3%	-0.9%
Sweden	0.3%	0.4%	-0.1%	-0.2%	-0.2%	-0.4%	-0.4%	-0.2%	-0.5%
Norway	-0.1%	-0.7%	-1.4%	-3.0%	-0.4%	-0.7%	-0.6%	-0.3%	-0.2%
Netherlands	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	-0.3%	0.1%	0.0%
Portugal	0.6%	0.8%	-0.6%	-0.4%	-0.4%	-0.6%	-0.3%	-0.1%	-0.7%

5. EMPIRICAL ANALYSIS

In order to confirm the findings of the relationship between income inequality and social expenditures for the both set of countries, the study performs an empirical analysis with the same data for the same observed period of time.

The Fixed effects model and the Random effects model were conducted on both datasets. Based on the Hausman test, was concluded which of the models are preferred for each of the set of countries. When it comes to the set of post-socialist countries, the Random effects model is preferable in comparison with the Fixed effects model. This decision is based on the Hausman test which indicates that we cannot reject the null hypothesis at 5% significance level (Figure 11). The results from the preferred Random effects model (Figure 10) indicate that there is a negative relationship between the dependent and independent

variable, i.e. with every unit of increase in the social expenditures as % of the GDP, there is a 0.603 units of decrease in the income inequality level. The p value which is 0.041 confirms the significance of this relationship at a 5% significance level. These results from the panel data analysis confirm once again the conclusion from the statistical analysis that for the post-socialist set of countries, the increase in the social expenditures as a % of GDP results in decrease in the income inequality for each selected country, which is also in line with the literature that analyzes this relationship.

Figure 9. Fixed effects regression model for the post-socialist set of countries

```
Fixed-effects (within) regression               Number of obs     =         63
Group variable: countrycode                     Number of groups  =          7

R-sq:                                           Obs per group:
     within  = 0.0617                                         min =          9
     between = 0.1144                                         avg =        9.0
     overall = 0.1037                                         max =          9

                                                F(1,55)           =       3.61
corr(u_i, Xb)  = 0.1557                         Prob > F          =     0.0625

------------------------------------------------------------------------------
    giniindex |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
socialbenef~p |  -.5785952   .3043396    -1.90   0.063    -1.188505    .0313149
        _cons |   38.04655   3.989666     9.54   0.000     30.05108    46.04202
--------------+---------------------------------------------------------------
      sigma_u |  4.9694496
      sigma_e |  1.7369536
          rho |  .89113164   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(6, 55) = 71.88                     Prob > F = 0.0000
```

Figure 10. Random effects regression model for the post-socialist set of countries

```
Random-effects GLS regression                   Number of obs     =         63
Group variable: countrycode                     Number of groups  =          7

R-sq:                                           Obs per group:
     within  = 0.0617                                         min =          9
     between = 0.1144                                         avg =        9.0
     overall = 0.1037                                         max =          9

                                                Wald chi2(1)      =       4.17
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0412

------------------------------------------------------------------------------
    giniindex |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
socialbenef~p |  -.6033055   .2954878    -2.04   0.041    -1.182451     -.02416
        _cons |      38.37   4.359756     8.80   0.000     29.82503    46.91496
--------------+---------------------------------------------------------------
      sigma_u |  5.3290388
      sigma_e |  1.7369536
          rho |  .90396485   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Figure 11. Hausman test for the post-socialist set of countries

```
                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |     fixed        random       Difference          S.E.
-------------+------------------------------------------------------------------
socialbene~p |   -.5785952    -.6033055        .0247103        .0728665
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        0.12
                Prob>chi2 =      0.7345
```

On the other side, for the capitalist set of countries, the Hausman test indicates that the Fixed effects model is preferable, since we reject the null hypothesis. The results from FEM indicate that the relationship between the variables for this capitalist countries is positive, i.e. with every unit of increase in the social expenditures as % of GDP, there is a 0.24 units increase in the income inequality level of the country. These findings correspond with the conclusions from our statistical analysis that this relationship in the capitalist countries are unexpected since they are in contradiction with the literature.

Figure 12. Fixed effects regression model for the capitalist set of countries

```
Fixed-effects (within) regression               Number of obs     =         54
Group variable: countrycode                     Number of groups  =          6

R-sq:                                           Obs per group:
     within  = 0.1301                                         min =          9
     between = 0.0703                                         avg =        9.0
     overall = 0.0740                                         max =          9

                                                F(1,47)           =       7.03
corr(u_i, Xb)  = 0.0554                         Prob > F          =     0.0109

------------------------------------------------------------------------------
    giniindex |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
socialbenef~p |   .2435662   .0918641     2.65   0.011     .0587595    .4283729
        _cons |   25.31578   1.169862    21.64   0.000     22.96232    27.66924
--------------+---------------------------------------------------------------
      sigma_u |  3.2347774
      sigma_e |   .8629794
          rho |  .93355648   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(5, 47) = 126.06                     Prob > F = 0.0000
```

Figure 13. Random effects regression model for the capitalist set of countries

```
Random-effects GLS regression                   Number of obs     =         54
Group variable: countrycode                     Number of groups  =          6

R-sq:                                           Obs per group:
     within  = 0.1301                                         min =          9
     between = 0.0703                                         avg =        9.0
     overall = 0.0740                                         max =          9
```

```
                                                Wald chi2(1)      =       7.46
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0063

------------------------------------------------------------------------------
    giniindex |      Coef.   Std. Err.       z    P>|z|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
socialbenef~p |   .2453498   .0898389     2.73   0.006      .0692687    .4214308
        _cons |   25.29318   1.850994    13.66   0.000       21.6653    28.92106
--------------+---------------------------------------------------------------
      sigma_u |  3.5981772
      sigma_e |   .8629794
          rho |  .94560659   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Figure 14. Hausman test for the capitalist set of countries

```
                 ---- Coefficients ----
             |      (b)           (B)             (b-B)     sqrt(diag(V_b-V_B))
             |     fixed        random       Difference          S.E.
-------------+----------------------------------------------------------------
socialbene~p |    .2435662     .2453498       -.0017836        .0191828
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =         0.01
                Prob>chi2 =       0.9259
```

In order to confirm once again the direction of the relationship between the social expenditures and the Gini coefficients, below are represented two scatter plots of their relationships and the fitted line. On the y axis is represented the Gini coefficient and on the x axis social benefits as % of GDP, whereas the fitted values (estimated responses) are represented by the fitted lines for both set of countries. Both figures confirm the conclusions from the panel data analysis that there is a negative relationship between the social spending as % of GDP and the Gini indices in the post-socialist countries, and a positive relationship in the capitalist countries.

Figure 15. Scatter plot of post-socialist countries

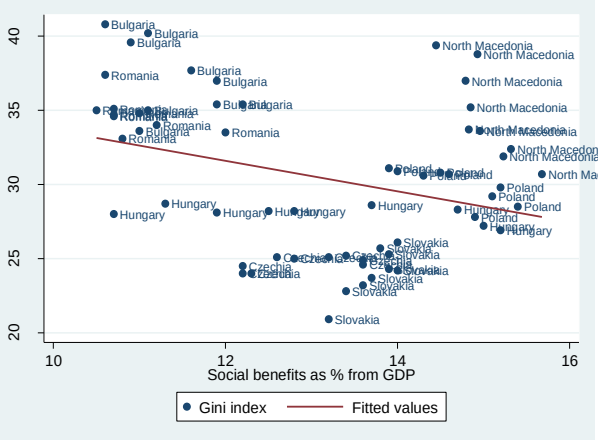
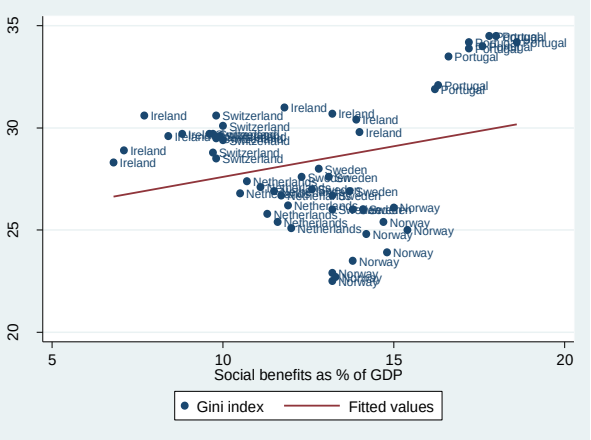


Figure 16. Scatter plot of capitalist countries



6. CONCLUSION

As a kind of social security, social expenditures are required for each economy and society to function properly. Social expenditures as a type of social security differ depending on the country's economic system and growth, but their primary goal remains the same.

One of the main outcomes of the establishment of an effective social security system is the reduction of poverty and the facilitation of efficient social redistribution of income among households. Today's economies face a severe issue in addressing global poverty and income inequality, and one way to do so is through the social welfare system. This role of the social welfare system as one of the major determinants to tackle income inequality has been changing through the years and the social regimes. Therefore, this paper tries to analyze the role that social expenditures have had on the growth or decline on income inequality over the last decade in two different set of countries – post-socialist European countries and capitalist European countries. The first dataset is composed of seven Central and East European post-socialist countries, while the second set of countries is composed of six European countries with capitalist social regimes. The observational period of time is 2011-2019, and the variables explored are the social expenditures as % of GDP as independent variable, and the Gini coefficients for each observed country as dependent variable. These secondary data are gathered from the Eurostat database, except for the data for North Macedonia, taken from the national State Statistical Office.

The results from the statistical analyses indicated that the correlation between the two variables is clearer in the set of post-socialist countries where the increase in the social expenditures as % of GDP through the years has resulted in a decreased income inequality in all the observed post-socialist countries. Having in mind that conventional socialism is led by the ideology of equal quality of life for every citizen, it is not surprising that these countries are still feeling the effects of the socialistic social regimes.

The situation is not the same with the second set of observed countries with capitalistic social regimes. Here the correlation between social expenditures as % of GDP and income inequality is not as clear and requires deeper analysis in order to determine the existence and the significance of this relationship.

For this reason, the study further employs a panel data analysis with fixed and random effects regression models. From the results received from the regression models and the Hausman tests, the study concludes that for the post-socialist countries the Random effects regression model (REM) is preferred, while for the capitalist countries the Fixed effects regression models (FEM) is preferred. The findings from REM indicate a negative relationship between the social expenditures as % of GDP and Gini coefficients with a 5% level of significance for the post-socialist countries, which corresponds with the existing literature. For the second set of capitalist countries, the FEM results show a negative relationship between the social expenditures as % of GDP and Gini coefficients with 1% level of significance, which is not in line with the existing literature. In order to confirm the findings, the study shows two visual representations of the relationships in the form of scatter plots which clearly represent in a graphical manner the direction of these relationships.

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RESPONSES OF SOCIAL SECURITY POLICIES DURING THE PANDEMIC: CASE OF ALBANIA AND NORTH MACEDONIA

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ABSTRACT

Taking into consideration the outbreak of the pandemic all countries around the world have faced a numerous of social challenges. In this paper it is intended to track the policies and expenditures of social security and see the similarities and differences of countries in facing these difficulties, focusing on the responses and social security policies and what was their approach towards the covid 19 crisis during 2019-2020 period of time. This paper will try to analyze the characteristics of social security system and the policies of North Macedonia and Albania during the pandemic. The paper is organized as follows. After briefly reviewing the COVID-19 situation and economic data, we review the social security and related measures implemented to address economic and social consequences of the COVID-19 pandemics during the first lockdown. This is followed by a preliminary assessment of the effects of the COVID-19 response measures on the labor market and the household income. Then it is concluded by lessons learned so far and discuss future prospects. In the context of the Republic of North Macedonia and Albania, the coordination of the social security system is particularly affected. The pandemic has caused a deep socio-economic crisis, with thousands out of work or working part-time. In such circumstances the national social security system has a strong role to support insured persons, healthcare professionals and the economy at large. The analysis shows not so much differences on how they handled the social policies and expenditures during this period were identified, however this study can help the policymakers to take corrective actions if the pandemic will continue in coming years. Conclusions and recommendations will be given at the end.

KEYWORDS

SOCIAL SECURITY, SOCIAL ASSISTANCE, COVID-19, SOCIAL EXPENDITURES, ALBANIA, N. MACEDONIA

JEL CLASSIFICATION CODES

H55, H53

1. INTRODUCTION

The coronavirus outbreak is challenging social security systems and among others, healthcare and unemployment insurance are under pressure. The coronavirus pandemic has devastated the world of work, affecting people's lives, health and well-being, and it has had a dramatic effect on enterprises, jobs and livelihoods throughout the countries (ILO, 2020). This public health crisis has also generated massive economic and social disruption in the Republic of North Macedonia and Albania. Companies and their employees are facing significant challenges, and the pre-COVID-19 world of work is unlikely to return for some years. Governments across the world are having to make decisions at a very fast pace, without much

time to think (Hausmann, 2020). In this context, based on different reports of the social security responses to COVID-19 in North Macedonia and Albania, this paper will comparatively review the national social security measures in response to COVID-19 crisis, analyze their effectiveness and long-term consequences, and discuss future challenges in improving the social security system. In this paper are taken only two countries from the Western Balkans: Albania, and North Macedonia. Although a large number of research reports on the social security response to the COVID-19 pandemic has been published, it is still premature to assess the full impact of these measures on income, employment, inequality and poverty. The COVID-19 crisis is not yet over. The paper focuses on the first stage of the COVID-19 pandemic based on the available quantitative data supplemented by information on policies and quantitative facts collected by national experts. Despite the gradual lift of the quarantine and lockdown measures, the recent surge of infection cases raises great concern. According to ILO the situation will be closely monitored at the regional and global levels and update our analysis as more data and information become available. The crisis has reiterated the need for the ILO and its tripartite constituents – governments, workers and employers – to jointly address the issue of COVID-19 in the world of work through effective social dialogue and to increase coordination with Ministries of Finance on ways to invest more in social protection and invest better (in line with the ILO Social Protection Floors Recommendation No. 202 in particular). The paper is organized as follows. After briefly reviewing the COVID-19 situation and economic data, we review the social security and related measures implemented to address economic and social consequences of the COVID-19 pandemics during the first lockdown in the second quarter of 2020. This is followed by a preliminary assessment of the effects of the COVID-19 response measures on the labor market and the household income. Then it is concluded by lessons learned so far and discuss future prospects. In the context of the Republic of North Macedonia and Albania, the coordination of the social security system is particularly affected. The pandemic has caused a deep socio-economic crisis, with thousands out of work or working part-time. In such circumstances the national social security system has a strong role to support insured persons, healthcare professionals and the economy at large. The notion of social security covers all measures providing benefits, whether in cash or in kind, to secure protection, inter alia, from: lack of work-related income (or insufficient income) caused by sickness, disability, maternity, employment injury, unemployment, old age, or death of a family member; lack of access or unaffordable access to health care; insufficient family support, particularly for children and adult dependents; general poverty and social exclusion (ILO, 2020).Building a social security system on the basis of human rights can significantly contribute to their effectiveness in eradicating poverty and in reducing inequalities, these improving resilience of society in the face of crises. With the social support system descending, the burden of this challenging landscape increasingly falls on the individual. Sickness and unemployment benefits became a focus of attention in the early stages of the crisis and are set to become increasingly prominent as lockdowns ease. For example, various countries have taken rapid steps to strengthen sickness and unemployment benefits in the context of COVID-19. Some countries have increased the adequacy of the social insurance sick leave benefits (Russia and Uzbekistan) and made administrative modifications such as waiving waiting periods for sickness benefits and adapting delivery mechanisms to accommodate quarantines (Gentilini; Orton, et al., 2020). Other countries (Germany and France) following the COVID-19 outbreak increased allowance for unemployment benefits and largely eased the procedure to apply for it. Since the beginning of the pandemic, the governments of Albania and North Macedonia also has introduced a variety of social security policy responses to mitigate the consequences of the containment measures on well-being and the economy, employment and incomes, and on families and children who are not able to access social and health services.

2. THE SIGNIFICANCE OF SOCIAL SECURITY IN RESPONDING TO THE PANDEMIC

The countries are literally beginning to pass the primary section of what's doubtless to be a long crisis and that they are developing their socio-economic recovery plans. The crisis has affected some people way more than others, and this difference is ready to persist and evolve. whereas the crisis has affected whole society, it's currently evident that some individuals are much more affected than others. The individuals hardest hit has usually been people and families already troubled before the crisis, that has highlighted the numerous pre-existing inequalities within the country. However, COVID-19 has additionally provided a major shock to those antecedently able to build ends meet. Social Security incorporates a central role to play in addressing the social, economic and health dimensions of the crisis. the range of these hit exhausting by the COVID-19 crisis highlights however –in the absence of adequate Social Security –the overwhelming majority of individuals are liable to economic shocks. By protective people and families, Social Security will facilitate address the health, social and economic dimensions of this crisis, and every one future crises. the continuing response to COVID-19 provides a chance to start building towards a lot of comprehensive and shock-responsive Social Security systems. the dimensions of the crisis facing the country needs important action on social protection. Upscaling the continuing social protection response needs the allocation of acceptable money resource (ILO, 2020). The challenge of Social Security is to shut the long funding deficiency, whereas protective the individuals of low and average means that whose economic security depends on Social Security edges, and adjusting the program to work the ever-changing conditions of life (Aaron, 2018).

2.1 Labor Market Indicators

Table 1 presents key labor market indicators of the second quarters in 2019 and 2020 based on the Labor Force Surveys conducted by the national statistical offices of the two countries under review, more precisely North Macedonia and Albania. As it can be seen from the table below the total economically active rate % was 2 to 3 higher than in North Macedonia as far as this period was concerned for both 2019 and 2020.

Table 1. Key labor market indicators, second quarter in 2019 and 2020

		Albania	North Macedonia
Economically active rate %			
Total	2019	60.6	57.1
	2020	58.8	56.5
Employment rate %			
Total	2019	53.6	47.1
	2020	51.7	47.1
Unemployment rate %			
Total	2019	11.5	17.5
	2020	11.9	16.7

Source: National Statistical Offices

3. SHORT OVERVIEW OF THE CHARACTERISTICS OF THE COVID-19 RECESSION

In comparison with past economic crises, the economic recession caused by the COVID-19 pandemic has distinct options. To formulate effective response measures, it's instructive to contemplate the particular social and economic characteristics of the COVID-19 pandemic. As of Nov 2020, there was no vaccina to stop COVID-19 or effective treatments for COVID-19. during this scenario, the simplest safeguard against the unfold of the virus is to avoid the exposure to the virus. The COVID-19 1st emerged as a provide shock to the worldwide economy. because of the imprisonment, temporary closure of business, significantly in services sector, entailed an abrupt halt in economic activity and an interruption of the worldwide provide chain. However, not like natural disasters, key infrastructure and production facilities weren't physically broken by the coronavirus and therefore the provide capability remained intact. They were merely underutilized because of the imprisonment restrictions. The negative provide shock additionally induced a shrink of combination demand. Restrictions on public associate degreed social gatherings in addition as on travel each at the domestic and international levels have junction rectifier to an evaporation of considerable demand of households and corporations. because the pandemic persists, these shocks become a considerable decline in combination demand significantly for discretionary product and services through risk aversion behavior of customers. These economic shocks on each provide and demand sides caused by restriction of face-to-face contacts resulted in substantial loss of employment and financial gain and any widened difference.

4. SOCIAL SECURITY POLICY RESPONSE MEASURES TO THE PANDEMIC

Different phases of the pandemic had totally different response from every country over the world. Same is that the case with these 2 countries below review- North Macedonia and Albania. within the initial part of the occurrence, it's of utmost importance to stop the unfold of infection, giving priority to the protection people’s lives. For this purpose, governments ought to take imperative measures together with intense emergency health services, social distancing and lockdowns. At identical time, governments ought to take sturdy action to support the bread and butter of individuals littered with the imprisonment with a read to preventing gratuitous closure of business and job loss and protective vulnerable populations. For employers this may facilitate retain sure-handed staff throughout the temporary closure and modify a fast restart once the imprisonment is raised. If a pointy rise in coronavirus infections is contained and therefore the imprisonment is bit by bit raised, the key challenge is to resume economic activities whereas preventing the repeat of pandemic. Therefore, guaranteeing health and safety at the work ought to represent an important policy to revive the labor market. once reopening the work and golf shot staff back to figure, it's imperative to harness work arrangements that incorporate social distancing, embrace COVID-19 into the work risk assessment, and supply correct protecting instrumentality. As seen earlier, when virtually 2 months of imprisonment from March to could 2020, businesses were reopened and economic activities bit by bit started. However, the second surge of infection ranging from the half of 2020 in Europe has diode several countries to bolster quarantine measures together with the intro of lockdowns. Achieving the immunization of an oversized share of population may be a nice advance for a good containment of the coronavirus, that may be a requirement for a complete recovery with typical measures. we have a tendency to should closely monitor the progress of the vaccination programmes with a hope that the coronavirus is presently anaesthetize management.

5. ROLES OF EMPLOYMENT AND SOCIAL SECURITY POLICIES IN THE INTEGRATED CRISIS RESPONSE

From the planet of labor views, each employment policies and Social Security policies play an important role in protective employees and their families against the adverse effects of the crisis on health, employment and sustenance. Discussing these 2 public policies in cycle would have the advantage of showing however they will be higher aligned and coordinated, with a read to creating them reciprocally adjunct. With these points seeable, during this paper it's examined the subsequent 3 styles of measures whereas giving main target Social Security. Initial set of measures embrace subsidizing or deferring the payment of Social Security contributions (including company taxes and employers' liability for advantages like first many days of illness benefit), however may also touch wage subsidies among the framework of input package. These measures square measure designed to supply liquidity for business continuity, preserve jobs, scale back losses and make sure that companies' potential provide capacities don't deteriorate. The second set of measures carries with it short money advantages for those littered with the crisis. Typically, they embrace state advantages, illness advantages (including employment injury benefits), and supplementary benefit. This measure called automatic stabilizers which give money advantages for loss of jobs and financial gain throughout economic downturns. In response to the COVID-19 crisis, many countries have introduced special money transfer programmes for those littered with imprisonment. additionally, child care leave advantages are necessary in supporting employees UN agency had to supply care to kids staying reception once nurseries, kindergartens and colleges were closed because of the imprisonment. The third set of measures concern extra payments to long-run advantages. Having in situ legal provisions and institutional structure on Social Security doesn't guarantee that the system provides adequate advantages in a very property manner. However, the prevailing systems enabled the governments to supply timely and versatile responses to employees and their families littered with the Covid-19 crisis while not the necessity to adopt new laws and laws.

As shown in Table 2, both countries Albania and North Macedonia have ratified the ILO Social Security Minimum Standards Convention, No.102. Facing the current crisis, it is critical to ensure access to health services, maintain essential services, protect jobs, assist the business continuity, and secure the income of those affected by the crisis throughout adversity. Moving out of this crisis requires an integrated policy response involving fiscal, monetary, labor market, and social security policies.

Table 2. Ratification of ILO Convention No. 102 and related instruments (as of January 2021)

Country	Date of ratification of C.102	Branch									Relevant ILO Conventions		
		Medical care	Sickness	Unemployment	Old Age	Employment injury	Family	Maternity	Invalidity	Survivors	C.121	C.168	C.183
Albania	18.01.2006	✔	✔	✔	✔	✔		✔	✔	✔		04.08.2006	18.08.2004
N.Macedonia	17.11.1991	✔	✔	✔	✔	(C.121)		✔		✔	17.11.1991		03.10.2012

Source: NORMLEX. http://www.ilo.org/dyn/normlex.

5.1 Social Health Protection

Both countries have already attained a reasonably wide population coverage of health care. As shown in Table 3, these two countries spend around 6 percent of GDP on health of which between 41 and 67 percent is public expenditure (government's budget and social security) and the rest is households' out-of-pocket expenditure. While the majority of the health expenditure is financed by public sources in North Macedonia, extensive out-of-pocket payments (and the practice of informal payments) are evidenced in Albania. In particular, the share of out-of-pocket payments exceeds the share of public funding in Albania. The out-of-pocket payments are sources of financial hardship and the main obstacles to accessing health care, particularly for low-income households. The role of private health insurance is minimal. In 2017, while public sources covered almost all costs related to inpatient care, day care, prevention and public health, and health administration, households had to pay almost all of the costs related to pharmaceuticals and other medical products and nearly 40 percent of outpatient care costs. In addition to paying for medicine and health care services, patients are requested to make informal payments to receive health care at health institutions. Since the outbreak of the COVID-19 pandemic, the countries have introduced measures facilitating access to health care services.

Table 3. Health expenditure by financing source, 2016–2017

	Current health expenditure (% of GDP)	Source of Financing (% of the current health expenditure)	
		Government expenditure	Out-of-pocket payments
Albania	6.7	41.0	58.0
North Macedonia	6.1	67.4	31.9

Source: WHO Health Expenditure Database and World Development Indicators.

5.2 Measures for Business Continuity and Employment Retention

As shown in Table 4, North Macedonia provided subsidies of social security contributions for workers (including self-employed) affected by lockdown (Companies affected by the pandemic were eligible for a subsidy of 50% of the social security contributions during April, May and June if they do not use financial support for salary (MKD 14,500 per employee. Albania provided neither of these measures.

Table 4. Subsidy and deferral of social security contributions

Country	Contribution rate	Description of Measures
Albania	SI: 15%(E)+9.5%(W) HI: 3.4%(W)	No subsidy or deferral of contributions.
North Macedonia	HI: 7.5% SI: 20.5%	Companies affected by the pandemic were eligible for a subsidy of 50% of the social security contributions during April, May and June if they do not use financial support for salary (MKD 14,500 per employee).

Source: Information from country correspondents supplemented with ISSA country profiles and other

Both countries under study have adopted temporary wage subsidies to prevent layoffs and to help enterprises retain their employees. The level of subsidy was generally at the minimum wage. As a condition of receiving wage subsidy, employers were not allowed to terminate employment contracts with the employees for whom they have been granted reimbursement of salary compensation. Table 5 presents this type of measures implemented in the two countries.

Table 5. Wage subsidies

Country	Description of Measures
Albania	The minimum wage subsidy of ALL 26,000 from April to June and a one-off financial assistance ALL 40,000 were provided to workers in small and medium enterprises affected by lockdown
North Macedonia	Health workers and others directly involved in the coronavirus infection received wage supplements of 20% from the base wage for two months. Financial support for employers for providing salary of maximum MKD 14,500 per employee for April and May if they do not receive the subsidy of 50% of the social security contributions. Companies from catering industry, tourism, and transport can receive both the financial support for wage and the subsidy of 50% of social security contributions. Financial support of MKD 14,500 for artists and sport clubs for April and May 2020.

Source: Information from country correspondents.

5.3 Income Support by Short-Term Benefits

While measures supporting businesses and subsidizing their labor costs to retain employment are of key importance, equally important are the measures which provide income support for those who lost or reduced income due to the pandemic.

5.4 Sickness Benefits

As summarized in Table 6, sickness benefits in both countries under review are contributory social insurance benefits. The replacement rates depend on the contribution period.
In the context of pandemic, employers can provide sickness benefits for salary compensations of their employees who are unable to work due to business closure or under mandatory quarantine. However, it appears that this option was not widely adopted by the countries reviewed.

Table 6. Sickness benefits

	Albania	North Macedonia
Benefit level (as % of previous earnings)	70-80%	70%
Employers' liability	1st 14 days	1st 30 days
Any reduction of employers' liability?	no	no

source: Information from country correspondents and ISSA Country Profiles

5.5 Unemployment and Related Benefits

Despite the efforts to retain employment, the labor market situation in these countries deteriorated. All countries adopted measures to enhance the unemployment benefits by increasing the benefit level and

relaxing the eligibility conditions to cover a broader range of workers. Table 7 summarizes the measures introduced in Albanian and North Macedonia countries.

Table 7. Unemployment and related benefits

	Minimum contribution period	Benefit level and duration	Description of measures
Albania	12 months	50% of minimum wage for max 12 months	Unemployment benefits were doubled during the pandemic, namely the amount equals 100% of minimum wage.
North Macedonia	9 consecutive months or 12 months in the last 18 months	50% of last salary for max 12 months	Unemployment benefits for those who lost jobs in the period from 11 March to 30 April, irrespective of the contribution period, are entitled to of 50% of the last wage but not more than 80% of the average wage.

Source: Information from country correspondents.

5.6 Other Cash Income Support and Social Assistance

As summarized in Table 8, social assistance benefits were temporarily increased, eligibility conditions were relaxed, and one-off cash supplements were paid. It is observed that Albania for example provided one-off income assistance of a universal character. In North Macedonia, a similar one-off assistance (around 50 Euro) was paid to persons with low income and the youth population aged between 16 and 26 years in full education.

Table 8. Non-contributory cash transfers

Country	Description of Measures
Albania	The amount of economic assistance was doubled. One-off financial assistance of ALL 16,000 per person for all the applicants of the economic assistance who have not received any benefits until April 2020.
North Macedonia	The basis for income test for social assistance was changed to the total family income of the last month instead on the last three months. Other qualifying conditions were relaxed. Supplement of MKD 1,000 to cover energy expenses was added to the social assistance benefits. One-off support of MKD 3,000 on bank debit card for the employed whose total wage during January to April was less than MKD 60,000, youth (between 16–26 years of age) in full time education. One-off support of MKD 9,000 on bank debit card for the beneficiaries of social assistance and unemployed with net income lower than MKD 60,000. One-off support of 40% of the last net wage for medical workers in institutions for testing, diagnostic and medical treatment of Covid19. Additional energy allowance of MKD 1,000 for March and April for the beneficiaries of social assistance.

Source: Information from country correspondents

In addition to cash transfer, in-kind benefits were also granted in the form of utility waivers or vouchers for purchase of specific goods and services. Table 9 summarises these benefits.

Table 9. In-kind support

Country	Description of Measures
Albania	Delivery of basic goods, including medicine, to the persons in need: recipients of social assistance, persons with disabilities, elderly, homeless persons. Utility waivers for selected groups of tenants
North Macedonia	Rents in social housing deferred for selected groups of citizens. Vouchers of MKD 6,000 for domestic tourism and bank debit cards of MKD 3,000 for catering for the employed whose total income during January to April was less than MKD 60,000. Food and sanitary packages distributed to vulnerable groups.

Source: Information from country correspondents

5.7 Childcare Leave Benefits

During the lockdown period, parents of small children had to stay home to care for their children. These two countries under review introduced temporary special childcare leave. In North Macedonia parents of children less than 10 years of age were entitled to such leave.

5.8 Additional Income Support to Pensioners

Table 10 presents the measures for pensioners. Albania introduced additional indexation of benefits and higher increases of the minimum pensions. In North Macedonia, pension payments were made earlier.

Table 10. Additional cash benefits to pensioners

Country	Description of Measures
Albania	Indexation of pensions by 2.3% and higher increases of the minimum pensions
North Macedonia	The payment date of pensions was put forward by one week (from the 4th or 5th of the following month to 28th of the current month).

6. SOCIAL SECURITY RESPONSE MEASURES AND THEIR IMPACT

Although it is still premature to evaluate the full impact of the COVID-19 response measures, this paper attempts to assess the effects of these measures on the labor market and the household income. It is analyzed in the study the extent to which these measures managed to protect the labor market and retain employment and alleviated adverse impact on household income.

6.1 Size of Fiscal Measures

As presented in Table 11, IMF estimates that globally the governments spent 5.9 percent of GDP on the COVID-19 related measures in the first half of 2020. Most of this additional expenditure was targeted to enterprises and households outside the health sector. Aside this, accelerated spending and deferred revenue amounted to 1.0 percent of GDP. These fiscal measures directly increase both government deficits and public debt. In addition, globally the governments created another 6.0 percent of GDP of liabilities, most of it contingent, in the form of equity injection, loans, as well as various guarantees to enterprises or other quasi-fiscal operations. These measures do not affect deficits in the short run, but some of them increase immediately the debt and decrease the net worth in the long run. The scales of fiscal interventions differ by country. In the high-income countries in Western Europe, additional direct spending was between approximately 5 percent of GDP (France and Italy) and 9.2 percent of GDP (UK), mostly targeted the non-health sector. The new EU member states spent less than the high-income countries. The additional fiscal

spending ranges from 2.2 percent (Romania) to 7.9 percent (Slovenia). Among the two countries under review, the fiscal measures were focused mainly on direct additional spending targeted to enterprises and households. In terms of GDP, North Macedonia increased fiscal spending by 2.0 percent, and Albania by 1.2 percent. According to the available data, the size of on liquidity support was 1.7 percent in Albania and 1.5 percent in North Macedonia.

Table 11. COVID-19 related fiscal measures during the first half of 2020 in selected countries (% of GDP)

	Additional spending or foregone revenues (A)			**Accelerated spending /deferred revenue (B)**	**Liquidity support (C)**				**Total A+B+C (total of available**
	Subtotal	Health sector	Nonhealth sector		subtotal	Equity injections, loans, asset purchase or debt assumptions	Contingent liabilities		
							Guarantees	Quasi fiscal operations	
Albania	1.2	0.2	1.1	-	1.7	-	1.7	-	2.9
North Macedonia	2.0	0.1	2.0	-	1.5	-	-	1.5	3.5

Source: IMF. Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic. IMF (2020b).

The full account of the effect of the stimulus measures in terms of retaining employment, income protection and future economic recovery cannot be assessment. However, here are presented the preliminary analysis based on available information and reports of individual countries from national experts.

6.2 Labor market and labor income

Among the two countries under review as presented also in the ILO rapid assessment it is found that In North Macedonia, the main employment retention measures put in place by the government were timely, but the intensity of the support may be too low to achieve the desired impacts. Although the employment retention measures appear generous in the most densely populated segments of the wage distribution, they fall significantly in intensity over the four months of the programme. In North Macedonia, the unemployment benefit is the only systemic protection for those who have lost income from work but remain ineligible for cash social assistance (guaranteed minimum income). However, high prevalence of informality of the labor market has diminished its protective role. Most workers losing their jobs during this crisis are under non-standard forms of employment or informally employed, with little or no access to unemployment benefits. As noted earlier, the social security and wage subsidies measures have served as an incentive for workers who lost jobs to register with public employment services and for employers to register more workers as formal employed. This shows that stimulus packages – if well designed – can also (at least temporarily) contribute to formalizing the informal economy. According to the latest ILO Monitor presents the estimated values of fiscal stimulus during the first three quarters of 2020.

6.3 Household Income

Table 12 shows the change in the household income from the national account data in the second quarter of 2020. It can be seen in the table that North Macedonia is a country which implemented relatively large-scale stimulus and public health measures exhibiting increases in the government final consumption differently from Albania which is – 0.7.

Table 12. Changes in GDP and consumptions in the second quarter of 2020

	Albania	North Macedonia
GDP	-10.2	-12.7
Household final consumption	-7.6	-11.6
Government final consumption	-0.7	+1.5

Source: National Statistical Offices. Notes: % change to same quarter previous year, seasonally adjusted wherever available.

Table 13 presents data from remittances sent by migrant workers working represent important source of the household income in the region, perhaps to a relatively lesser extent for North Macedonia while 9.4% in Albania.

Table 13. Remittances as a percentage of GDP, 2019

	Remittances (% of GDP)
Albania	9.4
North Macedonia	2.5

Source: World Bank. Migration Portal: https://migrationdataportal.org/themes/remittances#key-trends.

7. EVALUATION OF POLICIES

Based on the results the preliminary impact assessment, we evaluate the effectiveness of the policy measures in order to offer intuitions for an informed decision of the policy choice and prioritization.

7.1 Subsidy or Deferral of Social Security Contributions

The social security contribution rates in the Central and Eastern Europe countries are generally more than 20 percent, and annual contribution revenues range between 5 and 10 percent of GDP. Thus, even though the States subsidise the minimum contributions with respect to the affected workers, the impact of relief of employers' obligation of contribution payment could be important. As shown in Table 11, there was no data for the deferred revenue and accelerated spending amounted in both countries under review.

7.2 Wage Subsidies

Worldwide at least 40 countries have adopted temporary wage subsidies. The underlying idea of temporary wage subsidies is to prevent mass layoffs, to help enterprises retain their skilled workers, and to support the recovery of production once the lockdowns ended. They also aimed to ensure that workers continued to receive at least part of their usual wages, even if some workers had to take wage cuts. Experience suggests that while wage subsidies reduce the unemployment by keeping employees attached to their original employers, in the long run it might slow down needed structural changes to respond to the new demand and to adjust the work arrangements. North Macedonia and Albania have introduced such wage subsidies. Largely due to the fiscal constraints, the period was from March to May 2020 and the amount was fixed at the minimum wage regardless of individuals' previous wage. National reports tell that these measures were relatively successful in preventing surges in unemployment and compensating around 25-50 percent of the lost labour income during the second quarter of 2020. If the pandemic persists and labour market situation does not improve, there could be a further call for such temporary wage subsidies. The situation requires a close monitoring for the third and fourth quarters of 2020 and beyond.

7.3 Income Support by Short-Term Benefits

During the first stage of pandemic, social security played an important role in mitigating reduced or lost income and protecting the most vulnerable groups to meet their immediate cash and materials needs. The provision of sickness benefits for employees who are unable to work due to business closure or under mandatory quarantine was not widely adopted by the countries reviewed. In both countries, employers are responsible for the payment of first several days of sick leave of the employee. In times of recession, unemployment benefits play a vital role to provide income support to workers who have become involuntarily unemployed. The pandemic reinforced the long-standing need to expand the coverage of the unemployment benefit and increase its benefit level. Albania and North Macedonia enhanced the unemployment benefits and covered more types of workers. In the current crisis, there has been high incidence of partial unemployment as a result of reduced work hours or involuntary unpaid leaves. However, unemployment benefits in most countries are payable only in case of full unemployment which led some countries to extend the eligibility of unemployment benefits, and sickness benefits are not widely utilised. This suggests that a narrow focus on unemployment does not meet the emerging need of the labour market. This gives rise to a need to extend the existing unemployment benefits to cover cases of partial unemployment to compensate at least partially income losses of those whose working hours are reduced involuntarily irrespective of the types of employment contracts. The existing provisions of childcare leave in labour law or social security law are not sufficient when schools and childcare institutions are closed for months. There is thus a need to enhance this provision which allows parents to stay at home and care for children in times of pandemic and lockdown.

7.4 Population Not Adequately Protected by The Existing Social Security Benefits

Although the existing social security systems responded well to protect the contributing members, mainly consisting of full-time regular employees in formal employment and the self-employed, they did less well for a growing number of workers who were excluded or insufficiently covered by the existing contributory social security systems. Groups of workers not adequately protected by the existing social security systems include workers in the informal economy and those in the non-standard forms of employment including those in the platform economy. In fact, these workers were among the most hardly hit by the crisis. Some countries extended the access to health care and eligibility of income support benefits (sickness benefits, unemployment benefits, social assistance) to groups who had not been covered. However, such support targeted directly affected groups (except the case of universal payment in Serbia) and the benefit was of a temporary nature or just one-off income support. These limitations of the contributory systems may lead to a need for (time-bound) extraordinary solidarity measures of universal nature, to be organized by the State, to support the basic livelihood of all the population in need throughout the adversity. In addition, the fact that all the countries implemented measures of increasing statutory benefits (unemployment benefits, sickness benefits, social assistance, and pensions) and paying temporary or one-off supplements at least for specific groups suggests that the countries recognize these benefit levels inadequate and paid only over a limited time horizon. Migrant workers have been another affected group. This includes repatriated migrant workers coming as a result of lockdowns in the countries of destination. Many of them lost the right to social security benefits they enjoyed while working abroad. The pandemic hit a critical gap in the existing social security coordination mechanism. Most of the existing social security agreements do not allow for the export of unemployment benefits because of the difficulties in verifying the job-search requirements in a different country. Consequently, the repatriated migrant workers coming home due to lockdowns were not paid unemployment benefits even if they are covered by the social security agreements and have contributed to the unemployment insurance schemes of the countries of destination.

One feasible alternative that should be considered to avoid this unfairness is the payment of a lump-sum amount – for example, an amount based on the length of the period of insurance – to a migrant worker who leaves a country permanently on becoming unemployed. Among other excluded groups one has to mention Roma population who are usually excluded from access to health care and social services in most of the countries in the region.

7.5 Social Security Support for A Safe Return to Work

The COVID-19 pandemic calls for a new way of living and working through strengthened health and safety measures at workplace, adaption of work arrangements, and management of stress and other psychosocial risks. Although prevention is better than cure or compensation, the latter is an equally important tool to provide assurance in case of infection at workplace or during commutation since the chance of infection is rising and the damage can be serious or even fatal. The coverage of COVID-19 related morbidity by the workers compensation is therefore an important measure not only for essential workers including health care workers, but also all type of workers. The following Table 14 presents key social security and labor market measures by different phases of the pandemic.

Table 14. Social security and labor market responses in different phases of the pandemic

Social security and jobs responses	Lockdown	Gradual reopening	Recovery and beyond
Wage subsidies	Yes, can prevent massive layoffs and retain skilled labour.	(1) Phase out and make them more targeted to sectors at risk. (2) Clearly link them to retention of workers. (3) Build in a progressive element providing higher support for workers and firms at low wage levels.	Go for active labour market policies that better support the adaptation to structural change (e.g. retraining).
Deferral of social security contributions	Yes, can help to improve cash flow of enterprises and households.	Make them more targeted to sectors at risk	Restore financial balance of social security funds.
Health care	Maintain access to medical care (including vaccination) for COVID-19 treatment and testing throughout pandemic and beyond.		
Occupational safety and health	Prevent infection at workplace based on risk assessment. Promote teleworking and social distancing. Enhanced protection for health workers and other essential workers.		Adjust to new normal at work.

Unemployment benefits	Relax eligibility, enhance benefit level and duration.	(1) Start limiting enhanced benefits to sectors at risk. (2) Focus on vulnerable population groups, e.g. youth. (3) Introduce unemployment allowance and link it to activation measures aiming at accelerating the re-entry of unemployed or inactive in the labour market	Build a system combining both unemployment benefits and unemployment allowances. Extend the coverage to all types of employment.
Other income support	Provide income support for all affected throughout the adversity. Extend the coverage to the new poor and the new vulnerable groups who are not covered by the current social security systems.		Build and maintain comprehensive social protection floors, defined as sets of basic social security guarantees at national level ensuring that all in need have access to essential health care and basic income security.

Source: ILO staff compilation. Partially adapted from Fig. 1.1 of ILO Office for Central and Eastern Europe (2020a) and Table 1.3 of IMF (2020a).

7.6 Issues in Financing

The COVID-19 crisis is not yet over. However, the stimulus measures and social security measures put considerable strain on government budgets and social security funds. The crisis affected the long-term sustainability of the social security systems, in particular already fragile pension systems. Ultimately, these measures will cost all countries large public debt build-ups, in the table 15 below it will be numerically represented for Albania and North Macedonia. In the long-term, the budget deficit and the accumulated public debt will impose a heavy burden on future generations.

Table 15. IMF forecast of key fiscal indicators, 2019–2025

Indicator	**Country**	
	Albania	North Macedonia
General government net lending/borrowing (% of GDP)		
2019	-2.0	-2.0
2020	-8.4	-7.7
2021	-4.7	-4.3
2022	-2.6	-3.4
2023	-2.0	-3.2
2024	-2.0	-3.1
2025	-2.0	-3.1
General government gross debt (% of GDP)		
2019	67.7	40.2
2020	83.3	50.3
2021	83.2	50.5

2022	77.1	50.6
2023	74.8	50.8
2024	71.9	51.1
2025	69.1	51.5

Source: IMF. World Economic Outlook and Fiscal Monitor (October 2020)

It is absolutely indispensable to retain flexible and supportive fiscal policy now. Nevertheless, in due course governments face the question on how to contain the fiscal deficit and to manage the public debt under control to avoid a potential debt crisis. In particular, how can we finance social security benefits when we face large fiscal deficit and public debt? Though it is not the objective of this paper to enter into this analysis but it can be said that two observations based on a large body of evidence-based assessment of past economic crises. First, extensive austerity, which entailed steep and indiscriminate cuts to government spending, typically social security and health spending, made recessions deeper and longer. By contrast, countries that had increased government spending achieved faster economic recoveries and stabilized the fiscal deficit and public debt. Second, many studies show that investments in health, education, and social security have fiscal multipliers significantly greater than 1 in different countries and times. Namely, each $1 of government spending creates more than $1 return on economic output. Thus, investing in social security systems will contribute to economic growth in the long run. These findings strongly suggest that social security is crucial in economic recoveries and that countries investing more in social security systems exhibit better resilience to the shocks. This is typically the case with the current COVID-19 crisis. The key challenge of the government is to secure necessary resources to maintain and improve the delivery capacity of social security systems during the crisis and in the recovery phase. But fiscal space for active labor market interventions and social security interventions exists in all countries even in the poorest countries. In order to scale up social security systems and to achieve the Sustainable Development Goals, countries should explore, through effective social dialogue, all possible options to generate resources for public investments for human rights, jobs and social security.

8. CONCLUSIONS AND RECOMMENDATIONS

As we've got seen, in both, Albania and North Macedonia Social Security policies set up one among the crucial a part of the integrated responses to the COVID-19 crisis throughout the primary stage of pandemic. However, the crisis has disclosed gaps within the existing Social Security systems that stem from problems inherent within the current world of labor, particularly with relevancy rising precarious employment and widening difference, From the preliminary assessment of the Social Security response within the initial stage of the COVID-19 pandemic, the subsequent policy recommendations can emerge:
Social security constitutes a key pillar of the integrated policy response. so Social Security measures ought to be closely coordinated with a good vary of policies, especially labor market and monetary policies to support the use protection and business continuity.

Social security systems ought to effectively make sure the access to health care and financial gain security. Access to health care ought to be bound to all population. At a similar time, sufficient resources ought to be allotted to supply necessary health care services. financial gain security ought to be ensured altogether things of loss of financial gain, together with involuntarily reduced operating hours, state, illness (including quarantine), and augmented family responsibilities. financial gain security shouldn't solely stop impoverishment however additionally replace the lost financial gain in adequate and acceptable proportion (subject to a definite maximum).

The Social Security coverage ought to be extended to employees altogether kinds of employment together with non-standard sorts of employment by taking into consideration their giant nonuniformity and

high labor market quality. The compliance and social control ought to be improved by encouraging the formalization of employees within the informal economy and rising the contribution assortment against underreporting of tributary wages.

Benefits from non-contributory programmes ought to effectively supplement to fill the coverage gaps of the advantages from tributary schemes. The crisis additionally prompted the necessity to think about adjusting the present Social Security design and finding out an additional appropriate mixture of tributary and non-contributory systems that respond higher to the continued labor market transformation

It is vital to confirm intelligent social dialogue as a crucial and effective mechanism to formulate Social Security responses to the COVID-19 crisis. a long-lasting resolution to the pandemic will be in agreement and sustained provided that there's nation-wide social group accord supported full understandings of the implications of the measures and thru continuous commitment of all relevant stakeholders.

The global fight against the new coronavirus COVID-19 is much from over. There still remains nice uncertainties ahead. things so need a detailed watching. This report will be thought to be a preliminary assessment of the Social Security responses for the seven countries with a spotlight on money edges for the operating population and their families.

The COVID-19 crisis has highlighted the importance of proactive investment to make comprehensive and resilient Social Security systems which will respond quickly and effectively to shocks once they emerge. it's additionally highlighted the essential role of the State's interventions within the face of an unprecedented.

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THE USE OF ACTIVITY-BASED MANAGEMENT: A STUDY OF MANUFACTURING COMPANIES IN THE REPUBLIC OF NORTH MACEDONIA

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ABSTRACT

Cost management, i.e planning, calculation and cost control is the most important area of management accounting where cost calculation methods play the crucial role. Traditional methods date back to the time when direct labor costs were significantly involved in the cost structure but with the rise of support costs or indirect costs the cost accounting approaches have changed.

This paper presents the cost management models with a special focus on the method of calculating activity-based costs (ABC). The research part of the paper is carried out for chosen companies in the Republic of North Macedonian. By conducting a field survey in 24 companies from the manufacturing sector, the main research aim of this paper is to investigates the adoption of activity-based costing as a cost management technique among the employees. More specifically, the survey examines the adoption and the implementation of specific cost management techniques, or more precisely, the use of the ABC method and the benefits of its implementation.

Based on the information obtained from 216 responses, the findings indicate that the major part of the companies in the manufacturing sector in the Republic of North Macedonia practice the system of activities. The surveyed employees are familiar with the activity-based management and are highly aware of the benefits and the advantages of the implementation of the ABC system.

KEYWORDS

ACCOUNTING, AUDIT, COSTS, MANAGEMENT, ACTIVITY-BASED COSTS, ABC METHOD

JEL CLASSIFICATION CODES

M40 M41 M42

1. INTRODUCTION

A cost-based system of operations is an alternative system that can replace conventional systems that have been used to allocate costs. This system enables improvement of measures for increasing the performance of rationalization of production costs, providing appropriate and more precise pricing measures and selecting an optimal production mix. Every company is a complex organization that is characterized by modern but expensive technology and high flexibility of production processes. All of this contributes to changing the structure and character of individual costs. The high demand for particular

product or service leads to abandoning mass production and targeting the production of a limited number of products or services in one production line. Due to changes in technology in business entities, employees must be trained and possess a high level of knowledge and professionalism. Through their continuous education they contribute to reduce general costs (Ness and Cucuzza, 1995).

This paper elaborates the basic characteristics of the system of activities in the companies and the system for determining effect costs. The most important tools of the system activities will be analyzed. Managers that based their decisions solely on the information gathered from the traditional costs systems often lead them to a wrong working decision, and sometimes even had fatal consequences on the success and competitiveness of the business entities (Robey, 1991).

The system of activities implies the management of activities, as they are indicative of where the resources are spent, the company that consumes it and the product for which they are spent.
The ABC approach includes, as Shields and McEwen stated (1996): identifying the resources, identifying activities related to the holders at cost, allocation of activities by product and allocation of the cost per activity. The costs may be: the number of purchases of resources, the number of documents for receiving raw materials and materials, costs of activities related to warehousing, the number of invoices for sale, etc. Overall, managers who have real information about the costs can make better decisions for their outputs. The ABC systems directly measure the cost of the resources that are necessary for the realization of the activities and establishes a clear connection between the cost and the underlying activity. This system enables the managers seriously to think about the resources which may lead to a change in the decision-making process, for example, to focus on the mix of products and consumption, process improvement, improved product design, setting up new technology. As a result, these systems are often described as a supportive tool on how to manage, plan and control the systems, rather than as a cost systems (Foster, Swanson, 1997).

The main aim of this paper is to determine the degree of adoption of specific cost management technique ABC by the companies in the Republic of North Macedonia from an employee perspective. More specific research aim would be to investigate the characteristics of the system of activities, to analyze the activity system tools and to assess the implementation of the activity-based costing system by the companies from the manufacturing sector in the Republic of North Macedonia. The research interest was inspired by the fact that cost reduction activities seem to originate from the automation of operations. Traditional cost-based concepts that concentrate only on the costs incurred in the production phase and the allocation of the general costs on the basis of allocation keys related to the physical volume of production are not so adequate anymore, taking into account the rapidly changing modern business environment. An appropriate solution would be a system of activities that is designed to offer more accurate information about the costs.

The remainder of this paper includes the literature review part which summarizes the method of activity-based costs, accounting and management, followed by the research methodology, the results and the concluding remarks.

2. LITERATURE REVIEW

In the past, many companies have tried to meet the need for accurate and on-time cost information with only one cost system, which would result in success with limited production of products and services. In the era of the new changes in the 1950s, the shortcomings of the application of a system that provides managers with very scarce information are becoming more and more apparent. Thus, as early as 1940, the first form of process costing appeared in the United States when Caterpillar developed an activity-based costing system (Turney, 2010). About 10 years later, Longman and Schiff (1955) set up a theoretically similar system called function costing. A significant increase in indirect costs in the 1960s, which changed the structure of total costs, and thus the final business outcome, is considered the beginning of the ABC method. General Electric employees concluded that the indirect costs were the result of a decision made before the costs actually occurred. General Electric and Ericsson, independently of each other, came up with the idea of processing overhead through activity data. In 1971, Mr. Staubus also tried to develop a

similar concept. In the following years, more and more American companies developed systems to monitor the financial results of activities, and more importantly, they sought to manage these activities. The ABC method was first used in the manufacture of tractor parts - the production of a large number of products varying in complexity and batch size, and the term Activity - Based Costing was first mentioned in a case study by Harvard Business School John Deere Component Works (Rahman and Ghafeer, 2014).

There are many disadvantages of the raditional methods that have conditioned the need for the ABC method. According to Kaplan (Kaplan 1991), the main reasons for the emergence of the ABC method are the introduction of a modern way of production, the traditional accounting measurement of business performance motivates managers more to efficient business than to successful business, the managerial accounting is influenced by financial accounting, so the methods of thinking are transferred from financial to managerial accounting and all the general production costs were allocated to products and cost centers according to inadequate keys, and resulted in the necessary change that led to the emergence of the ABC method. The ABC model breaks down business into activities. It is important to determine the cost pools from which the costs are associated with the costs drivers or cost object. Direct costs are allocated directly to cost objects. Indirect resource costs are allocated to activities that are assumed to have caused them by applying a cost indicator, then activity costs are allocated to a cost object exemplary of an activity indicator (Shaw, 1998). In this way, as stated by Ahmadzadeh and associates (2011) costs are associated with resource use and cost facilities will allocated exactly those costs that are caused for their purpose as opposed to traditional methods that add average costs.

According to Roztocki and Weistroffer (2009), the ABC method provides more detailed information that will help you plan and control costs more effectively than traditional methods. In addition, the ABC method is more efficient and accurate in scheduling fixed costs.

Typically, two basic features of the ABC method are emphasized (Roztocki, Weistroffer, 2009):

(1) identifies in the short term all costs arising from production, whether variable or fixed, and in the long run increases the proportion of those costs that can be effectively managed by reducing those that are difficult to manage (fixed)),

(2) respect for the cost hierarchy (facility support costs, batch support costs, and unit product costs) is important for the efficiency of the ABC method, where the total cost must be first calculated, followed by unit costs.

The ABC costing method is emerging as a possible alternative to existing traditional costing systems whose shortcomings have begun to significantly impact product valuation and sales pricing. At a time when information technology is beginning to grow exponentially, accounting authorities Robert Kaplan and Robin Cooper are beginning to develop the ABC method as a new approach to scheduling rising overhead costs as an alternative to existing cost accounting systems (Drucker, 1999). This method is a significant means of streamlining a business by focusing and concentrating on the elements essential to achieving better business results. It increases transparency on complex phenomena and problems and helps to separate the essential from the irrelevant (Johnson, 1990). An Activity Based Costing (ABC) system is defined as a cost management approach that identifies the processes involved in delivering a product or service and the resources that those processes consume, ie. a methodology for planning and controlling the actual use of resources in the field of indirect costs, which charges the appropriate carrier with a specific cause-and-effect relationship (Cooper, et all., 1992). In other words, activity-based costing is a concept based on the principle that it is not the products produced by the company that generate the costs, but rather the activities that are performed in the processes of logistics, production, marketing and sales. The resources needed to support these activities result in some costs, which are then allocated to individual products. According to activity-based costing, enterprise products do not generate costs. Costs are generated by activities.

3. RESEARCH METHODOLOGY

The research part of this paper analyses the implementation of the system of activities in business entities in the Republic of North Macedonia. The main research question of this thesis is to determine the degree of adoption of specific cost management technique ABC by the companies in North Macedonia from an employee perspective. The survey was targeting only the companies from the manufacturing sector of North Macedonia. The criteria for choosing the entities was that they are from the manufacturing sector, have with different numbers of employees and to operate in the whole Republic.

For the purpose of the survey, a survey questionnaire was designed and distributed using a web platform. The survey originally was planned to include 150 employees in ten manufacturing companies, but due to the high collaboration, and due to easy way of data collecting, this number rose to total of 216 employees and twenty-four companies. Every questionnaire was fully answered by the participants. The questionnaire was of closed type and contained 14 adapted questions, i.e. statements, intended for employees in enterprises dealing with sales of products and services, where respondents had the opportunity to choose one of the three offered answer options (A = NO, B = PARTLY and B = YES). There was no selection of specific departments in a company, the survey was answered by different departments, i.e sales, finance, accounting, management, etc. The questions that were an integral part of the questionnaire were carefully selected in manner to see if the enterprises are adapting and are familiar with ABC method. The obtained results of the research are summarized and presented in the following section.

In order to analyse the research aim a qualitative analysis of the research results was conducted. To this goal, the responses received are grouped according to the indicators from which they were derived and are appropriately weighted and calculated. The scoring and calculation is done by: each answer A) gets 1 point, each answer B) gets 2 points and each answer C) gets 3 points. The maximum number of points that can be derived from a statement or assertion (assuming that all respondents answered with the answer under C) is the sum of the number of respondents multiplied by 3, and the minimum is the sum of the number of respondents multiplied by 1 (assuming that all respondents answered A). The points obtained are divided by the number of respondents, thus providing an arithmetic mean for the particular statement.

The arithmetic mean of each question and then of each investigative question was calculated. Then, according to this, the result can range from minimum 1 to maximum 3 points. If the arithmetic mean is greater than 2 the given variable (question) is confirmed, and if the arithmetic mean is less than 2 than it will be discarded.

4. RESULTS

The results are presented in one table, with an average of the responses obtained by the respondents (employees).

Table 1. Questionnaire for respondents' attitudes towards adoption of Activity-based costing (ABC) by the North Macedonian enterprises

No.	**Question/Claim**	**A**	**B**	**C**	**Average***
1	Do you know what a system of activities is?	18	12	186	**2,77**
2	Are you informed with the system`s strategy techniques?	22	36	158	**2,62**
3	Are you acquainted with benefits of implementing the ABC system?	24	30	162	**2,64**
4	Do you think that the level of manager`s awareness of the significance of implementation of the system of activities is high?	30	18	168	**2,64**
5	Do the managers implement the system of activities in the company where you work?	82	44	90	**2,04**

6	Do you think that there are benefits for the company from the system of activities they are implementing?	44	18	154	**2,51**
7	Are there any reasons for using cost allocation in the company where you work?	38	22	156	**2,59**
8	Are you acquainted with activity-based management?	64	42	112	**2,40**
9	Are you acquainted with the tools in activity-based management?	26	50	140	**2,52**
10	Are you acquainted with the significance of strategic analysis?	28	24	164	**2,63**
11	Do you think that the management of activities can reduce the costs?	22	18	176	**2,71**
12	Has the financial situation been improved by using ABC?	18	16	162	**2,48**
13	Do you think that there is a great diversity of cost accounting methods based on ABC?	20	22	174	**2,71**
14	Do you agree with the statement that there is a large adoption of specific cost management technique ABC by North Macedonian enterprises?	16	24	176	**2,74**

*The arithmetic mean of each question and then of each investigative question was calculated. Then, according to this, the result can range from minimum 1 to maximum 3 points. If the arithmetic mean is greater than 2 the given variable (question) is confirmed, and if the arithmetic mean is less than 2 than it will be discarded.

Source: Author's Own Research

The first statement, adapted and set up for the research population, was: **Do you know what is a system of activities?** On this statement, the following results were obtained, from 216 respondents in the study population: A) No, answered 18 respondents, which is 8% of the respondents, B) Partly, answered 12 respondents, representing 6% of the respondents and C) Yes 186 respondents answered, which is 86% of the respondents. According to the results (Table 1), the employees surveyed are pretty much familiar with the system of activities in their company.

The second question, basically the second assertion, which is adapted to the research population, is: **Are you informed with the system`s strategy techniques?** Out of the total of 216 respondents, the following results were obtained: A) No, 22 respondents, representing 10% of respondents, B) Partly, 36 of respondents, 17% of respondents and C) Yes, 158 representing 73% of respondents. According to the results (Table 1), the employees surveyed are familiar with the system of activities and with the strategy system put in place in the company where they work.

The third question, which is adapted and asked to the surveyed population is: **Are you acquainted with the benefits of implementing the ABC system?** The following results were obtained from a total of 216 respondents: A) No 24 respondents, which represents 11% of the respondents, B) Partly, answered 30, which is 14% of the respondents and C) Yes, answered 162 respondents, representing 75% of the respondents. According to the results (Table 1), 75% of the employees who work in a company which has implemented the ABS system are aware of the benefits that the system has.

The fourth question, which is adapted and asked to the researched populations, is: **Do you think that the level of manager`s awareness of the significance of implementation of the system of activities is high?**

The following results were obtained from a total of 216 respondents: A) No, answered 30 respondents, which is 14% of the respondents, B) Partly, answered 18, which is 8% of the respondents and C) Yes, answered 168 respondents, representing 78% of the respondents. The employees think that the managers are aware of the significance of the system of activities for a company.

The fifth question, which is adapted and asked to the researched population, is: **Do the managers implement the system activities in the company where you work?** The following results were obtained from a total of 216 respondents: A) No, answered 82 respondents, which is 38% of the respondents, B) 44 respondents answered with Partly or 20% of the respondents and C) 90 respondents answered Yes, that is

representing 42% of the total respondents. Although the employees think that the managers are aware of the significance of the system of activities, it is not fully implemented in the sampled companies.

The sixth question, which is adapted and asked to the researched populations, is: **Do you think there is a benefit to the company from the system of activities they are implementing?** The following results were obtained from a total of 216 respondents: A) 44 respondents answered negative, with No, which is 21% of the respondents, B) 18 respondents answered with partly or 8% of the respondents and C) 154 respondents answered with Yes, what is represented 71% of the respondents. With 71% of the employees who answered positively to this question, there are benefits for the companies who have implemented the system of activities (Table 1).

The seventh question, or assertion, which is adapted and posed to the researched populations, reads: **Are there any reasons for using cost allocation in the company where you work?** The following results were obtained from a total of 216 respondents: A) No, answered 38 respondents, which is 18% of the respondents, B) Partly, answered 22 of the respondents, that representing 10% of the respondents and C) Yes, answered 156 respondents, representing 72% of the respondents.

The eighth question, which is adapted and asked to the researched populations, is: **Are you acquainted with activity-based management?** The following results were obtained from a total of 216 respondents: A) 62 respondents answered with No, which is 29% of the respondents, B) 42 respondents answered partly, or 19% of the respondents and C) 112 respondents answered yes, that are representing 52% of the respondents. Only 52% of the employees are familiar with the activity-based management (Table 1).

The ninth question, which is adapted and asked to the researched populations, is: **Are you acquainted with the tools in activity-based management?** The following results were obtained from a total of 216 respondents: A) No 26 respondents answered, or 12% of the respondents, B) 50 answered partly, which is 23% of the respondents, and C) 140 respondents, representing 65% of the respondents answered with Yes.

Only 52% of the employees are familiar with the activity-based management while 62% of the employees are familiar with the tolls used when implementing the activity-based management (Table 1).

The tenth question, that is adapted and posed to the researched population, was: **Are you acquainted with the significance of strategic analysis?** The following results were obtained from a total of 216 respondents on that given question: A) No, answered total of 28 respondents, which is 13% of the respondents, B) 24 answered with Partly, which is 11% of the represents and C) Yes, answered 164 respondents, which represents 76% of the total number of respondents.

The eleventh question, adapted and put to the researched populations is: **Do you think that the management of activities can reduce the costs?** The following results were obtained from a total of 216 respondents: A) 22 respondents answer with No, which is 10% of the respondents, B) 18 respondents answered with Partly, what represents total of 8% of the total of 216 respondents and C) 176 respondents answered with Yes, which represents 82% of the respondents. According to the results in Table 1, big percent of the employees believe that the management of activities can reduce the company's costs.

The twelfth question, which is adapted and put to the researched populations, reads: **Has the financial situation been improved by using ABC?** The following results were obtained from a total of 216 respondents: A) No, answered 18 respondents, which represents 8% of the respondents, B) 36 of the respondents answered Partly or 17% of the respondents, and C) 162 respondents answered with Yes, that is representing 75% of the respondents. According to the results in Table 1, 75% of the surveyed employees believe that the financial situation of their company has improved after the implementation of the ABC system.

The thirteenth question, adapted and put to the researched populations, reads: **Do you think there is a great deal of cost accounting methods based on ABC?** The following results were obtained from a total of 216 respondents: A) No, answered 20 respondents, representing 9% of the respondents, B) 22 of the respondents answered Partly, that are representing 10% of the respondents, and C) 174 with No, answered respondents, which represents 81% of the respondents.

The fourteenth question, that is, the assertion, which is adapted and put to the researched populations: **Do you agree with the statement that there is a large adoption of specific cost management technique ABC by North Macedonian enterprises?** The following results were obtained from a total of 216 respondents: A) No, answered total of 16 respondents, which is 7% of the total of 216 respondents, B) 24 answered Partly, or 11% of respondents and C) Yes, answered 176 respondents, which represents 82% of the respondents. According to the results (Table 1), 82% of the surveyed employees think that cost management techniques ABC is implemented in the most of the companies in the Republic of North Macedonia.

The main research aim of this paper is to determine the degree of adoption of specific cost management technique ABC by the companies in North Macedonia and the benefits from its implementation.

The summarization of the results can be seen in Table 2. It shows the tabulated calculated points, according to the answers obtained by the respondents, according to the previously presented methodology, for each answer under A = 1 point, for each answer under B = 2 points, and for each answer under C = 3 points. The coefficients are calculated for each question individually, as well as the sum is presented, that would confirm the general research aim.

Table 2. Calculated points from the surveyed population

Question	**A- NO**	**B- PARTLY**	**B- YES**	**Σ points**	**Σ/N**
	X 1 point	**X 2 Points**	**X 3 points**	**Σ**	**Σ/216**
1	18	24	558	600	2,77
2	22	72	474	568	2,62
3	24	60	486	570	2,64
4	30	36	504	570	2,64
5	82	88	270	440	2,04
6	44	36	462	542	2,51
7	38	44	468	560	2,59
8	64	84	336	484	2,40
9	26	100	420	546	2,52
10	28	48	492	568	2,63
11	22	36	528	586	2,71
12	18	32	486	536	2,48
13	20	44	522	586	2,71
14	16	48	528	592	2,74
				Σ	**41,15**
				Σ/16	**2,57**

Source: Author's Own Research

Taking into account that the results from all 14 statements are confirming (Table 2), what can be seen from the summarized data, which was collected through the survey questionnaire, it can be confirmed that the respondents basically are familiar with the meaning of the system of activities, they are informed with the system`s strategy techniques; they are acquainted with benefits of implementing the ABC system; they are aware of the significance of its application; they think that the level of manager`s awareness of the significance of implementation of the system of activities is high; they think that the managers implement the system of activities in the company where you work; they think that there is a benefit for the company from the system of activities they are implementing; they say that there are some argumentations for cost allocation in the company where they work; they are acquainted with activity based management; also, they are acquainted with the six most important tools in activity based management; they are acquainted with the significance of strategic analysis; they mostly agree that the management of activities can reduce the

costs; also, they said that they know what is ABC method; they agree that the Activity-Based Costing method, is a way to strategically lower the costs, they think that there is a great diversity of cost accounting methods based on ABC, and finally, they stated that they agree with the statement that there is a large adoption of specific cost management technique ABC by Macedonian enterprises.

Finally, according to what is presented above, it can be concluded that the main research aim is "positively answered", that is, that in the enterprises from the manufacturing sector in the Republic of North Macedonia, there is high degree of adoption of specific cost management technique ABC and the employees in these companies are pretty much aware of the benefits and the advantages of its implementation.

5. CONCLUSION

In this paper, the main research aim was to determine the degree of adoption of specific cost management technique ABC by the enterprises from the manufacturing sector in the Republic of North Macedonia. In that manner, the specific research aims of this aper was to examine the characteristics of the system of activities, to analyze the activity system tools, and to assess the benefits of the implementation of the activity-based costing system by enterprises in the Republic of North Macedonia.

From everything mentioned in the literature review part we can conclude that there are several situations when it is necessary to use the ABC method especially when there is a need to determine the actual cost amounts of a large series of products. In that cases, using the ABC method produces the best results in manufacturing companies. The application of this or other more modern cost systems is because traditional cost systems give a false picture of costs. Robin Cooper and Robert S. Kaplan, proponents of the Balanced Scorecard, brought notice to these concepts in a number of articles published in Harvard Business Review beginning in 1988. Cooper and Kaplan described ABC as an approach to solve the problems of traditional cost management systems. These traditional costing systems are often unable to determine accurately the actual costs of production and of the costs of related services. Consequently, managers were making decisions based on inaccurate data especially where there are multiple products. Their thinking and their research conclusions, correspondent with the conclusions that arises from the research in this paper, or more precisely, the research also confirms that there is a large adoption of specific cost management technique Activity-based costing (ABC) and that the benefits are apparent.

Instead of using broad arbitrary percentages to allocate costs, ABC seeks to identify cause and effect relationships to objectively assign costs. Once costs of the activities have been identified, the cost of each activity is attributed to each product to the extent that the product uses the activity. In this way, and as it was concluded, ABC in the companies from the manufacturing sector in the Republic of North Macedonia, often identifies areas of high overhead costs per unit and so directs attention to finding ways to reduce the costs or to charge more for costlier products.

In this research, a survey questionnaire was designed for employees of enterprises of different companies throughout North Macedonia, with a special focus on the manufacturing sector. The employees had a possibility to answer the questions whether there is an adoption of specific management technique, whether the application of the same technique is at satisfactory level and how beneficial they think that the method ABC is. From the questionnaire we conclude that the respondents basically are familiar with the meaning of the system of activities, they are acquainted with the six most important tools in activity-based management and believe that the benefits from the implementation of the ABC methods are apparent. Based on the information obtained from 216 responses, the most important statement or conclusion is that major part of the manufacturing companies in North Macedonia practice the system of activities. The reason why other companies were not using it is because it is time consuming and expensive, but on the other hand it is the most useful method in order to reduce the costs and to work more effective and efficiently. The companies that are not using this method are discouraged due to system and behavioral issues.

Today there is a large adoption of specific cost management technique such as activity-based costing (ABC), and there is always room for improvement and for implementation of this kind of technique in the North Macedonian enterprises.

The conclusions reached in the paper cannot be generalized to the entire economy in the North Macedonia nor to the companies globally. It is so because the research was limited only to one sector in North Macedonia (manufacturing sector) and only 24 companies who were chosen were part of the sample. This paper represents a good and a solid start for a research in this area since it is a first study of this kind in the Republic of North Macedonia and can be continued in the near future.

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THE IMPACT OF PANDEMIC CRISIS ON THE FINANCIAL STABILITY OF THE BANKING SECTOR IN REPUBLIC OF NORTH MACEDONIA

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ABSTRACT

The pandemic crisis, even though primarily is a health crisis, of course it affected the whole economy and especially it impacted the banking sector. This shock to the banking industry and the economy came as a result of a combination of several factors, the pandemic and the governmental and social responses to it. More specifically, the research is concerned on how the pandemic crisis affected the financial stability of the banking sector in North Macedonia by analyzing four financial indicators, capital adequacy ratios, non-performing loan ratios, return on average equity and liquidity indicators and by comparing these with the financial indicators in Italy, being one of the countries which was hit the hardest during the beginning of the crisis. It further focuses on the measures undertaken by the National Bank of North Macedonia and whether these measures have had an impact on remaining financial stability, as well as, whet the role of the banking sector in the recovery of the economy is.

KEYWORDS

FINANCIAL STABILITY, PANDEMIC CRISIS, BANKING SECTOR, FINANCIAL INDICATORS

JEL CLASSIFICATION CODES

G21

1.INTRODUCTION

The pandemic crisis, even though it started as a health crisis, the government measures in order to contain the virus and not let it spread such as lockdown, moving restrictions and reduction in working hours or complete shut-down on some sectors of the economy, led this health crisis to become a financial crisis.

Banks throughout the world, entered this crisis more stable and more resilient than they entered the global financial crisis, since over the years, banks started to significantly increase their capital buffers which led them to have stronger capital levels and be able to support the economy during these hard times, and provide loans at more convenient terms to the affected sectors.

Banking system in North Macedonia was very stable and solvent, since banks had high capital adequacy ratios and high liquidity which were crucial to protect against the negative consequences that might be caused by any unexpected turn of events such as the COVID-19 pandemic outbreak. The effects of the pandemic crisis on the banking sector were not felt so much in the beginning of the outbreak and the crisis did not have a very big impact on the financial stability of the banking sector in 2020. However, the

negative effects are expected to be felt more in the upcoming periods in terms of reduced profitability and increase in the non-performing loans. The capital adequacy ratio and the non-performing loans indicators in North Macedonia were compared with these indicators in Italy as one of the countries hit the hardest during the beginning of the pandemic.

The financial markets and banking sector were very important to ensure cash flows and support the real economy. Since banks in North Macedonia are the major financial intermediaries, the National Bank responded very quickly ever since the beginning of the pandemic by undertaking several measures to raise liquidity for the banks in order them to provide credit at more favorable terms to support the affected sectors. Banks have a crucial role in helping the economy revive by increasing loans to the customers hit by the crisis, but in doing so the concerns that the borrowers will not be able to return the loans in the future periods increased as well.

2.FINANCIAL STABILITY OF THE BANKING SECTOR

The financial sector is very important because it plays a crucial role in the economy, since it ensures the flow of funds from savers to investors. This is very important, because by ensuring financial intermediation the investors who lack the necessary resources, now will be able to obtain the funds and in this way the financial institutions channel savings into investments, thereby supporting innovation and economic growth. The financial sector needs to be stable in order to be able to function properly.

Financial stability refers to the case when the whole financial system, the financial institutions and financial markets are stable, meaning that they are resistant to economic shocks and are fit to continue smoothly fulfilling its basic functions. Maintaining financial stability essential for the healthy development of the economy in one country and in order to maintain price stability, or else there will be heavy consequences for the economy, since because if the price volatility in the financial market increases, financial institutions might collapse and corporations can go bankrupt.

Banking industry financial stability is a situation when banks are sound enough to carry out their financial intermediation function adequately on their own, without assistance from any external institutions. In Europe, as well as, in North Macedonia, banks are considered to be the main financial intermediaries, and therefore it is important for the countries to have an efficient activity of the banking sector, as a main factor of maintaining stability. The most important task of the national bank and banking supervision authorities is to ensure financial stability of the state banking system.

In order to promote and preserve stability in the banking sector, the supervisor authorities encourage banks to manage their risks appropriately, in order to ensure that proper safeguards are put in place to limit their vulnerabilities. The capital base of the banking sector, with capital adequacy ratio at 16.5% in 2018, and 16.3% in 2019, indicates that the banking sector had capacity and was stable, making it quite resilient to external shocks.

2.1 Impact of COVID-19 on the economy

What distinguishes the pandemic crisis from other financial crisis that have happened in the past is the fact that it didn't originate from failures of the financial system or the economic system, but from a combination of the pandemic, governmental and social responses to it which resulted in shocks to the supply and demand, have affected sectors of the economy in a highly unusual way. The Covid-19 crisis, even though is a health crisis, of course it has an impact on the whole economy and on the banking sector. This shock, the outbreak, the new measures taken by the governments around the world in order to contain the virus, and not let it spread have affected individuals, businesses and have created disruptions in almost all

of the worlds' economies, since this induced a sharp decline in economic activity and a surge in job losses. As a result of the undertaken measures, many businesses were required to either work with reduced hours, completely shut down for a defined period, or try and adopt their business activities to this new situation. Firstly, there was a slowdown of the business activities and companies started to have lower revenues, and therefor lower profit, while they continued to incur costs.

In order the whole economy not to crash, all affected countries started to undertake initiatives and implement several programs such as business grants, tax cuts, wages subsidies and put measures to incentivize banks to increase firms access to credit, make them more easily available to small businesses and have more favorable terms.

2.2 How did banks around the world enter the Pandemic crisis?

The banking industry it is indirectly affected, but this sector is very crucial to help the economy survive, for example, by providing loans to businesses that have suffered. Banks entered into the pandemic crisis with a Tier 1 capital ratio much higher than before, when they entered the global financial crisis. The global financial crisis taught the banks a lesson, and they started to increase their capital buffers. As a result of this, banks entered this period of pandemic crisis more resilient and due to the strong capital levels which allowed them to support the economy during by providing loans during these times of distress. In Europe the majority of the largest banks are well capitalized, where 84.5% of the banks have Tier 1 capital ratio higher than 13%. The financial sector in North Macedonia is resilient to the crisis. Most of the banks have high capital adequacy ratios and high liquidity to weather the crisis. The National Bank on North Macedonia ever since the beginning of pandemic crisis took different measures, to allow and encourage banks to restructure loans temporarily, extend the period for which a loan would be considered non-performing and by giving grace periods for the newly approved loans in order to easing the situation for the borrowers. The system was prepared to deal with the corona crisis due to prudent regulations of financial regulators, largely harmonized with the European regulations, which have contributed to the system being able to cope with the shock caused by this pandemic.

3. INDICATORS OF FINANCIAL STABILITY IN THE BANKING SECTOR

Some of the indicators used in assessing the soundness of the banking system are the ratio of non-performing loans to total loans, the capital adequacy ratio (CAR), the average return on equity (ROE) and liquid assets to total assets.

Non-performing loans. In a banking system with traditional activities, such as in North Macedonia, the loan portfolio has a crucial role, because loans are the main source of bank's revenues, but at the same time they can be the main loss generator for banks, so it is very important for banks to ensure the quality of the loans, because problems in the loan portfolio result in problems in all the other areas of the bank's operations such as low profitability, liquidity problems or use of capital to cover credit losses. Non-performing loans are the most essential part of loan portfolio which have direct implications for the profitable and solvent position of the banks. (Jolevski, 2017). Banks use the NPL ratio to measure how effectively the bank is receiving repayments on its loans. The NPL ratio is calculated by dividing the amount of nonperforming loans and the total loans that the bank has issued. When the ratio is higher, it means that the quality of the assets it is not good and there is higher expected losses. In order a loan to be considered non performing, is when the installment and interest rate are not paid within a period of 90 days. The reason why this period is taken into account when calculating non-performing loans is that the chances of loan repayment decrease significantly after 90 days, which is why this period is used to identify if a loan becomes non-performing. Loans become non-performing when a borrower defaults on the loan, meaning that the

borrower fails to pay back the debt according to the initial arrangement, several installment payments have been missed over a period of time or when the borrower declares bankruptcy or loses the income he/she needs in order to repay the debt.

Capital adequacy Ratio. The capital adequacy ratio or the regulatory capital ratio is a measurement of a bank's available capital which is expressed as the percentage of a bank's risk-weighted credit exposures and it Is used to protect depositors and promote stability and efficiency of financial systems (Hayes, 2020). When calculating the CAR ratio both Tier 1 and Tier 2 capital are included. The capital adequacy ratio is very important, since it ensures that banks have the ability to handle external shocks and have the capacity to absorb a reasonable amount of losses before it becomes insolvent and consequently lose the depositor's funds. Banks need to have sufficient capital in order to be able to absorb any losses that might result from the risks with which the banking system is faced. This ratio ensures the efficient stability of the banking system by lowering the risk of banks becoming insolvent. If a bank has a good capital adequacy ratio, it means that it has enough capital to absorb future potential losses. When the ratio is higher it means that there is a higher degree of protecting the depositor's assets. High capital adequacy ratios are considered to be the ratios which are above the minimum requirements under Basel II and III, which are 8% and 10.5%. This indicator is very important for judging the strength and soundness of the banking system. Banks with reasonable capital adequacy ratios can absorb the unexpected losses easily without it affecting the performance of the bank. Tier 1 Capital ratio measures only the bank's core equity capital which is compromised of the bank's common stock, retained earnings and noncumulative perpetual preferred stock against its total risk-weighted assets. Tier 1 capital is consisted of common equity tier 1(CET) which includes common shares, stock surpluses, retained earnings and of additional Tier 1 capital which includes instruments that are not common equity such as contingent convertible or hybrid security. (Grant, 2020)

Return on Average Equity. The return on equity (ROE) is an indicator of banks' overall profitability. It relates the banks' net income to total capital. A high ROE suggests that banks are in a good position to increase their capital buffers. This ratio measures how well a bank's management is using its capital to create profits and provides useful insights into the financial health and the overall performance of the banking sector. This FSI provides an average income that can be used to cover losses in relative to capital (Kozaric and Zunic, 2014, p.62). This ratio is calculated by dividing the net income and the shareholder's equity ending value on the balance sheet, however this might not accurately reflect the actual return over a period of time since it might include last minute stock sales and dividend payments. As explained by Investopedia (2020), the return on average equity as an adjusted version of ROE can provide a more accurate picture of the profitability especially if the value of shareholders' equity has changed during the fiscal year since it takes into consideration the average return of the equity at the beginning and end of the year. In case the shareholders' equity doesn't change or changes very little during a fiscal year then the ROE and ROAE will be very similar.

Liquid assets to total assets and liquid assets to short-term liabilities. This ratio is a liquidity ratio and it is an indicator that measures the available liquidity of banks to meet expected and unexpected demands for cash. This indicator tells the percentage of the assets which are highly liquid in relation to the total loans. A high level of liquidity suggests that the deposit taking institutions are able to withstand shocks to their balance sheets. The liquid assets to short-term liabilities ratio measures the ability of the banking system to cover their short-term obligations which include deposits and other liabilities with a contractual maturity of one year or less.

4. SAMPLE DATA AND METHODOLOGY

For the purpose of understanding the impact of the pandemic crisis on the financial stability of the banking sector, financial indicators were analyzed, the capital adequacy ratios, non-performing loans,

liquidity ratios and return on average equity. The data used are secondary, in this case financial indicators, published by NBRM, Bank of Italy and IMF, which were obtained from annexes given in Excel, made available in their websites. The obtained data were used to create charts, in order to better follow how these indicators changed during these years. The indicators were analyzed quarter to quarter to see for how much they increased or decreased, as well as be compared with the adequate quarters of 2019, just to have a better understanding on how the pandemic crisis affected these indicators in 2020.By using a comparative analysis, the capital adequacy ratio and the non-performing loans were analyzed and compared between North Macedonia and Italy, being one of the countries hit the hardest in the beginning of the pandemic, in order to better see on how the pandemic impacted the financial stability of the banking sector.

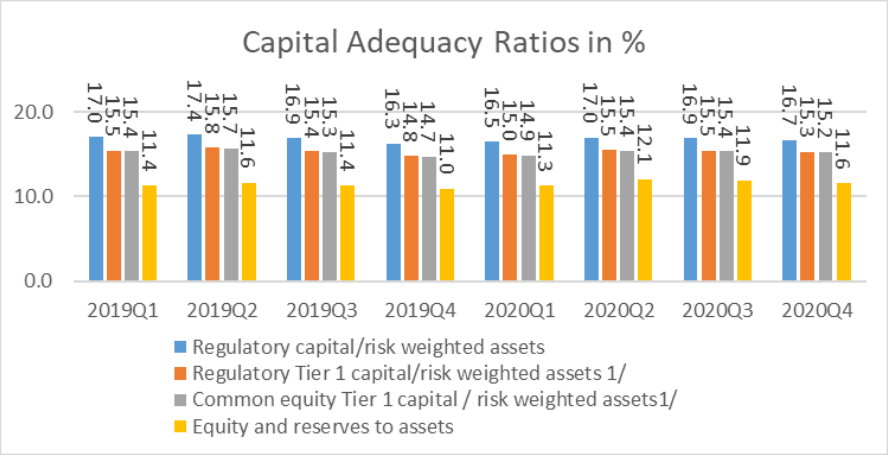
5. FINDINGS

Following are the findings from the indicators of financial stability in the banking sector.

5.1 Capital Adequacy ratios

As of March 31,2020 the capital adequacy ratio was 16.5%, which is more by 0.2 percentage points when comparing with the end of 2019. The rate of regulatory tier 1 capital was 15% and the rate common equity tier 1 capital was 14.9%, while the ratio of capital and reserves to total assets reached 11.3%. Analyzed by individual banks, the capital adequacy ratio in the 1st quarter, at fourteen banks was higher than 14%. (NBRM,2020).

Figure 1. Capital Adequacy Ratios, expressed in percentages



Source 1NBRM (created by author)

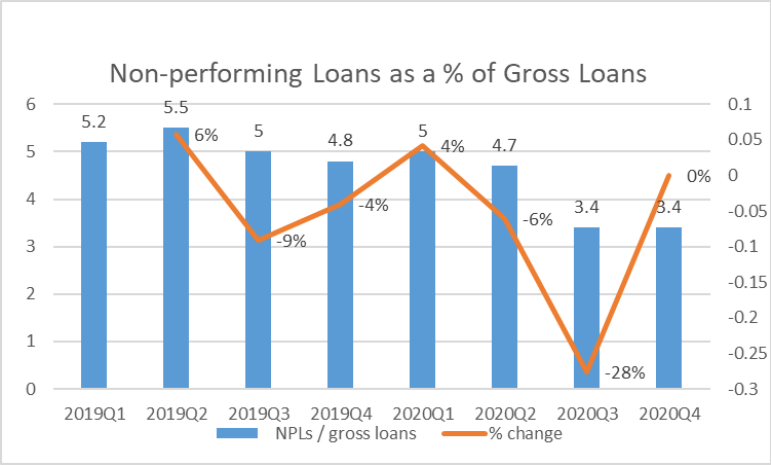
In second quarter, the solvency of the banking system improved. The capital adequacy ratio was higher for 0.5 percentage points, being at 17%. The rate of regulatory Tier 1 Capital was 15.5%, which increased for 0.5 percentage point compared with the previous quarter, while the rate of common equity Tier 1 capital was 15.4%. The indicator for solvency of the banking system in the third quarter remained at similar levels as in the previous quarter, decreasing only for 0.1 percentage points, being 16.9%. The rate of regulatory Tier 1 Capital and Common Equity Tier 1 capital remained at the same levels as in the previous quarter, 15.5% and 15.4%, which are more than twice higher than the minimum of 6% and 4.5%. The capital adequacy ratio in the fourth quarter was 16.7%, which when compared with the same quarter of 2019, is higher for 0.4 percentage points. The growth of own funds, primarily as a result of reinvested earnings and the issue of new shares in two banks, had the largest contribution to increasing the adequacy ratio of capital. (NBRM, 2020). During the last years, all these ratios maintained at a way higher level than

the minimum requirements, indicating that the banking sector had strong capital positions, and would be able to withstand shocks. Even after the pandemic outbreak, it can be witnessed that these ratios have remained at similar levels, indicating that the banking system continues to remain stable.

5.2 Non-performing loans

When comparing the percentage of non-performing loans from the beginning 2019 and the third quarter of 2020, it can be noticed that these loans have been decreasing. The non-performing loans in the first quarter of 2020 increased by 0.2 percentage points in comparison with the fourth quarter of 2019, reaching a level of 5% as a share in the total credits. According to NBRM Reports (2020), the NPLs when analyzed by sectors, the growth of NPLs was fully concentrated in the corporate sector, where these loans increased by 6.1%, and when analyzed by individual activities, most of the growth of NPLs arises from customers who dealt with production of metals, machines, tools and equipment, trade activities and in the textile industry. The reason for this is that the effect of the pandemic crisis was felt in certain economic activities, even before the health crisis started to expand in our country (due to disruptions of supply chains, reduction of prices of primary products, changes in consumptions and other habits of the subjects from the affected regions) and it's a consequence of the inability of customers to cope with the negative effects and pressures of covid-19 pandemic.

Figure 2 Non-Performing loans as a percentage of Gross Loans



Source 2 NBRM (created by author)

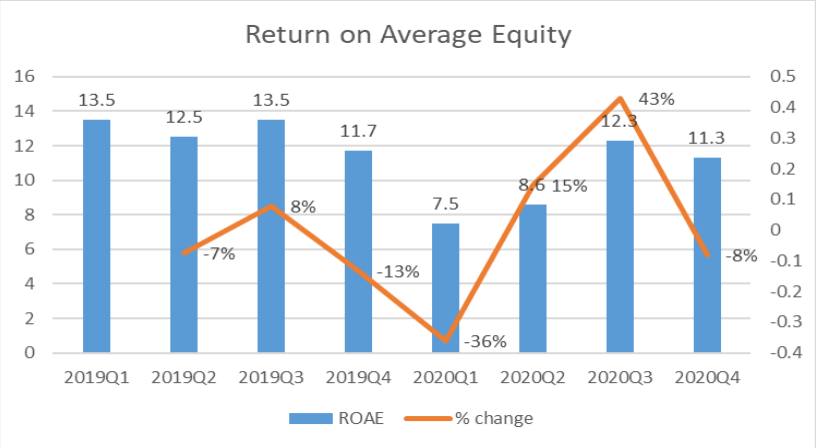
In the second quarter the non-performing loans decreased, making 4.7% of total loans. This might be due to the fact that one of the changes made by the NBRM was to extend the time period for which a loan would be considered non-performing, from 90 days this period was extended to 150 days and because of mandatory write-offs. Most of the decline in the non-performing loans was in the corporate sector, having a 4% decrease, while in the household sector having a 3.1% decrease.

In the third quarter the non-performing loans decreased by 28%, their share in total loans decreasing by 1.3 percentage points to the level of 3.4%. The decline in non-performing loans was more significant in corporate loans (-31.2%) and in households (-14.1%). The reduction of non-performing loans is influenced by the regulatory measure for mandatory write-off of fully reserved non-performing loans, but in this quarter is largely due to the exit of Eurostandard Bank out of the banking system. Also they are influenced by the regulatory measures that NBRM took ever since the beginning of the outbreak. In the fourth quarter the non-performing loans remained at the same level, at 3.4% of total loans.

5.3 Return on Average Equity

The banking system in the first quarter of 2020 continued by registering positive but very low levels of profitability. Return on average equity declined significantly, compared with last quarter of 2019, where it decreased for 4.2 percentage points making it 7.5%. In the second quarter the return on average earnings increased to 8.6%, but when comparing it with the second quarter of 2019, there is a significant difference as in second quarter of 2019 it was 12.5%, which is significantly lower, indicating that the pandemic has had an impact on ROAE. However, this indicator does not deviate more significantly than its 10-year average, which is slightly lower (by 0.3%). The modest growth of profit was not sufficient to improve the rate of return on average equity and to bring it at the level at which it was on the third quarter of 2019. This was due to higher growth of the average assets, capital and reserves in comparison with profit growth. Even though, in the third quarter there has been an improvement on the ROAE, since it increased to 12.3%, comparing it with 8.6% on the second quarter. The return on average equity in the fourth quarter of 2020, decreased to 11.3%, decreasing for 0.4 percentage points when compared to the fourth quarter of 2019.The crisis and its consequences are expected to be more visible in the upcoming periods in the banking system, since it is expected to have further reduction in the banking activities and consequently in the returns.

Figure 3. Return on Average Equity 2019-2020

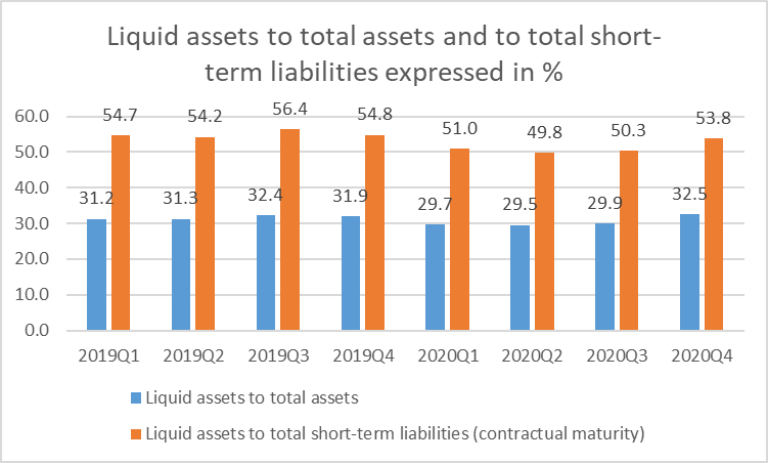


Source 3 NBRM (created by author)

5.4 Liquid assets to total assets and to total short-term liabilities

According to NBRM reports for the first quarter of 2020, the liquid assets of the banking system decreased during the first quarter of 2020. This was more pronounced in the first two months of the year and in part resulted due to the approval of governmental credit by several banks and usual seasonal decrease in deposits at the beginning of the year. With the beginning of the coronavirus outbreak in March, the liquidity of the banking system was partly affected due to deposit withdrawals. National Bank took measures in order to create liquidity in the banking sector. Even though the liquid assets decreased in the first quarter, in comparison with the last quarter of 2019, the share of liquid assets was very solid, at 29.7% of total assets. The coverage of short-term liabilities with liquid assets remained at satisfactory level of 51% This enabled the banks to properly manage the liquidity risk. In the following next two quarters, the share of liquid assets to total assets and the coverage of short term liabilities with liquid assets remained at similar but stable and satisfactory levels. When comparing these two indicators in the quarters of 2020 with the same quarters in 2019, it can be witnessed that there are differences, meaning that the pandemic crisis situation has had an impact on the liquidity of the banking sector, however, these ratios remain at satisfactory levels since even at the end of the third quarter the share of liquid assets is one-third of total assets, and the share of the coverage of short-term liabilities with liquid assets remains at 50.3%.

Figure 4. Liquid assets to total assets and to total short-term liabilities expressed in percentages



Source 4 NBRM (created by author)

6. COMPARING THE CAPITAL ADEQUACY AND NON-PERFORMING LOAN RATIO FOR NORTH MACEDONIA AND ITALY

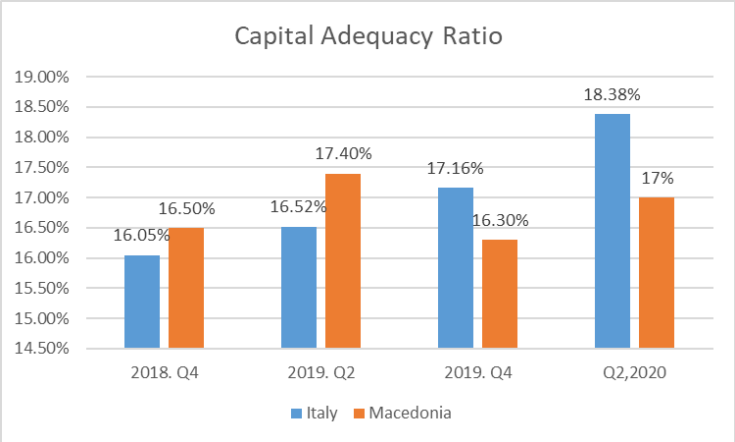
Italy was one of the countries hit the hardest in the beginning of the pandemic outbreak. The measures to contain the virus and not let it spread, such as lockdown and restriction of the movement of the population had an impact on the Italian economy. There was a decline on the economic activities and many businesses were affected by this situation. The Italian banking system entered the pandemic crisis at a stronger position than it entered the global financial crisis. The capital adequacy ratios have almost doubled and during the beginning there were no signs of weakening of depositor confidence in banks. (Banca de Italia, 2020). The monetary authorities took highly expansionary measures such as lowering the key policy rates, new refinancing operations and loosening the eligibility criteria for collateral. Italian banks have helped Italian businesses who were facing liquidity problems due to the pandemic crisis by providing them loans. This set of measures had the aim to support Italian enterprises through the banking system by providing access to credit and therefore support their liquidity. The banking sector during the first few months of 2020 was vulnerable. According to IMF (2020) during the beginning of the pandemic Italian banks were the largest users of European Central Bank's (ECB) Targeted Longer-Term Refinancing Operations (TLTRO), which provides substantial support to banks' liquidity and profitability. Many banks in Italian banking sector suffered from low capital levels, low profitability and weak asset quality. The average capital ratio of Italian banks remained below the euro area and the NPL ratios were among the highest in EU during the first quarter of 2020. During the second quarter of 2020 the recovery in the economic activities in Italy was greater than expected, however banks still were facing risks which were as a result of pandemic and included a decline in credit quality and a further decline in profitability. The pandemic affected the bank's profitability in the first six months of 2020.

6.1 Capital Adequacy ratio

When comparing the capital adequacy ratio between North Macedonia and Italy within the time period between the fourth quarter of 2018 and second quarter of 2020 it is noticed that Italy has been improving significantly the capital adequacy ratio, which was only 16.05% at the end of 2018, increased to 17.16% in the end of 2019 and in the second quarter of 2020 it further increased to 18.38%. The capital adequacy improved significantly, partly due to the capitalization of undistributed profits from the 2019 financial year. North Macedonia on the other hand, has maintained the capital adequacy at similar levels, but increasing

in the second quarter of 2020 to the level of 17%. This increase was due to the growth of own funds which resulted primarily as a result of reinvested earnings and the issue of new shares in one of the banks in North Macedonia.

Figure 5. Capital Adequacy Ratios in North Macedonia and Italy

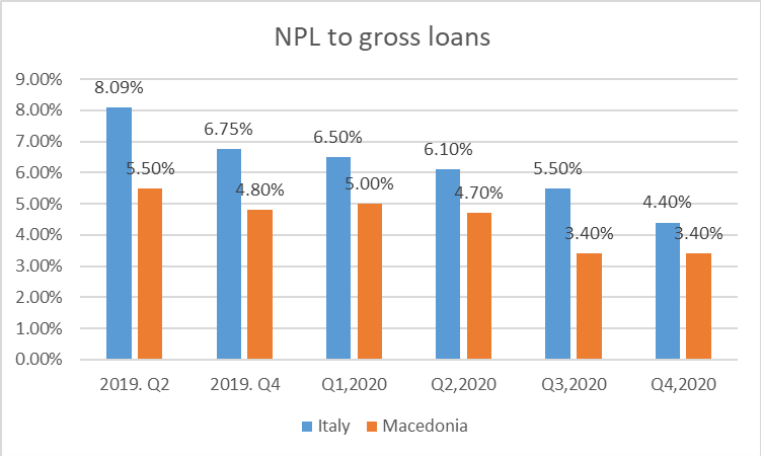


Source 5. IMF and NBRM (created by author)

6.2 Non-Performing Loans in North Macedonia and Italy.

Taking into consideration the non-performing loans to total gross loans, it can be seen that this ratio is significantly lower in North Macedonia, which during these periods maintained below 6% and decreasing to the level of 4.3% in the fourth quarter of 2020. Italian non-performing loans decreased as well within this period, being 8% in the second quarter of 2019, decreasing to 6.75% in the fourth quarter of 2019 and being 4.4% in the fourth quarter of 2020. Non-performing loans rate has remained low, comparing with historical trends, benefiting from the government measures to support credit. According to the Stability report conducted by the Bank of Italy, the performance of NPL rate is mainly due to the effects of the legislative moratoriums and private payment suspensions, the income support measures for households and business activity and the flexibility allowed under the rules for classifying loans.

Figure 6. Non-Performing loans as a percentage of Gross loans in Italy and in North Macedonia



Source 6 Bank of Italy and NBRM (Created by author)

The ratio of NPLs to total loans fell to 4.4% at the last quarter of 2020, comparing with the same quarter of 2019 where this share was 6.75%, a decline for 2.3 percentage points. In North Macedonia the share of non-performing loans has also decreased in pandemic times due to measures taken by NBRM when comparing with the second quarter of 2019, but this difference is not as high as in the Italian non-performing loans. In the last quarter of 2020, the non-performing loans remained at the same level as in the previous quarter in North Macedonia, while in Italy decreased for 20%.

7. REGULATORY RESPONSES OF NBRM

In the wake of the coronavirus outbreak, the National Bank of North Macedonia was quick to respond by making several regulatory changes in order to help the economy and not let it collapse.

During the beginning of the pandemic NBRM cut down the policy rate by 0.25 percentage points to 1.75%. Lowering the policy rate is a mechanism to boost the countries' economic activity since lower interest rates provide the commercial banks with more liquidity and lower credit cost. The intention was to provide liquidity in the banking sector in order the banks to be able to provide credit to the affected sectors by the COVID-19 pandemic. Many sectors were heavily impacted by the responsive measures to the pandemic such as lockdown, reduced working hours or complete shut-down of some companies for a defined period of time. By providing credit, banks would help these sectors survive the crisis and continue their operations. This rate was further cut in the second quarter by 0.25 percentage points to 1.5%.

The National Bank of North Macedonia also reduced the amount of CB bills that commercial banks can subscribe with the central bank. The funds released with the reduced CB bills offer were used to further support the economy by providing additional liquidity to the banks and maintaining credit flows in the banking system. (NBRM, 2020).

Another measure taken to give banks greater access to liquidity was expanding the scope of securities that the National bank would accept from the domestic banks in order to provide denar liquidity in the banking system. NBRM started to accept government bonds with longer maturities (15 and 30 years), and Eurobonds issued by the state on international financial markets owned by domestic commercial banks.

Banks and saving houses eased the financial burden on citizens and businesses which were affected by the corona crisis by extending the grace period for loan repayment, prolonging the loan repayment for an extended period, lowering interest rates and approving new, more favorable loans to refinance the existing ones.

The period for which a loan would be considered as non-performing was extended. Previously a loan would be considered as non-performing if the borrower is 90 days past due date. However, since the pandemic outbreak this period was extended to 150 days.

8. CONCLUSION

The Pandemic crisis originated from a combination of different factors such as the pandemic and the measures taken from the governments throughout the world in order to contain the virus and not let it spread. These measures triggered a series of events, such as the lowering of business activities due to lockdown, or complete shut-down of some sectors for a period of time and job losses. This led to a financial crisis and the banking sector was in part impacted. Banks throughout the world, and in North Macedonia as well, entered the pandemic crisis better prepared and better equipped. The Banking sector in North Macedonia is highly capitalized and highly liquid (the liquid assets being almost 1/3 of total assets). The

liquidity and capital positions have been continuously strengthening, the capital adequacy ratio being 16.3% and the liquid assets being 31.9% of total assets at the end of 2019. The strong position of the banking sector, being well capitalized and liquid created room for it to be able to absorb any unexpected losses, which might result from different types of shock, in this case due to the impact of the corona virus, without compromising its financial stability. The banking system did not feel any big shocks, which would impact its financial stability. The capital adequacy ratio maintained at similar levels, ranging from 16.5% to 17%, the non-performing loans ratio actually decreased further during the pandemics times, but this was mostly as a result of the measures undertaken by the National Bank of North Macedonia. Liquid assets experienced a slight decrease, however they remained at satisfactory levels. Return on average equity experienced a slight decrease in comparison with the corresponding quarters in 2019. Banking system as main financial intermediary in North Macedonia was crucial to help revive the economy and not allow the crisis to deepen even more. The National Bank took several measures to provide liquidity to the banking system and support lending to the most affected sectors by the crisis in order to keep the economic activities moving. Although the crisis did not have a big impact on the financial stability of the banking sector in North Macedonia during 2020, its negative consequences are expected to be more visible in the upcoming quarters, in terms of reduced profitability ratios and increase in the non-performing loans.

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GLOBALIZATION IMPACT ON INCOME INEQUALITY DISTRIBUTION (EUROPEAN UNION)

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ABSTRACT

The conclusions presented on the effects of increasing globalization and the inequality of income distribution is not consensual. With this paper it is intended to contribute to the clarification of this relationship, particularly with regard to the effects of the economic aspect of integration at the European Union (EU) during the period of 1995 to 2018.

In this sense, an adequate review of theoretical and empirical literature is carried out, as well as the realization of an econometric application. The 19 EU countries considered in the sample were divided into two subsamples, “North” and “South” countries, taking into account a benchmark for the level of real GDP per capita. In a complementary way, it is still an objective of this paper to try understand if the Great Recession, initiated in 2008-09, has impact on globalization on inequality and through what mechanisms, since the literature reports persistent effects of periods of recession on inequality.

The main results suggest that, since 1995, international trade has decreased the inequality in income distribution in the two groups of countries, while the financial globalization, through the entry of FDI, has provoked this inequality in the group of “Northern” countries. Regarding to the effect of the crisis in 2008-09 financial report, it is concluded that: on one side, economic globalization, after the crisis, eased the inequality in the income distribution in both groups of countries; on the other hand, after the recession, social integration contributed to the worsening of this inequality, both in the countries of the "North" and in the countries of the "South".

KEY WORDS

INCOME INEQUALITY; GINI COEFFICIENT; GLOBALISATION; EU; KOF

JEL CLASSIFICATION CODES

D63, F62

1. INTRODUCTION

The question intended to answer with this work of study is related to the evaluation of the impacts of increasing globalization on income distribution inequality, taking the countries of the European Union as a reference. It is also intended to assess the possible impact of the Great Recession, initiated in 2008-2009. In parallel with the evolution of globalization, which since the 1970s has increased considerably in all its dimensions (Potrafke, 2015), we have seen in the last few decades an increase in inequality of income

distribution, in both developed countries and developing, something that has been a matter of widespread concern, the United Nations (UN), on its agenda for 2030, included the goal of reducing inequality within and between countries. Which leads us to the question of the extent to which the globalization process can affect the inequality of income distribution.

After following sections 2 and 3 which are talking about the problem statement of this study and the aims and objectives, in section 3, the methodology, as well as the variables chosen for the empirical application are presented. section 4 of this dissertation focuses on the review of relevant theoretical and empirical literature for understand the relationship between globalization and inequality in income distribution. Section 5 presents the results and findings as well as an analysis of the evolution of globalization indicators and inequality of income distribution for the sample countries and for the period under analysis. Finally, the discussion and conclusion of this work are found in section 6 and 7.

2. INEQUALITY IN INCOME DISTRIBUTION

Inequality in income distribution can be assessed using various indicators, which can lead to some discrepancies. Some of these measures are, for example, the interquintile ratio or S80 / S20 index, and Theil index. However, the most used measure is the Gini coefficient (Erauskin and Turnovsky, 2019). This is based on the Lorenz curve, which assesses the distribution of income / wealth across the population, and varies between 0 (all individuals receive the same income) and 1 (all income is concentrated in one single individual). It is calculated through the ratio between the area that is between the curve of Lorenz and the diagonal line, which corresponds to the equal distribution of income, and the total area below this diagonal (Groves-Kirkby, Denman and Phillips, 2009).

3. GLOBALIZATION

The concept of globalization, according to Crafts (2004, p. 45), can be understood as the "Process of integration of goods and capital markets across the world in which barriers to international trade and foreign investment are reduced". This process started in the 19th century, with the international trade growth associated with the reduction of customs tariffs, having been particularly stimulated, in the middle of the 20th century, by the creation of pro-competition institutions, such as the General Agreement on Tariffs and Trade (GATT), currently World Trade Organization (WTO), and, more recently, the reduction of transport and transmission of information between countries. Financial globalization was enhanced after the collapse of the Bretton Woods system, by the development of the financial sector and increasing capital mobility (Kang-Kook, 2014). The indicators most frequently used to assess the economic dimensions of globalization are the degree of openness, which measures the impact of openness to international trade, and indicators related to FDI, such as the FDI / GDP ratio, which measure the effect of financial globalization. In the last decades, the political and social dimensions of globalization, created a need for a more comprehensive indicator. For example, the index KOF is a composite index that measures its economic, political and social aspects (Dreher, Gaston and Martens, 2008), and that, by distinguishing the different aspects of integration. According to Villaverde and Maza (2011), it is the measure of globalization that allows a more reliable analysis. In this sense, it will be this broader definition of globalization that will be taken into account in this paper.

4. EMPIRICAL RELATIONSHIP BETWEEN GLOBALIZATION AND INCOME INEQUALITY DISTRIBUTION

Using the KOF index, with a sample of 101 developed and developing countries and an analysis of the period from 1970 to 2005, Villaverde and Maza (2011) concluded that, in general, globalization promotes the economic growth of countries,confirming the results of Dreher (2006) and, indirectly, the convergence of income between them. Dreher and Gaston (2008), also using the KOF index, found evidence that globalization would have led to an increase in inequality in income distribution in OECD countries during the period 1970 to 2000. On the other hand, Jaumotte, Lall and Papageorgiou (2013), for a sample of 51 developed and developing countries during the period from 1981 to 2003, considered the contribution of growing globalization not very relevant from the point of view of the income distribution. Potrafke (2015) considers that globalization has been responsible for increasing the inequality of this distribution within countries, especially developing countries. Dorn, Fuest and Potrafke (2018) analysis of 140 countries, between 1970 and 2014, also concluded this positive relationship between globalization and inequality.

As can be concluded, the influence of globalization on the inequality in the distribution of performance has been extensively investigated; however, the results presented are not consensual. In order to explain these effects, we will focus our study on the mechanisms inherent to this relationship.

5. FINANCIAL GLOBALIZATION AND INEQUALITY: FOREIGN DIRECT INVESTMENT (FDI)

It is expected that financial globalization, namely through the inflows of funds FDI, is associated with an increase in income inequality in the country where the investment is made, since it is responsible for the introduction of what in the literature usually is called skill-biased technology. This mechanism favors and increases demand by more qualified workers in that country, which translates into a salary increase for these workers in relation to the others (Alderson and Nielsen, 2002; Lee, 2006; Dreher and Gaston, 2008; and Jaumotte et al., 2013). Lee (2006), through empirical evidence regarding the 14 oldest members of the European Union, during the period 1951 to 1992, concluded that FDI was responsible for increasing inequality in the distribution of income in the countries in the sample, through the mechanism mentioned above. Jaumotte et al. (2013) concluded that the flow of FDI inflows, between 1981 and 2003 had, on average, an effect that led to an increase in inequality in the distribution of income, both in developed and developing countries, due to be carried out in intensive sectors in technology and skilled labor. However, the authors consider that this effect is likely to vary from the type of sector and the disappearance of workers' acquirement for more education and qualifications. According to Kuznets (1955), countries see their level of inequality increase up to a certain level is reached (tipping point). From this, it is expected that this inequality will decrease.

The impact of FDI on income inequality in Central European countries and Eastern Europe was analyzed by Mihaylova (2015), who found that FDI has potential to influence this inequality, but its effect is dependent on the absorption ability of the economy that receives it. If workers in the country concerned invest little in human capital and if the level of economic development is low, then FDI tends to increase inequality in income distribution. On the contrary, high levels of human and development capital can lead to an egalitarian effect. To this end, improvement in the quality of education is necessary - which translates into an increase in the more qualified workforce -, investment in activities with high added value and promoting increases in productivity which, in turn, contribute to a level of highest development in the recipient country (Mihaylova, 2015). Still, in this line of thought, Wu and Hsu (2012) also concluded that the impact of FDI on inequality income distribution depends on the absorption capacity of the host country and that, if it is low, this impact is negative, that is, in the sense of increasing this inequality. Baek and Shi (2016) also concluded that this effect depends on the level of economic development, according to which

greater financial openness tends to increase inequality in the case of developing countries, while in the case of developed countries; this inequality tends to be reduced. Regarding the effect of the entry of FDI in developing countries, Harrison and Rodríguez-Clare (2010) mention in their work that foreign companies present higher productivity levels than domestic companies and therefore pay higher wages, inducing an increase in income inequality. However, when controlling for the characteristics of workers, they verify that these companies tend to hire more educated and qualified labor, hence the wage gap. They conclude, therefore, that there is no clear effect of increasing inequality resulting from FDI, since there is no evidence that companies with foreign participation pay higher wages to workers than domestic companies would pay.

On the other hand, Alderson and Nielsen (2002) present empirical evidence that 10 of the 16 OECD countries in the sample between 1967 and 1992 showed an inverted trend relative to the Kuznets curve. After countries have reached some level of GDP per capita, in line with a reduction in income inequality, it was observed that in many countries cases, this inequality increased again - "the great U-turn" (Alderson and Nielsen, 2002: p. 1244). This change in the pattern proposed by Kuznets (1955) can be derived from the effect of FDI, as the outflow of direct investment originates the movement of workers from the industrial sector to the services sector, characterized by lower wages and a more unequal income distribution. Still, the output of capital causes a loss of productive capacity in the domestic country. In this way, the low marginal labor productivity, makes the labor factor cheaper (wages lower), and the marginal productivity of capital increases. Finally, the demand for workers less qualified in the domestic country decreases, since it is possible to reallocate tasks to workers' residents in the countries where the investment is made, in which wages are lower. Thus, this reduction in demand for less qualified workers in the most will lead to a reduction in their income, therefore, for an increase in inequality (Alderson and Nielsen, 2002). Erauskin and Turnovsky (2019) mention two other channels through which financial liberalization influence on the distribution of income in the country of origin – reduces the costs of borrowing from abroad and the costs of investing abroad. As there are two activities carried out by the wealthiest members of the population, the inequality will tend to increase. However, making investments abroad relocates resources outside the domestic economy, which increases unemployment, reduces returns to domestic capital, increases wages and thus contributes to a decrease in inequality, contrary to the increase mentioned above. On the contrary, decreasing costs of borrowing abroad will stimulate the domestic economy, increase returns to capital, lower wages and, therefore, inequality tends to increase. According to the authors, the impact of financial globalization on the inequality in income distribution depends on the combination of the above. Erauskin and Turnovsky (2019) found that the global effect of financial liberalization between 1970 and 2015 increased inequality in income distribution, both in the debtor economy and in the creditor. In order to assess the influence of FDI on the inequality of income distribution in the short and long term, Herzer and Nunnenkamp (2013) looked at data from 8 European countries between 1980 and 2000. They concluded that in the long run, on average, income distribution becomes less unequal due to the effect of inflows and outgoing FDI and, on the other hand, that greater inequality leads to less FDI. However, in the long term, the effect of FDI flows is towards increasing inequality.

6. GLOBALIZATION AND INTERNATIONAL TRADE (GOODS AND SERVICES)

According to the Heckscher-Ohlin theory, openness to international trade should reduce the wage gap between the most and least skilled workers in developing and developed countries, resulting with a reduction in the inequality of income distribution. In fact, "The experience of East Asia in the 1960s and 1970s supports the theory that greater openness to trade tends to narrow the wage gap between skilled and unskilled workers in developing countries" (Wood, 1997: p. 33). On the other hand, in an advanced economy, where qualified labor is relatively abundant, this inequality is expected to increase. The argument is then that international trade will negatively affect the relative price of the most import abundant factors in each type of country. The countries of the "North" are considered to be the most and therefore more

abundant in skilled labor, while “South” countries are less developed and, of course, less abundant qualified workers. Trade will increase workers' wages more in “Northern” countries, increasing wage inequality, while in “Southern” countries; there is a tendency to reduce inequality due to the increase in the wages of less qualified workers. However, empirically, it was found that, in Latin American countries, during the 1980s and 90, greater openness resulted in greater inequality. Wood (1997) presents several events between 1980 and 1990 to explain this difference, such as greater capital and labor mobility more qualified workforce, skill-biased technological progress and the entry of countries abundant in low-skilled work (especially China), which expanded their exports. Latest empirical evidence reviewed by Winters, McCulloch and McKay (2004) contradicts the theory, by revealing that trade liberalization has led to an increase in wage gap between more and less skilled workers in East Asia. Mah (2013), when empirically analyze the impact of international trade on distribution inequality China's income between 1985 and 2007 also showed that there was an increase in this inequality. Goldberg and Pavcnik (2007) concluded, after analyzing several studies, that the openness to trade has not had an equal effect in developing countries. Through his empirical study, Kang-Kook (2014) concluded by an egalitarian effect of international trade in the distribution of income, however dependent on the level of human capital. The evidence presented through a cross-country model for 47 countries, during the period from 1976 to 2004, showed that this effect is greater in countries with a higher level of education, since the benefits associated with international trade law can be more easily spread by individuals with higher levels of human capital. In the same sense, Majeed's (2013) empirical study also mention of a conditional relationship depending on the level of economic development. In relatively rich developing countries, there is an egalitarian effect on trade international, while in the poorest developing countries, the opposite is true. This conditionality can, on the other hand, be found in Bergh and Nilsson (2010), who verified that trade liberalization, is associated with an increase in inequality of income distribution, mainly in richer countries. Still, Baek and Shi (2016), based on a sample of developed and developing countries, concluded that an increase in the intensity of international trade is capable of aggravating the inequality in developed countries, whereas in developing countries checks for attenuation. Regarding to the countries in transition, Franco and Gerussi (2013) found that, during the period 1990-2006, the variable associated with international trade was not relevant from the view of the impact on inequality of income distribution across countries. They concluded that imports from developed countries contributed inequality increase in countries with a lower level of development, in the short term, and for the decrease, in the long term. This increase, according to the authors, is related to the fact that the entry of goods from countries with technological levels, higher prices lead to increased demand for more skilled workers in the countries least developed. In this way, a spillover effect is generated, through which companies begin to adopt some of these technologies, which means that, in the long run, this inequality decreases. The authors also tested the role of education and, like KangKook (2014), verified that it is a channel capable of contributing, in the long run, to the diffusion benefits associated with international trade, especially in the case of exports developing countries and also imports from those countries. However, in the short term, the trend is to contribute to an increase in inequality.

Through a theoretical model and under several assumptions, Andersen and Sørensen (2011) analyzed the influence of the process of integration of goods and services on the labor market and, consequently, the distribution of income in countries. The authors explore the effects of this process on the incomes to be considered in the wage negotiations, namely rents associated with limited entry into the markets (for example, barriers to entry), and income from specialization, resulting from greater productivity compared to competitors (comparative advantages). As this process goes on, the rents associated with protectionism gradually decrease, which facilitates entry into the markets and leads to increased competitiveness and thus less pressure for wage increases and less inequality in income distribution. On the other hand, in a more advanced state of integration, that is, in more economies open, this process will promote an increase in specialization income, resulting from the exploitation of comparative advantages, and lead to an increase in this inequality. From this in this way, although, initially, there may be a convergence of income, to lower high levels of integration, a trade-off between integration and equality emerges, in the form of U, in that the gains derived from greater integration are obtained at the expense of

greater inequality. In order to assess the impact of international trade on inequality in income distribution in the short and long term, D'Elia and De Santis (2019), through data relative to 35 OECD member countries for the period 1995-2016 concluded that there was an attenuation of this inequality in low and middle income countries, both in short and long term.

7. METHODOLOGY

This section presents a descriptive analysis of the relationship between globalization and inequality in the income distribution for the countries of the European Union, for the period 1995-2018. Due to data restrictions and in order to avoid bias in results, some countries were excluded, namely Bulgaria, Croatia, Cyprus, Slovakia, Hungary, Lithuania, Malta and Poland. The United Kingdom was not considered in the analysis, as, at the time of this work, it no longer belongs to the EU. Like this the group of countries included in this study is composed of: Germany, Austria, Belgium, Denmark, Slovenia, Spain, Estonia, Finland, France, Greece, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Portugal, the Czech Republic, Romania and Sweden. Then, a division was made into 2 groups, according to the average level of real GDP per capita for the period considered. On the one hand, countries of the "North", above € 28,000 per capita (Germany, Austria, Belgium, Denmark, Finland, France, Ireland, Luxembourg, the Netherlands and Sweden) and, on the other hand, the countries of the "South", below € 28,000 per capita (Greece, Portugal, Estonia, Latvia, Slovenia, Czech Republic, Romania, Spain and Italy). This separation seeks to distinguish countries between s intra-EU, equivalent to the "North" and "South" countries, in light of the theories in the literature, e.g., Heckscher-Ohlin theory (cf. Wood, 1997). Regarding globalization indicators, alternative indicators were chosen, mentioned in the previous section: the degree of trade openness, Foreign Direct Investment (FDI) and the composite KOF index, which is subdivided into dimensions: economic, political and social aspects of globalization. The higher the value of the KOF index, the higher the country's level of globalization. To assess inequality in distribution income, the Gini Coefficient was chosen for disposable income, as already mentioned, as the most reliable unit of measurement. The data was collected from the Eurostat, from UNCTAD and the KOF Swiss Economic Institute.

8. RESULTS AND FINDINGS

In this section, the results obtained for several models are analyzed. The base model considers the KOF index separated into its three components: economic, social and political. Then, the economic component is broken down into two dimensions - degree of openness, and FDI (inbound and outbound) flows. Finally, an estimate is presented to assess whether, and how the 2008-09 Great Recession affected the impact of globalization on inequality of income distribution.

9. BASIC MODEL

The empirical analysis started from a base model that seeks to relate globalization to inequality of income distribution, as already mentioned. Based on the study of Dreher and Gaston (2008), the three dimensions of the composite globalization indicator, the KOF index, in the sense of its relation to income inequality. Estimations made can be found in Table 6, either for the total sample of countries or for each of the groups' countries, "North" and "South" countries.

Table 1. Estimation results for the base model: KOF index and inequality

	Total sample	"North"	"South"
ln(real GDPpc) t-1	**-18,27124** (-2,471794)	**-46,17107** (-2,576643)	**-43,49403** (-2,935555)
(ln(realGDPpcreal)t-1)^2	**0,863957** (2,263359)	**2,269999** (2,630199)	**2,229264** (2,763092)
Unemployment rate	**0,057047** (2,264011)	**0,122417** (1,876767)	**0,101623** (2,396782)
KOF_Ec	**-0,056692** (-1,708248)	**0,135061** (1,660667)	**-0,098047** (-2,488310)
KOF_So	**0,043173** (1,521708)	**0,027064** (0,290918)	**0,120345** (1,058298)
KOF_Po	**0,081285** (1,233523)	**0,001986** (0,039705)	**-0,012925** (-0,386868)
Direct taxes t-1	**-0,002250** (-0,116222)	**-0,002121** (-0,060251)	**0,005346** (0,209682)
Social transfers t-1	**-0,170220** (-3,249749)	**-0,135284** (-1,782131)	**-0,296717** (-2,857225)
Basic education	**0,083697** (3,511839)	**0.075549** (2,374241)	**0,153672** (4,151436)
Gini Coefficient t-1	**0,539038** (10,37555)	**0.572190** (7,904433)	**0,403242** (4,631513)
No. countries	19	10	9
No. observations	313	172	141
R^2 adjusted	0,950014	0,816787	0,968131
F-Statistics	124,5373	20,54723	112,9202
Prob (F-Statistics)	0,000000	0,000000	0,000000

The three estimates presented in Table 6 reveal an R adjusted above 80%, being that for the total sample and the group of countries in the "South" this value is above 95%, which indicates a high quality of fit of the model. In addition, the probability associated with the F-statistic confirms that the relationship between the dependent variable, coefficient of Gini, and all independent variables is statistically significant. Regarding the variables that capture globalization, only the economic component, KOF_Ec, proved to be statistically significant for all countries and for bot subgroups, being, therefore, the dimension that seems to be responsible for the behavior of the composite KOF index. In the total sample, economic globalization helps to decrease the inequality of income distribution, as well as in the group of countries from the "South". So, in the "Northern" countries, economic integration contributes to the worsening inequality, as expected, since both international trade and FDI is expected to act in this direction, through the mechanisms already mentioned in the most developed countries ("North"). In the case of "Southern" countries, it is expected, as already mentioned in above, that opening to foreign trade should work towards reducing inequality and that the FDI acts in the opposite direction. Bearing in mind that the sign of the coefficient is negative, the benefits associated with economic integration seem to have outweighed the harm, for this set of countries. Regarding the control variables, the negative sign of the variable in (real GDP) – higher GDP, less inequality -, and positive of the variable in (real GDPpc) two - from a certain level real GDPpc, its growth leads to an increase in inequality -, counteract the effect of Kuznets. On the contrary, they support the conclusions of Alderson and Nielsen (2002) regarding OECD member countries, who argue that the relationship between GDP growth and inequality is expressed in the form of U, not in the form of an inverted U. The sample is formed only by developed countries, already in the descending phase of the Kuznets curve, showing an impact on U only for very high levels of GDP per capita, above € 39 111 The variable Unemployment rate has

statistical significance and the value of its coefficient is positive, which means that the higher unemployment in a country, the greater the inequality of income among individuals, which is in line with expectations. This follows from the fact that least qualified workers are, in principle, the most likely to lose their jobs, fueling the unemployment rate; running out income or with lower income in the unemployment situation, this is reflected, necessarily meaning greater average inequality. The coefficient associated with the variable Social transfers has statistical significance and negative sign in all estimates, which means that greater support for the poorest classes from the governments has a positive impact on inequality, that is, in the sense of its decrease, as expected. The maximum level of education at the level of Basic Education is also statistically significant and, therefore, must be considered in the analysis of inequality in the income distribution in the European Union. The positive coefficient of the Basic Education variable shows that, the higher the percentage of population with only Basic Education, the greater the existing inequality. Naturally, less educated individuals are allocated to lower-paid jobs, while more skilled workers perform better paid functions. In addition, several studies mentioned in the chapter 4 conclude that a lower level of education does not allow widespread dissemination of positive aspects associated with globalization, capable of reducing this inequality (e.g., Wu and Hsu, 2012; and Mihaylova, 2015).

10. EFFECT OF COMMERCIAL GLOBALIZATION

After obtaining the estimates for the base model, it was decided to disaggregate the dimension economic performance of the KOF index, the only one statistically significant, in two of the variables it comprises: degree of openness, and FDI flows. Both are part of the most used in the literature to capture globalization (e.g., Wu and Hsu, 2012; Faustino and Vali, 2013; Baek and Shi, 2016; and D'Elia and De Santis, 2019), hence the relevance of this breakdown.

The degree of opening variable proved to be statistically significant for the two groups of countries. In the case of the "Northern" countries, it is significant at 5% and the negative value of its coefficient contradicts the predictions of the Hecksher-Ohlin theory, as it predicts that international trade leads to an increase in inequality in more developed countries. With regard to the countries of the "South", the results are in line with those predicted by the theory in the sense that, in less developed countries and, therefore, more abundant in factor low-skilled labor, international trade increases the demand for these workers and, consequently, their wages. By reducing the wage gap between inequality decreases. It is concluded, then, from these results that a greater commercial opening tends to decrease the inequality in European Union countries. These results are in agreement, for example, with those obtained by Bergh and Nilsson (2010), and Faustino and Vali (2013). Control variables exhibit behavior similar to that of the base model.

11. EFFECT OF FINANCIAL GLOBALIZATION

FDI inflows show statistical significance at 10%, but only for the group of "Northern" countries. The benefits associated with FDI tend to be concentrated on industries where this is carried out, which tend to increase inequality. In fact, there is an increase in the demand for more qualified workers and, consequently, of their salary, in relation to other workers. So the signal positive of the coefficient is in agreement with the expected and, with Lee (2006) - the more financially developed the country, the greater the inequality income distribution. According to Eurostat statistics, financial activities and represented insurance around 75% of FDI entry positions in the European Union in 2015. Regarding the countries of the "South", the variable was not statistically significant. Therefore, with regard to financial globalization, the results seem to depend and vary according to the group being analyzed. In addition to FDI inflows, outflows have also been considered the influence of globalization on the inequality of income distribution, namely, in the study by Alderson and Nielsen (2002), among others. The authors consider that FDI outflows

lead to increased inequality in developed countries. On the one hand, FDI outflows originate, in the country of origin, the movement of workers from the industrial sector to the services sector, characterized by higher wages and a more unequal income distribution. On the other hand, the demands for less qualified workers in the country of origin decreases, as these tasks are allocated to workers in destination countries, where wages are lower.

12. EFFECT OF THE 2008-09 GREAT RECESSION

With the objective of trying to understand if the Great Recession, initiated in 2008-09, persistently, the impact of globalization on inequality in the income distribution in the two groups of countries considered, another model was estimated, in which interaction variables were incorporated between the three dimensions of the index KOF and the Crisis variable. This variable assumes a value of 1 for the post-crisis period (years 2009 and following), and 0 for the pre-crisis period. The results are shown in Table 10.

Table 2- Estimation results: KOF index and inequality, before and after crisis

	"North"	**"South"**
ln(real GDPpc) t-1	**-35,69615** (-1,880058)	**-36,82021** (-2,659906)
(ln(real GDPpc real) t -1)^2	**1,752075** (1,894612)	**1,914171** (2,544512)
Unemployment rate	**0,095107** (1,265975)	**0,105412** (2,570530)
KOF_Ec	**0,208169** (2,664614)	**-0,076221** (-2,022858)
KOF_So	**0,015647** (0,105974)	**-0,151934** (-1,244535)
KOF_Po	**0,009495** (0,298647)	**-0,041279** (-1,203253)
Direct taxes t-1	**0,004479** (0,119670)	**0,013968** (0,501470)
Social transfers t-1	**-0,104910** (-1,344488)	**-0,221682** (-2,410344)
Basic education	**0,073757** (2,124911)	**0,146235** (4,096876)
Gini Coefficient t-1	**0,374097** (4,678116)	**0,265027** (3,026626)
Crisis * KOF_Ec	**-0,178240** (-3,807776)	**-0,113416** (-2,868669)
Crisis * KOF_Po	**-0,016355** (-0,515799)	**-0,012250** (-0,396239)
Crisis * KOF_So	**0,353506** (3,211326)	**0,391579** (3,134567)
No. countries	10	9
No. observations	172	141
R^2 adjusted	0,841038	0,971494
F-Statistics	22,54118	117,3739

By reading the results in Table 10, and as in the base model, the only dimension of the globalization KOF index that proved to be statistically significant for both groups of countries was economic. Additionally, the sign of the coefficient associated with the variable KOF_Ec was expected, as in the countries of the "North" economic globalization tends to worsen the inequality of income distribution, whereas in the countries of the "South" tends to improve. Through the confrontation between the coefficient associated with the variable KOF_Ec and the coefficient of interaction variable between KOF_Ec and the Crisis, it can be concluded that economic globalization contributed less to increase inequality in the "North" countries in the post-crisis period (post-crisis coefficient = 0.208169 - 0.1778240 = 0.029929) than before the 2008-09 crisis (pre-crisis coefficient = 0.208169). Conversely, the social dimension of globalization contributed to amplify inequality in the post-crisis, to the extent that it presents a coefficient with positive and statistically significant value (0.353506). This contribution, on the other hand, it is not found before the Great Recession. With regard to the countries of the "South", and making the same comparison of values that for the countries of the "North", it appears that economic globalization has contributed more to reduction of inequality in the post-crisis period (post-crisis coefficient = -0.076221-0.113416 = -0.189637) than before the Great Recession (pre-crisis coefficient = -0.076221). On the contrary, social globalization contributed to the amplification of inequality in the period post-crisis (0.391579). The conclusions regarding the effect of social globalization are consistent with those of Bergh and Nilsson (2010), who verified that this dimension was the driving force for increasing inequality, especially in middle and low-income countries income, since the benefits resulting from this type of globalization spread more difficultly, since only a limited group of people has access to information. Again, the control variables behave similarly to the previous estimates.

Regarding the countries of the "North", and through the analysis of the signal and the value of the coefficient of the variables Degree of openness and Crisis * Degree of openness, it appears that the opening to trade contributed more to reducing inequality in income distribution in the post-crisis period (post-crisis coefficient = -0.012966-0.008792 = -0.021758) than in the pre-crisis period (pre-crisis coefficient = -0.012966). Therefore, it can be considered that the international trade contributed to a more egalitarian impact of economic integration in the post-recession period, discussed above. In the case of the "Southern" countries, these variables show statistical significance. Still, social globalization proves to be statistically significant for both groups of countries and its effect was in the direction of worsening (positive sign of the coefficient of Crisis variable * KOF_So) of inequality in the post-crisis period, but not in the pre-crisis period. This contribution was greater in the countries of the "South" than in the countries "Norte". Once again, the control variables showed a transversal behavior to the several models. The results of the influence of the 2008-09 crises on how FDI impacted the inequality of income distribution.

In the case of the variable FDI outputs, in none of the groups there is statistical significance and, therefore, it is not possible to draw any conclusions about how the 2008- 09 shaped the impact of outgoing FDI flows on inequality of income distribution.

13. CONCLUSION

In summary, the results suggest that globalization in the goods and services market since 1995 has reduced the inequality of income distribution in the two groups of countries, while financial globalization, through the entry of FDI, has contributed to aggravate this inequality in the group of "Northern" countries. In this way, decision-makers' policy makers should focus primarily on policies that mitigate the impacts negative effects on inequality associated with the capture of FDI by the most economies the European Union. Still, and taking into account the current pandemic crisis, and consequent effects at the level, for example, of the reduction of globalization in the goods market and services, an increase in inequality can be expected, according to the results of this study. Thus, it is also imperative to consider these effects at the

time of making political decisions in order to avoid even more damaging consequences on the household income, already negatively affected by the reduction in working hours, or even for the loss of job.

Nevertheless, this study represents an important contribution to the literature, as which is based on a more comprehensive and current concept of globalization, seeking to understand the influence of each dimension (economic, political and social) on inequality income distribution. Additionally, dividing the sample into two groups of countries more homogeneous allowed for a more precise assessment of this relationship, having been considerable differences between them. Finally, and in an innovative way, it contributes, tentatively, to the empirical evidence that strong recessions can have an impact persistent mechanisms of transmission to inequality (Heathcote, Perri and Violante, 2010), namely, through the globalization channel. This theme deserves future investigation in order to understand through which mechanisms this exercise is influence. An improvement in data processing and application to developing countries development would also be relevant in this regard.

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STORYBOARDING AS TEACHING PRACTICE AND ASSESSMENT TECHNIQUE IN TEACHER TRAINING: A SURVEY STUDY

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ABSTRACT

This study investigated in-service teachers' instructional design performances in designing storyboards for Serious Games through some tools and planning procedures crafted by the team of *Erasmus+ project Ecological Learning and Simulation Environments in Higher Education* (ELSE – 2018-1-IT02-KA203-048006). The ELSE project was promoted and coordinated by Università della Tuscia (IT) for the span of the past three years and included a consortium of ten universities, among which IBU (N. Macedonia). As part of a flexible toolkit to be used by academic tutors to design and deliver lessons, one of the Intellectual Outputs envisaged the production of a digital editor (ECORE) for the creation of learning games (Serious Games) to be destined to academic teaching environments. The experience carried out during the ELSE project has inspired a related yet more specific issue connected to the pre- and in-service teacher training initiatives organized by the Tuscia partner: i.e., could storyboarding be adopted within an effective teaching practice and as a learning assessment technique in teacher training? Significant indicators and qualitative data, supporting a subsequent structured research project, were collected through an explorative survey conducted on in-service teachers engaged in a Training Course for Special Needs Teachers (SNT), in the A.Y. 2019-20. After playing a Serious Game created by the project team, this group of 40 teachers produced storyboards to simulate further typical school situations at all levels. The analysis of their products revealed a relevant educational potential for the practice of storyboarding as a teaching/learning strategy and provided practical indications in favour of the research hypothesis.

KEYWORDS

INSTRUCTIONAL DESIGN, SERIOUS GAMES, STORYBOARDING.

JEL CLASSIFICATION CODES

O21, M19, C53

1. THE ELSE EUROPEAN PROJECT: A START-UP FOR EDUCATIONAL RESEARCH IN TEACHER TRAINING

The exploratory survey reported in this article started as a spin-off to the Erasmus+ project *Eco/logical Learning and Simulation Environments in Higher Education* (ELSE, 2018-2021) promoted and coordinated by Università degli Studi della Tuscia (Viterbo, IT) in partnership with other nine universities, both within EU and beyond, as well as with Entropy Knowledge Network, an Italian small-medium enterprise (SME) specialising in Technology Enhanced Learning. The main aim of the ELSE

project was to innovate academic pedagogies in view of developing students' competences for the XXI century and spread the use of virtual simulations and gamification into Higher Education.

Starting from a state-of-the-art survey of the Bologna process, at least in the countries involved, and from the identification of good practices in academic teacher training, the ELSE Consortium produced some easy to-use technological tools for academic instructors. The complexity of the design process and the teamwork required by the implementation of digital teaching tools—including figures such as the *training specialist*, the *instructional designer*, the *digital developer*, *etc*.—are some of the main obstacles to the diffusion of gamification in an academic environment. In order to facilitate game designing to the ELSE members, the technological partners built friendly tools and procedures. One of these digital tools named ECORE, a basic learning game editor specifically developed by EntropyKN, gave all the participants the opportunity to test themselves in the role of designer and developer of Serious Games (SG). It allowed even the less tech-savvy teachers to design and create prototypes of learning games, structured as experience environments (such as standard or fantastic situations), within which the player must search for and choose the best solutions to the problems they are confronted with.

ECORE is aimed at training a *learning game designer's* basic ability i.e., planning training actions based on objectives and creating an engaging storytelling experience. It allows to represent a realistic or a fantastic story divided in a number of 'problematic' scenarios, in which the player, through an avatar, is engaged in opting for one of the solutions proposed by the game. Each choice made by the players can be based upon or supported by additional materials - links to further readings/videos, additional observations, thematic insights, etc. - to improve the learning experience.

ECORE is structured in a multiple-choice mode and on a win/lose model: zero points are awarded for the least appropriate option; multiple points are awarded for the 'acceptable' and 'excellent' options. At the end of the game, players receive a ranking on a 100/100 scale, that is associated to a performance profile evaluating abilities-objectives on eight levels, four for the 'loser' result and four for the 'winner' result. The performance scores are associated with performance comments.

The editor's scenarios are implemented with images, characters, texts, avatars' sentences, questions and answers, with related scores, and final judgments, and they are based on a complete storyboard, prepared at the SG design stage. In fact, implementing a learning game through the ECORE editor requires some necessary design steps. The 'instructional designer' starts from a template that clarifies the overall intended learning outcomes of the game and reflects on the most effective strategies the players could adopt to reach the final goal. The design last step is indeed the core of the game design: the storyboarding. The teacher-designer must identify a number of steps through which to achieve the selected learning outcomes, create a story narrated through a succession of frames-scenarios and associate performance comments with the final performance scores.

As a member of the ELSE Tuscia team, the author of this article designed SGs through ECORE and analyzed the processes, skills and pedagogical knowledge involved in storyboard planning for the implementation of SGs, especially in the basic form provided by the ECORE editor. While experimenting with the trainees, the author, who is an experienced pre-service and in-service teacher trainer, was struck by the observation that the knowledge, the skills and the operational logic needed to design a SG-functional storyboarding run parallel to those involved in instructional designing according to the competences learning framework, as it is highlighted in the following comparative table:

Storyboard design includes:	**Instructional design in competences learning frameworks includes:**
choosing **the competences and the skills** we want to mobilize/develop through the game, for specific end users;	crafting **learning objectives** for a specific group of students;
defining the **general theme**, the **precise subject** and the list of **learning topics**;	choosing the **disciplinary/interdisciplinary topics**;

choosing the **game type** (simulation game, role play game, etc.);	defining **methodological approaches and strategies**;
setting up a **problem-situation** – real or fantastic – that is functional to the target skills;	crafting the **task/problem/project** that students will be working on;
developing **the story** that the players will be told and defining **the settings**, the **characters** and the **dialogues**;	planning **situated experiences** and selecting **digital multimodal resources** to facilitate learning;
defining the **challenges** and the **response options**, adequate or dysfunctional to the solution of the problem;	developing a **check list** and **assessment strategies**;
evaluating **outcomes** and producing **feedback** that can guide the player to a better performance.	defining **outcomes evaluation criteria.**

Both storyboard designing and instructional designing in competence-oriented teaching/learning require the designer-teacher to integrate content knowledge, pedagogical knowledge and design skills. In both planning models, an 'effective' and functional relationship among the key components (objectives, challenges, tests, assessment/evaluation criteria) mainly depends on the teacher's ability to craft environments for experiential learning - tailored on a specific student target - which build upon the competences to mobilize and the specific goals to achieve, regardless of where the learning experience is placed: in a real or virtual environmental context. The contemporary international pedagogical frameworks highlight the key challenge for innovative teachers: designing and managing multifaceted and multimodal learning environments based on the twenty-first-century skills. However, in the digital knowledge and media age teachers and trainers are required 'to act' foremost as learning designers and managers. Therefore, these skills should be considered necessary and preparatory for the teacher/trainer who intends to use technologies in teaching in an effective way.

Storyboard design, as a preparatory and functional phase for the creation of ECORE SGs, necessarily includes: developing a story that will be told to the players, defining the problematic situations and challenges that the player will have to face, identifying the possible gaming functional-dysfunctional strategies, anticipating the set of response options and producing feedback that can orient the player towards a better performance.

These essential storyboarding 'steps' involve the teacher-designer in an architectural process that 'develops' progressively, in a circular and recursive way. S/he is continuously engaged in integrating gaming key components, relating challenges with strategies, and verifying the functionality of the learning environment he is crafting. Monitoring and checking the reticular connections of the project structural components are the essential activities in which a designer is engaged—already in the storyboarding phase—although the final validation of a SG implies implementing the game storyboard through an editor and playing a game-test. These are the reasons why the analysis of the storyboarding procedures and of the skills involved led the ELSE researchers from the Tuscia partner to consider storyboard design for the ECORE editor as a useful form of self-regulated learning instructional support for teachers' professional training.

Referring to the context of the University of Viterbo, where initial and continuous training courses for teachers have been organized for years, the author of this article has planned an exploratory survey to be conducted with participants of one of the current courses to find evidence supporting the following hypothesis: *could storyboarding—as a preparatory and functional stage to the creation of Serious Games—be adopted as an effective teaching practice, and as a learning assessment technique, in teacher training?* The aim of the survey was to explore in-service teachers' 'storyboarding performances' and collect qualitative data in support of a more structured research project to be developed in future.

2. SURVEY SAMPLE AND METHOD.

A Training Course for Special Needs Teachers (SNT), that took place in Viterbo in 2020, offered a useful context for an exploratory survey. In such courses, the training activities are aimed primarily at developing the operational skills needed to manage students with special educational needs. Trainers generally adopt methodologies such as *case study*, *situated problem solving*, *intervention simulation*, etc., while trainees are constantly invited to study typical situations and evaluate any scaffolding measures. The ELSE researchers considered the SNT Course-2020 as a particularly suitable context for an exploratory activity about the sustainability of their hypothesis.

An additional activity was proposed to some of the trainees at the end of the training course. Specifically, the activity involved about 40 teachers who had to retrieve a few hours of absence by carrying out additional tasks suggested by the trainers. Thus, the choice of the sample-group—40 primary and secondary school in-service teachers—was completely randomic, both in terms of the level of the learners' competences and in terms of the school order they were teaching.

During the first phase of the survey, the teachers were invited to 'play' one of ELSE SGs: *A difficult start*. Researchers motivated this experience with the opportunity to include gamification among the 'techniques' that are functional to crafting highly inclusive learning environments. Referring to the aim of the survey, the researchers proposed the gaming activity to 'introduce' the participants to this type of digital tool, specifically to ECORE learning game type. After teachers played the SG, they were asked to fill in a 'small' feedback questionnaire to collect some data about the trial.

• Have you played any other digital training game (serious game, role-playing games, simulation games and so on)?
• Do you think that training in a simulation environment is useful in order to develop competences and abilities to apply in the real world?
• Which abilities/competences can be developed by playing *A difficult start*?
• Do you think you could improve your score by playing once again or more?

The game named *A Difficult Start* is an ELSE product designed as a role-playing simulation game to be used in initial and continuous teacher training. The game is a digital tool for experiential learning through *problem solving* and *roleplaying* activities. It presents its players/teachers with a typical school situation. The teacher/avatar is required to face and overcome several difficulties: a young, newly qualified teacher of Italian, who is spending her probation year in a high school, is tasked with solving a complex range of issues. For the purpose of the survey, the researchers chose a game situation/story that was relevant to the teachers sample but that did not refer to the specific themes of the SNT Course. This was meant to avoid anticipation of the second phase of the survey.

The general situation and the problems the story presents the players with are particularly critical but they are plausible and they significantly elicit some essential *soft skills* teachers should possess: *relational-communicative abilities, cooperative abilities and the ability to work in a team, conflict mediation, listening and data inference abilities in a specific context, pro-activeness in difficult situations as well as the awareness of one's role*. The storyboard of *A difficult Start* develops through 13 multiple answer steps with three choices each, with the only exception of the two most important steps, where deviations in the plot are added so that players can make up for any previous error. The point system is as follows: zero points are awarded for the least appropriate option, whilst multiple points are awarded for the 'acceptable' and 'excellent' options. *A difficult Start* is structured on a win/lose model, however, it has been created with a view to providing a role-playing experience where the player's behavioural profile is foregrounded so as to foster behaviour analysis at an eventual debriefing stage.

After playing the SG, the teachers-sample was asked to design a story board that could be functional to the creation of a learning game, on the model of the one just played, selecting a theme/typical situation among those analyzed during the SNT Course: "Build a story board - as per the

template - to create a training game related to a course topic/case study". All participants were given the storyboard model used to design games with the ECORE editor. During the storyboarding phase, the participants were given the chance to request and receive more scaffolding interventions from some course tutors. The researcher allowed the teachers sample-group to seek tutors' help in order to monitor their behaviour during the task and collect additional qualitative data for research.

3. DATA ANALYSIS AND SURVEY FINDINGS

All the participating teachers had many years of teaching experience and good instructional design skills in competence-based learning/teaching, as tested during the SNT course. However, the data collected through the questionnaire show that only 4 out of 40 participants had actually had some previous experience with SGs (question 1). On the other hand, most of the sample teachers (32/40) recognised an educational value to exercising/developing one's abilities through a digital learning game (question 2). As regards the competences mobilized by the S.G. (question 3), these were partially or completely identified by 36 players. Most respondents found the game experience an opportunity to think about their modes of behaviour and choose the most effective ones in order to transfer them to the real world (question 4).

The storyboards designed were analysed by the researcher together with the trainers and support tutors of the SNT Course to evaluate their overall consistency and 'gameness' functionality. The qualitative results were as follows:

12/40 teachers made storyboards with a 'good level' of consistency among *training goals*, *simulated situation*, *player challenges*, *expected performances* and *final comments/feedbacks.*

21/40 teachers produced a coherent and functional project only with a second version of their storyboard, after a scaffolding action by the tutor.

7/40 teachers produced a coherent and functional work only with a third/fourth version of their storyboard, after multiple scaffolding actions by the tutor.

Most participants needed scaffolding to design a functional storyboard; however, the 12 participants who produced good storyboards were also among those who achieved the best scores during the SNT course in general.

All the participants created effective stories staging challenging problematic situations. They showed a good content/topic knowledge although many of them failed to integrate the key components functionally. The main critical issues concerned the consistency and the logical connections between 'learning objectives', 'challenges' and 'answer options' crafted. Thus, we can confirm that the teachers' performance data provide indications for planning a more extensive research on storyboarding and instructional designing. Since even experienced teachers 'seem' to need improving and consolidating their didactic design skills, the research team consider that ascertaining whether practical training on storyboard designing, joined to specialized scaffolding, could be an effective training practice to develop pre-service and in-service teachers' design skills is extremely relevant. Crafting storyboards for SGs, even just the multiple-choice type, requires the designer to monitor and assess the functionality of the global architecture systematically. Such a 'systemic approach' to learning design could be developed and improved as a specific skill in itself. Regarding that, it seems appropriate to propose SG storyboarding as a useful self-regulated learning tool for teachers professional training. In order to obtain research evidence supporting this 'challenge', the outcomes of storyboarding practice have to be investigated in teachers training contexts which provide scaffolding and debriefing activities. A research planning will also have to include: a longitudinal study approach on a small sample of teachers; teacher trainers with systemic thinking/analyzing expertise; monitoring the participants educational design performances in their classroom activities; during and post training sessions in order to test if and how the teacher trainees' design skills grow.

As can be expected, these operational indications related to methods, sample composition, settings and procedures, as they are suggested by exploratory survey findings, must be integrated into a research

project oriented and supported by contemporary international pedagogical frameworks and some relevant studies in the area of teacher education and training.

Teacher's professional training in the digital knowledge and media age "implies a new epistemology of professional knowing and action. Modern teachers are required to act as change agents" (Arvanitis, 2018) implementing some basic educational paradigms in their everyday classroom practice such as transformative education (Kalantzis and Cope, 2012), reflective teaching pedagogy (Lieberman and Miller, 2009; Joseph 2014) and educational uses of technology. This 'desirable' approach to learning outlines a new kind of professional teacher. The innovative teacher combines technological knowledge, pedagogical knowledge and content knowledge (TPCK framework by Mishra and Koehler, 2006) to design multifaceted and multimodal learning environments based on the twenty-first-century skills.

So, the new teacher is asked to possess good expertise in instructional designing: a "purposeful activity that results in a combination of strategies, activities, and resources to facilitate learning" (Sims and Koszella, 2008). A literature review on instructional design, completed by UPCEA eDesign Collaborative Research Team (2018) identified and defined a substantial set of skills and competencies necessary for instructional designers (IDs) actively working in education. Learning by Design (LbD) (Kalantzis and Cope, 2005; 2012; Van Haren, 2007), an epistemological framework of professional learning, has involved teachers in LbD experiences for more than 20 years, engaging them as reflective co-researchers and knowledge designers with the primary aim to improve their instructional design skills.

Also with regard to relationship between designing skills and system thinking skills, the scientific literature provides some contributions on use/design of SGs in order to train players/designers to approach complex phenomena as systems-thinkers (Gee, 2007; Games, 2008; Brown and Thomas, 2008; Ateskan and Lane 2013; Dell'Aquila 2017; Devane, Durga, and Squire 2010).

Therefore, this first explorative review of theoretical frameworks and scientific studies, confirms that a research project on the practice of storyboarding in teacher training is well-founded and significant.

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