

## ASSESSING THE PERFORMANCE OF STATE-OWNED ENTERPRISES IN MONTENEGRO

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### **ABSTRACT**

*The average stock of state-owned enterprises (SOEs) assets in Montenegro accounts for almost 100 percent of the GDP. SOEs in Montenegro are concentrated in natural monopoly sectors such as energy, transportation, water supply, waste management, and tourism. A SOEs employment footprint in Montenegro accounts for almost 10 percent of total employment which is rather high and similar to some other South-East Europe developing economies.*

*The objective of this research is to analyze fiscal risks stemming from the 20 largest out of 45 central-government-owned SOEs and to show whether SOEs' corporate governance weaknesses are at the root of the arising fiscal risks.*

*The methodology used in the research, first includes the OECD corporate governance criteria implementation to measure the stance of corporate governance of 20 analyzed SOEs. The second step of the research methodology is about carrying out a financial ratio analysis to identify fiscal risks stemming from SOEs and confirm whether the fiscal risks are increasing if SOEs' corporate governance is weak. Assessing fiscal risks for the selected group of SOEs is based on the IMF methodology that defines a threshold to assess whether the financial performance of SOEs leads to fiscal risks.*

*Although having a prominent role in the Montenegrin economy, weaknesses in SOEs' corporate governance reflected in inefficiencies in their management impose substantial financial and fiscal costs. Looking a few years backward, the economic performance of SOEs varies across sectors from profitable SOEs in the energy sector to loss-making enterprises in transportation.*

**KEYWORDS:** *corporate governance, a state-owned enterprise, oversight, fiscal risks*

**JEL classification:** JEL code E62; JEL code H6; JEL code H8

### **1. INTRODUCTION**

State-owned enterprises (SOEs) play an important role in the economic development of Montenegro and account for a large part of the economy. Goals set for state-owned companies in Montenegro are different from those for commercial companies, which is like in many other countries. Whereas commercial companies are mainly focused on generating profit for their shareholders, state-owned entities fulfill, apart from economic goals, other specific social objectives, such as providing jobs, serving the public interest, or providing necessary goods (Razak et al., 2008). According to official data, there are around 150 SOEs in Montenegro out of which are 45 fully or majority-owned by the central government and the rest are municipal

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SOEs. The average government and municipal-owned SOE assets for the period 2018-2021 accounted for around 90-100 percent of GDP, with a significant employment footprint<sup>1</sup>. This is similar to some other countries in the region like Croatia, Bosnia and Herzegovina, and Serbia.

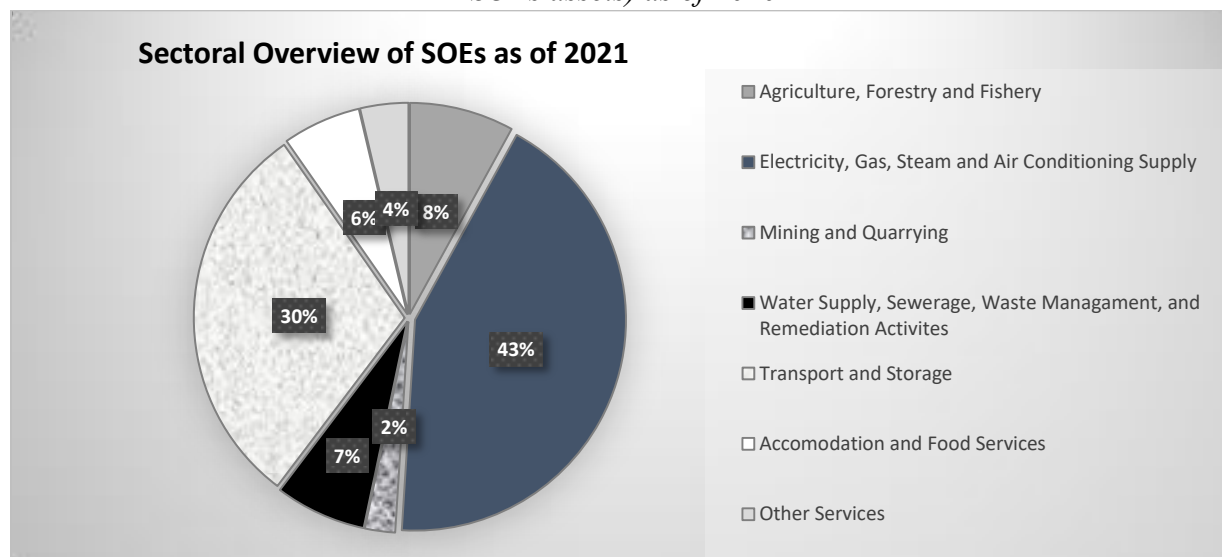
This paper is focused on the largest 20 out of 45 central-government-owned SOEs, whose assets accounted for 78 to 93 percent of GDP over the period 2018-2021. The paper does not include data on municipal SOEs, bearing in mind some research limitations.

The objective of this research is to analyze fiscal risks stemming from the 20 largest SOEs and to show whether SOEs' corporate governance weaknesses are at the root of the arising fiscal risks.

The methodology used in the research first includes the overview of the OECD SOE corporate governance criteria implementation in Montenegro to measure the stance of corporate governance of 20 selected SOEs. The second step of the research methodology is about carrying out a financial ratio analysis to identify fiscal risks stemming from SOEs on the level of each individual SOE as well as on the portfolio level of 20 SOEs. This is based on the IMF methodology that defines a threshold to assess whether the financial performance of SOEs leads to fiscal risks. The third step is to analyze whether the increase in fiscal risks arising from 20 SOEs is associated with SOE corporate governance weaknesses.

SOEs in Montenegro are concentrated in natural monopoly sectors such as Electricity, gas, steam, and air conditioning supply (43 percent of total central- government-owned SOEs assets), Transportation and storage (30 percent of total central-government-owned SOEs assets), Water supply; sewerage, waste management and remediation activities (7 percent of total central-government-owned SOEs); Agriculture, forestry, and fishery (8 percent); Accommodation and food services (around 6 percent of total central-government-owned SOEs).

*Figure 1: Central Government SOEs Structure by SITC (% of total central-government-owned SOEs assets) as of 2020*



*Source: Tax Authority of Montenegro; author's calculations.*

<sup>1</sup> About 10% of total employment in Montenegro. This share is higher than in some EU member countries which are ex-socialist economies (like Latvia, Czech Republic, Lithuania, Croatia, Romania), but lower compared to Russia, Ukraine, and particularly Belarus where the SOE employment accounts for almost 1/3 of total employment.

The main findings of this research are that fiscal risks stemming from SOEs are increasing and that SOE corporate governance weaknesses are one of the causes of that.

## 2. LITERATURE OVERVIEW

According to the IMF, fiscal risks are often compounded by institutional, governance, and financial weaknesses. The IMF finds that institutional and governance weaknesses causing fiscal risks are: (i) “SOEs used as a mechanism for circumventing traditional fiscal controls; (ii) Unclear or uncompensated public policy mandates can weaken performance; (iii) Poor internal governance can reduce returns and exacerbate risks; (iv) Financial reporting systems often fall short of best practice and undermine accountability.”

Furthermore, IMF points out that “SOE-level risks are more likely to have a fiscal impact in SOEs that are: (i) *thinly capitalized*: equity serves as a cushion that enables companies to absorb shocks; (ii) *loss-making*: recurring losses erode the company’s equity. Loss-making companies are not cash generative making them reliant on being able to raise debt; (iii) *low levels of liquidity*: companies may be unable to meet their obligations as they fall due” (IMF, 2021).

Some findings about SOE economic performance and oversight in Montenegro have been published in February 2022 by the IMF in Article 4 Staff Report. The IMF points out that public information on Montenegro’s SOEs is limited and that their economic performance varies widely. Also points out that there is limited central oversight and review of the investment plans of SOEs and the financial performance of SOEs. The IMF finds the need to **manage fiscal risks from the sector, strengthen oversight, and improve governance arrangements for overseeing SOEs** in Montenegro.

Therefore, the purpose of this paper is to analyze whether SOE corporate governance arrangements, if weak, lead to an increasing trajectory of fiscal risks. Fiscal risks stemming from SOEs are defined as deviations of fiscal outcomes from those expected in the budget. According to the IMF methodology known as the “SOE Health Check Tool”, fiscal risks stemming from SOEs are assessed based on financial indicators of liquidity, profitability, solvency, and relations with the government.

## 3. METHODOLOGY OF RESEARCH

The purpose of the research is to assess possible fiscal risks arising from the largest central government-owned SOEs and to show whether increasing fiscal risks arising from SOEs' are associated with the SOEs weak corporate governance arrangements.

The first step of the research methodology was to check whether the corporate governance mechanisms in the analyzed 20 SOEs are good and aligned with the OECD Guidelines on Corporate Governance of State-Owned Enterprises (OECD, 2015). Therefore, the OECD Guidelines were used as a benchmark to explain gaps in corporate governance of the 20 largest SOEs in Montenegro according to seven principles of effective corporate governance: (i) rationale for state ownership; (ii) the state’s role as an owner; (iii) state-owned enterprises in the marketplace; (iv) equitable treatment of shareholders and investors; (v) stakeholders’ relations and responsible business; (vi) disclosure and transparency (vii) the responsibilities of the board of state-owned enterprises. Each SOE out of 20 selected was analyzed according to seven OECD criteria to assess the stance of corporate governance.

The second step in this research was the assessment of fiscal risks stemming from the 20 largest SOEs based on computing financial indicators on profitability, liquidity, solvency, and government transfers for each SOE in order to assign fiscal risks of SOE. Fiscal risks stemming from SOEs are basically all deviations of fiscal outcomes from what was expected or forecasted by using selected buckets of SOEs' financial ratios.

The theoretical background, to assess the financial risks of SOEs and assign fiscal risks stemming from SOEs is based on the financial ratios following Hida (IMF, 2021), from the IMF's "SOE Health Check Tool" as given in the table below. The table shows the threshold for the classification of financial risk ratios in five categories: from very low to very high risk, based on computed financial ratios.

*Table 1. Threshold for classification of risk ratios*

	<b>Very Low Risk</b>	<b>Low Risk</b>	<b>Moderate Risk</b>	<b>High Risk</b>	<b>Very High Risk</b>
<b>Profitability</b>					
Return on Assets	greater than	0.04	0.01	0	-0.05
Return on Equity	greater than	0.05	0.02	0	-0.1
Cost Recovery	greater than	1.5	1.25	1	0.75
<b>Liquidity</b>					
Current Ratio	greater than	2	1.5	1.25	1
Quick Ratio	greater than	1.2	1	0.8	0.7
Debtor Turnover Days	less than	30	40	50	75
Creditor Turnover Days	less than	30	60	90	120
<b>Solvency</b>					
Debt to Assets	less than	0.25	0.5	0.75	1
Debt to Equity	less than	0.5	1	1.5	2
Debt to EBITDA	less than	1.5	2	3	5
Interest Coverage	greater than	2	1.5	1.2	1
Cash Interest Coverage	greater than	3	2	1.5	1
Debt Coverage	greater than	0.8	0.6	0.4	0.25
<b>Government Relations</b>					
Government Transfers to Total Revenue	less than	0.3	0.4	0.5	0.6
Taxes payable to current liabilities	less than	0.2	0.3	0.4	0.5
Z score		$Z > 2.6$	$2.6 > Z > 1.1$	$Z < 1.1$	

*Source: IMF, FAD*

The following financial ratios from table 1 were used in the assessment of the financial position of individual SOEs as well as of the whole SOE portfolio in Montenegro:

- **Profitability** – *Return on Equity*. Measures the ability of the company to generate profit that covers the opportunity cost of capital.
- **Leverage** – *Debt to Assets Ratio and Debt to Equity Ratio*. The debt-to-assets ratio measures the proportion of a company’s financing that comes from liabilities. *Debt to Equity Ratio* measures a company's financial leverage or the proportion of a company’s financing that comes from liabilities relative to equity.
- **Liquidity** – *Current Ratio*, which measures a firm’s ability to meet its current or short-term liabilities from short-term assets.

Selected financial indicators are used to assign fiscal risks arising from SOEs based on the threshold given in the table 2.

*Table 2: Threshold for benchmarking financial performance to fiscal risks*

	Low	Moderate	High	Very High
<b>Selected Profitability Indicators</b>				
Return on Equity	more than 10%	0% to 10%	0% to -10%	less than -10%
<b>Selected Liquidity Indicators</b>				
Current Ratio	more than 2	1.5 to 2	1 to 1.5	less than 1
<b>Selected Solvency Indicators</b>				
Debt to Assets	less than 1	1-1.25	1.25-2	more than 2

*Source: IMF, FAD Fiscal Risk Program and SOE Health Check Tool*

Each financial indicator was computed on the single SOE level, as well as on the level of the aggregated portfolio of 20 SOEs for each year over the period 2018-2021, and based on them, the the fiscal risk was assigned, based on the threshold, in four categories - from a very low to very high.

The next step was to analyze whether the fiscal risks arising from 20 SOEs are associated with SOE corporate governance.

## 4. RESULTS AND DISCUSSIONS

### 4.1 Corporate governance in the 20 largest SOEs in Montenegro

Results of this research were obtained by benchmarking the corporate governance practice in the 20 largest central government-owned SOEs, with OECD SOEs corporate governance guidelines. The 20 largest central government-owned SOEs in Montenegro are presented in the table below:

Table 3: 20 largest SOEs in terms of their assets as of 2021

<b>20 SOEs with the largest assets</b>	<b>Assets as of 2021 (EUR)</b>
Elektroprivreda Crne Gore A.D. Nikšić	1,224,448,755
Željeznička infrastruktura Crne Gore A.D.	598,434,792
"13. Jul - Plantaže" A.D. Podgorica	465,404,373
Crnogorski elektrodistributivni sistem d.o.o.	414,154,476
Crnogorski elektroprenosni sistem A.D.	301,208,110
Aerodromi Crne Gore A.D.	159,498,566
Institut za fizikalnu medicinu, rehabilitaciju i reumatologiju "Dr Simo Milošević" A.D.	122,615,360
Hotelska grupa "Budvanska Rivijera" A.D. Budva	139,968,378
Rudnik uglja Pljevlja A.D.	105,242,561
Hotelsko turističko preduzeće "Ulcinjaska Rivijera" A.D. Ulcinj	114,647,213
Regionalni Vodovod "Crnogorsko Primorje" d.o.o.	96,444,023
Luka Bar A.D.	68,324,143
Sveti Stefan Hoteli A.D.	61,864,573
Monte Put d.o.o.	51,055,668
Pošta Crne Gore A.D.	43,583,151
JP Radio-televizija Crne Gore	42,952,465
Crnogorska plovidba A.D. Kotor	38,528,836
Montenegro Bonus d.o.o.	38,367,924
Barska plovidba A.D. Bar	37,484,977
Željeznički prevoz A.D. Podgorica	33,394,172

*Source: Financial Statements of SOEs'*

According to the first two OECD criteria: "(i) *Rationale for State Ownership*" and (ii) "*State's role as an owner*" this research shows that there is no clear identification of the ownership function in Montenegro, centralized in a single entity, which is independent or under the authority of one minister. The ownership function for SOEs is very fragmented across more ministries, with no centralized single entity which makes the coordination and oversight function more challenging and costly. Therefore, the first two OECD criteria of corporate governance are not met in Montenegro.

Analysis of the implementation of the third criterion “*State-owned enterprises in the marketplace*” shows that there is no clear separation between the state’s own function and other state functions that may influence the market conditions for 20 analyzed SOEs. While all 20 analyzed enterprises have mostly non-discriminatory and safeguarded public procurement procedures in accordance with the Public Procurement Law, the economic activities of at least 15 out of 20 analyzed SOEs have access to debt and equity finance under conditions that are not based on purely commercial grounds. At least 12 out of 20 analyzed SOEs benefit from the indirect financial support that confers an advantage over private competitors, such as preferential financing, tax arrears, etc. from the Government. Some SOEs like Elektroprivreda Crne Gore AD, Željeznička infrastruktura AD, Željeznički prevoz AD, Barska Plovidba AD, Crnogorska Plovidba AD, JP Radio-televizija Crne Gore, etc., benefit from state aid and other transfers from the government which creates an uneven business environment for all market players. Therefore, the third corporate governance criterion is not met. With regards to the fourth corporate governance criterion “*Equitable treatment of shareholders and investors*”, 15 out of 20 analyzed SOEs are joint-stock companies. Most of them are listed companies and all shareholders must be treated equitably pursuant to the Company Law that is fully harmonized with the EU acquis. However, the degree of transparency is not high, including a challenge of equal and simultaneous disclosure of information to all shareholders. About 19 out of 20 analyzed companies have a website, but they do not regularly publish their financial statements and annual reports. Therefore, this criterion is partially met.

As far as the fifth criterion “*Stakeholder relations and responsible business*” is concerned, it is partially met in the observed 20 SOEs. Almost all analyzed SOEs do not fully recognize responsibilities towards stakeholders and do not always report on their relations with stakeholders. There is limited implementation, monitoring, and communication of internal controls, ethics, and compliance programmes or measures, including those which contribute to preventing fraud and corruption. All 20 SOEs are under the strong pressure of political parties as their board and management are members of political parties appointed on that criterion. Political economy in this regard is particularly reflected in the increasing number of employees in the light of elections.

The OECD's sixth criterion “*Disclosure and Transparency*” is partially met. With regard to disclosure and transparency, as one of OECD principles, SOEs should report material financial and non-financial information on the enterprise in line with high-quality internationally recognized standards of corporate disclosure. In Montenegro, SOEs submit their annual financial statements with external audit reports, pursuant to the Law on Accounting and Audit to the Tax Authority. In addition, the joint-stock companies are obliged to submit both financial statements and audit reports to the Securities Commission of Montenegro (SEC). Specific state control procedures by the State Audit Institution are also performed. On the other hand, all 20 analyzed SOEs fall short in the following internationally recognized standards of corporate disclosure: (a) Board member qualifications, selection process, including board diversity policies, roles on other company boards, and whether they are considered as independent by the SOE board; (b) any material foreseeable risk factors and measures taken to manage such risks. Most of the analyzed SOEs receiving any financial assistance, like subsidies and guarantees from the state usually do not disclose that. As far as the seventh criterion “*The responsibilities of the boards of state-*

*owned enterprises*” is concerned, it is not met in at least 18 out of 20 analyzed SOEs. Although the role of SOE boards is clearly defined in the Company Law, they are not always fully accountable to the owners due to the strong impact of the political economy, and lack of integrity and competencies. In at least 10, out of 20 analyzed SOEs, boards do not effectively carry out their functions of setting strategy and supervising management, although they should have the power to appoint and remove the CEO. In all 20 analyzed SOEs, all board members are not nominated based on qualifications. Political interference in the board’s operations is very high and undermines the board’s independence as a board member is proposed by political parties in all 20 companies to be appointed by the government without any criteria on their competencies. There are no fully implemented mechanisms to avoid conflicts of interest preventing board members from objectively carrying out their board duties and limiting political interference in board processes.

According to all seven above-mentioned OECD criteria on *corporate rules*, SOEs corporate governance criteria in Montenegro are partially met showing severe weaknesses in some aspects of corporate mechanisms. SOEs with the largest challenges in terms of implementation of the OECD corporate governance criteria Barska plovdba A.D. Bar, Crnogorska Plovdba AD, Željeznička infrastruktura AD, Rudnik Uglja AD, Institut "Dr Simo Milošević" A.D. Crnogorski elektrodistributivni sistem d.o.o.

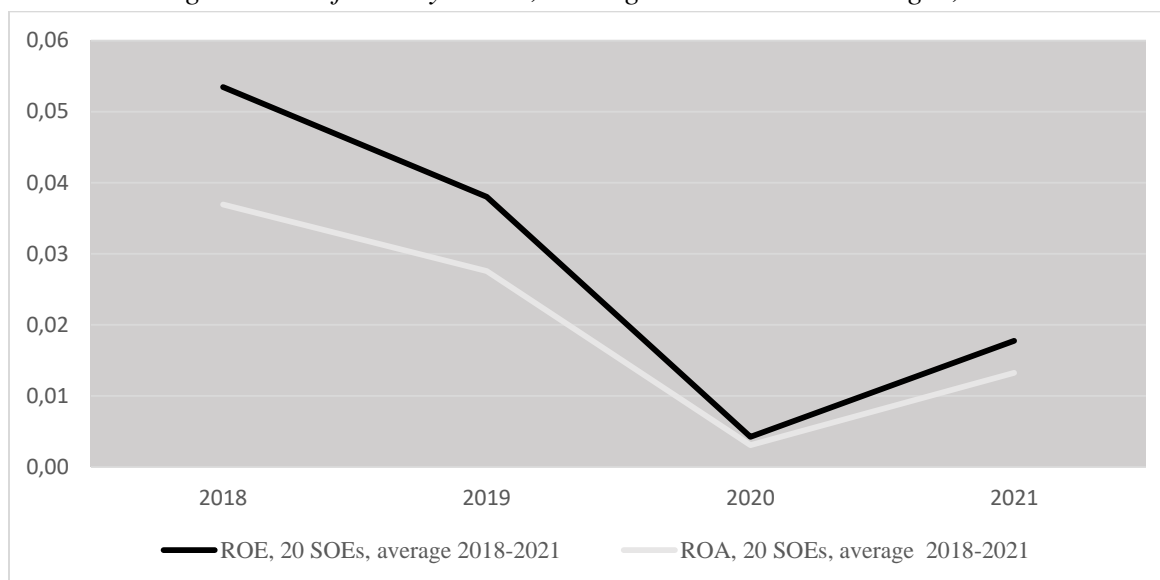
#### **4.2 SOE financial performance on the level of 20 largest central government-owned SOEs**

Weakness in corporate governance of 20 analyzed SOEs (shown in table 3) can impose substantial economic and fiscal costs revealed in loss-making, low levels of liquidity, and consequently growing indebtedness. Therefore, financial indicators of the SOEs have been calculated for the period 2018-2021 to assess the financial performance of those central government-owned SOEs in Montenegro and to assess the fiscal risks arising from their portfolio.

**The profitability risks** of the 20 analyzed SOEs, measured by ROE and ROA have an increasing trajectory, looking at the level of the 20 largest SOEs. Even though it improved in 2021 compared to 2020, profitability is still below its pre-Covid 19 level (see figure 1). This is the consequence of loss-making in large companies, like "13. Jul - Plantaže" A.D. Podgorica, Barska plovdba AD, Crnogorska Plovdba AD, Institut "Dr Simo Milosevic" A.D., Crnogorski elektrodistributivni sistem d.o.o.



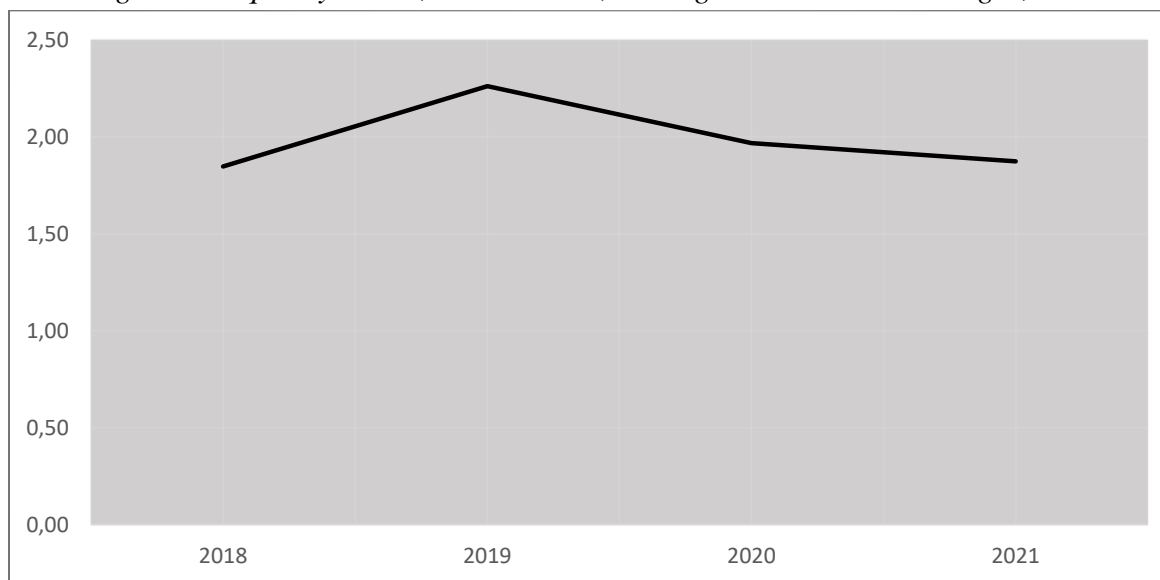
*Figure 1: Profitability trends, 20 largest SOEs in Montenegro, 2018-2021*



*Source: Tax Authority of Montenegro; Author's calculations of ROE and ROA on the level of 20 SOEs portfolio*

**Liquidity risks are growing** as liquidity has been decreasing (see figure 2). The current ratio has been decreasing since 2019 or in the post-pandemic period. The SOE sector continues to face liquidity challenges despite the significant number of transfers in the observed period, with increased risks of outstanding obligations that adversely affect the state budget.

*Figure 2: Liquidity trends, current ratio, 20 largest SOEs in Montenegro, 2018-2021*

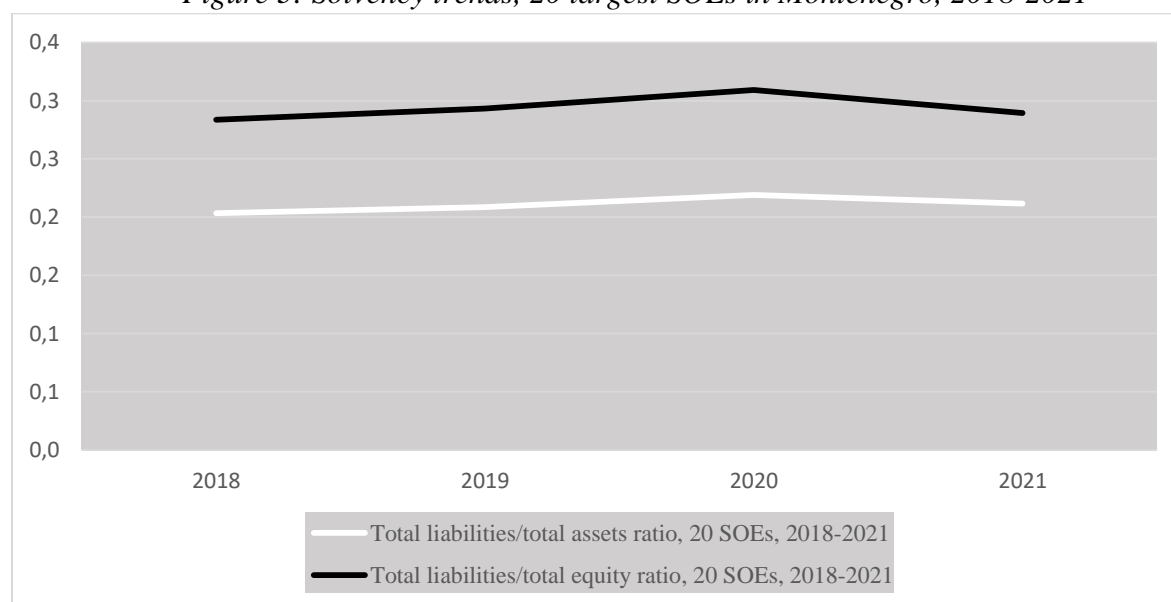


*Source: Tax Authority of Montenegro; Author's calculations on the level of 20 SOEs portfolio*

Total liabilities at the level of 20 SOEs increased in the observed period, especially in 2020, due to the Covid-19 pandemic. In 2021, they are higher by about 14 percent compared to 2019,

which preceded the pandemic caused by Covid-19. Liabilities increased from 18 percent of GDP in 2019 to around 22% of GDP in 2020 (due to a drop in GDP in that year as the pandemic outbreak consequence). Looking at the whole portfolio of 20 SOEs, their solvency was improved in 2021 compared to 2020. However, **solvency risks increased** compared to the pre-pandemic period (see figure 3). Solvency has been measured by two ratios: total liabilities over total assets and total liabilities over total equity.

*Figure 3: Solvency trends, 20 largest SOEs in Montenegro, 2018-2021*



*Source: Tax Authority; author's calculations on the level of 20 SOEs portfolio*

The main finding of this analysis of financial indicators for the above-mentioned 20 largest SOEs, over the period 2018-2020, is that the **overall fiscal risks of the SOE sector moved from low before the Covid-19 pandemic to moderate in 2021**. This is partially associated with identified SOE corporate governance weaknesses.

Looking by sector, the analysis of the 20 largest SOEs showed that the sector "Electricity, gas and steam" as the largest sector, records the lowest fiscal risks. The good financial performance of Elektroprivreda Crne Gore A.D. in 2021, contributed to low fiscal risks, both before the pandemic and after, because Elektroprivreda has the largest share in the assets of the SOE sector. On the other hand, the worse performance indicators of CEDIS d.o.o., especially in 2021, had an unfavorable contribution to the overall results of this sector. In general, the favorable indicators and low fiscal risks in the "Electricity, gas, and steam" sector have been significantly contributed by multi-year reforms due to the EU accession negotiations and membership in the Energy Community. This led to improvement of corporate governance, but it still faces weakness, especially in a few companies like Rudnik uglja Pljevlja AD (the Coal Mine Pljevlja JC), Crnogorski elektroistributivni sistem d.o.o. (Energy Distribution System of Montenegro d.o.o), whose financial indicators deteriorated at the same time.

Very high fiscal risks are stemming from the SOEs which operate in "Transport and storage" the second largest sector in Montenegro in which SOEs operate. At the same time, corporate governance in the sector faces many weaknesses, revealed by the strong interference of the state

on their competitive position in the marketplace, disclosure and transparency procedures, board member qualifications, selection process, including board diversity policies, and political economy in their operations. Fiscal risks are reflected in very high risks of profitability, leverage, and liquidity, in addition to the fact that the largest part of the government's transfers is aimed at this sector. The situation in the transport sector, in terms of fiscal risks, due to the specificity of the industry, is similar to certain surrounding countries. One of the analyzed 8 SOEs, liquidity indicators in 2021 have improved in "AD Aerodromi Crne Gore" compared to the crisis year 2020, bearing in mind the re-establishment of traffic lines after the lockdown in 2020. On the other hand, SOE "Barska Plovidba AD", "Crnogorska plovidba AD Kotor", "Zeljeznička infrastruktura AD" and "Zeljeznički prevoz AD" faced high liquidity, profitability, and solvency risks in 2021, as in previous years. "Pošta Crne Gore AD" recorded slightly less favorable solvency indicators in 2021 due to an increase in total liabilities, while liquidity and profitability indicators remained at approximately the same level as before the pandemic. The indicators for "Luka Bar AD" were approximately at the pre-pandemic level. Slightly less favorable indicators of solvency and profitability in 2021 were recorded in Monteput d.o.o. compared to the previous two years.

The third largest sector in which SOEs operate in Montenegro is "Agriculture, Forestry, and Fishery". This sector faces increasing profitability risks.

In the sector "Accommodation and food services", liquidity has improved in the post-pandemic period, but profitability is still a challenge. Even before the pandemic, the sector had very low profitability, but since the beginning of the pandemic, it has been operating with a negative result.

## **5. CONCLUSION**

Corporate governance practices in the 20 largest central government-owned SOEs in Montenegro are not aligned with international best practices and OECD Guidelines on Corporate Governance of State-Owned Enterprises (OECD, 2015). Lack of accountability and implementation of best international practices, especially regarding the ownership policy, completion and state aid rules, transparency, and disclosure procedure, and the selection and responsibilities of the boards of directors are the biggest challenges for SOEs in Montenegro at the root of arising fiscal risks. Weak corporate governance mechanisms, especially in a few large sectors like "Transportation and Storage", and partially "Electricity, gas, and steam" is accompanied by increasing fiscal risks.

Results of this research show that fiscal risks stemming from central government-owned SOEs increased from low in 2018 to moderate in 2021, so the overall fiscal risk trajectory is increasing. It is very likely that increasing fiscal risks arising from 20 SOEs, is associated with identified SOE corporate governance weaknesses.

In order to enhance SOEs corporate governance and reduce fiscal risks, Montenegro should modify its legal framework to implement the OECD governance practices and strengthen the coordination and SOE oversight function. SOEs in Montenegro, should align their corporate governance with international best practices which will include transparency in the disclosure process; developing criteria for the appointment of a board of directors in line with OECD guidelines. The SOEs oversight function should be strengthened, through the stronger role of the

Ministry of Finance in overseeing the SOEs' performance. The fiscal risk function to reduce fiscal risks stemming from SOEs should be strengthened.

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## **SOCIAL PROTECTION EXPENDITURES IN CENTRAL AND EASTERN EUROPEAN COUNTRIES: DOES GOVERNMENT DEBT MATTER?**

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### **ABSTRACT**

*The paper examines the potential effect of government debt on the social protection expenditure level in Central and Eastern European countries. More specifically, we examined whether governments reduce social protection spending when the fiscal stance worsens and when debt rises, in order to avoid fiscal unsustainability. This is a topical issue, given the population ageing and the level of indebtedness in some countries. Many studies have explored the economic and fiscal effects of rising social protection expenditures, but a few studies have examined the reaction of this specific expenditure category to rising debt levels. In addition, we examine the response of social protection expenditures to the changes in the level of economic activity, unemployment, inequality and population ageing. We found a small, but statistically significant positive effect of government debt to social protection expenditure, in line with the argument of coexistence of rising debt levels and rising social expenditure during recession and confirming their resilience to spending cuts. It could also be argued that these countries are not excessively indebted, and this could potentially contribute to the smaller response to increased debt levels. The results also indicate a negative impact of general government balance, implying that improved fiscal balance leads to lower social spending. The counter-cyclical nature of social protection expenditures is confirmed with the negative impact of GDP growth and the positive impact of unemployment. The negative effect of the Gini coefficient indicates that countries with lower inequality levels dedicate more resources to social protection. We didn't find a strong influence from the dependency ratio.*

**Keywords:** *Social protection expenditure, Government debt, Central and Eastern European countries*

**JEL classification:** *H53, I38, H6*

### **1. INTRODUCTION**

For decades, social expenditures have increased in many industrialized countries. The intent of social spending is reducing and alleviating inequality and poverty, enhancing social cohesion and protecting people against a set of risks or needs, associated with old age, sickness and/or healthcare, childbearing and family, disability, unemployment, etc. The expanding role of the welfare state (particularly in the EU) and the population ageing have

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led to a continuous rise in social expenditures. In many OECD countries, social expenditure assumes the lion's share of general government expenditure. Public social expenditure relative to GDP increased from 14.4% in 1980 to 20.5% in 2016 in OECD countries, although since the rapid jump in 2008-2009 due to the Great Recession, they were reduced within the fiscal retrenchment movement after the debt crisis and with the economic recovery. The European Union countries are well known for their generous welfare systems; hence their social expenditures are higher than in other OECD countries. There is however variation within the EU, with the Nordic countries allocating much more of their budgets for welfare, compared to the Central and Eastern European countries which allocated the lowest percentage for welfare.

Many theories and studies have tried to explain the difference in the relative importance of social protection expenditures in different countries and establish its determinants. In his seminal work, Esping-Andersen (1990) distinguished between three welfare state regimes (liberal, conservative and social-democratic), with liberal being the least and social-democratic the most generous in their spending on providing social benefits. His classification has later been expanded with other regimes, one of which is the post-socialist regime of the countries of Central and Eastern Europe. The theoretical and empirical literature have found many factors that influence the level of social protection expenditures (political, economic, social, institutional), such as political parties, trade unions, population ageing, modernization, economic development, unemployment, globalization, income inequality, public debt, government deficit etc. (see more in Haelg et al., 2020). Haelg et al. (2020) point that increases in social expenditure may also be quite mechanical, due to demographic changes or cyclical movement in the economy. With the ageing of the population, when less citizens work and provide contributions to social security systems, and simultaneously, more citizens enjoy social security benefits, social expenditure increases. In recessions, unemployment benefits increase and GDP decreases.

The rise in social spending during the last century brought about a significant increase in the total government expenditures and according to many studies, also contributed to the rising public debt. Governments should be careful not to endanger sustainability (Schuknecht and Zemanek, 2018). Critics of the welfare state regularly argue that population ageing renders existing social welfare programs unsustainable. Hence adjustments will be needed to accommodate the predicted growth of spending on pensions and other old-age related expenditures. However, Buchanan and Tullock (1962) argue that social expenditures tend to have a high political, at least in the short-term, cost and it is hard to cut or even restructure social benefits. This goes in line with some findings on the greater resilience of social expenditure to fiscal retrenchment measures compared to other expenditure items and might explain the reluctance to cutting social expenditure and the so called "social dominance" of social expenditure over other public expenditure such as for public investments, defense or economic affairs (Begg et al., 2015; Schuknecht and Zemanek, 2018).

This paper focuses on social protection expenditures in Central and Eastern European countries. We address the potential effect of government debt on the social protection expenditure level. More specifically, we try to examine whether governments reduce social spending when the fiscal stance worsens and when debt rises, in order to avoid fiscal unsustainability. Many studies have explored the economic and fiscal effects of rising social protection expenditures, but a few studies have examined the reaction of this specific expenditure category to rising debt levels. This is a topical issue, given the population ageing and the level of indebtedness in some countries. In addition, we examine the response of social protection expenditures to the changes in the level of economic activity, unemployment, inequality and population ageing. The rest of the paper is structured as follows. Section 2 provides a brief empirical literature review. Section 3 depicts the dynamic

sand level of social expenditure in the CEE countries. Section 4 explains the methodology and data, and the results are provided and discussed Section 5. Finally, concluding remarks are given in section 6.

## 2. LITERATURE REVIEW

The literature on social protection expenditure mainly examines their efficiency and their effects on economic growth, poverty or inequality reduction, quality of life, public debt etc. However, another strand of literature explores the drivers of social expenditures. The early studies, like Wilensky (1974), emphasized the importance of wealth, economic growth, demographics and the age of the social security system. Later on, other factors have also been found relevant, including political and institutional factors, such as the political ideology, democratization, corruption etc. (see for example Hicks and Swank, 1992; Snyder and Yackovlev, 2000; Baqir, 2002). However, more recent studies find a weaker impact of political factors in time. For example, Kittel and Obinger (2003) conclude that compared to socio-economic variables, political factors play a minor role.<sup>1</sup> and they are found to have a stronger influence on education and health spending than on social protection spending.

Most studies emphasize the dominant influence of socio-economic factors on the level of social expenditure. The main determinants found in more recent research are population ageing, economic growth, GDP, unemployment, deindustrialization (see Obinger and Waschal, 2012; Molina-Morales et al., 2013). Income inequality has also been examined as a determining factor of social spending (see Molina-Morales et al., 2013). The impact of demographic changes, particularly population ageing has also been vastly investigated. However, while some studies have found ageing as a significant factor, Haelg et al. (2020) note that the empirical evidence generally shows that ageing as measured for example by the dependency ratio hardly influenced overall social expenditure, public pension and health expenditures. Schuknecht and Zemanek (2018) investigate what caused the rise in social expenditure over the last few decades in OECD countries and find that the business cycle (automatic stabilizing effect of social spending), structural unemployment, and population ageing are statistically significant. Beblavy (2010) examined the drivers of SPE in the European Union countries and found that unemployment and employment rates, old age dependency ratio, and GDP per capita explain more than 50 percent of the variation in social expenditures. Athanasenas et al. (2015) established that the unemployment and the dependency ratio, appear to exhibit a significant positive impact on social protection expenditure growth, while economic growth appears to exhibit a significant negative impact. Tashevskva et al. (2019) concluded that social expenditure in the EU countries in the period 2000-2017 were positively affected by government debt, unemployment rate, Gini coefficient, and negatively by the primary balance and GDP growth, whereas the age dependency ratio was not significant. Szymanska (2022) confirmed the negative effect of GDP growth and GDP per capita and the insignificant effect of the dependency ratio for the EU countries for the same period. Gassmann et al. (2016), examining a range of 55 developed and developing countries, found a positive effect from government revenue, poverty gap, GDP per capita, the quality of institutions and people's preferences on social protection expenditure, and a negative effect from the Gini coefficient<sup>2</sup>, and did not find a significant impact from demographic factors. For 31 OECD countries over

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<sup>1</sup> Some researchers argue that for example left and right wing parties tend to move more toward the middle and respond to social requirements of the voters in a similar manner (Molina-Morales et al., 2013).

<sup>2</sup> They explain this result: "Schwabish et al. (2003) found that while inequality between the middle class and the poor has a small positive impact on the level of social spending, inequality between the rich and the middle class has a large and negative impact on social spending. As the "rich" become more distant from the middle and lower classes, they find it easier to opt out of public programmes and to buy substitutes for social insurance in the private market." (Gassman et al., 2016, p. 16)

the period 1980-2016, Haelg et al. (2020) found a negative effect of budget deficits, trade globalization and fractionalization of the party system, and a positive effect of ageing, unemployment, social globalization, coalition governments and public debt. Murshed et al. (2017) found that social protection expenditure in developing countries in the period 1990-2010 is greater in more egalitarian societies, countries with greater fiscal capacity, higher per capita income and rising democratization enhances social sector spending. Mina (2018) explored 54 developed and developing countries from different regions and found that GDP per capita, national administrative capacity, and the extent of the shadow economy increase the share of social protection expenditures, while labour market flexibility, trade openness, fractionalization, and natural resource abundance decrease it. Ko and Min (2019) found that higher human development index, greater maturity of the democracy and the welfare system contribute to higher social spending, while higher GDP growth and FDI reduce social spending, and population ageing does not have a significant effect.

The relationship between public debt and social expenditures has attracted much attention in the past decades. Some authors have shown that social expenditure is negatively correlated with public debt and budget deficits (Haelg et al., 2020). On the other hand, Schuknecht and Zemanek (2018) find a strong correlation between rising public debt ratios and the rise in social expenditure. Most of this research, however, focuses on the fiscal implications of rising social expenditures and the threat to fiscal sustainability. A few studies, on the other hand, have been concerned with the possible impact of deteriorating fiscal stance and rising debt on social expenditure. In other words, whether countries react to rising debt levels by cutting social expenditure. The increased government indebtedness in many industrialized countries since the 1980s imposed constraints on the expansion and maintenance of social expenditure (Haelg et al., 2020). However, as already noted, social expenditures are considered more resilient to fiscal austerity measures than other types of expenditures (e.g. Baqir, 2002). Some recent studies have found that financing constraints, represented by net lending and public debt ratio influence social expenditure (Lora and Olivera, 2007; Chang et al., 2016; Schuknecht and Zemanek, 2018). Considering a government's policy reaction to excessive debts, Lora and Olivera (2007) using an unbalanced panel of around 50 countries for the period 1985-2003 find that higher debt ratios do reduce social expenditures, as popular opinion holds. However, Chang et al. (2016) argue that higher government debts could be linked with higher social spending as fiscal deficits are typical for a recession, when also a greater demand for social expenditure exists. Some recent studies (Sanz and Velázquez (2007), Haelg et al. (2020) for OECD countries and Tashevskaja et al. (2019) for EU countries) discover that increasing government debts may be linked to an increase in social spending. Schuknecht and Zemanek (2018) also explore the structure of their financing and find that the increase in social expenditure is financed largely through a reduction of other spending, confirming the 'social dominance' theory. The dominance of social protection expenditure over other government expenditure items (on public infrastructure, education and core public service) was also explored by Tashevskaja et al. (2020) for the European Union.

### **3. SOCIAL PROTECTION EXPENDITURES IN CENTRAL AND EASTERN EUROPEAN COUNTRIES**

In 2019, total government expenditure in the EU amounted to 46.6% of GDP. Expenditure on 'social protection', which reflects government's core function to redistribute income and wealth, financed by compulsory payments, was by far the most important COFOG<sup>3</sup> division in 2019 in the EU, reaching an average ratio of 19.3% of GDP and 41.5% of total government

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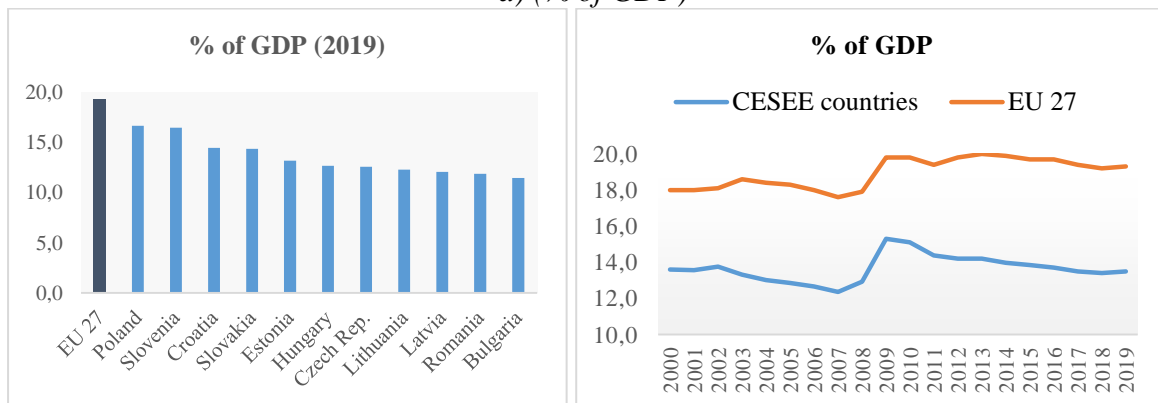
<sup>3</sup> COFOG stands for Classification of expenditures by government function (developed by the Organisation for Economic Co-operation and Development and published by the United Nations Statistical Division).



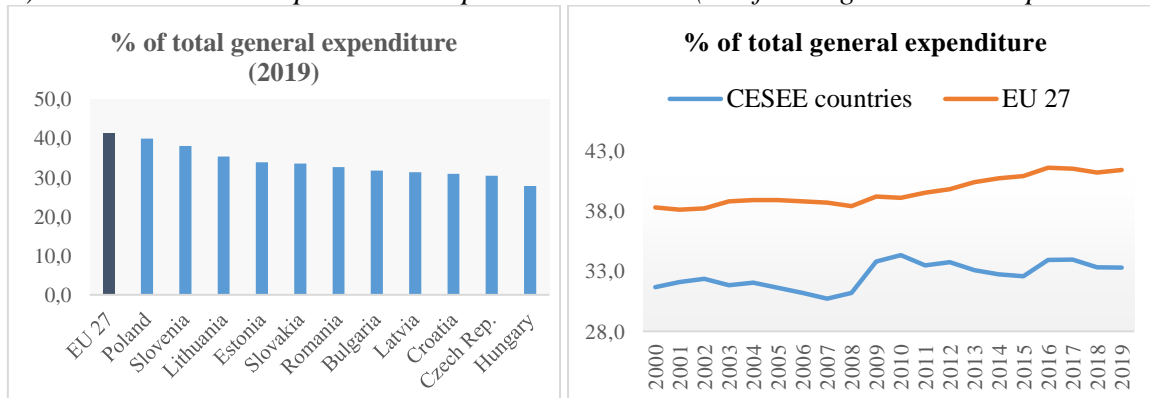
expenditure. The Social protection category includes the following groups of expenditure: Sickness and disability; old age; survivors; family and children; unemployment; housing; R&D; social protection and social exclusion. They also argue that the rise in social protection expenditure by 0.9 p.p. of GDP from 2003 to 2017 was compensated partially by a decrease in all other government expenditure functions except health. Begg et al. (2015) find it striking that the shares of old-age outlays were so stable up to the crisis and how they appear to have been protected (and have indeed increased) since 2008. Healthcare, similarly, has been gently increasing its share, while spending on unemployment benefits jumped after 2007 due to the larger number of unemployed people.

CEE countries have a significantly lower average level of social protection expenditure related to the EU 27 average (13.5% of GDP and 33.3% of total general expenditure in 2019, related to 19.3% and 41.5% respectively). This is not surprising given that these countries generally have a lower level of total public spending as % of GDP compared to the European Union average (40.6% related to 46.6%). Low state budgets in the CEE countries, due to poorer tax collection, reflect negatively on the social protection expenditure and they are lower compared to their EU peers. Figure 1 depicts the dynamics of social protection expenditure incurred by the general government in the CEE countries and its size in 2019. Social protection expenditure in CEE varies from 16.7% of GDP in Poland to only 11.4% of GDP in Bulgaria and 11.8% of GDP. Within their budgets, social protection expenditure accounted for the largest share in Poland (39.9% of total general government expenditure) and the lowest in Hungary (27.7% of total general government expenditure).

Figure 1: Government social protection expenditure in CEE countries  
a) (% of GDP)



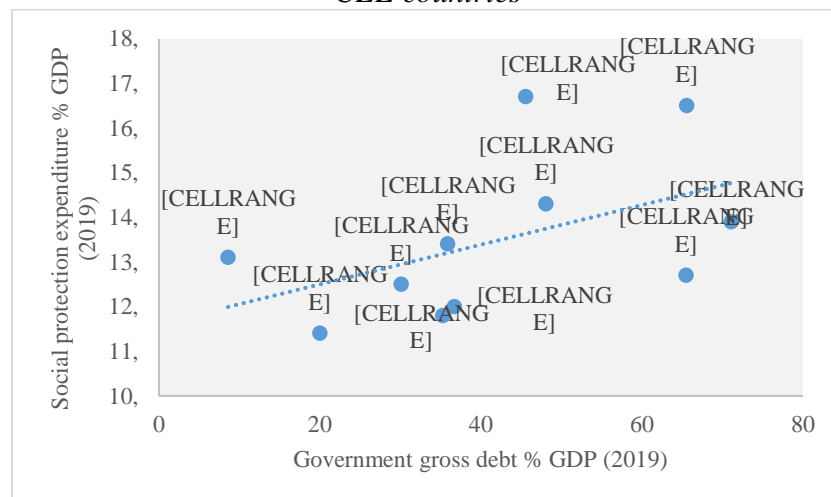
b) Government social protection expenditure in CEE (% of total government expenditure)



(Source: Eurostat database)

Social protection spending, as expected, has significantly increased in the European countries due to financial crisis in 2008. In the pre-crisis period, during times of economic growth, these expenditures were relatively stable, they have even slightly declined on average (the CEE countries, for example, were adjusting their public finance due to the EU integration process). In a period of positive economic outcomes, social protection expenditure drops as there are normally less people in need and when the denominator has a positive trend. However, as the Global Recession abruptly ended these favourable trends, social protection expenditure jumped and reached its maximum level in 2009 of 15.3% of GDP in CEE countries and 19.8% in EU 27. This reflected both the counter-cyclical feature of social protection and the implemented massive expansionary measures. In the post-crisis period, social protection spending started to decline as the economies began to recover and less people needed financial assistance and as part of the austerity measures aimed at improving the fiscal stance. However, the CEE countries have experienced a significantly larger decrease (from 15.3% to 13.5% in 2019) compared to the European average (from 19.8% to 19.3% in 2019), probably due to the more limited fiscal space that less developed countries have for financing social expenditures in conditions of growing post-crisis indebtedness.

*Figure 2: The relationship between government debt and social protection expenditure in CEE countries*



*(Source: Eurostat database)*

Figure 2 plots the relationship between social protection expenditure and government gross debt. It indicates a positive relationship between the two variables, meaning that CEE countries with higher social protection expenditure relative to GDP tend to have higher gross debt and vice versa. The same indication arises if the share of social protection expenditure in total government expenditure is plotted against government debt.

#### 4. METHODOLOGY AND DATA

To examine the effect of government debt and a set of socio-economic determinants on social expenditures, several panel regression models are estimated for eleven countries from Central and Eastern Europe – Bulgaria, Czech Republic, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia. Several Balkan countries were primarily considered (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia) but were omitted due to missing data. Annual data are collected for

the period 2000 – 2019. The socio-economic indicators included in the model are presented in Table 1.

*Table 1. Variables included in the panel regression model*

	Indicator	Source
SPE	General government expenditure on social protection (% of GDP)	Eurostat
AD	Age dependency ratio (% of working-age population)	World Bank
GDP	GDP growth (annual %)	World Bank
GINI	Gini coefficient	The Standardized World Income Inequality Database
GGD	General government gross debt (% of GDP)	IMF
GGNLB	General government net lending/borrowing (% of GDP)	IMF
TAX	Tax revenue (% of GDP)	World Bank
UNEMP	Unemployment (% of total labour force)	World Bank

*(Source: Authors' representation)*

Social protection expenditures are calculated as a percentage of GDP, and they represent social protection expenditure made by the General government, according to the COFOG classification. Social protection expenditure represents the dependent variable, and also its one-period lagged value is included in the regression model in order to examine the inertia of the dynamics of these expenditures. The age dependency ratio represents the ratio of people younger than 15 years or older than 64 years compared to the working-age population (from 15 – 64 years). The increase in this ratio takes into account both the pressure due to demographic ageing and that related to the decline of the fertility rate in the majority of the European countries (Athanasenas et al., 2015). This variable should reflect the burden of the population that is supported by the working population, particularly considering the ageing population. GDP growth as annual percentage of change is calculated at market prices based on constant local currency. The dynamics of this rate should provide an information about the state of the national economy. The Gini coefficient is a well-known indicator of income distribution and inequality, and it is used in this analysis to test the hypothesis about increased social protection expenditures due to increased inequality. It is acquired from the Standardized World Income Inequality Database, which is consisted of comprehensive data on Gini coefficient for countries worldwide. All fiscal variables are expressed as % of GDP. General government gross debt should have an inverse correlation with social protection expenditures in cases when the fiscal reaction function of social protection expenditures shows an authority's reaction in terms of sustainability. General government net lending/borrowing (general government balance) measures the extent to which general government revenue exceed/fall short of general government total expenditure. Tax revenue proxies the fiscal capacity of countries. This variable should explain if the revenue increase leads towards social protection expenditures increase, or the opposite situation where revenue increases are used for different purposes. The unemployment rate as % of total labour force refers to the share of the labour force that is without work but available for and seeking employment. This variable should be positively correlated with social expenditures, as more unemployed people naturally require more social assistance.

Before the models were estimated, the stationarity of the panel data variables was examined.<sup>4</sup> A battery of unit root tests was applied, consisted of tests that assume common unit root process such as Levin, Lin and Chu test and Breitung t-statistic and tests that assume individual unit root processes such as Im, Pesaran and Shin W-statistic, ADF-Fisher  $\chi^2$  test and PP-Fisher  $\chi^2$  test. The tests were performed for all three specifications (individual effects, individual effects and linear trends and no intercept or linear trend). The tests confirmed that only GDP growth is stationary in its level, Gini coefficient, Government net lending/borrowing, Social protection expenditure, Tax revenue and Unemployment are variables stationary in their first difference and Age dependency and Government gross debt are stationary in their second difference.

## 5. MODEL ESTIMATION AND RESULTS

The results from three estimated equations are presented in Table 2. All variables included are stationary (variables that had unit root were differenced). The first equation can be noted as:

$$\Delta SPE_{i,t} = \beta_1(\Delta SPE_{t-1}) + \beta_2(\Delta 2AD_t) + \beta_3(\Delta GDP_t) + \beta_3(\Delta GINI_t) + \beta_4(\Delta 2GGD_{t-1}) + \beta_5(\Delta GGNLB_t) + \beta_6(\Delta TAX_t) + \beta_7(\Delta UNEMP_t) + \omega_{i,t}, \quad \omega_{i,t} = \epsilon_i + v_{i,t}$$

where the heterogeneity (variation) in the cross-sectional dimension occurs via the  $\epsilon_i$ . This framework requires the assumptions that the new cross-sectional error term,  $\epsilon_i$ , has zero mean, is independent of the individual observation error term ( $v_{it}$ ), has constant variance and is independent of the explanatory variables (Brooks, 2014). The first model proves all variables to be significant, except the Age dependency ratio and Tax revenue. The model was estimated with cross-section random effects in accordance with the Hausman test results. The other two equations were estimated without the insignificant variables, both with the cross-section random effects and cross-section fixed effects due to the value of Hausman statistics of 0.0318 which is not strictly cut-off. All three models were not susceptible to changes since the variable significance and signs remain the same. The specification for the second equation is:

$$\Delta SPE_{i,t} = \beta_1(\Delta SPE_{t-1}) + \beta_2(\Delta GDP_t) + \beta_3(\Delta GINI_t) + \beta_4(\Delta 2GGD_{t-1}) + \beta_5(\Delta GGNLB_t) + \beta_{67}(\Delta UNEMP_t) + \omega_{i,t}, \quad \omega_{i,t} = \epsilon_i + v_{i,t}$$

The specification for the third equation estimated with cross-sectional fixed effects is following:

$$\Delta SPE_{i,t} = \beta_1(\Delta SE_{t-1}) + \beta_2(\Delta GDP_t) + \beta_3(\Delta GINI_t) + \beta_4(\Delta 2GGD_{t-1}) + \beta_5(\Delta GGNLB_t) + \beta_{67}(\Delta UNEMP_t) + u_{i,t}, \quad u_{i,t} = \mu_i + v_{i,t}$$

where the disturbance term,  $u_{i,t}$  is decomposed into an individual specific effect,  $\mu_i$ , and the “remainder disturbance”,  $v_{i,t}$ , that varies over time and entities (capturing everything that is left unexplained about the dependent variable), (Brooks, 2014).

*Table 2. Estimated panel regression models (Dependent variable: Social expenditures)*

<sup>4</sup> Due to the limited space, the results from the unit root test are not presented here but are available from the authors upon request.

Variable	Equation 1		Equation 2		Equation 3	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
D(SPE(-1))	-0.26	0.00***	-0.25	0.00***	-0.27	0.00***
D(AD,2)	0.07	0.79	/	/	/	/
GDP	-0.08	0.00***	-0.08	0.00***	-0.09	0.00***
D(GINI)	-0.24	0.08*	-0.24	0.08*	-0.25	0.11
D(GGD(-1),2)	0.03	0.03**	0.03	0.03**	0.03	0.04**
D(GGNLB)	-0.13	0.00***	-0.12	0.00***	-0.11	0.00***
D(TAX)	0.06	0.33	/	/	/	/
D(UNEMP)	0.21	0.00***	0.20	0.00***	0.19	0.00***
C	0.35	0.00***	0.36	0.00***	0.40	0.00***
Adjusted R-squared	0.60		0.60		0.64	
Durbin-Watson stat	1.53		1.51		1.56	
Periods	16		16		16	
Cross-sections	11		11		11	
Observations	175		175		175	
Hausman test probability	0.0961		0.0318		0.0318	
Method	Cross-section random effects		Cross-section random effects		Cross-section fixed effects	

\*, \*\*, \*\*\* *Statistical significance levels of 10,5 and 1%*  
 (Source: Authors' calculations)

Our main variables of interest, government debt and government balance are found to be statistically significant predictors of social protection expenditure. The lagged value of general government gross debt has a positive impact on social protection expenditure. This indicates that higher debt levels are associated with higher levels of social expenditure, confirming their resilience to spending cuts compared to other public spending categories, but is also in line with the argument of coexistence of rising debt levels and rising social expenditure during recession, when tax revenues fall and there is an increased demand for social protection at the same time. However, the coefficient is very low, indicating a particularly small effect of debt on the level of expenditure on social protection. The general government balance has inverse and statistically significant effect on social protection expenditure, indicating that improved fiscal balance leads to reduced social spending.

GDP growth has a negative and statistically significant effect on social protection expenditures, and its influence is in accordance with the theoretical expectations. In situations where countries improve their economic performance, social protection expenditure tends to decline. This is due to both the counter-cyclical nature of social protection expenditure, particularly regarding unemployment, less expansionary policies, but also to the higher denominator (GDP) in the social protection variable.

The unemployment rate has the expected positive and statistically significant effect since an increase in unemployment would require an increase in government spending for social protection. The Gini coefficient is only statistically significant at a significance level of 10%, while in the third estimated equation it is insignificant. It does not have the expected sign, it has inverse effect on social protection expenditure, meaning that when the inequality is higher, social expenditure decreases. Indeed, in our sample, the countries with the highest Gini coefficient in 2019 (Bulgaria and Romania) have the lowest level of social protection