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The interest and need for publishing of the journal were continuously increased all these years. It covers theoretical and empirical researches in the field of economic and social development, demography, education, corporate governance, international economics, international management, administrative management, corporate and public finance, economics and tourism management, agricultural policy and agricultural management, marketing and marketing management, entrepreneurial management and other areas in the field of social sciences.

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Skopje, October, 2022

Zoran Janevski, PhD
Editor-in-chief

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CLIMATE CHANGE AND ITS IMPLICATIONS ON THE FINANCIAL RISKS

Abstract: The purpose of this research is to prove that climate change has a potential impact on financial risks, as well as to show that companies and financial intermediaries recognize its importance.

The survey questionnaire, conducted on a group of companies belonging to sectors with different percentages of greenhouse gas emissions, concluded that the companies in the Republic of North Macedonia, which operate in the targeted industries, are aware of climate change, as well as of the related risks and challenges, but do not do much in terms of measuring and reporting on the negative implications.

The comparative analysis of corporate loan portfolios of the group of large banks in the Macedonian banking sector concluded that there is a significant exposure of the Macedonian banking sector to clients from the sectors that have been identified as greenhouse gas emitters. Hence, the importance of climate risks on the country's financial system increases.

The joint cooperation between the financial intermediaries and the companies, based on appropriate policies, can contribute to the improvement of the conditions that would have a positive impact on the climate and the environment, in general, and, in return, on the economic situation and financial stability.

Keywords: climate change, banks, financial risks, companies, survey methods

JEL Classification: Q54, G21, G32, C83

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Introduction

The magnitude of the risks related to climate change and its implications is becoming increasingly apparent. The implications of climate change can take many different forms, but it is a fact that their effects are felt throughout the economy and affect the financial system as well. Climate change mitigation and adaptation may prove to be sources of significant structural change.

At the macroeconomic level, relative price adjustments of different types - energy costs, increased demand for more energy efficient products and services, among others - will be far-reaching. Bolton et al. (2020)[4] argue that climate change will generate "green swan events" similar to "black swan events" with high uncertainty, but with a major impact on the economy as a whole. They are likely to be characterized by complex transmission mechanisms, primarily through the financial systems. Risks to financial stability will be minimized if the transition begins early and follows a predictable path, thereby helping the market anticipate the transition to a 2-degree world. (Carney 2015)[5].

The central banks worldwide take action to mitigate the adverse economic consequences of climate change. They've set up the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), which includes 114 central banks and supervisory institutions and 18 observers. The National Bank of the Republic of North Macedonia has also become a member of this Network at the beginning of 2021.

Adaptation and mitigation need to be economically and financially supported in terms of minimizing harm and maximizing opportunities (Arndt et al., 2020)[6].

The banks can help in adaptation and minimization of the financial risks posed by climate change and in facilitation of the financial flows to encourage green investments.

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[4] Bolton, P., Despres, M., Pereira Da Silva, L.A., Samama, F. and Svartzman, R.: **The green swan**, Bank for International Settlements, 2020

[5] Carney, M.: **Breaking the tragedy of the horizon – climate change and financial stability**, Bank of England, 2015, Speech, available at: https://www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability

[6] Arndt, C., Loewald, C. and Makrelov, K.: **Climate change and its implications for central banks in emerging and developing economies,** South African Reserve Bank, Working Paper Series WP/20/04

All economic stakeholders in the real sector are directed to each other and, through that cooperation, mutually influence the transfer and multiplication of risks, but also can jointly contribute, through the effective mediation of savings, to the use in adaptation and mitigation of the effects of climate change, starting from governments, central banks and financial institutions, which require development of appropriate risk assessment tools. Unless this is well thought out, climate change will tend to increase economic costs and represent a threat to the financial stability.

In conclusion, it is essential that "moving too fast toward a low-carbon economy can significantly undermine the financial stability" (Bolton, 2020)[7].

The paper is organized in two parts: the first part describes the two types of risks arising from climate change; the second part is an analysis of the risks and consequences of climate change in the case of the Republic of North Macedonia, performed through an analysis of the awareness of the companies that are greenhouse gas emitters and an analysis of the portfolio of the five large banks. Conclusions, possible implications and recommendations are given in the last section of the paper.

1. THE IMPACT OF CLIMATE CHANGE ON FINANCIAL STABILITY: PHYSICAL AND TRANSITION RISKS

There are two main channels through which climate change can affect financial stability: physical and transition risks. Physical climate-related risks represent the economic costs and financial losses due to increasing frequency and severity of climate-related weather events (e.g., storms, floods, or heat waves) and the effects of long-term changes in climate patterns (e.g., ocean acidification, rising sea levels, or changes in precipitation), resulting from continuously growing greenhouse gas emissions. Physical risks can affect both the supply and demand sides of the economy. On the supply side, natural disasters can disrupt business activity and trade and destroy infrastructure, diverting capital from technology and innovation to reconstruction and replacement. On the demand side, increasing expenditures for repair and replacement will, ceteris paribus, reduce investment on and consumption demand for other goods.

Transition risks arise as a result of the shift to a low-carbon economy (such as changes in public regulation, technology, or in investors' preferences)

[7] Bolton, P., Despres, M., Pereira Da Silva, L.A., Samama, F. and Svartzman, R.: **The green swan**, Bank for International Settlements, 2020, pp.18

triggering changes in demand-related factors. This adjustment process is likely to have a significant impact on the economy and, on some financial asset values.

Due to the transmitted effect from their clients, the banks are basically more exposed to transition risks caused by climate change, which may result in financial loss to these institutions.

Physical risk and transition risks are correlated, because the more transition policies enter into force, the fewer physical risks are likely to materialize. On the other hand, the harder the economy is hit by physical risks, the stronger the demand will be for effective transition measures.

2. ANALYSIS OF THE RISKS AND CONSEQUENCES OF CLIMATE CHANGE IN THE CASE OF THE REPUBLIC OF NORTH MACEDONIA

2.1 Awareness of the Companies operating in industries that have been identified as Greenhouse Gas Emitters on the Risks Arising from Climate Change

The biggest impact on the harmful greenhouse gas emissions has the companies, especially those operating in certain industries. Hence, to examine the awareness of the companies in the Republic of North Macedonia on the potential risks arising from climate change, a survey questionnaire was conducted on a targeted group of companies. The survey was conducted through the survey software, SurveyMonkey[8].

From the surveyed companies, complete answers were received from 60 companies (which is 51.3%), but if the number of rejected e-mails (10) is subtracted, the share of answered questionnaires in relation to the received requests for answers is 56%.

The survey shows that 2/3 of the respondents identify the physical risks of climate change as a greater threat, which indicates that they are not sufficiently informed about the transition risks that pose a major threat as well. Companies operating in industries that affect climate change signal high awareness (83.33% of the analyzed sample) and consider these impacts on the future operations of the company. The remaining 16.67% find the reason for

[8] https://www.surveymonkey.com/

their inertia on this issue in the absence of resources and lack of knowledge of the topic.

In general, the companies (76.67%) do not quantify these impacts on the future financial outcomes, but from the individual responses it can be concluded that the companies that do so are mainly the largest companies included in the analyzed sample of companies.

Only 30% of the companies see opportunities related to climate change.

A particularly high percentage, i.e., 85% of the surveyed companies stated that they do not report on activities related to climate change mitigation or adaptation, and, from the individual responses of the clients who provided comments, it can be concluded that the export-oriented companies notify their clients based in the EU, assuming that the regulations in the importing country require them to do so or, possibly, due to the policy of the importing company.

Approximately 72% of the surveyed companies are considering investing in new technology that would replace the existing one, which would contribute to lower CO_2 emissions. However, only 23.33% of the surveyed companies have made a calculation of how much such an investment would cost them, and, from the individual answers, it again concerns the larger companies. The more detailed answers range from EUR 23 thousand to EUR 3 million.

About 46.67% of the companies are considering using loan support to finance these needs.

In case the Government decides to introduce a carbon emission pricing, a measure that many scholars recommend as necessary to comply with the goals of the Paris Agreement for maintaining global warming to 2ºC relative to the pre-industrial period, 80% of respondents answered that they are not prepared yet.

Regarding the measurements by scope, the results of the answer to the question are not relevant, i.e., they do not show the real situation because 55% of the surveyed companies answered that they measure Scope 1 of GHG, 18.33% that they measure Scope 2 and 26.67% that they measure Scope 3, and then the individual answers and explanations on the question range mostly from “The information is unavailable”, “No measurements are made”, “I do not know”, to “No data is available”, etc. Only four companies have provided accurate measurement data, all in Scope 1.

The companies need to set two simultaneous goals: first, to adapt to climate change, taking into account the physical risks, and second, to develop a strategy for transition to a net-zero economy. The potential for adaptation to mitigate potential loss means recognizing and exploiting opportunities, but

also being prepared for the consequences. The companies need to have a "resilience" strategy that includes the ability to anticipate, prepare, respond to and recover from threats in order to be able to resume regular business operations.

Climate change will certainly have implications for most industries. Particularly affected will be the companies operating in: the energy sector in the field of mining and processing of coal, oil, gas, agriculture, food industry, transport, automotive industry, production of steel, iron, cement, whitewash, non-ferrous metals, plastics and others processing, chemical industry, mining, tourism facilities.

The starting point for any activity is measuring harmful emissions and their reporting, which in turn will contribute to risk-related awareness and the need for a strategy and plans for risk elimination.

2.2 Comparative analysis of the Corporate Loan Portfolio of the Banks in the North Macedonia

For the purposes of this analysis, data from the audited annual reports of the five large banks in the Republic of North Macedonia were used, which are published on their respective websites.[9] At the time of writing this paper, data for 2019 and 2020 were available.

From the industries, those that are emitters of CO_2 (**Portfolio 1**) are distinguished as follows:

- Agriculture, forestry and fisheries,
- Mining and quarrying,
- Food industry,
- Textile industry and production of clothing and footwear,
- Chemical industry, production of construction materials, production and processing of fuels, pharmaceutical industry,
- Production of metals, machines, tools and equipment,
- Other processing industry,
- Electricity, gas, steam and air conditioning supply,
- Water supply, wastewater disposal, surveillance management and environmental remediation activities,
- Construction,
- Individual traders, and

[9] The data of Sparkasse Bank are given collectively with the data of Ohridska banka AD, for the purposes of this comparison, although the official merger of Ohridska Banka AD was on 19.07.2021.

- Transport and storage.

Industries that are not direct sources of CO_2 emissions for which the exposures have been removed are IT, Financial, Health, Education etc.

Table 1 shows the results obtained on the structure of corporate loan portfolios of the large banks:

Table 1. Comparative Analysis of the Corporate Loan Portfolios of the Group of Large Banks in the Macedonian Banking Sector

Large Banks' Corporate Credit Portfolio												
	2020						2019					
	Balance exposure	%	Off-balance exposure	%	Total	%	Balance exposure	%	Off-balance exposure	%	Total	%
Komercijalna banka AD	33.593.991	27,40%	12.896.654	29,00%	46.490.645	27,90%	33.565.943	28,40%	11.671.316	29,10%	45.237.259	28,60%
NLB Banka	20.557.803	16,80%	8.901.685	20,00%	29.459.488	17,60%	20.531.805	17,40%	9.043.901	22,50%	29.575.706	18,70%
Stopanska banka AD Sk	22.782.514	18,60%	4.275.916	9,60%	27.058.430	16,20%	20.194.510	17,10%	3.187.271	7,90%	23.381.781	14,80%
Halk bank	21.664.218	17,70%	7.957.046	17,90%	29.621.264	17,70%	20.397.228	17,20%	7.281.012	18,10%	27.678.240	17,50%
Sparkase banka	23.881.391	19,50%	10.406.345	23,40%	34.287.736	20,50%	23.562.799	19,90%	8.965.594	22,30%	32.528.393	20,50%
Total	**122.479.917**	**100%**	**44.437.646**	**100%**	**166.917.563**	**100%**	**118.252.285**	**100,00%**	**40.149.094**	**100%**	**158.401.379**	**100%**

Large Banks' Portfolio 1												
	2020						2019					
	Balance exposure	%	Off-balance exposure	%	Total	%	Balance exposure	%	Off-balance exposure	%	Total	%
Komercijalna banka AD	17.093.607,00	27,61%	6.641.769,00	29,60%	23.735.376,00	28,14%	16.734.366,00	28,72%	6.694.183,00	34,51%	23.428.549,00	30,17%
NLB Banka	9.977.508,00	16,12%	4.077.041,00	18,17%	14.054.549,00	16,66%	10.057.917,00	17,26%	3.255.636,00	16,78%	13.313.553,00	17,14%
Stopanska banka AD Sk	13.461.023,00	21,74%	2.460.094,00	10,96%	15.921.117,00	18,87%	12.036.207,00	20,66%	1.805.201,00	9,31%	13.841.408,00	17,82%
Halk bank	10.053.873,00	16,24%	3.332.683,00	14,85%	13.386.556,00	15,87%	9.187.757,00	15,77%	3.026.619,00	15,60%	12.214.376,00	15,73%
Sparkase banka	11.326.621,00	18,29%	5.928.208,00	26,42%	17.254.829,00	20,46%	10.246.046,00	17,59%	4.615.506,00	23,79%	14.861.552,00	19,14%
Total	**61.912.632,00**	**100,00%**	**22.439.795,00**	**100,00%**	**84.352.427,00**	**100,00%**	**58.262.293,00**	**100,00%**	**19.397.145,00**	**100,00%**	**77.659.438,00**	**100,00%**

Source: Audited Annual Reports of the Surveyed Banks and Own Calculations

Table 2. Participation of Portfolio 1 in the Total Corporate Loan Portfolio of the Group of Large Banks

	2020			2019		
	Total Corporate Loan Portfolio	**Portfolio 1**	**%**	**Total Corporate Loan Portfolio**	**Portfolio 1**	**%**
Komercijalna banka AD	46.490.645	23.735.376,00	51,10%	45.237.259	23.428.549	51,80%
NLB Banka	29.459.488	14.054.549,00	47,70%	29.575.706	13.313.553	45,00%
Stopanska banka AD Sk	27.058.430	15.921.117,00	58,80%	23.381.781	13.841.408	59,20%
Halk bank	29.621.264	13.386.556,00	45,20%	27.678.240	12.214.376	44,10%
Sparkase banka	34.287.736	17.254.829,00	50,30%	32.528.393	14.861.552	45,70%
Total	**166.917.563**	**84.352.427,00**		**158.401.379**	**77.659.438**	

Source: Audited Annual Reports of the Surveyed Banks and Own Calculations

Mainly the exposure to corporate clients from Portfolio 1 of the group of large banks corresponds to their share in the total corporate loan portfolio. The largest share is of Komercijalna Banka AD Skopje in the total corporate loan portfolio of the group of large banks in the Republic of North Macedonia: in 2020 it was 27.9% (2019: 28.6%) and is proportional to the bank's share in the exposure to the sectors of Portfolio 1 (2020: 28.14% and 2019: 30.17%).

There is a significant exposure of the Macedonian banking sector to clients from the sectors that have been identified as GHG emitters. Hence, the banks need to take climate change into account in their development plans. Individual banks from the European Union already have initiatives for introduction or have already introduced policies that contain projected percentages of exposure to certain sectors that have been identified as emitters of CO_2; probably the National Bank of the Republic of North Macedonia will act in that direction through the strategic priorities and activities it undertakes in order to contribute to the establishment of a green and sustainable economy. The role of the regulators is particularly important for the institutions' approach to strengthening climate change risk management[10]. The banks should consider

[10] National Bank of the Republic of North Macedonia, Press Release of 05.05.2022: Survey of the National bank: Banks and Saving Houses Announce New Products for "Green Financing https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

introducing new products or services in response to climate change, such as loans for financing energy efficient projects and green loans for households and corporates, as well as green project financing.

Mutually acceptable solutions can be found with the companies belonging to the sectors that have been identified as GHG emitters to replace technologies or work processes. This is a direct opportunity for the banks to increase their loan portfolio and interest income in the medium and long term, while playing a socially responsible role and timely adapting their activities to the changes that are increasingly likely to happen.

In the past few years, several credit lines have been implemented through the commercial banks in the Republic of North Macedonia, in cooperation with international financial institutions, in order to improve energy efficiency and "green financing". However, from the presented data below it can be concluded that, at present, none of the large 5 banks, in the analyzed periods, has pursued an active "green financing" policy.

The National Bank of the Republic of North Macedonia started publishing data on "green loans" and "green liabilities" since 30.09.2021. According to the World Bank, "green loan" is: financing that allows the borrower to invest exclusively in projects with a significant positive impact to the environment and in projects that contribute to reducing the negative effects of climate change[11].

The shares are shown for the *households* and the sector of *non-financial companies*, by groups of banks: small, medium and large. For the purposes of the analysis shown on Table 3, data on the sector of non-financial companies have been used.

[11] National Bank of the Republic of North Macedonia, Data and Indicators for the Banking System of the Republic of North Macedonia, Green Financing

Table 3. Balance of Claims Based on "Green Financing" Loans by Sectors and Their Share in the Total Loans

in 000 MKD and %										
Date	**Large Banks**		**Medium-sized Banks**		**Small-sized Banks**		**Banking Sector**			
	Non-financial companies		**Non-financial companies**		**Non-financial companies**		**Non-financial companies**			
	Balance of "green" loans	Share of "green" loans in total loans of nonfinancial companies	Balance of "green" loans	Share of "green" loans in total loans of nonfinancial companies	Balance of "green" loans	Share of "green" loans in total loans of nonfinancial companies	Balance of "green" loans	Share of "green" loans in total loans of nonfinancial companies	Balance of "green" borrowings	Share of "green" borrowings in total borrowings
31.12.2019	2,243,507	1.9%	3,683,074	9.4%	89,396	1.9%	6,015,977	3.7%	2,691,345	8.8%
31.12.2020	2,753,610	2.3%	4,584,863	10.9%	95,208	2.1%	7,433,680	4.4%	3,164,572	9.4%
30.09.2021	2,714,036	2.0%	4,683,554	13.5%	85,373	2.1%	7,482,963	4.3%	2,463,005	7.7%
31.12.2021	4,366,693	3.0%	4,785,074	13.7%	81,621	2.0%	9,233,388	5.0%	3,318,979	8.7%
Participation as at 31.12.21	47%		52%		1%		100%			

Source: National Bank of the Republic of North Macedonia, Data and Indicators for the Banking System of the Republic of North Macedonia, Green Financing

Medium-sized banks have the largest share in "green" loans in the sector of non-financial companies, 52% of the total "green" loans of non-financial companies in the Macedonian banking sector. In this group of banks, the share of "green" loans in the total loan portfolio to non-financial companies, is in double digits and is 10.9% at the end of 2020, and 13.7% at the end of 2021.

The share of the balance of "green" loans is the lowest in the group of small banks, but also the share is very low in the group of large banks and is 3.0% at the end of 2021 (2020: 2.3%).

Given the presented data for the last three fiscal years, it can be concluded that there is a positive and growing trend of the balance of "green" loans. Moreover, a positive fact is the conclusion that in addition to the loans from the "green" credit lines that the commercial banks receive for the purpose of financing such purposes, almost 2/3 of the total "green" loans in the banking sector in the Republic of North Macedonia are not from the credit lines, but from the banks' own funds.

Conclusion

The companies operating in the Republic of North Macedonia are aware of the risks and consequences of climate change, but do not take measures or steps to mitigate them, nor to report on their activities related to the harmful emissions. They are not ready to introduce CO_2 emission pricing. Although the Government is taking all the necessary actions in the part of reporting on the country's compliance with the goals of the Paris Agreement[12], no legislation has been introduced that would oblige the companies to take action in this regard. However, Government subsidies and favorable lending conditions, supported by collateral guarantee schemes, would contribute to a positive decision to invest in new technologies and processes that would reduce the harmful emissions.

There is a significant exposure of the Macedonian banking sector to clients from the sectors that have been identified as greenhouse gas emitters. Although the banks in the Republic of North Macedonia recognize the importance of climate change risks for the financial system, which can have significant implications on the overall results of their operations, still, there is not a single bank, out of the large 5 banks, that has pursued the "green financing" policy in the analyzed period.

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The banks, as financial intermediaries, regulate cash flows so that they can greatly contribute to reducing the harmful effects of factors contributing to climate change. The banks, as institutions, are not direct CO_2 emitters, but through financing they can make a significant contribution to achieving the goals of the Paris Agreement related to global warming. Moreover, by financing specific projects, in cooperation with their clients, the banks can have a positive effect in mitigating the negative consequences of climate change.

Faster response is an advantage that will take effect in the future. Bolton argues that financial (and price) stability along with climate stability should be considered two public goods, as the maintenance of either is significantly dependent on the other.

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(Original scientific paper)

PUBLIC FINANCE SPENDING OVERVIEW IN COVID AND MID TERM PERIOD: THE CASE OF NORTH MACEDONIA

Abstract: The past two years, the significant deterioration of the global economic environment and the decline in external demand caused by the health crisis affected the activity of domestic export companies and industrial production, remittances and foreign direct investment. Restrictive measures to prevent the spread of coronavirus in the country have affected some of the activities within the service sector, such as trade, transport, hospitality and tourism. As a result of all this, the domestic economy faced one of the deepest recessions so far. The effects of the pandemic on the labour market have been limited, due to government measures to mitigate its effects on jobs. The crisis caused by the pandemic with similar negative consequences hit the European economy, so that economic activity in the EU fell by 14% in the second quarter in 2020, while Germany, as the largest economy within the EU and our most important trading partner fell by 11.3 %.

The health and economic crisis in the past period of 2020 had a strong impact on the realization of the Budget. Also, the comprehensive measures adopted by the Government to prevent the spread of COVID-19 expressed through six sets of measures (which were aimed at amortizing the impact on the economy and stimulating consumption) had an impact on economic activity and through them enable protection of jobs, budget liquidity was ensured, the highest priority liabilities were serviced, minimizing all less productive spending. Taken measures from the government has very high impact on the economic growth, the first four set of measures contributed to reduce the economic growth for 3.9% in 2020 and with fifth and six sets of measures contributed to reduce the economic growth for 0.7 % in 2021.

The health crisis has given new emphasis to the sustainability of public finances over the past two years and strongly emphasized the need to balance between

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short-term stabilization goals and long-term fiscal sustainability. This situation imposed the need for an expansionary fiscal policy in order to support the economy in a pandemic that led to a rapid increase in the budget deficit and public debt. This imposes the need for rationalization of public expenditures, as well as measuring the results of their realization in order to increase the efficiency of public expenditure and achieve fiscal sustainability in the medium term.

The analysis is made on the basis of historical data on planned and realized budget revenues and expenditures for the period from 2015 to 2021, in order to see the size and trend of their movement in order to take measures for fiscal consolidation and ensure sustainability of public finances. The research aim is in order to see the size and trend of planned and realized budget revenues and expenditures movement in order to take measures for fiscal consolidation and ensure sustainability of public finances. The main research problem is planned and realized budget revenues and expenditures and its position to deal with the health crises in the Republic of North Macedonia. The research subject is focused on the data reports from the Ministry of Finance of North Macedonia. The data analysis was accomplished using STATA 16 statistical software for data science.

Keywords: *budget, fiscal policy, fiscal consolidation, revenues, expenditure, government spending*

JEL Classifications: E62, F65, H2, H50, H61, H62, H63, H7

Introduction

The response of the fiscal policy in the country during the pandemic was rapid and significant in supporting enterprises and employees in the most affected industries and vulnerable categories of the population.

In the third quarter of 2021, on an annual basis GDP grew by 3%. Thus, the growth of economic activity in the first three quarters was 4.6%. Analysed by GDP growth, the growth of economic activity in Q3 2021 is a result of increased domestic demand, in conditions of increased consumption and increased gross investment, as well as a positive contribution to net exports.

According to the basic med term scenario, economic growth in 2021 is projected at 4.1%, and in the period 2022-2026 is projected average annual growth of 5.4%, driven by domestic demand, while net exports are expected to have a negative contribution, in conditions of projected growth of exports and imports.

Acording to these above, the Ministry of Finance, within its competencies implementing measures and activities in order to deal with the pandemic and mitigate the effects of the health crisis on the economy, in order to maintain macroeconomic stability.

1. BUDGET OF THE REPUBLIC OF NORTH MACEDONIA IN THE PERIOD FROM 2015-2020

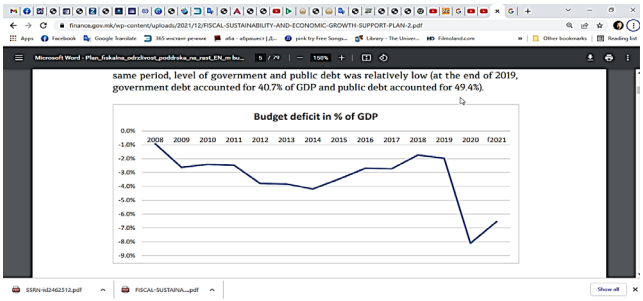
Public finances basically cover the financial relations and processes that arise from the activity of the state for the performance of state functions and the functioning of public services, and refer to the collection of public revenues and the execution of public expenditures for financing the public functions of the state. Public finances, ie the economy of the public sector, focus on the activities related to revenues, ie for the most part taxation, as well as the distribution of funds.

In the period from 2015-2019, the budget deficit of RSM was basically relatively low, averaging 2.5% of GDP with a tendency of continuous reduction in the medium term, with the lowest level in 2018 of 1.8 % of GDP, ie in 2019 the deficit was 2% of GDP. In the same period, the level of government and public debt is at a relatively low level (end of 2019, government debt is 40.7% of GDP, while public debt is 49.4%) (Graph 1). During the last year Ministry of Finance paid the Eurobond of 500 million euros, which reduced the government debt.

The crisis caused by Covid 19 and dealing with the consequences has affected the increase of debt in almost all countries, including ours. Government debt at the end of 2020 was 51.2 percent of GDP, in the first quarter of 2021 increased to 54.1 percent, in the second quarter to 55.9 percent and on July 31, 2021 it dropped to 52 percent. Changes in government debt were also influenced by the withdrawal of funds from concluded credit arrangements with foreign creditors, borrowing in government securities, as well as repayment of liabilities on the basis of foreign debt principal.

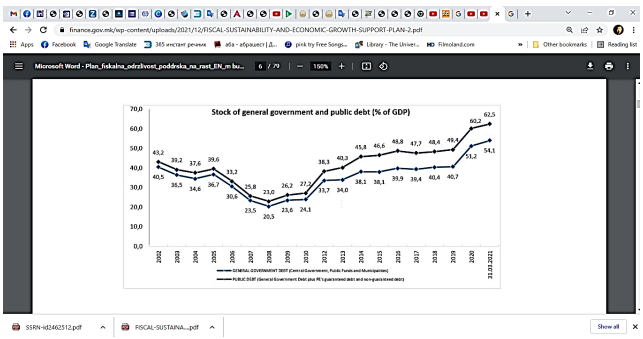
In the medium term, ie by 2026, the projections in the Public Debt Management Strategy are that it will stabilize and decrease to 57.7 percent, while government debt will be reduced to 50.7 percent. This will be realized, on the one hand, through the plan and measures for gradual fiscal consolidation, ie gradual reduction of the budget deficit and on the other hand by accelerating economic growth, ie producing greater added value from which it will be easier to service the due debt (Graph 2).

Graph 1: Budget deficit in % of GDP



Source: Ministry of Finance

Graph 2: Stock of general government and public debt (% of GDP)



Source: Ministry of Finance

In 2020, the gross domestic product (GDP) decreased by 4.5% on a real basis, which is within the forecasts. The reduced economic activity, as expected, is mainly due to the unfavourable developments in the second quarter, when real GDP fell by 14.9% on an annual basis, due to restrictive measures to prevent the spread of coronavirus in the country and the deteriorating international environment and reflected on the activity of many service industries, construction and industry. In the third and fourth quarters, the decline in economic activity slowed down significantly, ie a decline of 3.3% and 0.7%, respectively, in conditions of slower pace of decline in activity in the industrial and service sector, ie more favourable movements in exports and investment activity and continuous growth of public spending in order to deal with the pandemic.

The response to the pandemic fiscal policy in the country was rapid and significant in supporting companies and employees in the most affected industries and vulnerable populations, which resulted in mitigating the decline in private consumption and employment caused by the pandemic.

The realization and the planned Budget are analysed in order, by categories.

Table 1: Realization of the Budget for the period 2015-2026 (in million denars)

Budget of RNM (Central Budget and Funds)												
Years	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
TOTAL REVENUE	161.207	169.356	179.673	188.505	203.946	189.554	222.542	238.900	255.756	280.655	304.977	330.975
Tax revenues and contributions	140.826	150.362	157.537	170.994	178.896	173.464	193.068	210.829	227.668	252.547	276.169	301.757
Taxes	91.357	98.457	103.217	112.774	115.113	105.713	121.877	136.458	148.126	167.448	185.124	201,350
Contributions	47.900	50.300	52.890	56.538	62.168	66.564	69.195	74.371	79.542	85.000	91.000	97.407
Non-tax revenues	12.859	12.973	13.396	12.260	18.807	11.173	17.586	19.171	19.089	19.609	20.009	20.419
Capital income	2.265	1.977	1.316	2.197	2.372	1.846	3.187	3.330	3.330	3.730	4.030	4.030
Foreign donations	4.733	3.648	7.171	2.978	3.871	3.071	8.701	5.570	5.669	4.700	4.769	4.769
Income from loans	524	396	253	76	/	/	/	/	/	/	/	/
TOTAL EXPENDITURE	180.632	185.407	196.561	200.071	217.573	243.421	268.772	272.428	284.208	306.460	329.247	353.853
Current expenditure	161.965	168.433	176.698	187.924	199.760	227.306	238.968	234.192	243.558	258.103	274.689	292.502
Salaries and allowances	24.685	25.958	26.204	26.355	27.753	29.775	31.597	32 ,679	33.540	34.040	36.010	39.040
Goods and services	18.088	16.702	15.344	14.554	16.272	15.423	21.965	20.656	21.517	23.317	25.817	28.817
Transfers	112.734	118.902	126.762	139.323	147.622	174.077	176.028	170.785	178.127	190.637	201.624	213.903
Interest payments	6.458	6.871	8.388	7.692	8.113	8.031	9.378	10.071	10.374	10.100	11,208	10.742
Capital costs	18.667	16.974	19.863	12.147	17.813	16.115	29.804	38.236	40.650	48.357	54.558	61.351
Budget deficit	-19.425	-16.051	-16.888	-11.566	-13.627	-53.867	-46.230	-33.529	-28.452	-25.805	-24.270	-22.878

Source: Ministry of Finance

To alleviate the economic shock caused by the pandemic, timely response was adopted by adopting a set of economic measures, through targeted and temporary support in order to protect the liquidity of companies, preserve jobs and provide social protection for the unemployed and vulnerable households. The undertaken economic measures caused an increase in the state expenditures, and thus increased deficits, confirmed by renowned international institutions. Thus, in the Budget of RNM in 2020, the budget deficit reached the level of 8.1% of GDP, while the government debt grew to the level of 51.2% of GDP, and the public debt to 60.2% of GDP (Graph 2).

Uncertainty and challenges still exist in 2021, as a result of the health crisis, which in this period requires comprehensive measures that act strategically to heal the economy and accelerate growth, servicing the highest priority responsibilities of the most affected sectors in the economy. as well as minimizing all unproductive budget expenditures. This presupposed that the budget deficit with the Budget for 2021 and with the Amendments to the Budget for 2021 be planned at a higher level of 4.9%, i.e. 6.5% of GDP.

The health crisis has contributed to increased public spending to support the economy and at the same time shifted the medium-term framework of the planned fiscal targets, which were aimed at fiscal consolidation and fiscal sustainability. This imposed the need to increase the dynamics of the fiscal consolidation process through a wider range of measures and activities, in order to achieve long-term sustainability of public finances.

Fiscal consolidation is a process of reconciling public revenues and expenditures by reducing expenditures and / or increasing revenues, in order to reduce the budget deficit and reduce public debt.

Fiscal consolidation and efficient and sustainable reduction of the fiscal deficit require a combination of measures on both the revenue and expenditure side of the budget. Given the limited resources, as well as the need to finance priority projects, it increasingly imposes the need to improve the performance-based budget planning process and rationalize certain expenditures and establish appropriate standards.

As initial activities for achieving fiscal consolidation and improved budget planning, it is necessary to analyze and control certain expenditures that occur in all budget users, as well as specific expenditures in several selected budget areas, in order to establish spending standards.

Fiscal management means activity for continuous improvement of the budget planning system, better cost control.

Financing of the planned deficit, as well as debt repayments are provided through borrowing from foreign and domestic sources.

Borrowing in foreign markets is realized by issuing Eurobonds on the international capital market and by withdrawing funds from favourable loans from foreign financial institutions and credit lines intended for financing certain projects. As a result of the situation caused by the Covid-19 virus, the financing of the increased needs was realized through borrowing from the IMF, World Bank, EU, as well as increased withdrawal from the initially foreseen through the existing instruments on the domestic and international market.

In recent years, it has been regularly present on the international capital markets through the issuance of Eurobonds. In order to finance the budget needs smoothly, in March 2021, the eighth Eurobond in the amount of EUR 700 million was issued, with a historically lowest coupon interest rate of 1.625% and a maturity of 7 years, and it is traded on the London Stock Exchange of value. It is intended to finance the budget needs for 2021, as well as to refinance the third Eurobond from 2014 in the amount of 500 million euros. As of June 2021, the bonds maturing in 2021, 2023, 2025, 2026 and 2028 on the secondary market were traded at yields of 0.10%, 0.87%, 1.33%, 1.53% and 1.87% respectively.

At the beginning of 2020, the state borrowed a short-term loan from domestic banks in the amount of EUR 132.9 million, which was intended for repayment / refinancing of part of the long-term loan.

Borrowing on the domestic market is realized through continuous issuance of government securities, which provides additional financing under favourable conditions, taking advantage of low interest rates and investor interest. The goal is to maintain regular representation of treasury bills and government bonds with maturities in the short, medium and long term depending on market conditions.

The implementation of the budget in 2020 followed the developments in the economy. The introduction of health restrictive measures has contributed to the correction of the revenue side, while the adoption of anti-crisis packages has contributed to the growth of the expenditure side, as in all economies in the world.

At the beginning of the year, the Ministry of Finance made three scenarios for budget expenditures - favourable, unfavourable and most unfavourable. By the end of 2020, the outcome is better than the favourable scenario, with the collection of total revenues by about 10 billion denars higher than the best of these three scenarios. The total revenues in 2020 were realized in the amount

of 189.8 billion denars, which represents 96.7% of the projected revenues for 2020.

Taxes and contributions have a realization of 99.5% of the projection, given the great unpredictability. For comparison, in 2019, taxes and contributions achieved 97.2 percent of what was planned.

The total expenditures of the Budget of the Republic of Northern Macedonia in 2020 were realized in the amount of Denar 243.7 billion, which is 96.4% compared to the projection. The expenditure side in this period of the year increased on an annual basis, mostly as a result of the measures taken in the fight against the crisis caused by COVID-19.

Capital expenditures in 2020 amount to 16.1 billion denars, which is 82 percent of the planned realization of capital investments. For comparison, last year, 78.4 percent of the planned capital expenditures for that year were realized (Table 1).

In the part of the revenue side should be concentrated in the part of improving the efficiency and effectiveness of the public revenue collection system will provide greater revenue collection and improve the revenue side of the budget. Therefore, in order to achieve this goal, it is necessary to take a series of measures and activities in order to improve the existing tax regulations, reduce tax evasion, introduce advanced technologies, strengthen the capacity of revenue collection institutions, increase and more efficient collection of tax revenues, modernization and automation of work processes, strengthening institutional coordination.

Additionally, by adopting transparent and credible policies based on thorough analysis and comparison with the best tax practices, in order to guarantee legal certainty as one of the main pillars for creating increased growth and development.

The credibility of fiscal consolidation is factor that can affect current economic activity. If a fiscal consolidation plan is not perceived as credible, then private households and firms will have greater uncertainty over future economic conditions: they may therefore postpone consumption and investment decisions until they have more information about future policies. A more credible policy commitment would reduce such uncertainty, and hence reduce this dampening effect on the economy.[1]

[1] Katarzyna Anna Bilicka, Michael P. Devereux ,,The Effects of Fiscal Consolidation on Short-Term Growth: A Review and Implications for the UK, 2012,p234

2. RESEARCH AIM, PROBLEM AND SAMPLE

This study is an empirical analysis using historical data on planned and realized budget revenues and expenditures for the period from 2015 to 2021 year. Data reports have been taken from the Ministry of Finance of North Macedonia.

Table 2: Summary Statistics

Variable	Obs	Mean	Median	Min	Std. Dev.	Max	Skewness	Kurtosis
Total Revenue	12	227170.5	213244	161207	55649.12	330975	0.582071	2.082171
Total Expenditure	12	253219.4	256096.5	180632	58451.28	353853	0.274609	1.817631

Source: Autor's own research

The main aim of the research is to identify influence of Covid-19 pandemic on planned and realized budget revenues and expenditures movement in order to take measures for fiscal consolidation and ensure sustainability of public finances. The data analysis was accomplished using STATA 16 statistical software for data science. Pearson $\chi 2$ (Chi-Square) test for independence has been carried out.

The descriptive statistics in the Table 2 show the descriptive properties of observed variables for the period from 2015 year to 2021 year.

3. EMPIRICAL RESEARCH

To analyse the hypothesis, Pearson $\chi 2$ (Chi-Square) test for independence has been carried out. The margin of error is given of 5 %, ie $\alpha = 0,05$. The main research hypothesis will be tested by both, the budget expenditures and revenues and the budget deficit of RNM.

In order to examine the dependence between the public revenues and expenditures with the budget deficit, the following hypotheses were tested.

H_0: there is no dependence between the budget deficit and total expenditure on budget in the Republic of North Macedonia.

H_1: there is correlation between the budget deficit and total expenditure on budget in the Republic of North Macedonia

Based on the results obtained p=0,233 so it means that Asymp. Sig. (2-sided) or p>0.05, which means that zero is accepted and the alternative hy-

pothesis is rejected. This means that there is a no statistically significant relationship between the variables. But that don't mean that budget deficit is isolated from total expenditure on budget, but one should bear in mind that there are many other factors that have a major impact on budget deficit. That is, there is a dependence between the budget deficit and total expenditure on budget in the Republic of North Macedonia. From the obtained results it follows that Individual hypothesis H1 - is accepted (Table 3).

Table 3: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	132.000[a]	121	.233
Likelihood Ratio	59.638	121	1.000
Linear-by-Linear Association	1.140	1	.286
N of Valid Cases	12		

Source: Autor's own research

Also, to see the dependence between the budget deficit and total revenue, the following hypotheses were tested.

H_0: there is no dependence between the budget deficit and total revenue on budget in the Republic of North Macedonia

H_1: there is correlation between the budget deficit and total revenue on budget in the Republic of North Macedonia

Based on the results obtained p=0,233 so it means that Asymp. Sig. (2-sided) or p> 0.05, which means that zero is accepted and the alternative hypothesis is rejected. This means that there is a no statistically significant relationship between the variables. But that don't mean that budget deficit is isolated from total revenue on budget, but one should bear in mind that there are many other factors that have a major impact on budget deficit. That is, there is a dependence between the budget deficit and total revenue on budget in the Republic of North Macedonia. From the obtained results it follows that Individual hypothesis H1 - is accepted (Table 4).

Table 4: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	132.000[a]	121	.233
Likelihood Ratio	59.638	121	1.000
Linear-by-Linear Association	.122	1	.727
N of Valid Cases	12		

Source: Autor's own research

From the research analysis of the testing of the hypotheses, we can see that, alternative hypotheses are accepted. That is, there is a dependence between the reconciling public revenues and expenditures by reducing expenditures and / or increasing revenues, in order to reduce the budget deficit in the Republic of North Macedonia. From the obtained results it follows that Individual hypothesis H_1 - is accepted.

Conclusion

Consistency of budget planning policies means having clear and specific goals that can be achieved in a given period of time, through realistically planned activities and costs, and in that direction the implementation of policies should be entirely through efficient and effective use of resources.

Frequent change of policies and goals, or the time dynamics of their implementation, on the one hand signals weak capacities of institutions in planning and implementation of public policies, and on the other hand it causes economic uncertainty in the private sector due to the inconsistency of public policies, insufficient clarity of the goals that are wanted to be achieved, and also affects the transparency in the spending of public funds.

Furthermore, the need for fiscal consolidation after the pandemic economy recovers is an imperative for the government to improve cost prioritization and promote efficiency. This means the distribution of funds to those programs that will achieve the effects required by the citizens, ie. which are relevant. Also, it should mean allocation of funds from the budget to policies with which the achieved effects are greater than the costs, and are implemented with the lowest costs.

The connection of the results and the effects in the implementation of the policies, enables constant monitoring and taking timely steps for adjust-

ment of the activities in order to complete implementation of the foreseen policies. Record-based policies also enable sound financial management, and transparent and accountable operations. Clearly defined results, measurable indicators and systematic monitoring and evaluation of implemented policies are key success factors. Introducing a medium-term fiscal framework covering the general government sector as defined according to the GES2000 and ESA95 standards. The MTBF should cover at least all central government financial operations, including those of extra-budgeting funds.

From the results we can conclude that public revenues and expenditures by reducing expenditures and / or increasing revenues, lead to reduce the budget deficit and reduce public debt.

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336.763.268(4-672EU)"2014/2019"
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INVESTMENT TRENDS OF INSTITUTIONAL IINVESTORS

Abstract: Institutional investors are very important players in the global financial markets. Their presence and contribution to the financial industry is inevitable. Almost every institutional investor, such as the pension funds, insurance companies and investment funds are growing throughout the years and are obtaining leading positions. In this context, asset allocation is crucial decision-making process for each of the mentioned institutional investors. The asset allocation decision determines the investment strategies and assist in anticipating the rates of return. Hence, the aim of this paper is to show the asset allocation decision of the institutional investors, to understand their investment strategies and determine the differences in the investment portfolio of these investors. Thus, the investment portfolio of the institutional investors mostly consists of cash and deposits, bills and bonds, loans, equity and land and building. The main difference exists in the amount they invest in each of these instruments and as a determining factor are the economic and financial conditions in the country.

Keywords: institutional investors, insurance companies, pension funds, investment funds, ETF, investments
JEL Classification: G20, G22, G23, G52,

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1. Introduction

Institutional investors represent legal entities that manage and invest the money of other people, which are also synonymous with the classification "intermediary investors". They represent important part of the global financial system, due to their contribution to the capital markets. The institutional investors' main activities include investing in various financial instruments, which consequently increase the value, the activity, and the stability of the securities market. Furthermore, developed capital markets are characteristic of developed countries, while less developed capital markets are characteristic of the developing countries. Nevertheless, institutional investors are major players not only in the developed markets, but in the emerging markets as well. Salehi and Sehat (2019) in their paper found that institutional investors play a major role in the corporate governance structure. It is worth mentioning that institutional investors are mainly consisted of pension funds, insurance companies and investment funds. The importance of each of the institutional investor differentiates among the countries. In some countries, pension funds play the main role (Australia, Israel), while in others, insurance companies are the most important (Norway, Germany) (OECD, 2011). Within the OECD area, institutional investors became very important players, with a continuous increase in their assets. The United States holds the major position, followed by Japan and United Kingdom (Gonnarad, et al, 2008). In the last two decades there has been evolution of the institutional investors in the global economy and financial system. Hence, the share of the assets held by nonbank financial institutions grew for more than 50%, which shows that institutional investors crucial in supporting the global economic activities (Garcia, et al, 2021). Considering the importance of each of the institutional investors, the main purpose of this paper is to present the investment strategies of the pension funds, the insurance companies and the investment funds. Hence, this paper presents in which assets these investors mostly invest in and how much they take part of the GDP for each of the mentioned countries.

2. Assets under management and investment trends of institutional investors

Assets under management refers to the total market value of the investments that an entity or a person manages on the clients' behalf. The total asset management industry since the global Covid 19 pandemic has been growing,

reaching $103 trillion in 2020. Interesting achievement is of the institutional investors that have reached $61 trillion or 59% of the global market (Heredia, et al, 2021). However, the asset allocation of institutional investors has been changing in the past several years. In the early 1970s, pension funds mostly invested in domestic, fixed-income instruments. In the following years, institutional investors started to reshape their investments strategies by investing more in equity markets, with a long-term strategic allocation of 60% equities and 40% fixed income (CFA Institute, 2022). It is worth mentioning that regulatory developments have been very important for the institutional investors' development and their asset allocation strategies (CGFS, 2007).

Moreover, digitalization, the aging population and climate change are considered the key factors that affected the long-term investing perspective of institutional investors in 2021 (Hamlin, 2021). Nevertheless, the long-term nature of the liabilities of the pension funds are affected by the inflation and interest rate changes. It is worth mentioning that the investment activities of the pension funds are usually oriented towards private equity, infrastructure, and venture capital. Literature shows that pension funds are moving away from investing in stocks and bonds, because investing in alternatives has shown to provide greater returns and lowered the risk. However, in the past several years, institutional investors recognized the infrastructure investment as an important asset class because it ensures diversification. The long-term orientation of pension liabilities matches the infrastructure projects which are generally long-term investments. Additionally, infrastructure investments are beneficial because they decrease the sensibility to increasing inflation (Croce, 2012). Nevertheless, the level of pension funds' investment in infrastructure differentiates among the countries and it mostly depends on the maturity of the infrastructure markets, the regulation that exists in the financial sector and the pension fund system (Croce, 2012). For instance, hedge funds do not represent a single asset class, but they diversify their investment strategies to obtain better returns. According to the Preqin Hedge Fund database (2022), hedge funds obtain their returns by implementation of various strategies, such as equity strategies (43%), relative value strategies (8%), managed futures/CTA (7%), credit strategies (12%), macro strategies (8%), niche strategies (3%), event driven strategies (111%), multi-strategy (8%), alternative risk premia (1%).
From the traditional point of view, institutional investors mainly have been investing in shares and other equity. However, literature shows that institutional investors' assets under management also include bonds, loans, and deposits.

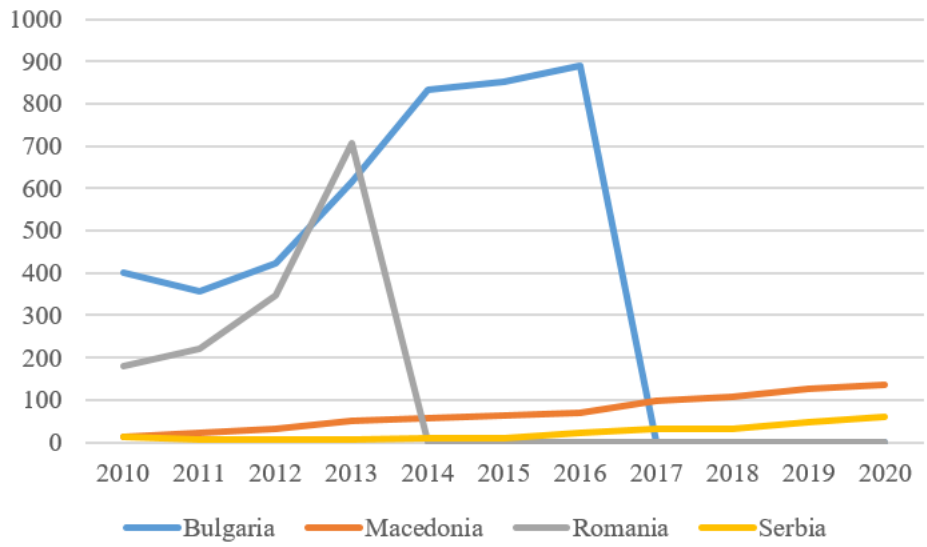
2.1 Investment strategies of pension funds

Pension funds are very important players in the financial markets globally. Their importance has grown in the past several years due to their contribution to the financial flows in the capital markets (Kim, 2010). The level of the development of a country is a determinant for the contribution and the role of the pension funds. Considering their investment activities in the capital markets, it can be said that the capital market development is directly related to the pension funds' growth (Faure, 2007). Competitive advantage of the investment strategies of the pension funds is their long-term investment nature and their investment scale, which no other institutional investor matches (Raisa, 2012). Moreover, the investment of pension funds abroad depends on the country. For instance, Dominican Republic, Egypt, India, Nigeria etc. forbid the pension funds to invest abroad, while other countries, such as Finland, Iceland, Israel etc. permit investments abroad only in those countries that are considered "eligible". Contrary to those countries, Switzerland does not impose any limitations on the investments that can be made abroad by the pension funds (OECD, 2021).

The investment preferences and regulation of the pension funds is directly associated with the capital markets' development. Those countries that have underdeveloped capital markets usually have strict investment regulation, contrary to those that have developed capital markets where pension fund have less strict investment regulation. The differences that exist in the asset allocation of the pension funds can be explained by the liability structure and the investment regulations. Hence, in some countries, pension funds have entire portfolio composed of fixed-income securities, while in others this is not the case. The asset allocation strategies depend on several factors, such as the members' age structure, the capital market return forecast, and historical reasons (Hinz, et al, 2010). According to the OECD analysis, at the end of 2020, the pension fund assets have increased compared to 2019 and exceeded 35 trillion dollars. For this period, it was estimated that out of the overall pension fund investment, the equities and bonds were around 75%. Only bonds alone accounted for more than 50% of pension fund investments. Nevertheless, investments in equities was mostly detected in Hong Kong (China), Poland, Malawi, Lithuania and Namibia. However, there are differences among the countries regarding the assets of the pension funds. Therefore, seven countries in the OECD area account for more than 90% of total pension funds' assets (OECD, 2021).

Furthermore, pension funds are important players in the financial markets, since they have accelerated growth in these markets. Nevertheless, literature shows that financial market growth does not necessarily promotes stability, but contrary it can be source of instability and stagnation (Fumagali and Lucarelli, 2011). The demand of various instruments by the pension funds can be source for innovation and development in the capital markets. In the last years of the previous century, new instruments such as zero-coupon bonds, mortgage-backed securities, indexed future, and options were created to meet the demand of the pension funds (Bonizzi and Churchill, 2016). Considering that innovation is demand-driven phenomenon, all institutional investors are linked in with financial innovation. Therefore, financial innovation is a necessity for pension funds and their demand for an asset which offer attractive risk/return portfolio (Whalen, 2012). It is worth mentioning that the investment strategy of the pension funds has changed in the last fifteen years. Up until 2000's, equities were the main category in which pension funds invested, because it offered them higher returns which were needed for their long-term investment orientation. Furthermore, in the Graph 1 below is presented the total amount investment in equity by the pension funds. Macedonia and Serbia have continuity in their investment in equity, while Bulgaria and Romania show some fluctuations. From 2011 until 2014, there is a slight increase of investment in equity in Bulgaria, when it reached its peak in 2016. From 2017 onwards there was sharp decline of investment in this instrument. Romania has reached its peak in 2013 and in the years that followed, sharp decline can be detected as well.

Graph 1. Pension funds' investments in equity (in US dollar, millions)



Source: OECD Statistics (2022) (a)

In the Table 1 below is presented the asset allocation of the pension funds for Austria, Belgium, Finland and Hungary. In Austria, the highest percentage is for cash and deposits, in Belgium for bills and bonds, in Finland for equity and in Hungary for bills and bonds (OECD website (b), 2022). Hence, there are differences among the pension funds in different countries and which investment strategies they will use or in which financial instrument they will invest, depend on many factors. Nevertheless, the investment portfolio of the pension funds in these countries is similar, because it consists of cash and deposits, bills and bonds, loans, equity and land and building.

Table 1: Asset allocation (% of GDP) of pension funds

ASSET ALLOCATION (% of GDP)					
country	cash and deposits	bills and bonds	loans	equity	land and building
Austira	2%	0.5%	0.2%	0.2%	0.2%
Belgium	1.9%	10.6%	0.6%	7.1%	0.4%
Finland	4.1%	22%	3.6%	47.9%	11.7%
Hungary	3.1%	57.5%	0.1%	9%	0.5%

Source: OECD website (b) 2022

In the table 2 are presented the financial assets as percentage of GDP of the pension funds in Austria, Belgium, Finland and Hungary for the period 2014-2019. In Austria it can be seen that there is a growth of the contribution of the financial assets to the GDP, reaching the highest percentage in 2019. Similar situation is in Belgium, contrary to Finland, where the highest percentage is in 2017, followed up with a decline in 2017, 2018 and 2019. Similarly to Finland, there is decline in Hungary throughout the years, with the lowest percentage in 2019 (OECD website (b) 2022).

Table 2: Financial assets (as % of GDP) of pension funds

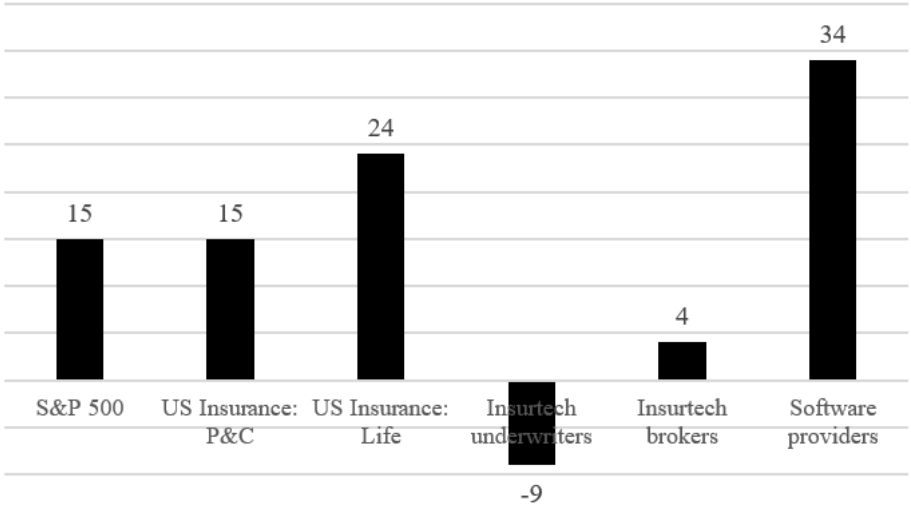
FINANCIAL ASSETS (AS % OF GDP)						
country	2014	2015	2016	2017	2018	2019
Austira	5.8%	6%	6%	6.2%	5.9%	6.5%
Belgium	6%	5.7%	6.8%	7.6%	7.4%	8.4%
Finland	1.4%	1.4%	1.7%	1.5%	1.4%	1.3%
Hungary	4.2%	4.1%	4%	4.4%	4%	3.9%

Source: OECD website (b) 2022

2.2 Investment trends of insurance companies

The insurance industry has been on the rise, especially during the period and after the corona crisis. According to Smolarova and Tentis (2021), insurance companies in 2020 were mostly interested for balance sheet investments, because they see it as a source of permanent capital. In Graph 2 are presented the results of the total shareholder returns for the first quarter of 2021. Hence, contrary to the 2020 when most of the insurance companies, and generally the insurance industry experienced disruptions, in 2021 there were improvements. During the first quarter of 2021 the insurance stocks have recovered and software providers and life insures showed best results.

Graph 2: Total shareholder returns (%) for the period 01.01.2021-30.06.2021



Source: Smolarova and Tentis (2021)

Moreover, theory shows that consolidation, digitalization and specializations are factors that will play an important role in creating the investors' decisions and their value-creation strategies in the upcoming years (Smolarova and Tentis, 2021). Although the economic turbulences that have occurred from the corona crisis, many of the insurance companies believe that they will experience economic recovery in 2022, especially through digital technology investments. Nevertheless, a research made by Deloitte Center for Financial Services (2022) shows that the rising rates of inflation combined with the flat interest rates can represent an obstacle for obtaining positive results by the insurance industry. For better understanding the insurance companies, and overview of their investment portfolio and investment strategies should be made. According to the research made by Stojakovic and Jeremic (2016), the investment portfolio of insurance companies is composed of debt securities, shares and loans. More specifically, the largest share have the debt securities, where the bonds account for 35% of the total investment portfolio. Nonetheless, shares also have important position in the insurance companies' investment portfolios, but they contribute to higher risk of the portfolio. Lastly, loans are also present in the investment portfolio, but, their share has been decreasing, especially in the period from 2002-2010, from 17% to 15.4% (Stojakovic and Jeremic, 2016).

Moreover, insurance industry is very important for the global financial market stability. Insurance companies are large investors, they are connected with the banks and they serve as a safeguard of the businesses and the households by insuring their risks. The insurance companies' balance sheets are composed of illiquid liabilities through which they protect the insures against liquidity shortages. Through their investment strategies, which include investment in corporate and government bonds they can affect the interest rates and the pricing in the secondary market on a long-term horizon. The insurance companies and the pension funds hold around 20% of the debt securities that are issued by the governments in the euro area. Furthermore, insurance companies are also involved in the credit derivatives market. Nevertheless, they invest in less risky credit products (ECB Financial Stability Review, 2009). Insurance companies, as well as the pension funds have long-term investment horizon. Therefore, they help in stabilizing the prices in the financial markets. Additionally, profitability is one of the key factor for the insurance sector's performance. Hence, in this context, low interest rate, slow economic growth and poor equity market performance negatively affect the profitability rate of the insurance companies (Dorofti and Jakubik, 2015). According to the Sigma (2012), when there is a weakness in the financial market conditions, the profitability of the insurance companies is negatively affected. This is due to the fact that the stock market index and the asset side of the insurance companies are connected, because equities are part of the investment activities of the insurance companies.

Additionally, development of the investment strategies is very important for the insurance companies. A primary decision has to be made regarding the asset categories that will be included in the portfolio. In this process, the market conditions are initially monitored in order to predict the rates of return for the holding period. As it can be seen from the Table 3, insurance companies in Belgium, Finland, Hungary and Germany mostly invest in cash and deposits, bills and bonds, loans, equity and land and building. More specifically, in Belgium, insurance companies invest mostly in bills and bonds (59%), flowed up by investment in loans (11.9%), equity (4.86%), land and building (2.81%) and cash and deposits (2.1%). Similar situation is in Finland, where insurance companies mostly invest in bills and bonds (18.6%), cash and deposits (6.1%), equity (4.18%) and land and building (1.76%). In Hungary, insurance companies also invest mostly in bills and bonds (45.67%), then in cash and deposits (1.95%), land and building (1.57%), equity (0.8%) and loans (0.54%). Las but not least, insurance companies in Germany mostly invest in bills and bonds

(41.76%), equity (7.84%), loans (5.72%), land and building (1.61%) and cash and deposits (0.8%) (OECD website (c), 2022).

Table 3: Asset allocation (% of their total investment) of insurance companies

ASSET ALLOCATION (% of their total investment)					
country	cash and deposits	bills and bonds	loans	equity	land and building
Belgium	2.10%	59%	11.90%	4.86%	2.81%
Finland	6.10%	18.60%	1.89%	4.18%	1.76%
Hungary	1.95%	45.67%	0.54%	0.80%	1.57%
Germany	0.80%	41.76%	5.72%	7.84%	1.61%

Source: OECD website (c) (2022)

In the Table 4 are presented the financial assets as % of GDP for Austria, Belgium, Finland and Hungary for the period 2014-2019. Hence, it can be seen that the highest percentages in Austria are in 2014 and the lowest in 2019. In Belgium, the highest percentages are as well in 2014 and the lowest in 2018. In Finland, the highest percentages are in 2016 and the lowest in 2018, while in Hungary the highest percentages are in 2014 and 2016, while the lowest in 2018 and 2019. As a general conclusion it can be said that the financial assets of the insurance companies (as % of GDP) are highest in Belgum (OECD website (a) (2022).

Table 4: Financial assets (as % of GDP) of insurance companies

FINANCIAL ASSETS (AS % OF GDP)						
country	2014	2015	2016	2017	2018	2019
Austira	36.1%	35.0%	34.0%	32.0%	29.8%	29.7%
Belgium	79.0%	76.2%	73.0%	70.0%	67.9%	74.7%
Finland	33.0%	34.0%	33.8%	33.5%	30.9%	32.3%
Hungary	8.0%	7.7%	8.0%	7.5%	6.8%	6.8%

Source: OECD website (c) (2022)

2.3 Investment trends of investment funds

The main purpose of the investment funds is to collect capital and invest it through a portfolio of assets. Their contribution for the capital markets is inevitable, because as institutional investors they contribute to growth and creation of jobs. In 2020, investment funds in EU held 18.8 trillion euros in assets, which were invested through a portfolio of assets that mainly incudes stocks, real estate, bonds etc. At the end of 2020, the European investment fund market was second largest in terms of assets under management. Around 60% of the total 18.8 trillion euros was invested in UCITS-undertakings for collective investment in transferable securities, while the rest were invested in alternative investment funds. Investment funds in EU have been continuously growing, especially in the period 2011-2020. This growth can be explained by the net sales of the investment funds and the market appreciation (European Court of Auditors, 2022). Interesting fact is that investments funds have increased their share in credit provisions to residents and non-residents through purchases of debt securities. This investment strategy of the institutional investors reflects cost efficiency and comparative advantage to the strictly regulated banking system (Garcia, 2021). Moreover, in the Table 5 are presented the financial assets as % of GDP of the investment funds in Austria, Belgium, Finland and Hungary for the period 2014-2019. In Austria, the highest share of the financial assets is the same for the period 2014-2017, while in 2018 there has been a slight decrease. In Belgium, there has been an increase in 2017, while for the rest of the years the share of the financial assets as a percentage of GDP is almost the same. In Finland, an increase can be noticed throughout the years, while in Hungary there are some fluctuations. Thus, the general conclusion for all of these countries is that there are fluctuations in the financial assets of the investment funds as percentage of the GDP. Nevertheless, in Austria and in Finland, the financial assets have the highest percentages.

Table 5: Financial assets (as % of GDP) of investment funds

FINANCIAL ASSETS (AS % OF GDP)						
country	2014	2015	2016	2017	2018	2019
Austira	48.6%	48%	48%	48.6%	43.7%	47.5%
Belgium	31%	35.6%	34.9%	40.5%	36.4%	38.9%
Finland	45.6%	51.5%	53.6%	57.5%	52.1%	56.6%
Hungary	16.6%	16.3%	16%	15.9%	14.1%	13.8%

Source: OECD website (d) (2022)

3. Institutional investors and ETFs (Exchange-traded funds)

Since the introduction of the ETFs, they have been continuously growing and attracting many investors. Therefore, ETF represent a fund that is traded like a financial asset that reflect a stock index (Petrova, 2015). With their advantages, ETFs have been attracting the institutional investors in the past several years. Institutional investors are interested in ETFs because they provide them stable liquidity and enable them to handle inflows or outflows without any major disruption to the share price (JP Morgan Asset Management, 2022). According to the Deutsche Bank study on institutional investors' investments in ETFs, it was estimated that institutions control almost two thirds of the US ETF market. More specifically, in 2018, around 900 new institutional investors have used ETFs. Nevertheless, out of all institutional investors, pension funds prefer open-ended index funds opposed to the ETFs (Tuckwell, 2019). Additionally, when it comes to ETFs and institutional investors different types of investment strategies can be used. Some of those strategies are related to index-based funds, actively managed funds, leveraged, inverse and inverse leveraged ETFs. After the investment strategies are chosen, there are also several ways through which ETFs can provide returns to investors. This process can be done through dividend payments, capital gains distributions or increased market price (SEC, 2022). It is worth mentioning that the exchange traded funds mostly track the more liquid market segments, but the US market has the leading position compared to the euro area, where the ETF sector can still grow. Nonetheless, the role of ETFs in the equity sub-segment has a good position, as they account for 10% of all equities held by the euro area investment funds. In the US, exchange traded funds represent around 15% of total investment fund

assets, while in Europe it is around 5%. Out of the all institutional investors, investment funds are the largest investors in ETFs in Europe (ECB, 2017).

Conclusion

Financial stability and developed capital markets are the main factors on which the success of the institutional investors' investment is achieved. Although a growth in the financial sector across the globe is detected, there are still differences among the countries. United States still has the leading position. However, the financial sector must be included in the liquidity transformation process in order to contribute the financial growth at the current pace. In this context, institutional investors play very important role in the financial system. In this paper it was shown that pension funds, investment funds and insurance companies invest in cash and deposits, bills and bonds, loans, equity and land and building. Interesting finding was obtained for the insurance companies in Belgium, Finland, Hungary and Germany, where bills and bonds are mostly represented in their total investment activities. Additionally, an analysis was made for the financial assets as percentage of GDP for each of the institutional investors for the period 2014-2019. It can be concluded that the differences that exist among the investment strategies of the institutional investors may be explained by the differences of the economic and financial conditions that exist among the countries, the level of inflation and the interest rates. The amount of their investments in various financial instruments also varies, and this may be result of the anticipated rates of return. Undoubtedly, assets under management of institutional investors are constantly increasing, and this should be taken in consideration by the developing countries. The governments in these countries should work on developing better financial conditions and they should find ways to stimulate the growth of the capital markets. With those measures, more investments by the institutional investors will be made and the outcome will be beneficial for every participant in the financial sector.

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(Original scientific paper)

MACROECONOMIC PERFORMANCE OF WB COUNTRIES - EMPIRICAL INVESTIGATION

Abstract: The subject of this paper is a comparative analysis of key macroeconomic indicators (Real GDP, Inflation, Unemployment rate, and Government debt) of the Western Balkans in the period 2018 – 2021. The aim is to assess their relationship and position and accordingly draw adequate conclusions and recommendations for policymakers. The research is based on a descriptive analysis of secondary data from The Global Economy database.

A comparative analysis of the selected macroeconomic indicators indicates that the COVID-19 pandemic and the global slowdown have had the least severe impact on Serbia compared to other Western Balkan countries. This resulted from the Serbian economy's achieved macroeconomic and financial stability, previous growth dynamics, built fiscal position, timely implementation of the comprehensive package of measures, and its economic structure. In the forthcoming period, it can be expected that the Western Balkan region, with the implemented structural reforms, will ensure macroeconomic stability and the creation of a favorable foreign direct investment environment, which will undoubtedly impact their further economic growth and development.

Keywords: macroeconomic indicators, WB countries, economic growth

JEL Classification: O11

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Introduction

The beginning of the 21st century was dominated by significant events that reshaped the Western Balkan region's political and social structure. The period was characterized by political stabilization and renewal of the transition process, which resulted in economic growth and development of the region. During this period, the Western Balkan countries based their economic growth on accelerating domestic consumption (as a part of aggregate demand) and, consequently, real wages.

Nevertheless, the global financial crisis dramatically affected the Western Balkan region. Even though the crisis began in 2007, the Western Balkan countries felt the crisis's adverse effects at the end of 2008, when institutional investors started to withdraw their funds, which profoundly impacted the level of foreign currency savings. Furthermore, the global financial crisis caused a decline in imports, a balance of payments deficit, and reduced FDI inflows, which further affected the macroeconomic stability of the region. The economic recovery began in 2010. The main result was moderate economic growth in almost all Western Balkan countries.

The positive economic trends were abruptly interrupted in early 2020 by the COVID-19 influenced health and economic crisis. The COVID-19 crisis resulted in a global trade and economic activity slowdown, with health and other pandemic costs rising sharply. The emerging crisis has negatively affected most Western Balkan countries' economic growth and development. In order to prevent the adverse economic effects of the crisis, the Western Balkan economies have introduced a set of fiscal and monetary policy measures (tax policy measures, measures of direct incentives from the budget, measures to preserve liquidity, etc.). These measures aim to help maintain companies' liquidity and preserve jobs, which can significantly induce a faster exit from the economic crisis after the end of the global pandemic. After the initial shock in the second quarter of 2020 and the subsequent recession, most Western Balkan countries' economic and social support programs contributed to their slight recovery in 2021. In other words, macroeconomic stability was preserved, and new production capacities were activated, which was followed by a slight recovery of foreign direct investments. Provided that the Western Balkan countries managed to achieve macroeconomic stability before the crisis, there was room for the economic policy response to be adequate in scope and structure.

1. LITERATURE REVIEW

The macroeconomic policy comprises the measures and activities by which the state influences economic flows in the national economy (Vasylieva et al., 2018; Marjanović & Domazet, 2021). Consequently, countries may have different goals they want to achieve through macroeconomic policy measures and instruments (Mitchell et al., 2019). Economic efficiency is measured by macroeconomic indicators' stability (e.g. GDP growth, inflation, unemployment rate, the balance of payments, etc.). One of the main goals for each national economy and therefore economic policymakers is to maintain a general macroeconomic balance. (Marjanović & Zubović, 2020). As a consequence of the globalization and regionalization of the global economy, macroeconomic stability is becoming increasingly important in national economies' growth and development (Marjanović et al., 2022). It is essential to ensure the sustainability of macroeconomic indicators in the long run (Mügge, 2016; Tas et al., 2013). Macroeconomic balance is the fundamental economic goal of every country, and it implies the simultaneous achievement of price stability, high levels of employment, and foreign economic balance (balance of payments), with constant economic growth (Marjanović & Zubović, 2020).

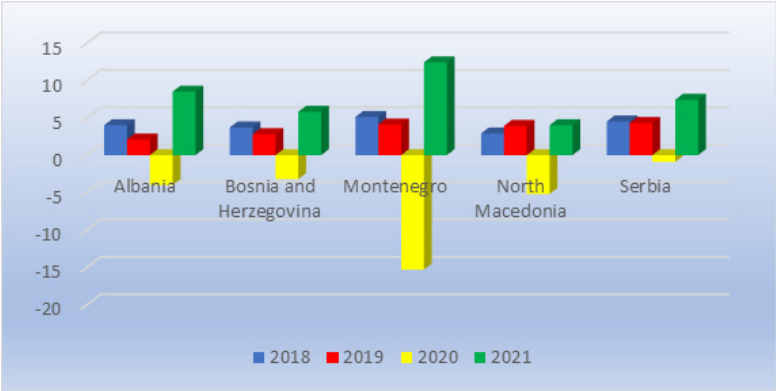
GDP represents the total market value of all goods and services that the economy produces in one year. The key figure to look at is the GDP growth rate (Feldstein, 2017). In general, deviations from normal levels should be alarming. An increase above this level is often considered unsustainable and is a generator of high inflation, while a growth rate below this level (especially negative growth) indicates slow economic growth, which can further lead to higher unemployment and reduced spending (Stock & Watson, 2016). Vladi & Hysa (2019) concluded that macroeconomic variables (inflation, interest rates, GDP, and FDI) significantly affect the unemployment rate in all Western Balkan countries. As employment has not consistently followed growth, the Western Balkans must address structural rigidities affecting the labor market and delay formalization. Over the last decade, the elasticity of employment growth relative to GDP growth has been minimal in several countries (Chakraborty et al., 2020). The decline of real GDP in the first half of 2020 resulted from the reductions in private consumption, investment and the negative contribution of net exports (Stanceva Gigov, 2020). Bodroža & Lazić (2021) concluded that the COVID-19 influenced crisis significantly slowed down the Western Balkan economies and that the intensity of this crisis was not the same in all observed countries.

2. RESEARCH METHODOLOGY AND RESULTS

Macroeconomic stability is a prerequisite for economic growth and integration, as it protects the economy from external shocks and helps reduce uncertainty for consumers and investors. In that way, trade, investments, and capital market development are promoted. Macroeconomic stability in the Western Balkans has been challenging to maintain, especially since 2008. After the global financial crisis, Western Balkan economies had a common need to ensure macroeconomic stability through consolidating public finances, reducing debt levels, and strengthening the quality of public spending. Accordingly, the main goal of this paper is to present the current state of the national economies of the Western Balkans in terms of key macroeconomic indicators. The paper presents a comparative analysis of the following macroeconomic indicators: Real GDP, Inflation, Unemployment rate, and Government debt. The period covered by this analysis is from 2018 to 2021. years, while the research itself is based on descriptive analysis of secondary data from databases World Bank, UNCTAD, and The Global Economy.

The outburst of the COVID-19 pandemic in 2020, accompanied by the introduction of the so-called lockdown economy, strongly affected Western Balkan economies. The region is facing a new range of economic challenges, despite a better-than-expected rebound from the recession caused by the COVID-19 pandemic. Nevertheless, GDP is expected to surpass pre-pandemic levels by the end of 2022.

Graph 1. Real GDP (% change, y/y), 2018-2021



Source: Authors based on World Bank database

Like other countries in the region, Albania's economy recovered faster than expected after the historic recession created by the COVID-19 pandemic. The strong recovery is supported by consumption, tourism, and construction. As growth rebounds, Albania has the opportunity to strengthen the sustainability of its economic model and implement reforms that further support sustainable and shared growth while preserving macroeconomic stability.

In 2021, Bosnia and Herzegovina achieved economic growth of 7.1%, primarily due to an increase in real private consumption (2.8% y/y) and real investment (2.5% y/y). Looking at the structure of economic trends in 2021, we can conclude that this GDP growth was a consequence of the simultaneous growth of both aggregate supply and aggregate demand due to improving epidemiological and economic conditions in the country and the external environment.

In 2021 the Montenegrin economy began to recover, where real GDP growth of 14% was achieved in the first three quarters. The GDP growth was led mainly by the growth of services exports generated through greater tourist activity, but the growth of household and government consumption.

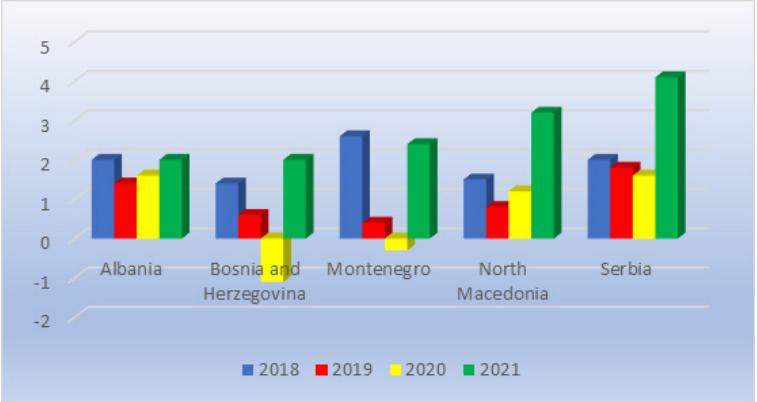
Macedonian economy rebounded in 2021 following a 5.2 % contraction in 2020, with GDP rising by 4 % in 2021, driven by both domestic and external demand. The optimistic forecasts for an economic recovery in 2021 were replaced with a more pessimistic reality as the year unfolded. The year was marked by a slow rise in GDP, historically high public debt, and an accelerating energy crisis. Although the GDP started to recover, other economic indicators such as public debt and inflation left little room for optimism about the mid-to-long term condition of the Macedonian economy.

In 2020 economic activity in Serbia decreased by only 0.9%, which was one of Europe's best results. The worst-case scenario (5% drop in economic activity) of GDP contraction induced by the COVID-19 pandemic was avoided due to the comprehensive program of support measures for businesses and households, timely adopted and implemented by the Government of the Republic of Serbia and the National Bank of Serbia.

In all Western Balkans countries, consumer prices have been rising gradually since 2021 on the back of higher food and energy prices. Fiscal policy has remained accommodative, and monetary policy rates are at historical lows to support the economy. However, the likelihood of tightening is increasing amid persistent inflationary pressures in the eurozone. Inflation is on the rise due to a combination of factors. More robust global growth since mid-2020 has placed

upward pressure on commodity prices and shipping costs, feeding through higher imported inflation across the Western Balkans.

Graph 2. Inflation (percent change in the CPI), 2018-2021



Source: Authors based on The Global Economy database

Inflation in Albania was registered at 1.4% in 2019 and 1.6% in 2020. Strong food price increases in the first half of 2020 challenged an eight-year period of below-target (3%) inflation rates. The Bank of Albania's attempts to control inflation by continuously cutting the interest rate had little effect due to the euroization of the financial sector, low commodity prices, and below-potential economic output.

The inflation rate for consumer prices in Bosnia and Herzegovina moved over the past 15 years between -1.6% and 7.4%. In 2021, moderate inflation was recorded in Bosnia and Herzegovina. Political instability in northern Europe and the rise in energy prices through the spillover effect have caused a rise in prices in Bosnia and Herzegovina's market.

The consequences of the COVID pandemic in 2020 were considerable in Montenegro. The inflation rate has fallen from 0.4% to -0.3% by the end of 2020. The most significant price increase was recorded in the category of hotels and restaurants (4.1%). When the aspect of annual inflation in June 2021 is taken into account, we conclude that inflation measured by Consumer Prices Index amounted to 2.3%, while inflation measured by the Harmonized Index of Consumer Prices amounted to 2.8%.

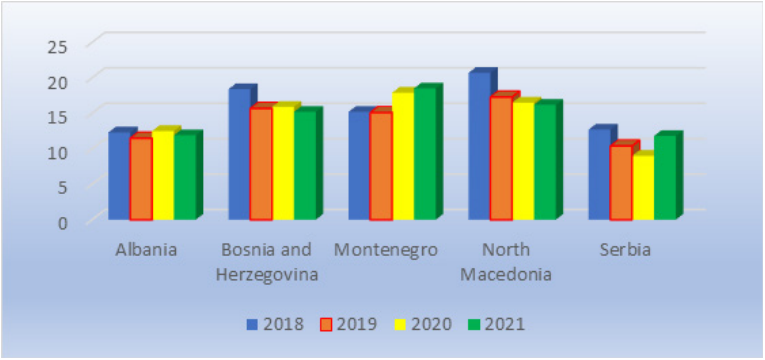
The inflation rate for consumer prices in North Macedonia moved over the past 26 years between -1.3% and 126.6%. The inflation rate, measured by the CPI index, amounted to 1.2% in 2018, which is higher by 0.4 percentage

points than the inflation in 2019 (0.8%). Meanwhile, inflation accelerated in 2021, reaching 3.2%, mainly due to increased energy, food, and transportation costs.

In 2021, intense inflationary pressures were recorded in the Republic of Serbia. The high inflation rate was influenced primarily by the global growth of prices of oil products, primary agricultural products, as well as disruptions in the global supply chain. In response to high inflationary pressures, the National Bank of Serbia decided to tighten monetary policy in the last quarter of 2021 by increasing the weighted average interest rate on reverse repo auctions. The most significant inflationary pressures are still on the supply side, which monetary policy cannot influence much, confirming the core inflation movement.

Prior to the COVID-19 crisis, the Western Balkans recorded record-high employment rates. However, the COVID-19 already annulled part of the previously achieved positive labor market trends: by April 2020, 40% of the increase in employment in 2019 had been lost. In this regard, all Western Balkan countries have taken action to support businesses to maintain jobs and protect employment. The region's unemployment rate fell to a historically low level of 13.4% in 2019, which is about 2.3% less than in 2018. The average unemployment rate of the younger population in Western Balkans is over 30%, which is significantly higher than the European Union average (16.9%). The loss of jobs due to the recession and its consequences has disproportionately affected women and young people, which could jeopardize efforts to increase the long-term low rates of their participation in the labor force.

Graph 3. Unemployment, total (% of the total labor force), 2018-2021



Source: Authors based on World Bank database and The Global Economy database

The economic impact of the COVID-19 led to a sharp drop in economic activity and a marked deterioration in the labor market.

Albania is one of the European countries with the highest informality of the labor market and high youth inactivity. Compared to 2020, the unemployment rate in 2021 was 11.9%, whereas 61.6% of the population was employed. The dip in employment and rise in unemployment is attributed to the COVID-19 pandemic that saw thousands of businesses go bankrupt and many employees laid off.

The unemployment rate in Bosnia and Herzegovina rose slightly in the first half of 2020 due to the COVID-19 outburst. In the third and fourth quarters of 2020, its value stabilized at around 16%. The most significant decline in employment in the second half of 2020 occurred in the processing industry, wholesale and retail trade, and transport and storage.

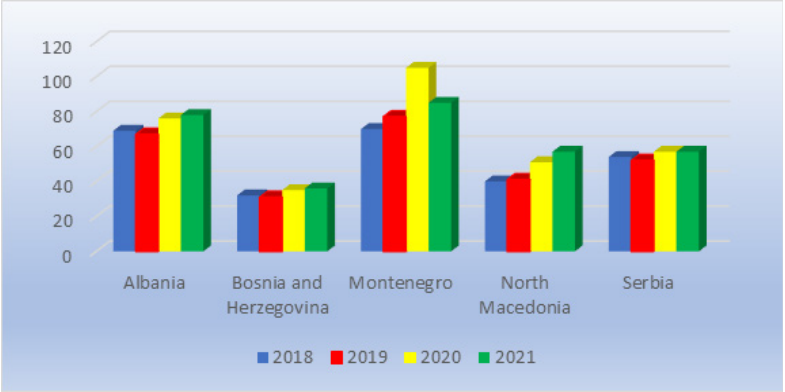
In 2021, the growth of economic activity in Montenegro had not been accompanied by favorable trends in the labor market, characterized by high unemployment rates at their highest level in the last fifteen years.

The Macedonian labor market suffers from low activity, low employment rates, high unemployment, and (vertical and horizontal) mismatch between supplied labor and demanded skills. North Macedonia's unemployment rate fell to 15.9% in the second quarter of 2021 from 16.7% in the same period a year earlier. The unemployment rate has constantly been falling in the last few years, but the pace slowed in 2020 due to the coronavirus pandemic.

Regarding the labor market's dynamics in 2021, insight into the Labor market survey in Serbia revealed an increase in the unemployment rate, which rose to 11.1%. This was expected since the health and resulting economic crisis led to a large wave of layoffs and negligible labor market pressures, which maintained instability. The situation can be expected to remain stable in the next period, primarily due to wage growth, consistent economic growth, and general economic stability.

The global financial crisis and the crisis caused by the COVID-19 pandemic led to the increase in indebtedness of almost all countries worldwide (including the Western Balkan countries). The increase in public debt in the analyzed countries was mainly due to the high costs intended for combating the pandemic and helping the economies and the population. The current European crisis caused by the Ukraine and Russia armed conflict will significantly change the structure and level of the public debt of many countries.

Graph 4. Government debt (% of GDP), 2018-2021



Source: Authors based on official documents of the WB countries

Following the 2019 earthquake, the COVID-19 pandemic, and historical spending levels, including dozens of public-private partnerships, Albanian public debt is estimated at somewhere between 78% and 86%. The government has increased the public debt by about 2 billion EUR in the last two years. Most of it was used to finance disaster-related projects.

Bosnia and Herzegovina is forced to borrow as a transition country facing a lack of domestic investment accumulation. It is essential to outline that the public debt of Bosnia and Herzegovina (debt-to-GDP ratio amounts to approximately 40%) is within the Maastricht criteria, meaning that it does not belong to a group of heavily indebted countries but a group of medium-indebted ones.

Montenegro's public debt at the end of 2020 amounted to as much as 105% of GDP. The current crisis caused by the coronavirus significantly contributed to this situation. However, due to China's participation in major energy and infrastructure projects, special attention needs to be paid to Montenegro's debt. At the end of 2021, compared to the same period previous year, Montenegrin public debt was significantly reduced, both in absolute terms and in the debt-to-GDP ratio.

The public debt of North Macedonia is growing gradually as the current spending increases due to rising wages, pensions, and subsidies in relation to moderate revenue growth. The public debt and the debt guaranteed by the state increased in 2020 because the government had to increase borrowing to finance the growing deficit and repay the due obligations.

The crisis also affected Serbian public debt, which was 26.7 billion EUR in 2020, and 30.1 billion EUR (57% of GDP) in 2021. Efficient public debt servicing is substantial for Serbia, as well as implementing methods that imply more efficient use of foreign funds, reduction of interest rates, or significant retained foreign earnings.

Conclusion

All Western Balkan countries need to try to maintain general macroeconomic stability. Therefore, it is important to consider all trends and react to their movements according to the situation. Properly conducted macroeconomic policy significantly contributes to the growth and development of the region. That is why it is important to ensure economic stability in each of these countries and thus enable economic growth. GDP growth in the Western Balkans reached 7.4% in 2021, after falling by 3.2% in 2020. The main driver of growth was an extremely strong recovery in spending, fueled by fiscal stimulus, increased demand, and easing restrictions on movement and travel. However, the post-pandemic recovery was interrupted by the war in Ukraine, the consequences being felt throughout the region. According to current projections, in 2022, the growth rate in the Western Balkans will be around 3.1%. Despite a strong recovery from the pandemic, the Western Balkans are now facing new challenges further aggravated by the war in Ukraine, including rising energy and food prices, high inflation, and a slowdown in trade and investment. The Western Balkans countries will need strong support in the form of public policies that will enable them to find a way out of this crisis and protect the significant results achieved in 2021, including those in the field of poverty reduction.

Policy needs to focus on building resilience and undertaking structural reforms to support growth and steer through the crises. With limited fiscal space, countries will need to carefully weigh the costs and benefits of new spending commitments in response to higher energy and food prices, prioritizing vulnerable households. Structural measures to reduce business regulatory costs, increase market competition, support labor market participation, and strengthen public institutions' independence would all support growth in an uncertain environment.

Serious negative risks threaten the economic prospects of the region. The spread of the conflict or the protracted war in Ukraine could further complicate global trade and raise energy and food prices. Refinancing risks may

arise if the trend of unfavourable conditions in foreign financial markets continues. The sustainability of public debt can be a cause for concern if the already limited fiscal space is further narrowed due to the response of public policies to higher energy and food prices with increased refinancing costs.

In the following years, it will be crucial to create conditions for macroeconomic stability and economic growth in the region through adequate economic policy and accelerated structural reforms. This would increase investment, exports, savings, and productivity and strengthen competitiveness while, on the other hand, reducing macroeconomic imbalances, especially the fiscal deficit, inflation, and the current account deficit. Effective fiscal policy should be aimed at implementing measures that will slow down debt growth and reduce the fiscal deficit. With a shared vision that will ensure macroeconomic stability, and provided they implement decisive reforms, the Western Balkans countries can ensure accelerated economic growth and an increase in the living standards of the population. That way, economic integrations would be accelerated, and the advantages of the new global economy would be used.

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378]:005.32:331.101.32(495)
(Professional paper)

EXPLORATION OF ORGANIZATIONAL CULTURE AND JOB SATISFACTION AS SUSTAINABILITY FACTORS IN THE HIGHER EDUCATION INSTITUTIONS

Abstract: The motive for writing this article is to explore the impact that organizational culture and job satisfaction have on the quality of higher education institutions. But, also to indicate how much these two components can be considered as sustainable factors in the field of higher education.

This article connects the issues of the relationship between organizational culture as an integral part of any organization that must be nurtured, so that to achieve quality business processes. Job satisfaction is a key factor in achieving a high degree of productivity in the performance of work. Different indicators are the reason for the positive, but also the negative implications that occur in the higher education system. The emergence of the Covid-19 crisis was particularly influential. Due to that, the education system faced huge problems, which greatly affected the job satisfaction and the way of perceiving the organizational culture.

Keywords: Organizational culture, job satisfaction, sustainability, higher education, institutions

JEL Classification: J24, M12, M14, O15

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Introduction

The main research question refers to the connection between the organizational culture of higher education institutions and the cognitive, non-cognitive and behavioral reaction of the employees in these institutions. Comparatively, the impact that this relationship has on scientific research work, and thus the success of students, organizations, and society, is considered. The main focus was placed on the employees in the higher education institutions because they are an essential resource within the higher education in the process of formulation and realization of the goals of the higher education institutions.

To this end, this paper is mainly divided into secondary quantitative methodological studies, through which a clear picture can be obtained of how the organizational culture and job satisfaction of higher education institutions can be considered as sustainable factors.

The purpose of this article is to explore organizational culture and job satisfaction as two phenomena, all, so that, to obtain an effective result. So that, better understand organizational life by discovering the complexity of daily activities and goals in the workplace within higher education institutions.

The research is expected to confirm the strong link between organizational culture and job satisfaction of employees of higher education institutions. It is also necessary to show their role in the context of sustainable development. Many believe that human resources are based on the recruitment of people, employment, teaching process and the eventual maintenance of basic data for all employees, but the range of use of these activities is much wider. Human resource management itself is a key, but also a critical component through which job satisfaction is managed and the impact that organizational culture has on employee motivation.

This is the basic hypothesis of labor, which was that if the organization is properly managed, employees will be more motivated to perform tasks. The need for employee motivation is a key segment of the organization. That is why, with successful management, employee satisfaction and success of the organization will be achieved.

Every modern higher education institution in the process of work management faces numerous challenges, which are often accompanied by many questions and dilemmas that seek fast and competitive solutions that will bring positive effects for the institution.

In this direction are demystifying the new directions and problems in several areas of organizational culture and job satisfaction, compared to

higher education institutions. It also reveals the main problems, challenges and impacts faced by employees in higher education institutions today. However, some directions through which the education system should move are determined.

1. ORGANIZATIONAL CULTURE AND JOB SATISFACTION IN HIGHER EDUCATION INSITUTIONS

Organizational culture is reflected at the shared values and beliefs of its members, and it is manifested in the ends sought by the organization, and the means used to achieve them, such as firm's structure.[1] According to Trivellas and Dargenidou, university culture has been defined as the collective personality of a university college or other organization. It has also been described as the atmosphere that is created by the social and professional interactions of the individuals at the university.[2] A higher education institution's culture is reflected in what is done, how it is done and who is involved in doing it.[3] The instrumental and symbolic level is accompanied by decisions, actions and communication. Here, we have connection between institutional ideology and attitudes that emerge from individual and organizational behavior.

According to Nguyen et al (2021), job satisfaction is a mixture of psychological, physiological, and environmental factors that makes a person acknowledge: "I am contented with my job".[4] As Khan et al (2022) state, heads of departments in higher education institutions are at the center of service production and therefore have a significant impact on their employees' morale.[5]

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Managing higher education institutes effectively is in doubt if teaching staff is dissatisfied and uncommitted (Khan et al, 2022).[6] The higher education institutions environment, capacity to practice teaching, chances to practice teaching as academic staff, prestige linked with the instructor's employment, and possibility for research work are all examples of satisfaction (Khan et al, 2022).[7]

2. HIGHER EDUCATION IN CONDITIONS OF SUSTAINABLE ENVIRONMENT

For Findler et al (2018), the impacts of sustainability initiatives of higher education institutions consist of real-world changes in ecological sustainability, policies, and people's well-being. [8]

Higher education is the driving force of establishing sustainability since it is one of the main communication vehicles and the basis for the sustainability mindset (Zaleniene, Pereira, 2021). [9] As Zaleniene and Pereira (2021) say, by considering sustainability principles in studies and research programs, university staff and the students are actively working towards a sustainable world.[10]

For a higher education institution that operates in a sustainable environment, an individual result from the business processes is anticipated in the direction of organizational culture, job satisfaction of employees, as well as organizational commitment.

These can become a thing that mediates the relationship between two things (culture - performance).[11] These become strong reason for researchers to

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research organizational culture related to individual performance, through job satisfaction and individual organizational commitment.[12]

3. METHODS

This paper will use secondary quantitative analyzes and sources that have previously done research on organizational culture and job satisfaction of employees of higher education institutions in Indonesia and Turkey, to show the connection that exists between these two variables.

4. RESULTS

The research data collection was carried out using a questionnaire / questionnaire on the Likert scale at Se-Karasidenan Bojonegoro college.[13]

Table 1 Results of multiple linear regression analysis for variables X1, X2, against X3.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.201	11.755		.102	.920
Organizational culture	.530	.250	.367	2.120	.045
Work motivation	.387	.156	.429	2.482	.021

a. Dependent variable: Job satisfaction

Source: Ahmadi, E.A, Herwidyaningtyas, F.B and Fatimah, S: The Influence of Organizational Culture, Work Motivation, and Job Satisfaction on Management Lecturer Performance (Empirical Study at Higher Education in the Residency of Bojonegoro),

faction, Organizational Commitment, the Effect on Lecturer Performance, International Journal of Business and Management Invention, 2(12), 2019, 21-30, Available at: https://www.ijbmi.org/papers/Vol(2)12/Version-2/C021202021030.pdf, [Date accessed 18.06.2022]

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The model can be interpreted as follows:[14]

1) The constant shows the result 1.201 which means, if the variables X1 (Organizational culture), X2 (Work motivation) are not taken in account/ are absent then X3 (Job satisfaction) will decrease by 1.201 percent.
2) The regression coefficient for the X1 (Organizational culture) variable is 0.530 with a significant 0.45<0.05. This shows that organizational culture has effect on job satisfaction.
3) The regression coefficient for the variable X2 (Work motivation) was 0.387 with a significance of 0.21<0.05. This shows that work motivation has effect on job satisfaction.

Comparatively, in the second secondary research a focus on academic and administrative employees in state universities is preferred and only one state university in Istanbul was chosen as a case.[15]

[14] ibid

[15] Kusku, F: Employee satisfaction in higher education: the case of academic and administrative staff in Turkey, Career Development International, 8(7), 2003, 347-356, Available at: https://www.researchgate.net/publication/230787180_Employee_Satisfaction_in_the_Higher_Education_The_Case_of_Academic_and_Administrative_Staff_in_Turkey, [Accessed date 18.06.2022]

Table 2 Job satisfaction of academic and administrative staff in a state university in Istanbul

Explanatory statistics related to scales (n = 291)

Satisfaction dimensions[a]	Number of items	Number of factors	KMO[b]	V[c]	Alpha[d]
General satisfaction	9	2	0.861	58.7	0.855
Dedication for the institution	6				0.835
Preference for the institution	3				0.651
University management satisfaction	5	2	0.686	70.9	0.732
Trust in university management	3				0.712
Relations with university management	2				0.735
Faculty management satisfaction	8	2	0.851	64.5	0.827
Relations with faculty management	5				0.844
Trust in faculty management	3				0.765
Colleague satisfaction	10	3	0.703	57.7	0.713
Colleague relations satisfaction	4				0.735
Colleague qualifications satisfaction	4				0.628
Colleague competition level satisfaction	2				0.458
Other work group satisfaction	10	2	0.904	72.0	0.928
Other work group qualifications satisfaction	4				0.907
Satisfaction for the communicative and cooperative work of the other group	6				0.872
Job satisfaction	8	2	0.739	55.4	0.744
Professional satisfaction	5				0.778
Institutional job satisfaction	3				0.562
Physical environment/organizational conditions satisfaction	11[e]	3	0.627	49.9	0.652
Work environment satisfaction	5				0.608
Canteen conditions satisfaction	3				0.657
Cleanliness of premises satisfaction	3				0.487
Salary satisfaction	3	1	0.598	61.3	0.656

Source: Kusku, F: Employee satisfaction in higher education: the case of academic and administrative staff in Turkey, Career Development International, 8(7), 2003, 347-356, Available at: https://www.researchgate.net/publication/230787180_Employee_Satisfaction_in_the_Higher_Education_The_Case_of_Academic_and_Administrative_Staff_in_Turkey, [Accessed date 18.06.2022]

The reliability coefficients for only "colleague competition level satisfaction", which is the third sub-factor of "colleague/other academic staff satisfaction" and "satisfied with cleanliness of premises", the third sub-factor of "physical conditions satisfaction", were found to be below the specified limit (45.8 per cent and 48.7 per cent respectively). Therefore, one must be careful while commenting on these two factors.[16]

Since the model was developed mainly by collecting data from the practices of a developing country, it can be said that for developing countries it leads to a more comprehensive understanding of employee satisfaction and is more rigorous than some popular satisfaction models.[17]

16 ibid

17 ibid

Conclusion

As the results of the analysis show, the changing organizational culture has an impact on the employees of higher education institutions in the process of managing job satisfaction, which means that if the organizational culture is good, it will have an impact on increasing the level of job satisfaction.

Employees are more productive when they are satisfied with their job and the environment in which they work. All external and internal dimensions, with exception of the economic ones, are the main factors that increase the productivity and efficiency of the employees in the higher education institutions, where the level of satisfaction in terms of material rewards is quite low in relation to the level of finished tasks and invested efforts. As a result, we can conclude that improvements related to factors other than economic ones are becoming very important for higher education institutions.

It is very important for higher education employees to understand the relationship between organizational culture and job satisfaction. The organizational culture can change and improve if all members of the organization see the need for change and constantly work on developing it in order, to achieve a higher degree of job satisfaction.

The importance of sustainable practices in the organizational culture and the satisfaction from the work of a higher education institution, shows that sustainable values exist throughout the organization, which is defined as an element of business excellence.

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COORDINATION BETWEEN MONETARY POLICY AND FISCAL POLICY IN THE DEVELOPMENT OF THE CORPORATE SECURITIES MARKET

Abstract: One of the most important goals of macroeconomic policy (pursued) which is implemented in a national economy is to ensure sustainable economic growth, with price stability and external trade balance. In order to achieve such growth, it is necessary to have a high degree of harmonization between the monetary and fiscal policy makers.

The coordination between fiscal and monetary policy is necessary in every economy, although it may have a different form, which is conditioned by the degree of its development and is necessary for the macroeconomic stability of the national economy. Successful coordination requires a developed financial market, transparent implementation of fiscal policy and autonomy in the operation of the Central Bank. Otherwise, the lack of coordination would lead to poor overall economic performance: macroeconomic instability and uncertain environment for the private sector, uncontrolled rise in inflation, which leads to a loss of credibility of policy makers.

Of special mutual interest of both policies, both fiscal and monetary policy, is the development of the financial market, which in turn affects the development of economic life in the national economy, provides opportunities for market financing of the deficit and debt, as and the promotion of indirect monetary instruments.

The developed government securities market is important for the private and public sector but also for the financial sector as a whole because it offers reliable instruments for saving and investing.

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Thus, the continuous improvement of the cooperation between the monetary authority and the fiscal authority is a necessity in order to ensure macroeconomic stability, the lowest costs for financing the public debt and especially the development of the financial markets.

Keywords: monetary policy, fiscal policy, financial market, government securities market

Introduction

One of the most important aims of the macroeconomic policy in a national economy is providing sustainable economic growth, with price stability and foreign trade balance[1]. In order to achieve such growth, it is indispensable to have high degree of compliance among the monetary and fiscal policy makers. In the contrary, financial stability of the economy can be threatened, which will cause the interest rates increase, inflation and threatening of the economic growth as a final consequence.

In many countries, especially in recent times, there is autonomy of the Central bank acting in relation to the fiscal authorities on the basis of defined law frameworks. The Central bank independence in implementing the monetary policy and its isolation from political pressures is a precondition for establishing long-term efficient monetary policy which basic aim is to provide price stability[2] However, beside the Central bank independence, it has to coordinate its activities with the fiscal authorities, because that is a basic precondition for running successful monetary policy by the independent Central bank.

The successful functioning of the economy depends on the coordination between the monetary and the fiscal policy that is pursued in that national economy. Namely, starting from the fact that both policies are an integral part of the economic policy of the concrete national economy, and from their inherent nature and aims, their mutual connection is clear. In fact, on the one hand, the monetary policy as an integral part of the global economic policy where the state, i.e. the Central bank regulates the money amount, as a factor that influences the economic growth and the economy stability[3]. On the other hand, the fiscal policy that is also a part of the economic policy, through managing the public revenues and expenditures, is directed to realizing a sustainable development (economic, social and environmental). Furthermore, the financial policy has an influence over the production, the employment, the prices, the balance of payments, the income and wealth allocation, the production structure changes, and etc.

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1 Larens B., Piedra, E., p. 5-7

2 The importance of coordinating the monetary and fiscal policy measures, Kvrgic, PhD Goran, The High school of business economy and entrepreneurship, Colic, MAG Zorica, NBS, Vujovic,Tomo, NBS, Serbia 2011, p.52

1. COMPLIANCE BETWEEN THE MONETARY AND FISCAL POLICY IMPERATIVE FOR THE STATE SECURITIES MARKET DEVELOPMENT

The successful functioning of the economy depends on the coordination between the monetary and the fiscal policy that is pursued in that national economy. Namely, starting from the fact that both policies are an integral part of the economic policy of the concrete national economy, and from their inherent nature and aims, their mutual connection is clear. In fact, on the one hand, the monetary policy as an integral part of the global economic policy where the state, i.e. the Central bank regulates the money amount, as a factor that influences the economic growth and the economy stability[3]. On the other hand, the fiscal policy that is also a part of the economic policy, through managing the public revenues and expenditures, is directed to realizing a sustainable development (economic, social and environmental). Furthermore, the financial policy has an influence over the production, the employment, the prices, the balance of payments, the income and wealth allocation, the production structure changes, and etc.

The coordination between the fiscal and monetary policy is indispensable in each economy, although it can have different form, which is conditioned by the extent of its development, and is indispensable for the macroeconomic stability of the national economy. For a successful coordination, the existence of a developed financial market, transparent fiscal policy implementation and autonomy in the Central bank acting, is indispensable. Otherwise, the coordination non-existence would lead to bad total economic performances.

Macroeconomic instability and uncertain ambient for the private sector acting, uncontrolled inflation increase, lead to a loss of the appropriate policies makers credibility. Namely, if the necessary financial resources for the state functions performing are not provided by the realized tax and non-tax revenues, but through creating a deficit in the budget and a public debt that will contribute to the demand increase, that will also contribute to an increased inflation rate. In order to stop further expansion, it is necessary some measures to be taken over by the fiscal policy makers, because in the contrary the private sector will be pushed out from the credit market and the economic growth will be decreased.

[3] Jovanovski, prof. PhD Tihomir, Monetary economy, Misla, Skopje, 1995, p. 330

So, the coordination and mutual connection in the monetary and the fiscal policy acting is an imperative of the contemporary cases in the economic system of the national economy. If these policies were mutually isolated, they would not be able to carry out the determined tasks for realizing their aims.

High coordination degree between the fiscal and the monetary policy is imposed as a precondition for securities market development, too, because the financial market offers a possibility for most favorable credit in order to finance the budget deficit, and enables the Central bank to implement the monetary policy through indirect market oriented instruments, and last, through increasing the responsibility for maintaining a stable financial system, to have positive influence on the discipline of both the monetary and the fiscal aithority[4].

The monetary policy realizes its influence on the fiscal policy mainly through the interest rate level that directly influences the state fiscal position, and the possibility for servicing the debts and the fiscal sustainability[5].

But the inflation manifests its influence on the public finances in such a way that the inflation instability leads to a situation of more difficult predicting of the public finances and impossibility for realizing the defined fiscal plans and in this case the high inflation rate leads

to lowering the real value of the not-indexed state debt, and more difficult tax revenues collecting. (Tanzi-Oliviera effect)[6].

On the other hand, the fiscal policy has also its own influence over the monetary policy, in a direct and indirect way. Should the budget deficit financing is realized only by market instruments, a crowding-out effect can occur (the private sector pushing out) due to the state intensive borrowing, which has unfavorable influence on the economic growth and development[7]. But, when the state dept is financed by external sources, the conditions for occurrence of a foreign exchange risk and a risk of worse payments balance are created, which puts the Central bank in unfavorable situation. Should the state makes an expansive fiscal policy the price stability may be disturbed and the effects of the monetary policy may be neutralized.

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4 Kvrgic, Colic, Vujovic, The Importance of the coordination of the monetary and fiscal policy measures, p. 34

5 Lanc, R.P., p. 38

6 Kvrgic, Colic, Vujovic, The Importance of the coordination of the monetary and fiscal policy measures,p.38

7 Kvrgic, Colic, Vujovic, The Importance of the coordination of the monetary and fiscal policy measures,p.40

The fiscal policy realizes its influence over the monetary policy through the indirect taxes (sales tax, VAT), which leads to the prices rise, the inflation spiral moving, increased inflation and inflation expectations.

Besides the direct channels, the fiscal policy realizes its influence over the monetary policy also through several indirect channels, which are reflected by the inflation expectations. Namely, if the market participants expect the budget deficit increasing and a need for the state borrowing in order to finance it, their trust in the makers of the economic policy that is implemented in the national economy will decrease. This, for its part, causes unfavorable movements in the bond market and foreign exchange market, and in the last instance it can cause the monetary policy destabilization.

In conditions of too high state borrowing in the financial market (which would lead to higher taxation in the future period) there is significant consumption decreasing and higher saving. Therefore, the economic entities behavior is conditioned by their expectations for the fiscal policy movement in the next period (Ricardian equivalence).

Although recently, in most of the countries, the Central bank is independent, that does not mean that all negative fiscal influences will be neutralized[8]. In fact, the fiscal expansion leads to increased aggregate demand and inflation, due to which the Central bank has to take restrictive monetary measures, and to increase the interest rates in order to decrease the credit activity. The interest rate increasing, for its part, will threaten the economic growth and will lead to short-term capital inflow, and all that causes inflationary pressure and the domestic currency appreciation, and disturbance of the macroeconomic and financial stability at the end.

The development of the financial market is of special interest of both policies, the fiscal and monetary, which for its part, influences the development of the economic life in the national economy, gives a possibility for the deficit and the debt market financing, and for advancing the indirect monetary instruments.

The most frequent conflict that can occur between these two politics is the interest rates level determining[9]. In the conditions of monetary expansion and the inflation rise, the Central bank in order to overcome this situation, takes over some measures for increasing the interest rates. On the other hand,

[8] Kvrgic, Colic, Vujovic, The Importance of the coordination of the monetary and fiscal policy measures,p.40

[9] Sundararejan, V., and Dattels, P., Coordinating public dept and monetary management in transition economies: issues and lessons from experience, p. 94-95

the fiscal policy is interested in borrowing in the market under as favorable conditions as possible, i.e. lower interest rates of the instruments. This is mainly characteristic for the financial markets in their early development stages. In cases of developed market economies, the Ministry of finance will sell the securities to the interested investors at interest rates dictated by the market based on the Central bank impulses. On the other hand, the Central bank in order to provide liquidity appears in the secondary market with available securities and send signals for the interest rates level which they want to realize.

In conditions of undeveloped financial market, the Ministry of finance and the Central bank can be in a situation not to be able to agree on the priorities determining: whether the state to borrow at lowest costs or to maintain the prices stability and the monetary flows by an appropriate interest rates level. In conditions of monetary expansion and inflation rise, the Central bank takes over measures for increasing the interest rates in order to overcome this situation. On the other hand, the fiscal policy is interested in borrowing in the market under as favorable conditions as possible, i.e. lower interest rates of the instruments.

Other potential conflict between the Central bank and the manager of the public dept is issuance of similar instruments for different aims. The monetary policy instruments are issued for providing liquidity (securities of the Central bank). And the instruments for public dept managing- for providing financial resources for the state needs (state securities). In this case, a competition among these instruments appears and there is confusion among the participants in the market.

In the market economies, the indispensable coordination between these two policies can be realized in two ways[10]:

1. In the developed financial markets where the aims are clearly defined, the monetary and fiscal policies functions and instruments are realized through the market forces acting. So, the market sends signals to the policies makers in time in order to be harmonized. Also, the monetary authorities, through taking over monetary interventions by market oriented instruments on the financial market, are directed to providing price stability. On the other hand, the fiscal authority finances the budget needs through issuing securities on this market.

[10] Velickovski, Igor, Coordination between the monetary and the fiscal policies in developing the state securities market, Direction for central banking operations, NBRM, p.4

2. In the undeveloped financial markets (limited sources for financing the state needs, that prevents the Central bank to act independently) the indispensable coordination is realized through defining mutual aims and performing mutual activities for their realization. So, in conditions of undeveloped and non-liquid secondary securities markets, the monetary authority, when there is excessive liquidity, realizes its aim by monetary interventions on the primary market. On this market, however, the fiscal authority also acts, meeting the budget needs.

The financial markets in the transition countries are in their initial developing phase, which further development is in the monetary and fiscal authorities' interest.

We can say that there is a close connection between the market of the state securities development from the one hand, and the successful coordination between the fiscal and monetary policies[11]. Namely, the market oriented instruments of the monetary policy and the public debt management, boosts the securities market development, due to the fact that these instruments enable more active management of the liquidity by the Central bank, the banks and other financial and non-financial institutions. Furthermore, these market instruments allow development of new financial institutions which support the secondary trading. Reversibly, the higher effectiveness and development of the financial markets make easier the coordination between the monetary and fiscal policies and enable additional possibilities for their more efficient implementation and realization of the defined aims.

The positive influence of the developed state securities market over the policy for managing the public debt and the monetary policy consists of the following:

- Effective functioning of the state securities market enables fulfilling the debt with minimal costs;
- The successful functioning of this market is important also from the aspect of realizing the defined aims of the monetary policy. In fact, the Central bank as the monetary policy maker advocates the efficient determining of the interest rates, when it often uses the state securities as an instrument;

Te developed securities market is of an especial importance for the fiscal, monetary and the other regulatory authorities, from the view of maintain-

[11] Ibid., p. 3

ing the macroeconomic Therefore, the constant improvement of the collaboration between the monetary authority and the fiscal authority is indispensable and with an aim to provide macroeconomic stability, lowest costs for financing the public debt and especially development of the financial markets.

2. THE PUBLIC DEBT INFLUENCE ON THE FISCAL POLICY

The public debt as an instrument of the economic policy has its own fiscal and monetary function[12]. The public debt financial role is seen through the budget deficit financing. While the monetary role, depends on the way of borrowing. In other words, whether the state borrowing is in domestic or foreign currency, in the financial or non-financial sector, the public debt realizes direct influence on the monetary aggregates, the amount of money in circulation and the value of the national currency.

The mutual dependence of the monetary, fiscal policy and the policy for the public debt management can be seen in the figure no. 1.

The debt management

Fiscal policy Monetary policy

Source: The importance of coordinatin the monetary and fiscal policies measures, Kvrgic, PhD. Goran, High school of business economy and entrepreneurship, Cilic, MA Zorica, NBS, Vujovic, Tomo, NBS, Serbia 2011, p. 36

- The debt structure influences the fiscal costs for its servicing and may threaten the fiscal sustainability.
- The level of fiscal revenues and expenditures determines the level of the debt that should be issued.
- The foreign exchange and interest rates policies limit the debt amount in a foreign currency and the debt that can be issued with variable interest rate.
- The debt bad structure may threaten the Central bank ability to keep the interest rates under control.
- The high inflation and interest rates can impact the state revenue through

[12] Kvrgic, Colic, Vujovic, The importance of coordination of monetary and the fiscal policies measures, p.36

slowing the economic activities of the private sector. The sterilization and the quasi-fiscal deficit may have direct influence on the debt growth.

- The bad debt management and the high debt level may increase inflationary expectations and may have influence on the rise of the interest rates level and/or on the currency depreciation.

3. THE BASIC ASPECTS OF THE PUBLIC DEBT MANAGEMENT

In implementation of the economic, and with that the monetary and fiscal policy as its integral parts, a special attention should be paid to the public debt policy. Namely, the public dept, on the one hand, is used for budget deficit financing, while on the other hand, as an instrument of the economic policy (that has fiscal and monetary function) influences the economic development of a national economy. In that, the public debt influence may have positive or negative implications over the economic life, which is conditioned by the public debt height, its structure, the ratio between the domestic and foreign components and the maturity. Because of that it is indispensable to find the most suitable way for the public debt management, that will enable maximizing the positive and reducing to a minimum the negative implications for the economic development.

The public debt management is a process of defining and realizing the strategy for providing financial assets for the state needs[13]. That process implies defining, i.e. decisions making relating the amount, the currency structure of the debt, term for its payment etc. The basic aim is the financial assets providing in order to be achieved by the lowest possible costs in a long term and sustainable degree of risk, that depends on the institutional development and the degree of development of the financial markets of the concrete country[14].

Namely, the developed countries that have developed financial markets with a high degree of liquidity are directed mainly towards the costs minimizing and acceptable degree of the risk that is taken[15]. Such a policy in transition countries that have undeveloped financial markets may lead to negative effects (excessive debt with the Central bank or issuing of securities with interest

[13] Velickovski, Coordination between the monetary and fiscal policies in the state securities market development, p.7

[14] Ibid., p. 7

[15] Ibid, p. 7

rates lower that the market ones) and to act restrictive on the financial markets development. So, these countries should first of all direct themselves to the following aims when manage the public debt[16]: financial markets development, encouraging and mobilizing the households' saving, attracting foreign investors etc.

The public management aims change simultaneously with the financial markets and monetary instruments development.

The transparency is a very significant element in running the public debt management policy. More precisely, availability for the public of some information concerning the debt management aim, the debt currency structure, the borrowing program, methods for the costs determination, the risk, the terms of maturity structure, the state tax treatment of securities as instruments for the public debt management etc.

Independently which one of the three possible arrangements will be chosen for managing the public debt, it is indispensable to achieve good coordination and collaboration among all those institutions, because during the implementation of defined activities they are mutually concerned and complement each others.

Of special importance for the state securities market development and upgrading, and at least for the financial markets, is the insight of the before mentioned aspects of the public debt management and their correct setting by the fiscal and the monetary authorities.

4. ADVANTAGES OF THE DEVELOPED STATE SECURITIES MARKET

The existence of a developed state securities market with a high degree of liquidity has various aspects for a national economy, of which the following ones can be set apart as the most significant[17]:

1. For the fiscal authority the benefit is seen in the possibility for a market financing, and with lower costs, the budget deficit financing. Namely, in conditions of a developed state securities market with a high liquidity degree a large number of participants find their interest in this kind of securities, when there is an increased demand for the state securities,

[16] Ibid, p. 7

[17] Velickovski, Coordination between the monetary and the fiscal policies in the state securities market development, p. 6

which leads to a rise of their price, which at least enables decreasing of the costs for the state.

2. The positive aspects for the monetary authority are: first, achieving higher operating independence of the Central bank (in the conditions of a developed financial market, the fiscal authority has a possibility to finance the budget deficit without a request for support from the Central bank, and because of that the Central bank is able to regulate effectively the movement of its balance sheet items for realizing the final aim of the monetary policy – providing an economic growth with stabile relations in the economy), and second, implementation of the monetary policy with market oriented instruments (namely, in conditions of developed state securities market, the Central bank can perform operations in an open market without exhausting their financial capacity and without undesired interest rates movements).
3. For the other market participants the positive side is a possibility to invest in risk-free securities with an appropriate compensation. In this way, the state securities are used as basic instruments in concluding repo operations, futures and options.
4. For the financial markets development, the advantages are the following ones: first, in drawing the curve of the risk-free securities income, which interest rates serve as a basis for determining the interest rates of the other more risky financial instruments, and second, boosting the securities markets development with a higher risk degree, issued by the financial and non-financial companies.

The usage of the above mentioned positive sides first of all depends on the regular upgrading and developing of the concrete state securities market, which is conditioned by the successful determination and implementation of the strategy for development both in the primary and the secondary state securities market by the Central bank and the Ministry of finance.

5. RISKS OF THE STATE SECURITIES ISSUE AND INFLUENCE ON THE PUBLIC DEBT

The state securities issue and the public debt management are associated with some risks. We shall set apart the following ones[18]:

[18] Strategy for the state securities market development, Ministry of finance and NBRM, September 2003, p.24

1. Risk of refinancing – it refers to the risks associated with the availability of financial assets for the debt repayment, the time for the debt payment and the costs for a new borrowing. In order to decrease this risk, we should provide more even responsibilities distribution during the year in order to avoid a situation of higher amounts for the debt repayment to mature at the same time.
2. Risk associated with the debt height- this risk is analyzed from the aspect of the possibility to disturb the financial stability. When the debt has constant tendency to increase, the need for determining the acceptable level of the debt movement, is indispensable.
1. Market risk- having in mind that this risk is conditioned by the change of the exchange rates and the interest rates both in the domestic and the international capital markets, the danger of its occurrence exists especially in the conditions when the largest part of the debt is in a foreign currency. So, in order to manage successfully this risk and to keep it within acceptable limits, the participation of the external debt in the total debt should be reduces (by early payment and refinancing of a part of the matured external debt by an internal debt).
2. Liquidity risk – this risk occurs in conditions when harmonization between the short-term obligations and the assets for their financing does not exist. In order to keep this risk within reasonable limits, the correct budget liquidity projecting and determining defined amount of a fiscal reserve (obligatory minimal amount of assets deposited on the state account) are of a special importance, in order the state, as a creditor, to be able to meet its obligations in time and to maintain its credibility.

Conclusion

One of the most important aims of the macroeconomic policy in a national economy is providing sustainable economic growth, with price stability and foreign trade balance[1]. In order to achieve such growth, it is indispensable to have high degree of compliance among the monetary and fiscal policy makers. In the contrary, financial stability of the economy can be threatened, which will cause the interest rates increase, inflation and threatening of the economic growth as a final consequence.

The successful functioning of the economy depends on the coordination between the monetary and the fiscal policy that is pursued in that national economy. Namely, starting from the fact that both policies are an integral part of the economic policy of the concrete national economy, and from their inherent nature and aims, their mutual connection is clear. In fact, on the one hand, the monetary policy as an integral part of the global economic policy where the state, i.e. the Central bank regulates the money amount, as a factor that influences the economic growth and the economy stability[3]. On the other hand, the fiscal policy that is also a part of the economic policy, through managing the public revenues and expenditures, is directed to realizing a sustainable development (economic, social and environmental). Furthermore, the financial policy has an influence over the production, the employment, the prices, the balance of payments, the income and wealth allocation, the production structure changes, and etc.

So, the coordination and mutual connection in the monetary and the fiscal policy acting is an imperative of the contemporary cases in the economic system of the national economy. If these policies were mutually isolated, they would not be able to carry out the determined tasks for realizing their aims.

High coordination degree between the fiscal and the monetary policy is imposed as a precondition for securities market development, too, because the financial market offers a possibility for most favorable credit in order to finance the budget deficit, and enables the Central bank to implement the monetary policy through indirect market oriented instruments, and last, through increasing the responsibility for maintaining a stable financial system, to have positive influence on the discipline of both the monetary and the fiscal aithority[4].

The development of the financial market is of special interest of both policies, the fiscal and monetary, which for its part, influences the development of the economic life in the national economy, gives a possibility for the deficit and the debt market financing, and for advancing the indirect monetary instruments.

We can say that there is a close connection between the market of the state securities development from the one hand, and the successful coordination between the fiscal and monetary policies[13]. Namely, the market oriented instruments of the monetary policy and the public debt management, boosts the securities market development, due to the fact that these instruments enable more active management of the liquidity by the Central bank, the banks and other financial and non-financial institutions. Furthermore, these market instruments allow development of new financial institutions which support the

secondary trading. Reversibly, the higher effectiveness and development of the financial markets make easier the coordination between the monetary and fiscal policies and enable additional possibilities for their more efficient implementation and realization of the defined aims.

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(Original scientific paper)

THE CAUSAL RELATIONSHIP BETWEEN INCOME INEQUALITY AND EDUCATIONAL ATTAINMENT

Abstract: Rising income inequality over recent decades is a growing concern for policymakers worldwide, and has received increasing attention both from economists and in public debate. Rising inequality has been attributed to a range of factors, including educational inequality. On the other side, unequal opportunities in education are also one of the factors contributing to income inequality. Therefore, this paper will try to analyze the relationship between income inequality represented by the Gini index and educational achievement represented through PISA scores from the Programme for International Student Assessment (PISA) database. The panel of countries analyzed in this paper is composed of the 37 OECD countries, while the period of observation are the years 2015 and 2018, which are the years from the latest PISA testing.

Keywords: income inequality, educational attainment, OECD, PISA, Gini index

JEL Classification: I2, I3

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1. INTRODUCTION

It is a well-known fact that there is a strong and positive relationship between education and income. Gary Becker (1964) in his human capital theory, demonstrated that gaining education improves an individual's abilities and competencies, as well as their productivity. Higher productivity contributes to higher wages in a competitive labor market because wages match workers' productivity. This suggests that a more educated population has a higher standard of living. This theory has been the subject of increasing scientific research since its conception. Numerous empirical and theoretical studies have been generated as a result of both supporting and opposing viewpoints. The recognition of a causal relationship between education and earnings is now a well-established fact, and it is one of economics' most significant achievements (Teixeira, 2014)[1]. When it comes to the relationship between income inequality and educational attainment, however, things are less evident.

On the one hand, rising income inequality could stimulate education investments by increasing the return on investment. As a consequence of increasing returns, Topel (1997)[2] observes a faster skill accumulation. This increase in skill supply could potentially help to offset the rise in inequality. Increased income inequality, on the other hand, has an effect on the resources available to households to pay for education. According to the intergenerational theory, income and education distributions are perfectly correlated. This means that barriers such as liquidity constraints and family history may prevent people at the bottom of the income distribution from investing in education. If the intergenerational mechanism persists, the same segment of the population would be stuck in low levels of education and income for many generations.

1.1 SIGNIFICANCE OF THE STUDY

This paper investigates whether educational inequality can explain income inequality across countries. The aim of this study is to see if educational disparities can explain income disparities across countries. It adds to the body of knowledge on this subject by incorporating more recent cross-sectional data

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[2] Topel, R. H., Factor Proportions and Relative Wages: The Supply-Side Determinants of Wage Inequality. Journal of Economic Perspectives, 11(2), 1997, 55-74.

from multiple datasets into a single model that attempts to explain the relationship between income inequality and educational attainment.

1.2 LIMITATIONS OF THE STUDY

One limitation is that in a multiple linear regression model, reducing the omitted variable bias, including more variables, or refining the variables can result in more concise results. Therefore, for future research it is recommended to introduce other variables in the models which will contribute to more accurate results. Another issue the model faced was a lack of available data; for example, the Gini coefficients for 2015 for two OECD countries (Mexico and New Zealand) were lacking, so they had to apply data from the following or second year, i.e., Gini coefficients for Mexico were taken from 2016 and 2018, and for New Zealand from 2017 and 2018. Finally, adding more observations and refining the variables will improve the models in the future.

1.3 RESEARCH QUESTION AND RESEARCH HYPOTHESES

The study will try to portray the relationship between income inequality and education attainment by testing the hypotheses of their causal relationship.

The research question that will be answered after the analysis is: There is a causal relationship between income inequality and education.

Following are the four hypotheses that this study tends to explore:

1. Educational attainment did not affect the income inequality in 2015 in the OECD countries.
2. Educational attainment did not affect the income inequality in 2018 in the OECD countries.
3. Income inequality did not affect educational attainment in 2015 in the OECD countries.
4. Income inequality did not affect educational attainment in 2018 in the OECD countries.

2. LITERATURE REVIEW

The literature which focuses on the analysis of the impact of income inequality on educational attainment can be divided into two categories: macroeconomic and microeconomic approach. Both groups, however, seek to pro-

vide evidence and/or theoretical support for the idea that an unequal society can harm educational investments.

Studies using the macroeconomic approach, examine the more general relationship between inequality and growth, and consider education as a key factor in boosting growth. For example, Galor and Zeira (1993)[3] and Banerjee and Newman (1993)[4] come to the same result that the initial distribution of wealth shapes the pattern of educational choice both in the short and long run. Perotti (1993)[5] concludes that the correlation between income distribution and educational decisions has strong empirical support, i.e., more equitable societies have higher rates of education expenditure. Filmer and Pritchett (1999)[6] conduct an empirical study for 35 countries using household surveys, which shows that the poverty index, which is a metric for a household's economic status, is linked to lower educational achievement in the poorest 40% of the population. Checchi (2003)[7] looks into the matter using an unbalanced panel of 108 countries from 1960 to 1995. His findings are that there is a strong negative relationship between income inequality and enrollment in secondary education, especially in the female population. These findings support the theory that low-income families are unable to educate their children.

Studies using the microeconomic approach analyze how family income affects children's educational outcomes. The premise of this line of research is that rich parents may spend more on their children's education – or have unrestricted access to credit – than poor parents, and that these expenditures result in better results for their children. Despite its intuitive nature, the theory has not been supported by research: results vary from a modest to no impact of parental income on children's educational attainment. Since other variables, such as parents' education and capacity, can influence both family income and children's outcomes, the income variable is endogenous. As a result, the findings of these studies are more accurate than those of macro studies.

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Carneiro and Heckman (1998)[8] analyze the two most popular interpretations of the empirical evidence showing variations in college participation rates across income groups: (i) short-run credit constraints and (ii) long-term factors promoting cognitive and non-cognitive child capacity, such as family history and parental resources in a child's formative years. They show that parental income has little impact on college enrollment after adjusting for student test scores (a proxy for innate ability), while for credit restrictions there is also no evidence that it makes a difference in college enrollment. Ellwood and Kane (2000)[9] analyze how family history affects college enrollment in the United States. When controlling for high school accomplishments, however, the authors found no impact. Akee et al. (2010)[10], on the other side, show that improvements in a family's permanent income increase overall child outcomes in terms of educational achievement at ages 19 and 21. Chevalier et al. (2005)[11] look if permanent income matters in children's educational achievement, using the father's trade union membership and father's occupational status as instruments for income, and find a significant relationship between the two. Loken (2007)[12] uses the 1970s and 1980s Norwegian oil boom, which only influenced a few regions of the country, as a proxy for increases in household income unrelated to parental characteristics. She discovers that parents' wealth has no effect on their children's educational attainment.

The literature reviewed yields inconclusive findings regarding the relationship between income inequality and educational attainment. The results of the micro-studies vary from a modest impact to no impact of income on educational attainment. However, when evaluating these findings, one has to keep in mind that the causal path can go both ways: inequality can affect education, but education can also impact inequality. For this reason, this paper analyzes the relationship between income inequality and educational attainment for the OECD countries in both directions.

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3. RESEARCH METHODOLOGY

The data used in this study is secondary data gathered from a variety of databases. The Gini coefficients at the country and zip-code level obtained from the OECD database and the Index Mundi database, will be the key variable for reflecting income inequality. The variables for education attainment are collected from the Programme for International Student Assessment (PISA)[13] dataset. A limitation of these datasets is the incomplete data in terms of countries and years.

A country-wide and zip-code level Gini coefficient (also known as a Gini index) is used to calculate income inequality. The Gini coefficient is a common summary measure of the degree of inequality. It's derived from the Lorenz curve, which shows the cumulative proportion of the population on the horizontal axis and the cumulative proportion of expenditure or revenue on the vertical axis, and rates the population from poorest to wealthiest. Since it meets the criteria for what makes a good indicator of income inequality, the Gini coefficient is the most commonly used single measure of inequality (Haughton & Khandker, 2009)[14].

In order to measure educational attainment, results from the PISA dataset will be used from the last two examinations, in 2018 and in 2015. Gini coefficients from those two years are collected for comparison as well. The relationship between the variables will be demonstrated using empirical research methods.

4. EMPIRICAL RESULTS

This study investigates the question of whether educational inequality explains income inequality, but also whether income inequality explains educational attainment. It does so empirically through the use of simple regression. The general empirical models can be, however, expressed as follows:

Linear regression models for the impact of educational attainment on income inequality:

$$\text{Gini2015} = \beta_0 + \beta_1 \text{PISA2015} + \varepsilon$$

$$\text{Gini2018} = \beta_0 + \beta_1 \text{PISA2018} + \varepsilon$$

[13] PISA, Worldwide Ranking, https://www.oecd.org/pisa/

[14] Haughton, J., & Khandker, S. R., Handbook on poverty and inequality, Washington, DC: World Bank, 2009.

Linear regression models for the impact of income inequality on educational attainment:

$$PISA2015 = \beta_0 + \beta_1 Gini2015 + \varepsilon$$

$$PISA2018 = \beta_0 + \beta_1 Gini2018 + \varepsilon$$

Income Inequality is measured through the Gini coefficient. This metric measures how far a country's income distribution deviates from perfect equality, with 0 representing perfect equality, which means that every section of the population has an equal share of income (for example, the poorest 20% of the population has 20% of the income available, and the poorest 40% of the population has 40% of the income available, etc.). On the other hand, a value of 100 denotes perfect inequality, in which all of the wealth is distributed to a single household. While not ideal, it is commonly used because it possesses four highly desirable characteristics: anonymity, scale independence, population independence, and the transfer principle (Todaro and Smith, 2012)[15]. The Gini Coefficient is calculated using household surveys and is retrieved from the OECD and Index Mundi databases. It is obtained from the years 2015 and 2018, or the most recent available year if no data for those years is available. This is a case for missing data for two OECD countries, Mexico and New Zealand, which have missing data for 2015, therefore the Gini coefficients from 2016 and 2017 are taken respectively. This index ranges from 0 (indicating a uniform distribution of achievement) to 1 (indicating a wide range of achievement) (indicating that only a single individual had a non-zero achievement score). The Gini index was multiplied by 100 (Petcu, 2014)[16].

Educational Attainment is measured through the PISA scores. The academic achievement of children was assessed using standardized tests in math, reading, and science. PISA's achievement tests are explicitly designed to allow for cross-national comparisons of academic achievement. PISA varies from other international student success assessments in that it focuses on technical abilities rather than program understanding or mastery. The survey organizers combined the results of the achievement assessments into a single ranking. All assessments were conducted at the country level, using participant-level math, science, and reading achievement metrics from all five PISA rounds. The data

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[16] Petcu, C., Does Educational Inequality Explain Income Inequality Across Countries? Honors Projects. Paper 125. 2014.

are collected from a random sample of 15-year-olds from all OECD countries for the years 2018 and 2015.

The sample for developing countries includes all 37 OECD countries, some more developed, and some less developed countries.

Table 1 presents descriptive statistics for the variables used in this study. The mean Income Gini for the OECD countries for 2015 is 0.325 and for 2018 it is 0.321, whereas the mean PISA results for 2015 is 490.65 and for 2018 it is 488.27.

Table 1: Summary Statistics of the Data

Variable	Obs	Mean	Std. Dev.	Min	Max
country	0				
pisa2018	37	488.2703	26.73151	405.3	525.3
pisa2015	37	490.6486	29.87587	416	538
gini2018	37	.3209189	.06809	.236	.53
gini2015	37	.3245946	.060816	.25	.51

Table 2 below shows the results for the OECD countries from the simple regression analysis. The dependent variable is the Income Gini and the independent variable is the PISA result from 2015.

The simple regression model for this relationship is represented as follows:

$$\textbf{Gini2015 = 0.91 - 0.0012*PISA2015}$$

This in other words says that, in 2015, for every point of increase in the PISA score, the country's Gini coefficient decreased by 0.0012 (there is a drop in income inequality by 0.12%).

Table 2: Simple regression on the correlation between Gini2015 and PISA2015

```
. reg gini2015 pisa2015

      Source |       SS       df       MS              Number of obs =      37
-------------+------------------------------           F(  1,    35) =   18.40
       Model |  .045876391     1  .045876391           Prob > F      =  0.0001
    Residual |  .087272525    35  .002493501           R-squared     =  0.3445
-------------+------------------------------           Adj R-squared =  0.3258
       Total |  .133148917    36  .003698581           Root MSE      =  .04993

------------------------------------------------------------------------------
    gini2015 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    pisa2015 |  -.0011949   .0002786    -4.29   0.000    -.0017604   -.0006294
       _cons |   .9108589   .1369259     6.65   0.000     .6328846    1.188833
------------------------------------------------------------------------------
```

Overall, this model is a good fit as it is able to explain 34.45% of the variability in income inequality for the year 2015. The coefficient for PISA2015 is negative and significant, and impacts income inequality as would be expected.

Table 3 represents the same relationship as Table 2, only for the year 2018. The simple regression model for this relationship is represented as follows:

Gini2018 = 1.21 - 0.0018*PISA2018

This means that in 2018, for every point of increase in the PISA results, the country's Gini coefficient decreased by 0.0018 (0.18% decrease in income inequality).

Table 3: Simple regression on the correlation between Gini2018 and PISA2018

```
. reg gini2018 pisa2018

      Source |       SS       df       MS              Number of obs =      37
-------------+------------------------------           F(  1,    35) =   35.78
       Model |  .084371609     1  .084371609           Prob > F      =  0.0000
    Residual |  .082533141    35   .00235809           R-squared     =  0.5055
-------------+------------------------------           Adj R-squared =  0.4914
       Total |   .16690475    36  .004636243           Root MSE      =  .04856

------------------------------------------------------------------------------
    gini2018 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    pisa2018 |   -.001811   .0003028    -5.98   0.000    -.0024257   -.0011964
       _cons |   1.205186   .1480464     8.14   0.000     .9046361    1.505737
------------------------------------------------------------------------------
```

The same model for 2018 has much stronger goodness of fit as it is able to explain 50.55% of the variability in income inequality. The coefficient for PISA2018 is negative and significant, and impacts income inequality as would be expected. We would reject the null hypothesis that PISA2018 does not affect Gini2018 at the 0.1% significance level, or in other words, the increase in educational attainments for 2018 has affected the income inequality to drop in that same year.

Table 4 represents the opposite direction of the relationship between income inequality and educational attainment, only this time as a dependent variable is taken the PISA score for the OECD country for the year 2015, while as an independent variable is taken the Gini coefficient for that same country and that same year. The simple regression model is represented as follows:

PISA2015 = 584.25 - 288.36*Gini2015

This means that in 2015, for one unit of increase in the Gini coefficient, the country's PISA score decreases by 288.36 points.

Table 4: Simple regression on the correlation between PISA2015 and Gini2015

```
. reg pisa2015 gini2015

      Source |       SS       df       MS              Number of obs =      37
-------------+------------------------------           F(  1,    35) =   18.40
       Model |  11071.2132     1  11071.2132           Prob > F      =  0.0001
    Residual |  21061.2192    35  601.749121           R-squared     =  0.3445
-------------+------------------------------           Adj R-squared =  0.3258
       Total |  32132.4324    36  892.567568           Root MSE      =  24.531

------------------------------------------------------------------------------
    pisa2015 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    gini2015 |  -288.3559   67.22625    -4.29   0.000    -424.8324   -151.8793
       _cons |   584.2474    22.1908    26.33   0.000     539.1977    629.2971
------------------------------------------------------------------------------
```

R-squared shows that 34.45% of the PISA results in 2015 can be explained by the Gini coefficients for the OECD countries. The relationship between the Gini coefficients 2015 and the PISA results in 2015 is statistically significant, which means that we would reject the null hypothesis that Gini2015 does not affect PISA2015 at the 0.1% significance level.

Table 5 represents the same relationship as Table 4, only for the year 2018. The simple regression model for this relationship is represented as follows:

PISA2018 = 577.85 - 279.13*Gini2018

Or in other words, in 2018, for every point of increase in the Gini coefficient, the country's PISA result decreases by 279.13 points.

Table 5: Simple regression on the correlation between PISA2018 and Gini2018

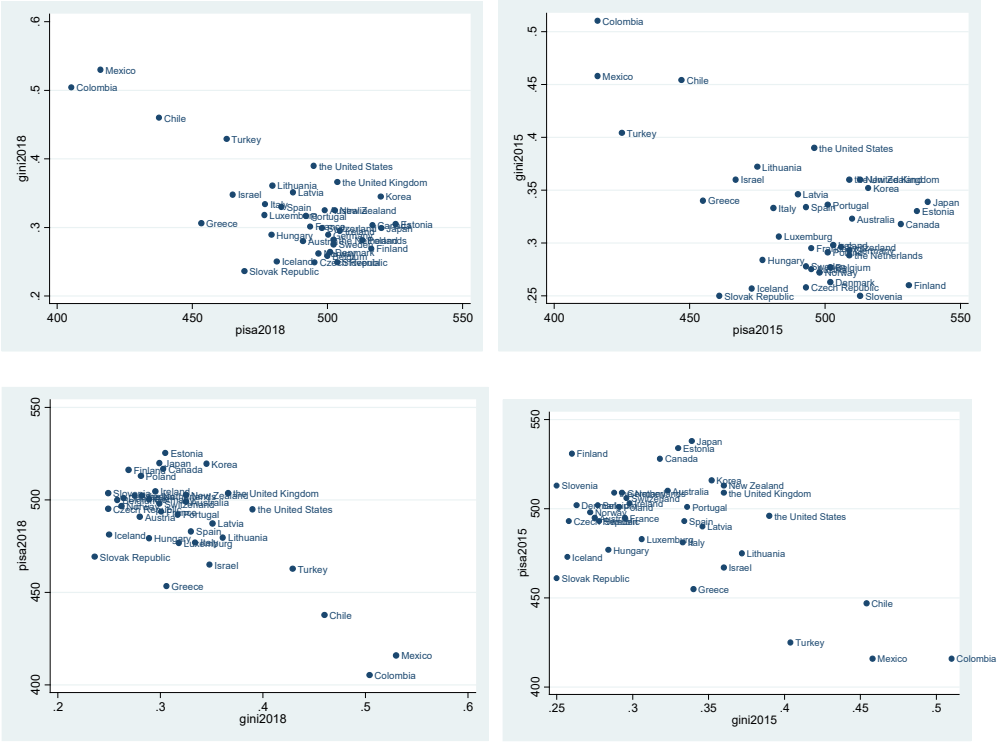
```
. reg pisa2018 gini2018

      Source |       SS       df       MS              Number of obs =      37
-------------+------------------------------           F(  1,    35) =   35.78
       Model |  13004.0092     1  13004.0092           Prob > F      =  0.0000
    Residual |  12720.6501    35  363.447146           R-squared     =  0.5055
-------------+------------------------------           Adj R-squared =  0.4914
       Total |  25724.6593    36  714.573869           Root MSE      =  19.064

------------------------------------------------------------------------------
    pisa2018 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    gini2018 |  -279.1286   46.66446    -5.98   0.000    -373.8625   -184.3947
       _cons |   577.8479   15.29996    37.77   0.000     546.7873    608.9085
------------------------------------------------------------------------------
```

The same model for 2018 has much stronger goodness of fit as it is able to explain 50.55% of the variability in educational attainment. The coefficient for PISA2018 is negative and significant, and impacts income inequality as would be expected. The coefficient of Gini is statistically significant as the t-statistics is greater than the critical value. We would reject the null hypothesis that Gini2018 does not affect PISA2018 at the 0.1% significance level, or in other words, we can say that the increase in income inequality for 2018 has affected the educational attainments to drop in that same year.

From these results, we can conclude that in the simple regression models, the PISA results which are a representation of the educational attainment of a respective OECD country, have a negative correlation with the Gini coefficients of those countries. The same is true in the opposite direction.

This means that in the simple regression model improving the educational attainment in the countries decreases income inequality. Also, a decrease in the level of income inequality increases the educational attainment of that country. There is a scatter plot to show this correlation.

Table 6: The relationship between the Gini index and PISA results in a scattered plot graph



The model has 37 observations, but the probabilities of other factors affecting income inequality, as well as educational attainment, are high in single regression models. Thus, to obtain a deeper understanding of the relationship between educational attainment and income inequality, multiple regression models might result in more precise findings. To begin with, average PISA achievement is just one indicator of an education system's success, and the achievement tests on which the findings in this study are based are low-stakes. Modeling that suggests that changes in PISA scores are related to real-world outcomes such as economic growth (Hanushek & Wößmann, 2010)[17] counters this concern. Therefore, for future research, GDP growth can be introduced as a variable when comparing the PISA scores.

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5. DISCUSSION

Educational achievement is one of the best predictors of an individual's wealth, implying that decreasing educational inequality would reduce income inequality. All other things being equal, economic theory predicts that as income inequality rises, so will educational achievement inequality. According to empirical projections, as income inequality rises, so does educational achievement inequality. Economic theory also assumes that, all things being equal, a rise in educational attainment would lead to a rise in earnings inequality.

From the findings in the simple regression models of this study, we conclude that all four null hypotheses are rejected. The rejection of all the hypotheses indicates that educational attainment has a negative relationship with income inequality and also the same is true in the opposite direction - income inequality has a negative relationship with educational attainment. These results are consistent with a larger body of research that has challenged the importance of educational policies on income inequality.

Since the study is only concerned with correlations between patterns in achievement and inequality for the same periods, these findings should not be interpreted as proof of causation. In this regard, it is unclear if inequality causes poor performance or whether poor performance restricts countries' ability to concentrate more closely on inequality issues. Similarly, the connection between excellence and inequality may be a proxy for other variables. Social structure, rather than education structure, may be to blame for these outcomes, though previous research indicates this is impossible (Dupriez & Dumay, 2006)[18]. Changes in funding between schools or between regions within countries are more likely to be the cause of these findings (Owens et al., 2016)[19]. Similarly, changes in school-to-school or regional differences in school quality may explain these results (Parker et al., 2018)[20].

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CONCLUSION AND RECOMMENDATIONS

In conjunction with an increasing body of cross-sectional empirical studies, this paper provides convincing evidence that there is a negative correlation between average academic achievement and inequality. For policies that encourage decentralization, school choice, privatization, and segregation, this is an issue. Future research and theory, on the other hand, would need to clarify why this negative relationship persists and under what social circumstances it exists. There is also a strong need for further research into how changes in variance at different points in the achievement distribution impact average achievement. Simply put, research is needed to decide whether and when policies aimed at the poorest half of the population are most successful. Researchers must understand what factors are at work in certain countries that cause shifts in variance over relatively short periods of time. To unpack the various structures and policies that lead to increases or decreases in inequality, a more in-depth study of countries that have seen large changes in achievement and inequality is required (Parker et al., 2018).

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(Original scientific paper)

THE IMPORTANCE OF ESG IN BANKING THROUGH AND AFTER COVID 19 IN N. MACEDONIA

Abstract: Environmental, Social and Governance practices have gained an increasingly high profile in the recent years. The social aspect and it's increasing role has been amplified in the period of pandemic of COVID-19, with banks playing a critically important role in providing essential support to customers and businesses as well as protecting their staff.

The pandemic has highlighted the relevance of existing social challenges: access to healthcare, financial security, financial inclusion, and issues of social justice and equality.

Therefore, the main purpose of this paper is to better understand the role of the banks in performing the ESG activities regarding social aspects, as well as to explore other future challenges and expectations for the banks. The case of Macedonian banks activities during the Covid 19 pandemic and the challenges that they will face in the future is presented as a support of the research. The banks in North Macedonia contributed in a large scale to the social efforts to overcome the problems and challenges imposed by the pandemic.

Keywords: banks, ESG, social, sustainable, pandemic

JEL Classification: G30**,** G32, G21, M14, Q01

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Introduction

Environmental, Social and Governance (ESG) practices have gained an increasingly high profile in the recent years. The transformation of the Corporate Social Responsibility activities into wider area covering environmental and governance issues, kept the social aspect and its increasing role. This has been amplified in the period of pandemic of COVID-19, with banks playing a critically important role in providing essential support to customers and businesses as well as protecting their staff.

As financial intermediaries banks play important role in society. Thus they help in the development of the sustainable economies and their success is intrinsically intertwined with the long term prosperity of the society they serve. Only society based on empowered people building better future, inclusive society that uses its natural resources in sustainable manner and customers trusting the banks can achieve prosperity on the long run.

Having in mind the differences appearing in economic, gender and literacy inequality, as well as the striking environmental issues it is of utmost importance that any contributor, including the banks bears the share of future measures and actions. In the same time the governance is of no lesser importance as all the other activities in ESG arena should be aligned with good corporate governance with adequate stakeholders support. It is considered that an integrated ESG strategy will be a key to any financial institution, all components of ESG will be essential, the environmental and climate change agenda will come strongly into focus. The behavior is considered to be of utmost importance taking into consideration how organizations acted during the pandemic, that will have huge influence for how customers, stakeholders, investors, employees judge them long into the future and banks that don't pursue a ESG agenda could have severe consequences on the long run.

Banks are highly regulated institutions, with operations under supervision of numerous regulators, with inherent risks in all banking activities and the adequate governance of the banks is an important factor of their success.

In achieving their goals for ESG compliance banks have to align their business strategy to be consistent with individuals' need and society goals, especially Sustainable Development Goals (SDGs). Providing their services to customers banks have to work responsibly and to encourage sustainable practices by their customers, thus enabling economic activities that create shared prosperity.

Through interviews, data collection and other available sources the research will cover a range of different activities as well as significant number of bank's direct financial contribution to the community.

Regarding the future challenges that the banks in North Macedonia will face after the pandemic in the area of ESG, the most important aspects of reporting as mandatory obligation through the listing, EU directives concerning banking groups' members and other investor related issues will be elaborated.

1. THE IMPORTANCE OF ESG

1.1 The importance of social component of the ESG concept

There is no doubt that there is a need for investment in social sustainability and that COVID 19 pandemic gave an example of importance of active role of different parties in the Traditional ways of financing social welfare, such as government spending and stable systems of social security, remain fundamental. However, policymakers realize that private investments also have a role to play. Practically speaking, this means that investors should prevent any social harm from being done by insisting that companies implement systems to ensure human rights are respected. It also means that investors should help improve the provision of basic goods and services, especially for vulnerable people and groups.

The resulting lack of funding for social needs has been aggravated to a considerable extent by the COVID-19 pandemic. According to the World Bank's 2020 Poverty and Shared Prosperity Report[1], COVID-19 is likely to have pushed between 88 and 115 million people into extreme poverty — which means living on less than $1.90 a day — around the globe in 2020.

On the other hand, the pandemic has shown that private investment can be crucial for social progress: it was private investment coupled with government support that enabled companies to conduct the medical research that in turn made it possible to develop a vaccine against COVID-19.

[1] Poverty and Shared Prosperity 2020, Washington, DC; World Bank Group, 2020

1.2 The Role of Banks in ESG practices

Acknowledging the important role that banks have in the financial mediation, as well as their support in economic growth, through support to the businesses and retail, it is inevitable to put the banks in the middle of the challenges in environmental and social issues and response by all the related parties. As highly regulated sector as well as shareholding companies listed on the stock exchanges, banks have unique position to be mediator between the problems and the solutions in area of ESG and through transparent reporting in that regard to spread the word of the action needed.

The main framework for banks activities in the area of ESG can be found in the UNEP Principles for Responsible Banking, that are aligning the banks with the main society's goals presented in the Sustainable Development Goals(SDGs) and the Paris Climate Agreement. These principles are to be accepted as footprint for responsible banking and their aim is to provide main guidance how to that. [2]

Having in mind that in the recent years the banks have lost a great deal of public sympathy and have suffered a lot due to 2008 financial crisis, it is of utmost importance to rebuild trust and to increase engagement with clients, customers and employees.

1.3 The social aspects of responsible banking

The principle of responsible banking largely covers the area of social dimension of banking. The aim of this principle is to introduce on a large scale the support of the bank to its clients for reducing negative and increasing positive impact of adopting new technologies, business models and practices in providing them with better and fairer banking activities. This is especially relevant not just for increasing customer satisfaction, but for improving banks reputation, decreasing risk exposure in that regard and ultimately to influence the investors choices.

In line with all the previously mentioned the banks have to develop strategies to support sustainable behavior, consumption choices among its retail customers, new products and services or sustainability related incentives including contractual conditionality. In order to achieve that banks have to do their most to ensure that retail customers have knowledge and skills to

[2] Principles for Responsible Banking, UNEP Finance Initiative, Geneva, 2021

effectively manage their finances and to offer financial literacy programs and support.

On the road to set a social taxonomy[3] in area of ESG it is important to include the following task: to describe the provisions that would be required to extend the scope of the Taxonomy Regulation beyond environmentally sustainable economic activities to cover other sustainability objectives, such as social objectives; to identify social objectives related to 'employee, health, human rights, equality and nondiscrimination matters'; to suggest approaches for developing substantial contribution criteria and how not to do significant harm; to give some initial consideration to the merits of identifying economic activities that significantly harm social sustainability ('significant harm social taxonomy'); to consider other objectives that could be covered, such as objectives linked to business ethics, governance, anti-bribery or tax compliance matters, as well as discussing the merits of covering those objectives. It is also necessary to take into consideration on the overall relationship between the social and environmental taxonomies, including potential overlaps.

Being focused on the environmental agenda it is important to put the social taxonomy to other relevant EU legislation, including the Corporate Sustainability Reporting Directive (CSRD) and the Sustainable Finance Disclosure Regulation (SFDR).

Further, when considering these international principles and standards from the perspective of a social taxonomy, their usage can be divided into two dimensions. On the one hand they define the benchmark for processes integrated in economic entities to avoid and address negative impacts on human rights. On the other hand, they provide a definition of what constitutes relevant contributions by business to fulfilling economic and social rights like providing certain products and services that can contribute to the fulfilment of the right to an adequate standard of living.

Respect and support for human rights could be called the horizontal dimension of a social taxonomy, since their implementation involves processes that need to be horizontally integrated into an economic entity to obtain positive outcomes for affected stakeholders. Products and services essential for adequate living conditions could on the other hand be called the vertical dimension of a social taxonomy, as they concern products and services of an economic entity and can be related to economic activities.

[3] Draft Report by Subgroup 4: Social Taxonomy, European Commission, 2021

Apart from these aspects, the governance of economic entities should be considered, again meaning processes integrated into economic activities that can enable positive social outcomes. Relevant international instruments here include the UN Convention against Corruption, the EU Convention against Corruption involving Public Officials, the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions and the OECD Guidelines for Multinational Enterprises.

When we connect these dimensions with banking activities, we can see that the principles for responsible banking are significantly aligned with the objectives of social taxonomy.

If we take these principles as a starting point we can go in more elaborated explanation of the role of banks in improving the social needs.

According the first principle for **Alignment**[4] the banks are expected to align their business strategy to be consistent with and contribute to individuals' needs and society's goals, as expressed in the Sustainable Development Goals, the Paris Climate Agreement and relevant national and regional frameworks.

Strategic alignment is focused on bank's business strategy towards being consistent with, and contributing to, the Sustainable Development Goals (SDGs), the Paris Climate Agreement and other relevant national, regional or international frameworks, such as the UN Guiding Principles on Business and Human Rights, where a bank is best positioned to do so through its business. These frameworks articulate globally agreed goals and challenges for building a more sustainable future. By aligning its strategy with society's goals, the bank shows that its business, and the products and services it provides, can support a sustainable future while achieving long-term business benefits. It signals that the bank accepts its shared responsibility for shaping and securing our future.

The second principle concerns the **Impact and Target Setting** and refers to continuously increase the positive impacts while reducing the negative impacts on, and managing the risks to, people and environment resulting from our activities, products and services.

In order to put this purpose into practice, banks need to identify, assess and improve the impact on people and environment resulting from their activities, products and services. If the banks want to increase positive impact while reducing negative impact on people and environment, they need to incorporate assessment of impacts on all three dimensions of sustainability (environmen-

[4] Principles for Responsible Banking, UNEP Finance Initiative, Geneva, 2021

tal, social and economic) into business decision-making at strategic, portfolio and transaction levels. Further on, in order to achieve that the banks need to set targets as an essential component to scaling up banks' contributions to society's goals.

One of the most important principles in terms of treatment of clients and supporting social issues is the third principle regarding the **Clients and Customers**. According this principle the banks are expected to work responsibly with their clients and customers to encourage sustainable practices and enable economic activities that create shared prosperity for current and future generations. If this is transposed to retail segment as one of the most vulnerable in respect to the social issues, this means that the banks activities should be focused to identify where a bank could encourage and support sustainable behavior and consumption choices., to map bank's retail customers, and for each major segment, identifying the existing and potential sustainability-related behaviors and actions where a bank can provide support and/or incentives. It also considers identifying retail customer segments with low financial literacy, and potential retail customer segments that are under-serviced by banks. Based on this analysis of retail customers bank should develop a strategy and identify steps to take. For example, bank can consider expanding and adapting its current offerings to the "bottom of the pyramid" through loans acceptable for low income individuals, low-cost savings products and transactional services.

Having in mind that there is a common consensus that there is a low level of literacy among the retail customers, the bank should help retail customers acquire the knowledge and skills to effectively manage their finances, e.g. through financial literacy programs. Your bank can consider working with customer advocacy organizations on such programs.

In regard to the third principle that is concerning the connection with **Stakeholders**, the banks are expected to proactively and responsibly consult, engage and partner with relevant stakeholders to achieve society's goals. The best explanation in regard to social component can be found in the model of establishing partnerships with third-parties, to deliver solutions for sustainable production and consumption beyond your bank's current customer and client base. Such partnership can be found in cooperation with technology providers and FinTech firms to provide digital technology for new solutions that contribute to financial inclusion, greater access to credit and improved data security. These partnerships can be with firms that provide sustainability-related products and services, social entrepreneurs who drive social innovation to meet society's goals.

The Fifth principle speaks about the **Culture and Governance** in the banks, as well as the requirements set out in the important Policy documents.

According this principle the banks are required to develop governance structures that enable and support effective implementation of all six principles, including an appropriate structures, policies and processes in place to manage important impacts and risks, and to enable to achieve targets. For the reporting purposes the banks are required to disclose measures implemented to foster a culture of responsible banking among its employees. A major European bank measures the share of its lending portfolio that strictly contributes to at least one of the 17 SDGs among which is a number of individuals that have benefited from a financial education session provided by that particular banking group.

The last, sixth principle **Transparency and Accountability** refers to bank's accountability to their employees, investors and society as a whole, a public disclosure of the achievements which ultimately enables internal and external stakeholders to assess contribution to society and the progress the bank is making. On the other hand the transparency and reporting helps build confidence in bank's sustainability-related commitments and helps to distinguish the bank from its competitors. This also increases the bank's potential for success in achieving the targets, ensuring the effectiveness of the approach, motivating employees, competing with peers, driving innovation.

2. RESEARCH OF ESG CONDUCT IN THE MACEDONIAN BANKS DURING COVID 19 PANDEMIC WITH EMPHASIS OF THE SOCIAL COMPONENT

2.1. Methodology

The banks in North Macedonia contributed in a large scale to the social efforts to overcome the problems and challenges imposed by the pandemic. The activities undertaken by the banks for financial support of different areas and forbearance measures that banks have put in place during the pandemic have been a fundamentally important aspect of enabling industries and communities to overcome the difficulties imposed by the pandemic. The research was conducted through:

- A Questionnaire answered by the banks regarding the social issues:

- All the banks (13) operating in N. Macedonia, were involved in the questionnaire;
- The issues of the social component such as employment rights, equal salary, gender equality etc. were not observed as irrelevant for the covid19 influence on the bank's
  behavior in the time of pandemic
- Other available data, mostly official data from the National bank of the Republic of North Macedonia (NBRNM)[5], were used in the research
- Specific activities of the Development Bank of NM are not taken into consideration under this research, as they are part of Government Support Program

The questionnaire covered most important topics regarding the bank's involvement in help for the clients and community in time of Covid 19.

Having in mind the utmost importance of protecting the pensioners when collecting their pensions, the banks agreed that they will contribute that way that they will pay the pensions few days in advance in order to reorganize the groups of pensioners each day to provide physical proximity protecting their health. The last group will be paid on the first day of regular payment, so that the pensioners are receiving money on timely manner. That was a cost for the banks knowing Pension and Disability Insurance Fund of N. Macedonia will transfer the funds few days later that the payments.

2.2 Results

On the question "Did you pay in advance the monthly pensions" all the banks participating in the payments answered YES. In the past pandemic period and continuing onward, the banks credited the Government for this purpose around

In order to support the numerous Government programs focused on deploying funds for different kind of support of companies and individuals in time of pandemic, some of the banks did advance payment of the corporate tax for the year 2020. On the question 'Did you pay in advance the corporate tax for year 2020 and in what amount", 5 banks answered YES and amount reported was more than 3,8 million EUR , although not all of them gave precise answer.

[5] https://www.nbrm.mk/

Table 1. Answers to the first question of the questionnaire

Did you pay in advance the corporate tax for year 2020	Out of 13
YES	5
NO	8

Source: Authors calculations

During the pandemic there was a government project for issuing domestic payment cards for buying domestic products (domestically produced goods and services, for support of companies) and social venerable individuals were eligible for the cards. That was a project that has almost none economic benefit for the banks, but they participate in it in order to support the community. There were more than 250.000 cards issued in less than 10 days.

Table 2 Answers to the second question of the questionnaire

Did you participate in DPC project	Out of 13
YES	8
NO	5

Source: Authors calculations

On the same manner there was a project for payment of financial support through the same category of citizens and most of the banks participated.

Table 3 Answers to the third question of the questionnaire

Did you participate in project for payment of social benefit	Out of 13
YES	11
NO	2

Source: Authors calculations

One of the biggest problems during pandemic period was a pressure on the health system, both in financial and products terms. The banks donated more than 220.000 euro for that purpose, both in financial help and in equipment.

Table 4 Answers to the fourth question of the questionnaire

Did you donate for medical purposes during Covid 19	Out of 13
YES	7
NO	6

Source: Authors calculations

Another problem that surfaced during the pandemic and remote activities introduced in that period was a lack of computers among children, especially in social vulnerable families that could not follow the lectures. For that purpose a lot of institutions contributed through donations of laptops for these pupils. The banks were among the once participating.

Table 5 Answers to the fifth question of the questionnaire

Did you donate for laptops to pupils during the pandemic	Out of 13
YES	7
NO	6

Source: Authors calculations

Having in mind the importance of the physical proximity for protecting people for the spread of Covid 19 a lot of activities for increasing physical distance were introduced. In order to discourage clients to come in the banks premises, banks canceled the payment of fees and commissions connected to e-payment services.

Table 6 Answers to the sixth question of the questionnaire

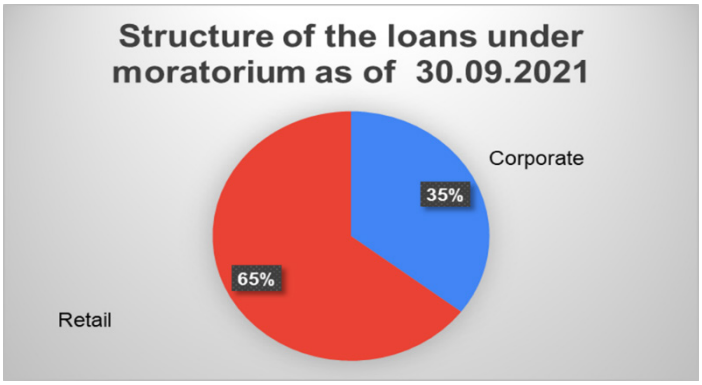
Did you cancel payment of fees and commissions for e-payments	Out of 13
YES	8
NO	5

Source: Authors calculations

The forbearance measures that banks have put in place during the pandemic have been a fundamentally important aspect of enabling industries and communities to overcome the difficulties imposed by the pandemic.

The total amount of the loans under moratorium, prolonged servicing of credit exposures amounted 147 billion denars, predominantly granted in retail sector.

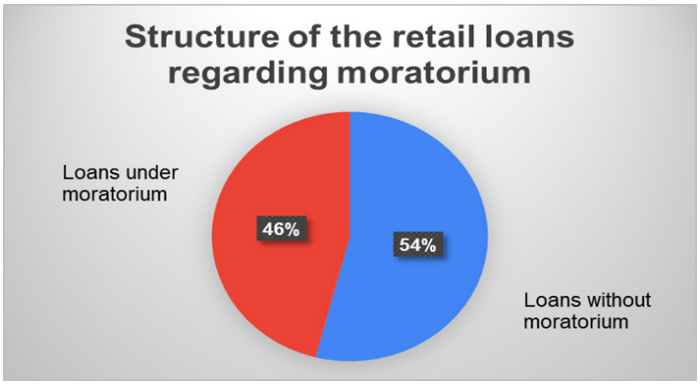
Figure 1 Structure of the loans under moratorium as of 30.09.2021



Source: Authors calculations

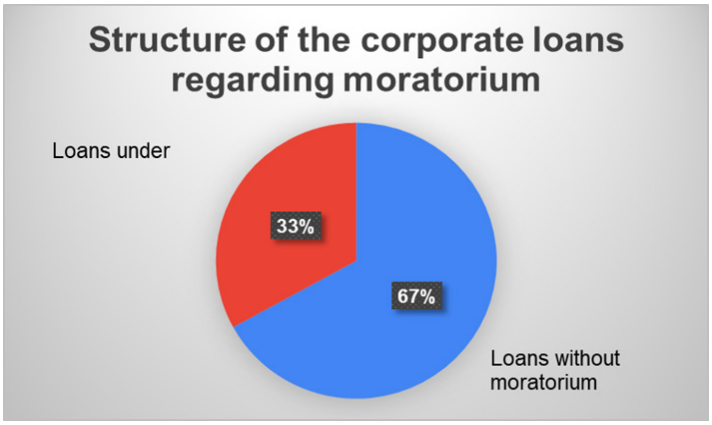
Comparison of the sectorial structure of the loans under moratorium, underlying the vulnerability of the individuals/ retail.

Figure 2 Structure of the retail loans under moratorium as of 30.09.2021



Source: Authors calculations

Figure 3 Structure of the corporate loans under moratorium as of 30.09.2021



Source: Authors calculations

2.3 What is next?

Out of 13 banks, 7 banks are listed on the Macedonian Stock Exchange. As such they will have a mandatory reporting obligation under the Corporate Governance Code for Companies listed on the Macedonian Stock Exchange.

With the new Code[6] under Section 6: Stakeholders, Sustainability and Social issues certain demands regarding the compliance are expected. So, the banks listed have to report about the compliance with the principles set or to explain the reasons for not being in compliance. According this section it is expected that The Supervisory and Management Boards of the banks shall cultivate a corporate culture that encourages a responsible attitude towards the environment and social issues; approve a strategy to promote sustainability; and ensure that its business model and risk management systems take account of the potential environmental and social impact of its activities.

It is also expected that the banks shall have internal acts relating to its responsibilities for environmental and social issues and policies and procedures that enable it to identify material factors and assess the impact on the company's activities. These policies shall be reviewed at least annually by the

[6] Corporate Governance Code for Companies Listed on the Macedonian Stock Exchange, Macedonian Stock Exchange, Skopje, 2021

Supervisory and Management Boards, and shall be published on the company's website.

Conclusion

Based on the research we can conclude that the banks in North Macedonia are very active in addressing social problems within their scope of activities and their contribution in time of pandemic was big and important for the community, both in financial and in activities terms.

So, if we go back to the last Principe of responsible banking which is dealing with the response of the banks with the speed and scale necessary to address global challenges, as well as requirements for leadership, buy-in and active support of the Board of Directors, the CEO, and senior and middle management we can see that the banks in North Macedonia are in right path. We strongly believe that by complying with the Code they will be in a position to establish a business culture and practice in which all employees will understand their role in delivering the bank's purpose and integrate sustainability in their work and their decision-making.

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(Original scientific paper)

ESTIMATING PUBLIC CLIMATE FINANCE USING OBJECTIVE–BASED COST COMPONENT APPROACH

Abstract: In this paper, we estimate the climate budget of the City of Skopje, the capital of the Republic of North Macedonia, by applying the objective-based cost component approach of the Climate Budget Tagging (CBT) methodology. CBT is a budget tool for monitoring and tracking climate-related public expenditures in the national/subnational budget system. In this approach, relevance level of the climate budget is calculated as the percentage of total expenditure for each climate intervention minus the share of the expenditure that would take place under a business-as-usual (BAU) scenario. Using the budget data for the representative year 2018, we estimated that the total budget of the climate-relevant programmes is 585 mil. MK denars, of which 311 mil. MK denars is allocated for mitigation while 41 mil. MK denars is allocated for adaptation purpose. Accordingly, about 48.6 percent of the budget is allocated for highly relevant programmes, 28.6 percent for medium relevant programmes, and 22.7 percent for low relevant programmes. This method also acknowledges that some programmes already have climate functions built-in, and when these programmes are implemented to contribute to climate functions, the additional benefits they would provide also need to be considered.

Keywords: climate change, tracking climate finance, climate budget tagging (CBT), public climate expenditures, North Macedonia
JEL: H72, Q51, Q54

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Introduction

Climate change is the single greatest threat facing humanity. Achieving the primary objective of the Paris Agreement to limit global average temperatures to well below 2°C, while pursuing efforts to stay within 1.5°C, requires serious and strong climate action by all stakeholders. Since climate change is a cross-sectoral, long-term environmental issue facing development, it needs to be addressed by mitigation and adaptation programmes implemented through various sectors funded by private and public sources mobilized at both the global and national levels. Climate change is often considered as the "greatest investment opportunity in history" valued at about 10 percent of global GDP, providing an unprecedented opportunity to unlock massive economic and social benefits that can help achieve the Sustainable Development Goals (SDGs).

As climate change impacts the whole of the economy, mainstreaming climate change in the annual development plans is thus imperative to tackle climate change-led problems. Mainstreaming helps governments take informed actions in allocating budget to priority areas. Tracking climate budget helps decision-makers build understanding of how much funding has been allocated to address climate change-led problems and what climate benefits (adaptation or mitigation or both) are being achieved to enhance the country's climate resilience. In the last few years, great progress has been made in the expansion and popularization of the concept of budgeting for climate change and its integration into the budget process of public financial management. Most developing countries use existing budget lines to target finance towards climate change objectives, but only five countries track public expenditure on the basis of dedicated budget codes (Bhandary, 2022).

Budgeting for climate change is a new concept worldwide aiming at integrating, tracking, and monitoring public climate expenditures into government budgets. It's also known as climate budgeting, green budgeting, climate budget tagging, climate change budgeting, climate budget tagging. The development of this concept experienced expansion in 2021 (UNDP, 2021; OECD, 2021; Battersby et al, 2021; Pizarro et al., 2021), when it was also developed as Macedonian national methodology for CBT that is fully consistent with the world-renowned methodologies (Upadhya, 2021).

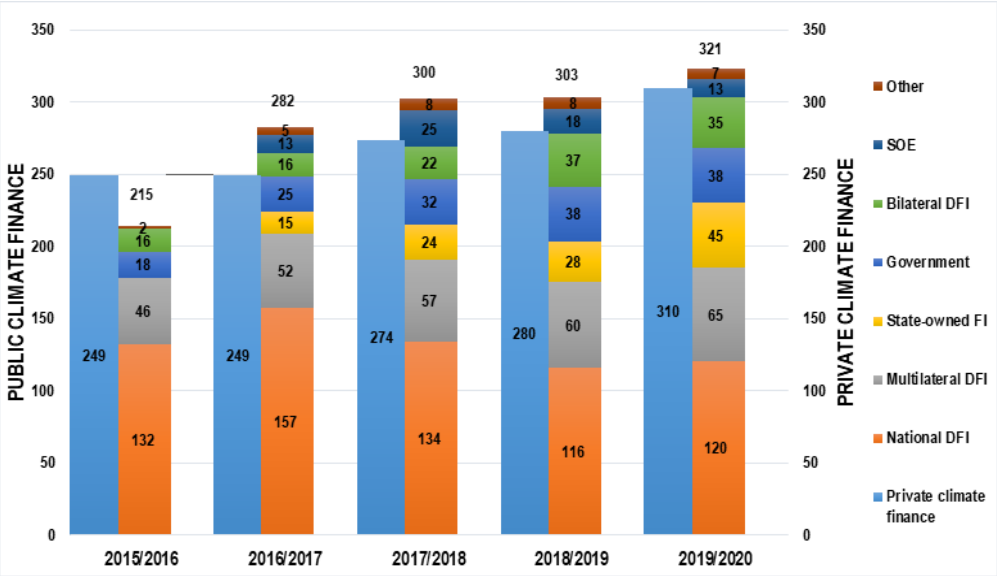
CBT is a budget tool for monitoring and tracking of climate-related public expenditures in the national budget system (UNDP, 2015, 2021). CBT can help governments integrate climate change considerations into the planning and budget process (World Bank, 2021). It's a government-led process

of identifying, measuring, and weighting such climate-related expenditures. It provides comprehensive data on climate relevant spending, enabling governments to make informed decisions and prioritize climate investments. By generating data on climate change investments, CBT enables public scrutiny on governments' and donors' spending on tackling climate change issues strengthening accountability and transparency. Practicing of CBT brings great benefits to the country which are described in detail by Upadhya (2021). Following the development and introduction of the first CBT systems in 2012, 19 national and subnational governments (SNGs) have developed CBT methodologies according to their needs (World Bank, 2021). This paper discusses a combined objective-based method of CBT in tracking climate finance at the national and subnational levels.

2. GLOBAL PUBLIC CLIMATE FINANCE AND THE IMPACT OF COVID-19

Climate Policy Initiative's Global Landscape of Climate Finance provides the most comprehensive overview of global climate-related primary investments. In their annual reports, they provide two-year data, but use biannual averages to level the annual fluctuations in data. CPI (2021) report estimates that global climate finance in 2019/2020 reached a record USD 632 bn, which is an increase of 75% compared to 2011/2012, but only 10% compared to 2017/2018. In previous years, the average growth was 25% per year—this slowdown is an impact of the global COVID-19 pandemic on climate finance. They also estimate that for the climate objectives of limiting global temperature rise to well below 2° C and pursuing efforts to limit it to 1.5° C by 2030, annual climate finance must increase by 588% to USD 4.35 trillion, and 1,078% to USD 7.45 trillion (mean scenario) by 2050. Mitigation finance reached USD 571 billion in 2019/2020, while adaptation finance totaled USD 46 billion, and USD 15 billion went to projects with dual benefits (mitigation and adaptation).

Figure 1. Global climate finance flows between 2015 –2020, public and private, biannual averages (USD bn)



Source: adapted from CPI, 2021

The public sector plays a more prominent role in providing climate finance where, except in 2015/2016, their share in all years is about 52% of total climate finance. The public sector continues to provide almost all of adaptation finance, while the private sector mostly provides mitigation finance. Figure 1 shows the distribution of private and public climate finance from 2015-2020, where the public climate finances are listed alongside their sources. Most public climate finance is provided by Development Financial Institutions (DFIs) (68% in 2019/2020). Climate finance provided through government budgets accounts for 12% of public flows and 6% of the total climate finance. As in the previous years, growth is driven by low-carbon transport and delivered primarily through grants (CPI, 2021).

The COVID-19 pandemic has drastically altered the context for international climate finance. It has resulted in the most damaging humanitarian and economic crisis since the Second World War and its impacts have been particularly severe on emerging markets and developing economies (EMDEs). They have suffered large losses of revenue with knock-on effects on their fiscal and debt positions (IEGCF, 2020). The COVID-19 pandemic negatively affected the growth of global climate finance in 2020 and lowered the level

of public climate finance in many developing countries. They were impacted negatively since the implementation of their NDCs mostly rely on international support. International climate finance decreased during the pandemic since many developed countries cut these flows. For example, in July 2020 the United Kingdom announced a total cut of £2.9 billion in its planned Official Development Assistance (ODA) budget for 2020 (FCO, 2020). This caused the proportion of ODA to projects with a significant focus on climate adaptation or mitigation to fall from 25% in 2019 to 17% in 2020, while ODA to projects with climate as a principal objective fell from 18% to 14% (DI, 2021). Most of the funding of domestic climate finance in developing countries took the form of loans, and they have reallocated or decreased their domestic climate flows because of the high costs of responding to the pandemic (Alayza and Caldwell, 2021). As a result, climate-related projects have been delayed.

In 2020, International Development Finance Club (IDFC) institutions committed USD 185 billion in green finance (of which USD 178.5 billion relate to climate finance), representing a 6% decrease from 2019, primarily due to the unprecedented challenges posed by COVID-19 and the need to reallocate public resources to emergency response and economic recovery efforts. While the pandemic may have negatively impacted green finance flows in 2020, in 2021 IDFC members have made strong pledges to climate action and green finance (IDFC, 2021).

The economic and financial impacts of COVID-19 have exacerbated the challenges developing countries were already facing to scale up climate action. These countries would need to ensure that climate action and economic recovery are mutually supportive, scale up investment without increasing the debt burden, attract large-scale private financial flows in the context of perceived higher investment risk, and secure access to long-term affordable finance at a time of rising capital costs (Hourcade, 2021).

Amidst international promises for a growing portion of development aid to take the form of budgetary support, even the largest provider of budget support, the European Union, delivered only around 24% of aid in the form of budget support in 2020 (Custer et al., 2021; European Commission, 2020). This trend is valid for climate finance as well. Most of the climate finance routed to developing countries hasn't been in the form of budgetary support, rather it's been project- or programme-specific, which are similar in trends for both mitigation and adaptation (Bhandary, 2022).

3. DATA AND METHODOLOGY

3.1. Data

Financial statements of the budgets and programmes of the City of Skopje for the year 2018 were taken to assess the public climate budget for the City for that year. Climate-related programmes were identified based on their climate objective and grouped under various typologies. Then, activities related to climate change mitigation, adaptation or both, under each climate-related programme were listed. This process helped filter out those activities that had no links to climate objectives. Grouping under typologies helps budget officials understand why a particular programme has been identified as climate-related before tagging the activities under that programme.

Table 1 shows details of the sub-programmes and the climate-related activities of one of the key programmes – the Environment and Nature Conservation, along with code numbers and budget as they appeared in the budget sheet for the city of Skopje. In 2018, the City had a total of seven climate-related programmes that had climate-related activities. These activities were also listed.

Table 1: Climate-related activities under the Environment and Nature Conservation Programme (Source: Budgets and programmes of the City of Skopje, 2018)

Programme/ Sub-programme	Code	Item	No.	Name of the activities	2018 Budget in MKD
Environment plans	R1	425	5	Preparation of a Gazi Baba Nature Park Management Plan	300,000
	R1	425	6	Preparation of a Green Cadastre of the City of Skopje	1,000,000
	R1	425	8	Preparation of an overview of Ripar habitats with special review of the river Lepenec	1,000,000
	R1	425	10	Development of expertise for determining the boundaries of the Rasce spring and protection measures	2,500,000
Environment capital expenditure	R1	464	30	Subsidizing for the purchase of pellet stoves	10,600,000
	R1	464	11	Subsidies for the purchase of bicycles, electric bicycles and electric scooters	10,000,000
	RA0	482	35	Construction of Green Roofs	35,000,000
	W0	421	6	Garbage collection	850,000
	W0	421	7	Central heating	3,000,000
	RA0	482	41	Landscaping of the Gazi Baba Nature Park	1,000,000
	RA0	482	42	Landscaping of Vodno Forest Park	1,250,000
	RA0	482		Biodiversity protection Vodno	200,000

Environment research	R1	425	23	Preparation of technical document to solve the problem with torrents from Skopska Crna Gora	3,000,000
	R1	425	26	Research on the consequences of air pollution on human health	300,000
	R1	425	4	Preparation of biotopes map for the Skopje region	2,000,000
	R1	425	21	Extended analysis/testing of alternative sources of water supply Kadina Reka, Patishka Reaka and spring Vrelo	2,500,000
	R1	425	22	Preparation of a Groundwater Study-Skopje region	3,000,000
	RA0	482	37	Preparation of project document for shaping and editing of green corridors along the Serava and Lepenec rivers	2,750,000
	RA0	482	38	Preparation of a horticultural project for protection of the slopes on Samoilova Street	300,000

Environment monitoring	R1	425	3	Update of the Integrated Polluters Cadastre of the City	300,000
	R1	425	27	Extended ambient air pollution testing by wood burning	2,000,000
	R1	425	7	Program for mesometeorological measurements in the Skopje valley	600,000
	R1	425	24	Establishment of a system for monitoring of ambient air pollution with Skopski planning region	2,000,000
	R1	425	28	Extending ambient air pollution tests from traffic	2,500,000
Environment awareness	R1	425	16	Information campaign on the negative consequences of the ignition of waste, use of unsuitable fuels for heating	600,000
	R1	464	18	Creating conditions for the establishment/ functioning of the Intersectoral Committee on Health and Climate Change	90,000
	R1	464	20	Awards - Ecological competition of the City of Skopje	215,000

Source: authors' own presentation

Table 2 provides the number of climate-related activities under each programme/subprogramme. Climate-related activities were identified based on the OECD (2011) definition of mitigation and adaptation activities. Accordingly, a total of 58 activities were identified as climate-related of which 22 were related to mitigation, while 20 were adaptation activities and 16 contributed to both mitigation and adaptation.

Table 2: Number of climate-related activities for the City of Skopje (Source: Budgets and programmes of the City of Skopje, 2018)

Programme	Subpro-gramme	Number of activities	Climate functions		
			Mitigation	Adaptation	Both
Environment and nature conservation	Environ-ment plans	4	-	-	4
	Environ-ment capi-tal expendi-ture	8	4	4	-
	Environ-ment re-search	7	2	3	2
	Environ-ment moni-toring	5	-	5	-
	Envi-ronment awareness	3	-	-	3
Energy efficiency	Energy efficiency	2	2	--	-
	Water man-agement	4	-	4	-
Urban planning	Urban planning	1			1
Communal activities	Waste man-agement	3	3	-	-
	Greenery promotion	7	7	-	--
	Reconstruc-tion of bi-cycle lane	1	1	-	-
	Lighting	1	1	--	-

Social and child protection	Social protection and child protection	4	-	3	1
Education	School programme	1	-	-	1
Local economic development	Local economic development	7	2	1	4
	Total activities	58	22	20	16

Source: authors' own presentation

3.2. Methodology

Generally, budget tagging is done at the programme level or at the activity level. At the programme level, budget tagging is relatively straightforward and easy to apply. However, there is an element of risk of overestimating the amount of climate budget, because not all activities under a climate-related programme may contribute to the climate objective. Whereas, tagging at the activity level filters non-climate activities and helps calculate more accurate climate budget.

Two technical approaches to weighing the relevance of the climate budget have been used—the objectives-based approach and the benefits-based approach widely elaborated by Upadhya (2021).

For climate change mitigation activities, such as the promotion of electric vehicles in which the objective is clear, the objectives-based approach is helpful. The entire budget can be considered climate relevant. Whereas, for programmes that are climate-oriented but only a fraction of the budget helps address mitigation or adaptation, only those portions of the budget should be tagged. The benefits-based approach is helpful to segregate the climate part but it requires adequate data regarding the benefit which are often not available. To overcome this limitation, a combined approach has been used.

In this approach, relevance level is calculated as the percentage of total expenditure for each climate intervention minus the share of the expenditure under a business-as-usual (BAU) scenario. This method acknowledges that some programmes already have climate functions built in them, and will

contribute even if they are implemented as development programmes under a BAU scenario (GoB, 2018). When these programmes are designed and implemented to contribute to climate functions, there may be additional benefits they provide which need to be taken into account.

The baseline under a BAU scenario and the expected contribution or the added relevance weight in the climate change context is established for each activity using expert judgment. Then, the standard deviation of the relevance weights is determined which is then subtracted from the maximum relevance weight. This will improve the accuracy of the assessed climate budget and subsequently its relevance level.

Table 3 illustrates how it would work. The process has been shown by taking only three examples: one each of mitigation, adaptation, and both. For energy efficiency programmes, the climate relevance weight at BAU (a) was assumed to be zero, while additional contribution (b) would be 100 percent. For water management programmes, the climate relevance weight at BAU (a) was assumed to be zero for all four activities, whereas the additional contribution (b) was assumed to be 75 for construction of water supply systems and 60 for storm sewer systems.

The climate relevance weight (c) is calculated as [(b)-(a)]. The adjusted relevance weight (d) for the programme is calculated by subtracting the standard deviation of relevance (c) from the maximum relevance weight. Accordingly, the adjusted weight has been calculated as 100 for energy efficiency, 66 for water management, and 27 for environmental plans.

Table 3: Calculation of adjusted weight of relevance for climate-related programme

Programme/Sub-programme	Item	No	Activities	Mitigation	Adaptation	Both	Sensitivity at BAU (a)	Additional dimension (b)	Relevance weight (c)	Adjusted weight (d)
Energy efficiency	481	10	Projects for reconstruction of school buildings, gyms heating and lighting systems: Energy efficient schools	M			0	100	100	**100**
	481	12	Reconstruction of school buildings**:** Energy efficient schools	M			0	100	100	**100**
Water management	482	85	Construction of main water supply systems		A		0	75	75	**66**
	482	86	Construction of a water supply system in Suto Orizari		A		0	75	75	**66**
	482	88	Construction of storm sewer LISICE		A		0	60	60	**66**
	482	89	Construction of storm sewer on Boca Ivanova Street to A. Urdarevski		A		0	60	60	**66**

Environment plans	425	5	Preparation of a Gazi Baba Nature Park Management Plan			B	0	25	25	**27**
	425	6	Preparation of a Green Cadastre of the City of Skopje			B	0	25	25	**27**
	425	8	Preparation of an overview of Ripar habitats (water habitats)			B	0	25	25	**27**
	425	10	Development of expertise for determining the boundaries of Rasce spring and protection measures			B	30	60	30	**27**

Source: authors' own presentation

Climate budget is calculated using the adjusted relevance weight, which is shown in table 4.

Table 4: Estimating climate budget using the adjusted relevance weight

Activities	M	A	B	Adjusted weight	Budget 2018 (in MKD)	Climate budget		Relevance
						Mitigation (in MKD)	Adaptation (in MKD)	
Projects for reconstruction of school buildings, gyms heating and lighting systems:	M			100	20,000,000	20,000,000		High

Reconstruction of school buildings	M			100	70,000,000	70,000,000		High
Construction of main water supply systems		A		66	15,000,000		9,900,000	Medium
Construction of a water supply system in Suto Orizari		A		66	2,300,000		1,518,000	Medium
Construction of storm sewer LISICE		A		66	1,500,000		990,000	Medium
Construction of storm sewer on Boca Ivanova Street to A. Urdarevski		A		66	10,000,000		6,600,000	Medium

Preparation of a Gazi Baba Nature Park Management Plan			B	27	300,000	40,500	40,500	Low
Preparation of a Green Cadastre of the City of Skopje			B	27	1,000,000	135,000	135,000	Low
Preparation of an overview of Ripar habitats			B	27	1,000,000	135,000	135,000	Low
Development of expertise for determining the boundaries of Rasce spring			B	27	2,500,000	337,500	337,500	Low

Source: authors' own presentation

Using the same method, the climate budget of the city of Skopje for the year 2018 was calculated (table 5). The total budget of the climate-relevant programmes is MKD 585,795,000, of which MKD 311, 757,000 is allocated for mitigation while MKD 41,863,000 is allocated for adaptation purpose. Accordingly, about 48.6 percent of the budget is allocated for highly relevant

activities, 28.6 percent for medium relevant activities, and 22.7 percent for low relevant activities.

Table 5. Climate budget of the City of Skopje

Details	Budget (in MKD)	Percentage
Total budget of climate-related programmes	585,795,000	100
Budget allocated to mitigation activities	311, 757,000	60
Budget allocated to adaptation activities	41,863,000	
Budget with high climate relevance	172,000,000	48.6
Budget with medium climate relevance	101,292,500	28.6
Budget with low climate relevance	80,327,500	22.7

Source: authors' own presentation

The following relevance index (table 6) has been used to further categorize the climate activities.

Table 6: Relevant index

Climate relevance weight	Relevance level
> 75	High
50 - 74	Medium
25-49	Low
< 25	Marginal

Accordingly, four activities in the City of Skopje are of high relevance, 30 are of medium relevance, and only 24 activities are of low relevance. The description of the programme with climate relevant activities is given in table 7.

Table 7: Activities with climate relevance level

Relevance level	Number of activities	Programme/subprogramme
High	4	Communal activities lighting, bicycle (2)
		Energy efficiency (2)
Medium	30	Environment monitoring (5)
		Environment awareness (3)
		Local economic development (7)
		Communal activities waste management (3)
		Water management (4)
		Environment capital expenditure (8)
Low	24	Communal activities greenery promotion (7)
		School programme (1)
		Social protection (4)
		Environment plans (4)
		Environment research (7)
		Urban planning (1)

Source: authors' own presentation

Conclusion

The Paris Agreement calls for all financial flows to be consistent with low-carbon, climate-resilient development. Given the importance of avoiding runaway climate change, it's imperative for developing countries to address climate change through domestic action. Climate change is a whole-economy problem. Tackling it will require looking at every financial decision through a climate lens. As countries move to implement the Paris Agreement, they should consider whether their decisions result in greenhouse gas emissions or will they reduce them? Will they improve resilience to climatic shocks or worsen vulnerability? They need to track and understand domestic flows of finance so

they can better align them with their climate goals, identify gaps, and unlock the private investment needed for green, resilient development.

With the Enhanced Nationally Determined Contributions (ENDC), the Government of the Republic of North Macedonia aims to reduce GHGs emissions by 51% by 2030 for which 63 mitigation policies and measures (PAMs) have been foreseen, which require EUR 25.03 billion.

A national Climate Budget Tagging methodology was created to monitor and direct public climate finance (Upadhya, 2021). By applying the combined objective-based cost component approach of CBT methodology, we estimated that for the representative year 2018, the total budget of the climate-relevant programmes is 585,795,000 MK denars, of which 311, 757,000 MK denars is allocated for mitigation while 41,863,000 MKD is for adaptation purpose. Accordingly, about 48.6 percent of the budget is allocated for highly relevant activities, 28.6 percent for medium relevant activities, and 22.7 percent for low relevant activities. The City of Skopje is strictly committed to combating climate change, having the appropriate strategy for this.

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(Original scientific paper)

DEVIATIONS FROM RATIONAL INVESTMENT DECISIONS OF THE MACEDONIAN INVESTORS

Abstract: Behavioral finance is an area of study in finance and investment, which in the recent years is in constant focus with rising importance in the social sciences, creating a link between the economy, psychology, sociology and neurosciences in a broader aspect. Behavioral finances provides an opportunity for further research and empirical analyzes in the decision-making process of individuals, groups, and organizations.

The main hypothesis in the research is that the irrational behavior of Macedonian investors while making investment decisions is present and leading behavior in certain periods while making investment' decisions. The hypothesis was examined with a survey questionnaire, additionally analyzing the results with the Kolmogorov-Smirnov Test (KS test). The results undoubtedly showed that investors' decisions are made irrationally by the influence of non-financial and psychological reasons, i.e. excessive self-confidence of investors or political influence on the decisions.

The key issue for behavioral finance in the future is not only understanding the irrational behavior but also finding a solution for predicting and preventing the negative effects on the financial markets, thus creating an opportunity for stable financial markets. The future in the economy is not only in artificial intelligence and technology, but in understanding and managing the decision-making process to rational decisions that would lead to better economic environment with opportunity for economic growth and efficient-markets with speculations at minimum level as possible.

Keywords: behavioral finance, financial markets, Macedonian Stock Exchange

JEL Classification: G4

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Introduction

As an emerging field behavioral finance investigates the psychological and sociological issues that impact the decision-making process in the economic agents, representing them as individuals with animal spirit rather than economic fully rational agents, representation model for investors' behavior and decision-making in the traditional economy. What behavioral economists tend to understand and explore as main objectives of their studies are the following: (1) how investors' behavior on the financial markets; (2) how do they respond to certain (financial) situations; (3) the biases that affect the decision-making process; and (4) the biases that affect the investment decision itself. The importance of behavioral finance shall be noticed in explanation of the financial flows with combining economic factors that influence investment decisions with "innate" (psychological) factors that often prevail over theoretically defined rational behaviors. Researches show a correlation between behavioral finance and stock market investor behavior[1]. Even though behavioral researches are increasing in the past years, the regional financial markets, including the Macedonian Stock Exchange are rarely mentioned or researched implementing individual approach, analyzing investors' behavior. The lack of information and analysis for the behavioral aspects on the Macedonian Stock Exchange is the main driver for conducting an empirical research on the Macedonian capital market and empirically analyzing the behavior of the typical Macedonian investor.

The main conclusion from the research is that the investors' irrational behavior causes negative side effects on the Macedonian Stock Exchange. The negative effects appearing periodically on the stock exchange and capital markets due to the irrational behavior of the investors, often sends mixed signals to the economy as a whole and to the other financial institutions i.e. banking sector and to the other financial market participants i.e. companies, bank depositors or foreign investors. Irrational investors' behavior caused by i.e. speculative information and driven by the heuristics often creates more speculation and negative side effect to all agents and institutions included the financial markets. However, as mechanisms for mitigating the negative effects and movements caused by irrationality are further education of the investors in the capital markets' with accent on both objectives, economic and psycho-

[1] Akerlof & Shiller, 2009 ; Barberis & Thaler, 2002; DeBondt & Thaler, 1985; Kahneman, 2011

logical; constant consultation with field experts in the decision-making process and constant monitoring the world and domestic trends, therefore using and implementing the relevant information instead of speculations.

Methods

The choice of the research method was made by analyzing the most common practices in this type of research, implementing the most efficient and most economical method[2]. The processes for defining the objectives and starting the research were done in few levels. The first level was defining framework, which will include investors on the Macedonian Stock Exchange. In view of the fact that behavioral analyses on investors economical behavior has never been done before, the process required creating a strictly framework and empirical test to support and prove the research. The second level was empirical analysis of the behavior of Macedonian investors presented through empirical evidence. The third level was discussion about research results, and the final level was identifying areas that would improve with the proper implementation and knowledge over behavioral finance.

For a number of reasons, a survey questionnaire is implemented as a tool for collecting the investors' answers. Firstly, survey as a tool straightforwardly measures the behavior, preferences, opinions, intentions and attitudes of a larger group of respondents. In addition, is not financially exhausting, and is easily spread online, reaching more investors, thus collection more answers for representative sample. Another pertinent point are its advantages such as simplicity and anonymity of the answers. Before sharing the questionnaire with the respondents, it has been sent to university professors, financial experts, economists and experienced investors from the Macedonian Stock Exchange, in order to confirm its relevance, logic, integrity and convenience. The only condition for an investor to participate in the survey was their investment activity i.e. at least one transaction on the Macedonian Stock Exchange. The survey is composed of five segments: (1) financial characteristics, (2) psychological characteristics, (3) risk-taking characteristics, (4) characteristics for desired return and desire to invest, and (5) characteristics for the brand of the companies. In addition to these five essential units, another descriptive demographic segment is included.

[2] https://content.sciendo.com/view/journals/aicue/64/1/article-p97.xml

Following the completion of the results, Kolmogorov-Smirnov test (KS test) was implemented to analyze and process the data from the research, which is a non-parametric test used to summarize data by comparing cumulative distributions of the two sets of data. Questions were answered with a response strength from 1 to 5, whereas 1 is the weakest belief and/or least repeated behavior, and 5 is the strongest belief and/or most repeated behavior. All questions answered with strength 1, 2 and 3 are grouped as answers that define weaker belief or inconsistent attitude towards the described situation, and answers with strength 4 and 5 are grouped as statements that show strong belief and dominant behavior in the described situation. Thus, grouped in this way, the two sets of data for each question (scenario) of the survey questionnaire are subjected to processing through the KS test, where each R-value, which is less than 60%, is left out of the analysis because they do not contain important information, i.e. are irrelevant and insignificant for the research. The answers from the second group (strength 4 and 5) are defined as R-positive value, and the other answers (strength 1, 2 and 3) are with value "1 – R positive", i.e. "1 - R positive" = P negative value. In this way, the importance of certain questions in the research is defined, and thus the result in the KS test is obtained.

Results

Firstly, the conclusion from the obtained data (n=44) from the demographic characteristics segment, is that male investors are dominant on the Macedonian Stock Exchange (90%). The prevailing age is from 25 to 45 years (86%). This points out that the profile of investors are young people with an opportunity and desire to invest in stocks. Young investors are known as thrill seekers and risk takers. However, young Macedonian investors are not characterized as adventurous because their portfolios are passive, holding the same structure and not trading with the stocks for more than 12 months (75% of respondents). However, 40% of the investors have expectations for high return on investment (over 15% expected return).

In the Table No.1 below are stated the most significant scenarios from the first segment "Financial characteristics". The described scenarios prove that there is a possibility for the Efficient Market Hypothesis in its weak and semi-strong form to be present at the Macedonian Stock Exchange. Investors prefer and believe that the analysis of data from past trends (scenario 1, 2, 4, 5) and the analysis of data currently available (scenario 2, 3), will bring them safer and better financial decisions, which would achieve higher yields. The

analysis of information from official statistics indicates the typical behavior of investors within the traditional economy.

Table No.1 - Financial characteristics - significant scenarios

FINANCIAL CHARACTERISTICS	P-value
In the process of deciding to buy a stock, I compare the current value of the stock with the minimum and maximum value of the previous months	0.727
I refuse to invest in stock of companies with low profitability	0.705
I am closely following the changes in the prices of stock that I intend to buy	0.923
I am attracted to stocks of companies whose revenues over the years have a growing trend	0.886
The information from the markets has a lot of effects on my decisions to buy and sell stock	0.818

In the Table No.2 below are stated the most significant scenarios from the second segment "Psychological characteristics". The described scenarios prove behavior in the manner of traditional economy, as well as behavior in the manner of behaviorism (scenarios 1, 2, 4, 9 and 10). If investors in the process of analysis and decision-making emphasize the information shared on official sites and monitors it in order to make better investment decisions, investor behavior can be observed in the context of traditional economy. But if investors create expectations including speculative information, it indicates behavior that should be observed in the context of behavioral economy (scenario 7). Additionally, few other heuristics are manifested in this segment of the research. Scenarios 3 and 6 confirm the excessive self-confidence as a characteristic of behaviorism, which prevails in the decision-making of investors on the Macedonian Stock Exchange. What is surprisingly negative is the scenario 8, where investors with 94% significance, answered that they decide separately for each action in their portfolio. This proves the minimal use of the CAPM model and risk allocation, which is a sign of inexperience, the occurrence of herd behavior, overreaction and overconfidence in making their own decisions and use of short-cuts. Despite the presence of Efficient Markets Hypothesis and careful monitoring of information, with scenarios of herd behavior, overconfidence and risk redistribution, Macedonian investors are on the verge of making bad investment decisions in the shadow of dominant behavioral behavior.

Table No. 2 - Psychological characteristics - significant scenarios

PSYCHOLOGICAL CHARACTERISTICS	P-value
I pay attention to the information that is published about the stock market on TV, in magazines or through social media	0.818
I pay attention to the information published by the Macedonian Stock Exchange and I usually visit its website	0.914
I have a high level of investing skills when investing in the stock market and I consider myself an experienced investor	0.750
I usually try to be aware of what is happening in the stock market	0.850
When the price of stocks fall, I refrain from selling it	0.727
When making decisions about buying and selling stocks, I have more confidence in my own beliefs than in the comments of my friends and colleagues	0.832
I am aware of the role and duties of brokerage companies in the market	0.877
I decide separately for each stock in my portfolio	0.936
I have easy access to the latest reports, forecasts and financial statements from any company on the stock exchange	0.791
I usually have confidence in operating and investing in the stock market	0.736

Source: research of the author

In the Table No.3 below are stated the most significant scenarios from the third segment "Risk aversion characteristics". The described scenarios (1, 2, 3), highlight the interest of the Macedonian investors for information research, which is not always a good characteristic. Herd behavior can be driven by poorly placed information, which means that Macedonian investors are prone to falling under the influence of speculative information, which can lead to poor investment decisions. Scenario 4 shows a trading mood, but according to the aforementioned demographic characteristics, that manner is usually for passive portfolios and high-yield stocks. It is a sign that Macedonian investors are not ready to experience losses, which is another feature of behaviorism - aversion to loss. This feature is also an explanation for the unreasonably high returns expected on the stock market (15%).

Table No.3 - Risk aversion characteristics - significant scenarios

RISK AVERSION CHARACTERISTICS	P-value
I'm usually not afraid to buy stocks that have had a growing trend in the past	0.827
I usually buy stocks that have a relatively guaranteed return	0.714
My decisions to buy and sell stocks are related to my previous expertise, knowledge and experience	0.877
I'm always interested in buying and selling stocks	0.895

Source: research of the author

In the Table No.4 below are stated the most significant scenarios from the fourth segment "Characteristics of desired return and investment impulse". In this segment almost all scenarios have passed the test of significance, from which can be deduced that investors which have engaged in trading activities at the Macedonian Stock Exchange with high probability will continually do it in the future. This conclusion reveals another feature of behaviorism – anchoring, a cognitive subjectivity in which individuals anchor to the initially offered information, making all decisions based on that information. If sudden adverse event occurs i.e. downward movement or bourse collapse, might cause losses to the investors. They are not fully aware and are overconfident that their investments are safe. Every investment should be made with a reserve and probability that it can bring a loss, not just a return. The impulse to invest and desired returns of Macedonian investors on the Macedonian Stock Exchange is greater than the fear of losses.

Table No.4 - Characteristics of desired return and investment impulse - significant scenarios

CHARACTERISTICS FOR DESIRED RETURN AND INVESTMENT IMPULSE	P-value
Investing in the stock market will bring a higher return for me	0.900
I believe that the stock market will function satisfactorily in the future	0.818
I believe that investing in the stock market will bring me profit in the future	0.914
In my opinion, buying and selling stocks on the Stock Exchange Market makes sense	0.950
I would like to continue buying and selling stocks on the Stock Exchange Market for the next few years	0.927
I prefer investing in the stock market than in other alternative channels	0.859
Even with temporary stock market fluctuations, I would not give up investing	0.864

Source: research of the author

In the Table No.5 below are stated the most significant scenarios from the fifth segment "Company brand characteristics", which was added in order to show whether and to what extent Macedonian investors are attached to the brand of the company they trade with. Subjectivism is shown especially in scenario 4, in which investors would rather trade with companies they are already familiar with than investing in a company that might bring in higher returns, which is unknown to them. In behaviorism, the described behavior is defined as salience, i.e. giving importance (in this case) to companies and brands that

stand out and ignore all others that are not in focus. Scenarios 1 and 4 show that the brands are known to Macedonian investors and that their investment activities are psychologically related to a particular product. The more they think that the product as a brand is more successful, the investors are more convinced that the company is more successful, and they would more engage in investing in it.

Table No.5 - Company brand characteristics - significant scenarios

COMPANY BRAND CHARACTERISTICS	P-value
I am familiar with the brand of the companies that are on the Macedonian Stock Exchange	0.914
I have a lot of information about the companies that are on the Macedonian Stock Exchange	0.786
If I hear a company from the Macedonian Stock Exchange, I immediately think of one of its products	0.755
My buying and selling stocks are based on previous knowledge and experience with the brands of the companies I trade with	0.741

Source: research of the author

Implications, key issues and future

The implications that arise due to the dominant behavioral profile of the Macedonian Stock Exchange cannot be neglected for few reasons, such as market stability and the impact that speculative information have on investor decisions. The period in which the research was conducted is a stable period with a stable growth of the bourse index. The only event that makes a distortion is the political EU-integration event. Namely, the vote on constitutional changes to resolve the name dispute with Greece, contributed to increasing the MBI-10 index by 5.90%, following the signing of the Agreement with Greece in Nivice in June, which contributed to the growth of the index by almost 9.00%. This have reflected the positive expectations of investors, there were no other unexpected events on the markets.

The behavioral profile of the Macedonian investors was confirmed at the beginning of the COVID-19 crisis. The highest price drop occurred from February to March by 35%, which is the largest downward trend in stock market history after the collapse caused by the financial crisis in 2008 (72%). The closed borders and the curfew encourage the aversion of loss, thus the human

and investment instinct intertwined. The fear as main component during the health crises, motivated the investors to start panic selling stocks, contrary to rational investment theory.

The second significant event in which aversion to loss and herd behavior were observed is the day of the beginning of the Ukrainian-Russian conflict, where the stock market fell by 8.65% in one day, during which trading was interrupted. Rational behavior defines refraining from selling in the event of a sharp fall, but panicked behavior, speculative information published by non-reliable sources, have led to a significant stock market shock and collapse.

Through these adverse events are highlighted the relevance of the research and the investors profile, raising the question of the future of market stability. Although the main focus in this period is on technology and artificial intelligence, financial markets are still subject to speculative information and behavioral subjectivity i.e. heuristics. Direction to where should AI led is detection of behavioral subjectivities that will correct heuristics and would enables stable investment activity. The future of stable financial markets is not just in technology, but in implementing the knowledge of behavioral finance to enable stable markets.

In continuation are recommendations that are applicable to the Macedonian Stock Exchange and that would reduce the irrationalities discovered by the research such as: overconfidence, aversion to loss, herd behavior, anchoring, salience and heuristics. Initially, individual market investors should allow professionals to manage their portfolios, which would reduce the risk of subjectivity. In addition, investors should diversify their investment portfolio i.e. type of industry. Moreover, investors should pay more attention when processing information published in various media and wisely choose the sources of investment information in order to avoid speculative information which could cause adverse effect on the portfolio and the market. Finally, they should constrain panic behavior and be more cautious at what time will trade on the stock exchange market i.e. avoiding trading at lowest value of the index.

Conclusion

Summarizing the whole research results the financial behavior of the average Macedonian investor is evident. Although the investors have knowledge and search for information, they are not prone to speculations and heuristics. Macedonian investors appear to be overconfident with their (investment) decisions and expect high returns, which is result of incomplete decisions and

subjective reasoning, which might have adverse financial effect to their portfolios. Macedonian investors believe in the brands and the stability of the Stock Exchange, which is a positive sign for the Macedonian Stock Exchange as trustworthy institution. However, Macedonian investors are attached to the brands of the companies and subjectively decide to invest in a certain company, often not as a result of a financial analysis. With all this it can be confirm the hypothesis that behaviorism prevails on the Macedonian Stock Exchange and Macedonian investors do not make perfectly rational decisions.

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MANAGING VIRTUAL TEAMS

Abstract: A wealth of research is associated with virtual teams and collaboration technologies; however, no integrated model is available to guide decision-makers at large organizations in the strategic implementation and management of "virtuality." Changing organizational structures, from traditional hierarchical towards lower and more flexible ones, have made leaders organize work in new ways. Many organizations are taking advantage of the opportunities to utilize new technologies to become more effective and efficient. One of the newer types of approaches to be used is the "virtual team." These are teams that are comprised of members who do not work at the same place or even at the same time. They may be spread across many time zones and may be located all over the world. For the success of virtual teams, it is important to overcome cultural differences, communication barriers, power struggles and conflicts in order to build trust, cooperation and commitment between individuals. Although it sounds difficult, it can be achieved through effective leadership. This paper tries to explain the role of vital elements such as trust, information sharing and communication, in building virtual teams as well as establishing an effective relationship between members.

Keywords: *virtual teams, collaboration, effectiveness and efficiency.*
JEL Classification: M15, M21

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Introduction

Virtual teams are groups of people who are engaged in leading and realizing business practices in various sectors of the company and even industries. Globalization creates new opportunities for competitive advantage, and technological progress supports global communication and teamwork. Virtual teams whose members cover the world are called Global Virtual Teams (GVT). Global virtual teams realize so-called "unprecedented" opportunities and links for collaboration, innovation and organizational effectiveness.[1]

Virtual groups exist when several physically distant employees are combined and each member reports to the same manager. In contrast, a virtual team exists when members of a virtual group communicate with each other in order to achieve common goals. This difference between a virtual team and a virtual group is parallel to the difference between conventional groups and teams in the organizational literature. Finally, virtual communities are larger entities of distributed work in which members participate online, guided by common goals, roles and norms. Unlike virtual teams, virtual communities are not implemented within the organizational structure, but are usually initiated by some of their members.[2]

Managing virtual teams is a very complex task. Deficiencies in communication often indicate general misunderstandings and lack of shared knowledge of team members for various reasons. But of course there is an appropriate solution to every problem. There are many studies and researches that show that face-to-face communication is especially important, but it is especially important at the beginning of the team's "life", especially when the team consists of people who do not know each other at all.

Researches in the industry further reveal that the three main reasons why organizations accept virtual teams are:[3]

- Increased productivity
- Greater efficiency
- Cost savings

[1] Rogbeer, S., Almahendra, R., & Ambos, B.,"Open-innovation effectiveness: When does the macro design of alliance portfolios matter?", Journal of International Management, 2014, p.446

[2] Hertel G. & Geister S., "Managing Virtual Teams", Evsevier Inc, 2016, p. 71

[3] Purvanova K., "The SAGE Encyclopedia of the Internet", SAGE Publications, Inc, 2018, p. 2

Similar to traditional teams, virtual teams participate in a variety of collaborative activities, such as formal and informal meetings using technology such as video conferencing (Zoom, Skype, Microsoft Teams, Google Meet, etc.), file transfer, and sharing applications. As a result, virtual teams face collaboration difficulties that make it difficult for them to be as successful as teams that are physically together.[4]

Similar to traditional teams, virtual teams participate in a variety of collaborative activities, such as formal and informal meetings using technology such as video conferencing (Zoom, Skype, Microsoft Teams, Google Meet, etc.), file transfer, and sharing applications. As a result, virtual teams face collaboration difficulties that make it difficult for them to be as successful as teams that are physically together.

Due to the fact that the team does not work in an office and is not physically located together, employees do not have the opportunity to contact the manager at any time, for a question, challenge or get a specific direction. Managers need to define several hours of availability per week in their calendar, a period in which employees or colleagues can contact them for any important questions or simple advice. Providing availability for all the important challenges and problems that arise during the week, increases the closeness with employees and colleagues and gives a sense of connection and expected support.

It is a good practice when managing a virtual team, for a certain period, the manager to contact the employees via message, video or phone call just to check how they feel and check the situation.[5] Sometimes these checks can last up to 45 minutes, but these checks are characterized by the fact that there is no specific agenda.

Weekly inspections and one-on-one meetings provide a good rhythm for assessing and maintaining control and monitoring the completion of tasks and projects. This practice, however, is not a sufficient basis for long-term evaluation and development. To evaluate the results and quality of work, it is recommended to review the tasks fulfillment and projects retrospectively at a frequency of 2 to 4 times a year where the subject of evaluation will not only be the tasks fulfillment and projects but will give more focus to future development of employees in the future.[6]

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[4] Smith S. & Ruiz J., "Challenges and barriers in virtual teams: a literature review", 2020

[5] Available at: http://vivendumsolutions.com.mk/efektivnost-na-menadzer-pri-upravuvanje-virtuelni-timovi-2/, accessed 10.01.2021

[6] Available at: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.624637/full, ac-

1. LITERATURE REVIEW

According to the author of the paper, the purpose of this paper is to understand the work in virtual teams for proper management of processes and the work of companies better. The Covid-19 pandemic is expected to fundamentally change the way organizations operate over the next few years. As governments and companies globally urge people with symptoms to isolate themselves and everyone else to practice physical distance, working from home is becoming our new reality. Although it is desirable to establish clear policies and rules for mobile work and / or work from home as well as staff training, in times of crisis or other rapidly changing conditions, this level of preparation is impossible. There are specific research-based guidelines and steps that managers can take that can easily improve the engagement and productivity of mobile or employees working from home, even when there is not much time to prepare.

According to Lee Heng Wei, Ramayah Thurasamy and Simona Popa, organizations are increasingly accepting virtual teamwork as the primary way of structuring work responsibilities, and the growth in the use of virtual teamwork has surpassed the researches of the virtual teams. As more and more companies become global nowadays, research into the effective management of virtual teams is crucial to the successful implementation of open innovative practices, while online companies could be the most appropriate environment for examining the basic principles of virtual teams. The explosive growth in the use of virtual teams by organizations and the inherent challenges faced by virtual teams emphasize the need for theory and research to inform organizations in designing, structuring and managing virtual teams. [7]

According to Christina Breuer, Joachim Huffmeier, Frederike Hibben and Guido Hertel, in today's companies, trust is often seen as a key success factor in ensuring effective teamwork. In addition, the meta-analyzes made by the authors showed that team trust is more important in virtual teams compared to teams that work face-to-face or physically, which reflects additional uncertainties and risks in terms of electronic communication. In a virtual team situation, people can observe and experience behaviors that are socially more complex and multifaceted than behaviors in one-on-one discussions that are not possible in dyadic situations such as sharing information with more col-

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[7] Heng L., Thurasamy R. & Popa S., "Managing virtual teams for open innovation in Global Business Services industry", Emerald Insight, 2018, page 6

leagues, dealing with team conflicts, or even formation of subgroups or social exclusion. Thus, an individual's assessment of team trust probably takes on more socially complex information than a trust assessment in a dyadic relationship. Therefore, the appearance of taxonomy of trust in teams can help to understand team situations and team behavior. Applying such an approach can contribute to a better understanding of the appearance of trust in teams.

Second, the authors consider team virtuality as a moderate condition in the relationship between trust among team members and its consequences of behavior contribute to achieving positive results. By systematically comparing perceived confidence factors and risk-taking behaviors in virtual and face-to-face teams, it contributes to whether virtual and face-to-face teams need different interventions to build trust. Therefore, team trust is a common willingness of team members to be sensitive to the actions of other team members based on the shared expectation that other team members will perform certain activities that are important to the team, regardless of their ability to monitor or control the situation of other team members. Thus, it is expected that the emergence of trust in the context of teams is more complex than the emergence of trust in dyads because individual team members experience the behaviors and interactions of multiple fellow members. For example, they observe their fellow team members sharing information or gossiping with each other, discussing team conflicts or undergoing subgroups, which may lead to coalition building or even social exclusion - all of these processes cannot to appear in dyads. Thus, for assessing the confidentiality of teams, an individual member may use more complex information than for assessing the confidentiality of a trustee in a dyadic relationship.

According to the authors, the research on virtual teamwork was conducted in the Republic of Germany on 55 German professionals (educated and trained employees) in virtual teamwork. 64% of the survey were women, and 36% were men, and the age ranged from 20 to 67 years, the average term of the team was 4 to 5 years, and the existence of the company was from 9 to 11 years. It turned out that all participants completed their school education and had higher education or completed appropriate vocational training and at work used all communication skills for online collaboration. Regarding the pandemic that the whole world is facing as well as the geographical distance, 90% of the respondents apply the principle of virtual teamwork.[8]

[8] Breurer C., Huffmeier J., Hibben F. & Hertel G., "Trust in virtual teams", Sage Journal, 2019, page 8-9

According to Janine Hacker, Michael Johnson, Carol Saunders & Amanda Thayer, the virtual team is a group of individuals who communicate adaptively, interdependently and dynamically towards a common and valued goal. In the past, virtual teams were characterized only by the use of information and communication technology, and the geographical distance was characteristic. But today, according to the authors, virtual teams are gaining a multidimensional character and a wider range of features, virtual teams whose members use technology to varying degrees when working through location, time and relational boundaries to achieve interdependent tasks use different technology. Virtuality is a concept that determines whether a team is more or less virtual. Virtuality as a multi-layered higher-order construction that encompasses the independent identification dimensions of a team indicates a degree of dispersion or discontinuity. Different researchers have particular views on which dispersions and discontinuities make up the identification dimensions. For example, discontinuities can be barriers for virtual teams such as geographical segregation, cultural differences, time zone differences, and organizational membership that contribute to many problems in the functioning of virtual teams. Therefore, most virtual team researchers agree that dimensions are combined in some way to create a composite construction that indicates the degree of virtuality in the team and reflects how technology helps or interfere its operation. Many technologies support virtual team communication and knowledge sharing (eg email, video conferencing, meetings, seminars, training, etc.). These technologies differ in the degree of synchronicity and the ability to transmit signals.[9]

According to Sarah Morisson-Smith & Jaime Ruiz, virtual teams are influenced by physical factors such as geographical distance, time and perceived distance etc. These factors are closely related to social and emotional factors, including trust, motivation, and conflict. Each category correlates with a set of challenges that greatly affect virtual teams. Distance can be categorized primarily as geographical, temporal, or perceived. Each category correlates with a set of challenges that greatly affect virtual teams. Geographical distance is a measure of the amount of travel and time required for an employee to visit his or her co-worker. According to the authors, there are appropriate constraints that hinder virtual teamwork such as awareness among members, motivation, and building trust, level of technical competence of team members,

[9] Hacker J., Johnson M., Saunders C. & Thauer A., "Trust in virtual teams: A multidisciplinary review and integration", Australasian Journar of Information Systems, 2019, page 4-7

nature of work, competitive / cooperative culture, and alignment of common goals. Something that is especially important and should be emphasized is the motivation. The motivational feeling present in team members has well-established effects of "social relief", especially on the observation that people tend to work harder when they are not alone. However, these effects are increasingly difficult to find and nurture in remote management, which poses an additional challenge for collaboration. Time distance is clearly different from geographical distance and should be treated as a separate dimension. While geographical distance measures the amount of work required for one associate to visit another, time distance is considered to be a targeted measurement of the time shift experienced by two associates who want to communicate with each other. Time distance can be caused by both time shifts in work patterns and differences in time zones. However, communication can be disrupted due to time distance and in other ways such as postponing meetings, agreements between certain team members; members not heard and dispersed collaborations and so on. Delays in associates' responses can be particularly frustrating and problematic and can extend the time it takes to resolve issues, sometimes dragging problems through for days. The work can be categorized as free or strongly connected. Closely related work relies heavily on the skills of member groups with highly interdependent components; this type of work requires frequent meetings, rich communication that is not routine. In contrast, the free type of work is a typical or routine activity or less dependent on closely related work. The interdependence between the components lies at the "heart" of the cooperation between the members. Leadership empowerment combines power sharing with individual team members, while providing a facilitating and supportive environment.[10]

According to Akanksha Santosh Rane, with the expansion of Covid-19 and established social distance regulations, most organizations have shifted their workplaces to a virtual environment. Virtual teams are teams in which most members are located in different geographical locations and locations and are highly dependent on the use of communication technology between members. However, this pandemic and the need for organizations to create work environments that are physically safe for their workforce has increased the demand for virtual workspaces that have forced employees to work from home.

[10] Smith-Morisson S. & Ruiz J., "Challenges and barriers in virtual teams", Springer Nature Switzerland AG 2020, 2020, page 4-8

The classification of coordination mechanisms described by Sabherwal is a synthesis of existing coordination research in the development of virtual teamwork. Four constructions are set by Sabherwal as key mechanisms for coordinating teamwork in development teams, and they are:[11]

- Coordination by standards: Coordination by standards refers to those mechanisms used to guide team members into practice such as methodologies, rules, codes of practice, etc.
- Coordination by plans: Plan coordination refers to any documentation that can be used to coordinate and guide team members (schedules, project plans, etc.).
- Coordination with formal mutual adjustment: Coordination with formal mutual adjustment are those mechanisms that require team members to communicate in a predefined way, such as project meetings.
- Coordination with Informal mutual adjustment: Coordination with Informal mutual adjustment involves team members communicating informally through ad-hoc meetings, improvised communications or a shared location.

According to Guido Hertel & Susanne Geister, the heuristic life cycle model is considered, the most appropriate for organizing various topics, issues or problems, relevant to the management of virtual teams as well as work teams. Developmental aspects need to be considered, recognizing that different management tasks are crucial at different stages of team implementation. This model proves that the higher the level of virtuality, the more important the key activities summarized in the life cycle model. The model life cycle distinguishes five general stages with specific management tasks to be solved during virtual teamwork. The first phase contains tasks and decisions that are relevant when the organization plans to implement virtual teams in the work. The second phase describes activities that are relevant to the actual start of teamwork, such as conducting an initial workshop. The third phase involves questions about leadership and maintaining motivation and communication in virtual teams. The fourth phase includes activities for evaluation of team processes together with team training and assimilation of new members. The fifth stage

[11] Kiely G., Butler T. & Finnegan P., "Global virtual teams coordination mechanisms: building theory from research in software development", Behaviour & Information Technology (BIT), 2021.

involves tasks such as properly recognizing team achievements and reintegrating team members that are often overlooked in team management models.[12]

According to Maria Manuela Cruz-Cunha, Fernando Moreira and João Varajão, a recent study concluded that personality traits as well as psychological profile are particularly important for the selection of team members. The skills that team members should possess are: self-discipline, individual responsibility, team participation skills, i.e. to be capable of quick assimilation in the team, communication skills, confidence, appropriate characteristics that include: patience, persistence, tolerance, flexibility and understanding.[13]

2. A NEW MODEL FOR EFFECTIVE MENAGEMENT OF VIRTUAL TEAMS

Nowadays, according to the author of the paper Petreska, the work of virtual teams is growing. At first, virtual teams existed only in large companies, but now they are also used by organizations operating globally. Virtual teams need collaboration and commitment to work. For example, if a Sydney service user calls, they will usually not have to worry about whether the person resolving the issue is sitting in London, Rome, Singapore or any other city in the world until the issue is resolved. A popular reason to use virtual teams is to provide a continuously available service throughout the day, every working day, and sometimes even including the weekend.

In order to avoid night shifts within the work, the business is divided into usually 3 regions around the world. Often, the three teams are physically located in America, Europe, the Middle East and Africa (EMEA), and Asia Pacific (APAC). Each team has an eight-hour shift within local time and then hands it over to the next team when their day starts.[14]

Sometimes projects need to involve a subject matter expert who is not physically located close to the project team. Normally, a specialist can travel to get the job done face to face, but this can be an expensive option if all the necessary costs that come as a result of the actual project work are taken into account. For the specialist, it also brings more value to work as a virtual team member, as he / she is also able to work on other projects in the meantime. In

[12] Hertel G. & Geister S., "Menaging Virtual Teams", Evsevier Inc, 2016, page 73

[13] Cunha M.M., Moreira F., Varajão J., "Managing 'virtuality': An integrated model for the implementation and management of virtual teams", Business Science Reference (an imprint of IGI Global), 2019, page 37

[14] Available at: https://techacute.com/working-with-virtual-teams/, accessed 12.11.2022

order to work together, a shared work platform is very important. In fact, it is about sharing work with documents, updating each other for news, and even enabling predefined workflows.

According to research by various authors, the most commonly used communication tool is e-mail, and other tools used are: Viber, WhatsApp, Skype, Zoom, LinkedIn, FaceTime, MS Teams and Google Meet. Also, a very important feature of virtual teamwork is that the decisions that are made are based on all team members, not individuals. The largest percentage of respondents believe that teamwork is always better than individual and that such way of working brings greater positive results because members are complemented by knowledge and experience.

In my opinion the application of the reward system is of special importance for the employees in the companies. Job satisfaction is the general attitude of employees or managers towards work, and the reward system has a great impact on job satisfaction. In order the rewarding to be effective, the management of a company must know what the employees consider is appropriate for rewarding. In a broader perspective, salary is an important reward, but it is only one of a set of rewards that encompasses everything that employees value and appreciate, such as office location, appropriate equipment, prioritization, or informal recognition. Many organizations, profit or non-profit, operate on the premise of reward, and based on business success that is desirable to individuals, although many of the formal rewards may not be related to business results, such as paid vacations and holidays. insurance plans and others related to employment within the organization. On the other hand, advancement should be related to the results of the work, but the opportunities for higher advancement are rare and can occur according to the system of longer presence in the organization or to be filled from the outside.

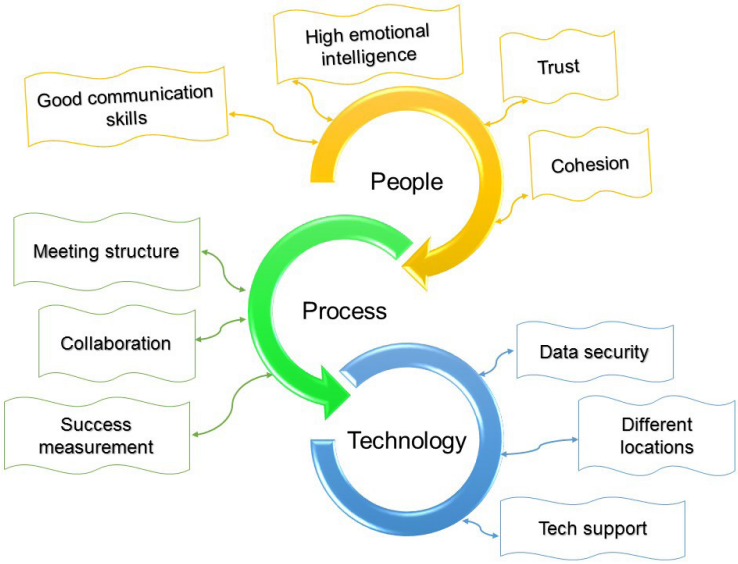
It is clear that many organizations in the United States, the United Kingdom, and the European Union are increasingly turning to paying programs according to the working results, although many studies show that even where these programs exist, they do not have 100% trust from both managers and employees.[15]

Taking into account the different models and approaches that exist in the literature, for the management of virtual teams, the model called "Management of virtual teams", where is developed a new model in which the key

[15] Available at: https://biznisinfo.mk/kreiranje-na-sistem-za-nagraduvanje-na-menadheri-i-vraboteni/, accessed 13.01.2022

elements relate to: people, processes and technology. The model is generic, interactive and easy to use in companies and is shown in Figure 1.

Figure 1. The interactive and simple model for managing virtual teams in companies



Source: Author

From Figure 1, it can be concluded that when people work with each other it is necessary to have a high degree of trust because the data and information at their disposal are strictly confidential. Furthermore, good communication skills reduce the disadvantages that may arise at work such as: it is essential that the virtual team leader has the ability to manage many initiatives while enabling and providing a clear vision of the team, the different physical location of employees and a weak team member can negatively affect the concept of a virtual team. Recruiting the right team members plays a key role in the success of the virtual team. High level of emotional intelligence is especially important for employees in the company, because building real relationships and establishing a positive work culture in the company are vital elements for employee development. Process management in the work of virtual teams provides structure, cooperation and success as well as performance improvement that combine information technologies and methodologies of process and management. Thanks to modern and advanced technology, virtual teams can easily

communicate around the world, without restrictions, including many visitors, which guarantees maximum data security that ensures security in operation.

Conclusion

Due to increasing market competition, decentralization and globalization of work processes and advances in information and communication technologies, organizations require flexibility and agility in their delivery of products and services.

Virtual teams play a key role in meeting these requirements. As organizations continue to compete for talents that rapidly become a scarce resource, the virtual team structure allows organizations to use available talent across borders.

More and more organizations are accepting a virtual team approach to reduce their operating costs, encourage knowledge sharing among their employees to promote organizational learning, and extend their working hours to 24/7 by using the different time zones of the virtual team members.

According to social psychologists, human relationships draw their strength from the physical closeness of individuals. Due to the fact that the members of the virtual team have limited or no face-to-face interactions, this involves a huge number of challenges.

For the success of virtual teams, it is important to overcome cultural differences, communication barriers, power struggles and conflicts in order to build trust, cooperation and commitment between individuals. Although it sounds difficult, it can be achieved through effective leadership. With the right strategies, processes and tools, companies can have a great benefit from this new age trend of virtual teams.

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