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 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.[1] 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, 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. Tashevska 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 ration 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[2], and did not find a significant impact from demographic factors. For 31 OECD countries over 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

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[1] 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).

[2] 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)

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) and Haelg et al. (2020) for OECD countries and Tashevska 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 Tashevska et al. (2020) for the European Union.

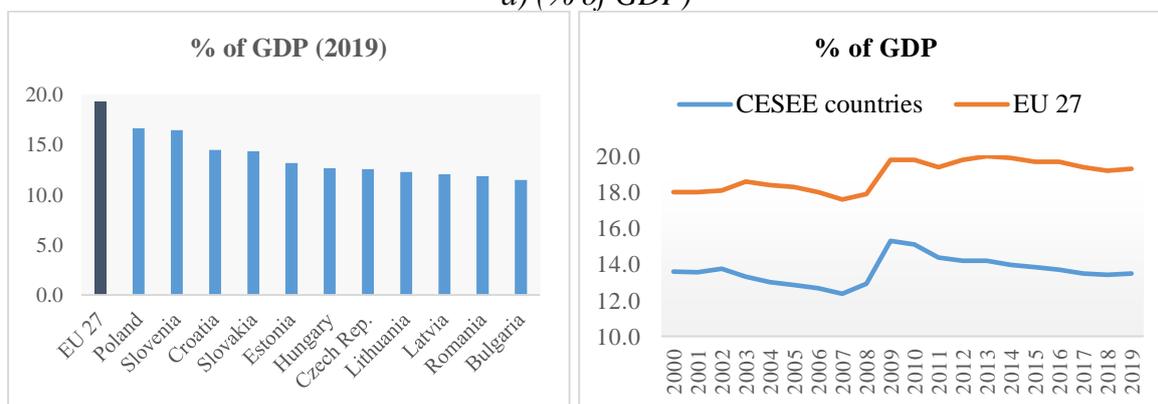## 3. SOCIAL PROTECTION EXPENDITURES IN CENTRAL AND EASTERN EUROPEAN COUNTRIES

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[3] division in 2019 in the EU, reaching an average ratio of 19.3% of GDP and 41.5% of total government 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

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[3] 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).

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 depict 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)

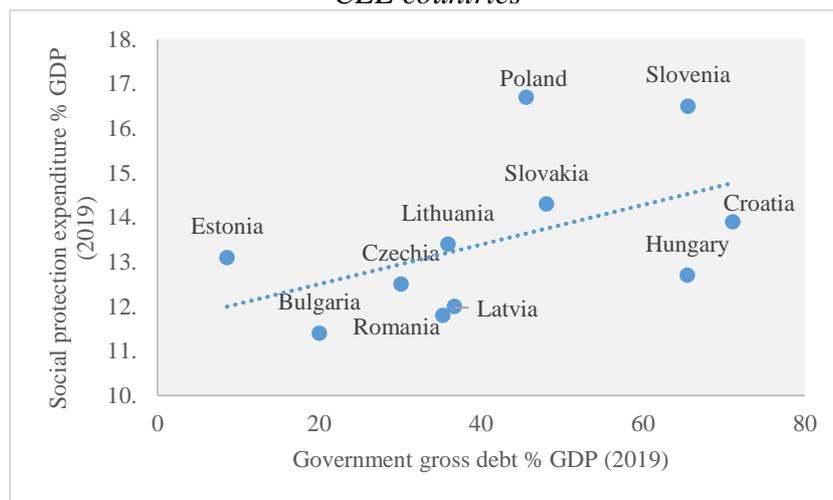*b) Government social protection expenditure in CEE (% of total government expenditure)*
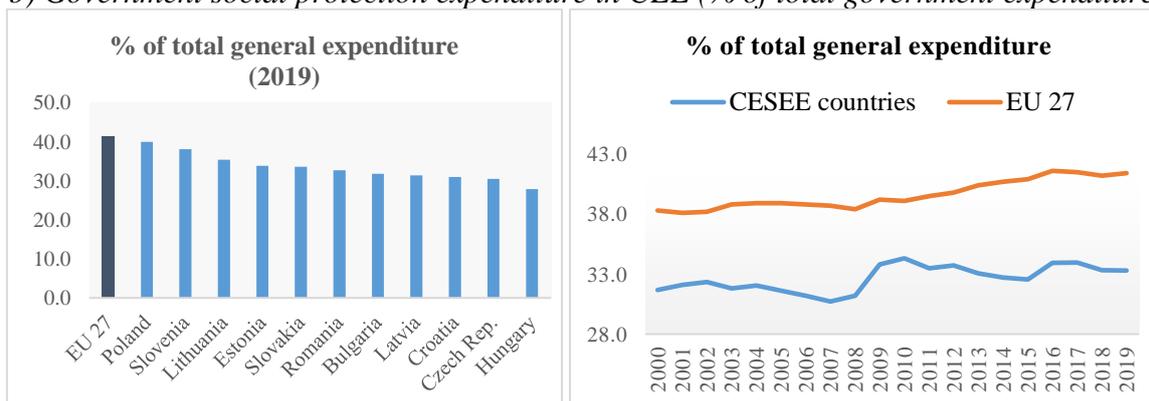
(Source: Eurostat database)

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 expentitures were relatevly 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 abrupted 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 asistance 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 3: The relationship between government debt and social protection expenditure in CEE countries

(Source: Eurostat database)

Figure 3 plots the relationship between 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.[4] 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 χ^2 test and PP-Fisher χ^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.

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[4] Due to the limited space, the results from the unit root test are not presented here but are available from the authors upon request.

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 ϵ_i. This framework requires the assumptions that the new cross-sectional error term, ϵ_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 ration 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:

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

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, μ_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)

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 expenditure, while the countries with the lowest Gini coefficient (Slovakia, Czech Republic and Slovenia) are among the countries with the highest social protection expenditure to GDP.

The age dependency ratio and the tax revenues proved to be statistically insignificant in all three models. Population ageing and the burden of dependent population on the work force thus does not impact greatly social protection, a result also found in several other studies (Gassman et al., 2016; Ko and Min, 2019; Tashevska et al., 2019) The statistically significant lagged social protection expenditure coefficient implies some inertia in the dynamics of this variable, as noted also, for example, by Martin-Mayoral and Sastre (2017).

6. CONCLUSION

Social protection expenditures have been on a general rising trend for decades and they are facing a very unfavourable outlook in the future, particularly in developed countries, due to the expanding role of the welfare state and on demographic changes. Therefore, it is important to understand what drives changes in spending on social protection. However, the empirical literature on social spending mostly focuses on the effectiveness and effects of social spending on certain social, economic, or fiscal variables. There is a smaller body of literature that examines the determinants of social spending. This paper tries to shed light on the determinants of government spending on social protection in the Central and Eastern European countries in the period 2000-2019. In

particular, it addresses the question of whether rising government indebtedness and worsening fiscal stance tend to reduce social protection expenditures, i.e. whether governments make efforts to lower this type of spending. This is also a question that has not been vastly explored, especially for the countries of interest.

The empirical investigation pointed to 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 compared to other public spending categories. It could also be argued that these countries are not excessively indebted, and this could potentially attribute to the smaller response to increased debt levels. General government balance has a negative impact on social protection expenditure, implying that improved fiscal balance is associated with lower social spending. This could be related to the cyclicality of government revenues and expenditures, i.e. in times of increased economic activity the government collects more revenues and social protection expenditures drop, as a result of lower unemployment, lower poverty etc. This could also stem from the fiscal austerity measures undertaken during the economic recovery after the Great Recession, when social spending was cut, although not as much as other expenditures. The counter-cyclical nature of social protection expenditures is also confirmed with the negative impact of GDP growth and the positive impact of unemployment. The results (negative effect of the Gini coefficient) indicate that countries with lower inequality levels dedicate more resources to social protection. It is worth noting that although demographic changes are widely recognized as driver of recent and future rising social spending, the dependency ratio did not prove statistically significant in our analysis.

This paper addressed a smaller set of potential determinants of social protection expenditure in the CEE countries, mostly focusing on socio-economic and fiscal determinants. In the future, the model could be complemented with other factors that are found to be relevant in the existing literature, such as political and institutional factors.

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