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The effect of social security spending on economic growth in selected EU candidate countries

Abstract

The concept of social security – a contemporary, global norm – and the accompanying public expenditures are the products of a search for security against the dangers that may be faced by individuals in society. Social security spending is affected by social changes, including employment policies, labour supply, family and social structures. Countries give greater importance to social security spending for the sustainability of economic growth. This study analyses and evaluates the impact of social security spending in Turkey, Serbia, North Macedonia and Albania, which are within the scope of European Union enlargement policy, on economic growth in the 1996-2020 period. Panel data analysis was made using the growth rate of gross domestic product per capita, the population growth rate, the corruption index, contribution data on social spending and the Arellano and Bover / Blundell and Bond System Generalized Method of Moments estimator were taken into account. We conclude that social security spending positively affects economic growth and, in this context, it is in line with the theory put forward by Keynes.

Keywords: *social security spending, economic growth, employment, panel data analysis, EU accession*

Introduction

The concept of social security can be defined as the self-protection of society against economic and social risks through public measures. The risks and problems encountered may cause a decrease in the income of individuals in some cases and an increase in expenditure in others. The risks that negatively affect individuals' working potential are those that do not have such an impact on this potential as to prevent its use. An individual facing these risks is temporarily or permanently deprived of income and falls into economic insecurity. For this reason, the basis of social security policies is the effort to eliminate the effects of economic, social and physiological risks on individuals (Akkaya 2000; Kidd and Mansoor 2021).

The role of social security is thus to create public expenditure programmes which encompass the necessary precautions against the economic and social risks that individuals may encounter in their lives. The measures outlined within the scope of these programmes seek to eliminate or mitigate the negativities that may arise, together with the risks (Gümüş 2010: 4).

In different periods, there has been a variety of social security measures which governments have tried to implement. Based on personal effort at the beginning, such measures then progressed on the basis of the principle of mutual aid, before the infrastructure was formed underpinning social security institutions and today's social security systems. The history of institutionalisation reveals that the industrial revolution was a turning point in this process, after which modern social security systems began to emerge. In this process of development, that most of the risks underlying social security systems are in parallel with the risks posed by the wave of industrialisation also has an effect (Güvercin 2004: 90). It would not be wrong to say that economic and social conditions play a preparatory and guiding role in terms of modern social security systems.

The development of social security systems in western Europe is generally divided into two periods. One of them is the classical period, which started with the acceptance of social insurance for the first time under the influence of Bismarck in Germany, and the other one is after the First World War (Guzel et al. 2012: 16). With the outbreak of the Second World War, the sickness and unemployment insurance schemes that took shape in 1911 were expanded over time to cover most of the working class population (George 2018; Eleftheria 2012). Especially between the two world wars and in the post-war period, developments in the field of social security intensified. It is possible to say that the foundations of modern social security systems were laid in this period (Guzel et al. 2012: 16).

The expansion of social security in the mid-twentieth century was generally welcomed and policies designed to protect income in times of financial distress were widely supported. At the end of the Second World War, many people agreed that poverty and deprivation could be ended by joint action. After all, the war had shown that insurmountable challenges could be overcome through cooperation and commitment to common goals. Inspired by the New Deal in the United States and the Beveridge Report in the UK, many were convinced that poverty could be eradicated through comprehensive income protection programmes (Midgley 2008: 51).

In the modern sense, the Turkish social security system was created after the Second World War and the social security system constitutes one of the most comprehensive public expenditure programmes in the country (Gümüş 2010: 7). In the 2000s, the field of social policy gained a new face in Turkey under the influence of the European Union and a series of legislative and organisational efforts were made in order for the state to take a more active role in the fight against poverty (Sayan 2006: 60). In this context, the Social Security Institution, which was established with Law No. 5502 adopted on 16 May 2006, replaced the three separate institutions that provided social insurance services in Turkey and were organised within the scope of the occupational activity of employees. As a part of the legal change process, the Social Insurance and General Health Insurance Law No. 5510 was adopted on 31 May 2006 (Gümüş 2010: 7).

Social security spending has effects on employment, economic growth, income distribution, price stability, savings and investment. Among the macroeconomic factors mentioned here, the relationship between employment and social security

spending has been found in some studies to have a particularly positive effect, although a negative effect has been found in others. Although there is no consensus in the literature, while social security spending increases employment under the substitution effect, it also decreases employment under the income effect (Baylan 2015; Sergi et al. 2018).

The concept of economic growth has been one of the issues emphasised and discussed by economists in almost every period. Studies examining the factors affecting the growth in both developed and developing countries, economically and socially, and the reasons for the current growth differences between countries have an important place in the literature. In this context, economic growth and development emerges as one of the main subjects among the main fields of study in the literature and on the basis of which new ideas are developed (Gechert et al. 2021). The globalisation process, which started to become operational in every field since the 1980s, has begun to eliminate borders between countries which, as a result, have interacted more both socially, culturally and economically. In this process, while some countries have been rapidly integrated into the world economy, others stand further from this process. This situation has made the existing economic differences between countries more evident (Vergil and Bahtiyar 2017: 674).

The formation of the European Union (EU), which expresses an important process of integration, shaped by the effects and results of the events that are decisive in its historical background, has an important power in terms of today's economic, political and social life. The countries in this bloc are based on a pluralist and democratic structure politically, a capitalist structure economically and a system consisting of social welfare state policies (Çelik 2006: 54-55).

The subject of this study is the example of countries that have officially gained candidate status in the EU integration process and those with potential candidate status. In terms of explaining the concepts that form the basis of the study, first a theoretical framework is drawn, followed by an analysis phase which examines, on the basis of panel data, the relationship between social security spending and economic growth indicators at the level of seven countries within the scope of EU enlargement policy.

Theoretical framework

Today, social security is based on the idea of repairing the consequences of certain events called social risks. In this context, efforts to eliminate the effects on individuals of social risks constitute the basis of policies in the field of social security. In this respect, social security policies are a part of the national social policy concept (Guzel et al. 2012: 3). As a matter of fact, the process of the historical development of the concept also reflects this situation.

Social security was declared a fundamental human right by the United Nations in 1948 and its minimum framework was drawn by the International Labour Organization's Convention No. 102 on Minimum Norms of Social Security. In addition, social security standards were determined under the European Social Charter. In general, the context of social security consists of short and long-term insurance developed against economic and social risks, and of monthly and other payments

provided to beneficiaries under certain conditions (Gümüş 2010: 4). It is possible to say that there are three important factors which have affected the development of social security systems in the 1950s and 1960s. These are the economic prosperity of countries, new views on the concept of poverty and the growing trend towards consensus policies (George 2018; De Wispelaere et al. 2020).

In addition to international legal documents, the right to social security has been seen as a fundamental right in national constitutional texts and has been regulated within the scope of economic and social rights. However, there may be differences in the manner of the implementation of the right to social security which varies from country to country. Due to the direct connection between the social security field and national economies, there are differences in scope and content between developed and developing countries (Guzel et al. 2012: 55; Zhang et al. 2019). Despite these differences, most countries have taken their shares from a majority of the socioeconomic processes determining the relationships between social security, social security spending and economic indicators.

The concept of economic growth, on the other hand, started to develop especially after the 15th century and has been interpreted in different ways by economists throughout history, as with other issues in the economy (Malatyalı 2016: 64). In this context, economic development makes sense not only in terms of economic growth, but also in terms of reducing poverty and inequality, since it envisages producing tangible social benefits for the majority of the population (Borzutzky 2008: 111).

Economic growth, in the most general approach, can be defined as the expansion of a country's capacity in the production of goods and services. Economic growth shows the increase in Gross National Product (GNP) over time. GNP, which is an indicator of the level of economic activity, expresses the monetary value of the final goods and services produced as a result of the economic activities carried out in a country in a certain period. If there is an increase in the production of goods and services in an economy, real GNP increases and society has the opportunity to consume more. The rate of change found by dividing the amount of change in real GNP during a period into the real GNP value at its beginning is called the economic growth rate. When this rate is higher than the population growth rate, real income per capita is also increasing.

The concept of development, on the other hand, refers to an increase in the welfare level of the citizens of a country experiencing growth (Malatyalı 2016: 64). In this context, economic development makes sense not only in terms of economic growth but also in terms of reducing poverty and inequality; it envisages producing tangible social benefits for the majority of the population (Borzutzky 2008: 111; Komarčević et al. 2021).

In the late 1970s, when the economic dimension of globalisation became evident, the profit phenomenon was presented as the main success criterion and restrictions on profit maximisation began to be accepted as irrational. Indeed, the essence of globalisation in the neoliberal sense is the consolidation of market forces. The free market economy, the rules of which have become quite flexible, provides efficiency in resource distribution and thus increases economic welfare. Efforts to suppress the social dimension accompanied the globalisation process of economies and the social

issues that hindered profit maximisation began to be transferred to the private sphere. In this direction, most developed and developing countries experienced a serious shock to their social security systems in the 1980s and 1990s. This situation brought social policies to a crossroads and created an environment of pressure to make new regulations in the field of social security. In one way, this process ended the positive-sum economic and social order that had mutually supported and strengthened each other in the period following the Second World War (Özsuca 2003: 134).

It is seen that the relationship between social security spending and economic growth, especially in the financing of social security, has become clear and concrete (Çela 2011).

The issue of financing social security has been on the agenda, discussed for the first time in and mainly since the second half of the 1970s, due to its:

> ... high costs and the negative effects of the large volumes of resources allocated for social security on key economic indicators such as savings, investment and economic growth. (Alper 1985)

The breadth of the resources allocated to social security and the development trend that it will increase over time has brought multidimensional discussions on ensuring the sustainability of the system and financing social security. It is possible to list the main problem areas regarding the financing of the process as follows (Alper 2006: 48):

- what amount of resources will individuals and societies allocate to social security?
- which income sources will be used to finance social security spending?
- which financing method is effective in ensuring income-expenditure balance?
- how and to what extent will the state contribute to the financing of the system?
- what will be the effects on basic economic indicators of the resources allocated to social security?

Another issue that needs to be emphasised about the financing of the social security system and the institutions within it is that the main source is the premiums paid by employees and employers. In this context, the wage levels of employees and the premium-based levels of earnings have a direct impact on the income of the social security institutions.

Undoubtedly, the problem in the worldwide and economic context about social security systems is not only of a financial nature. Many factors such as basic demographic factors, private savings and long-term growth rates, as well as human capital and family structure, are decisive for the structure and functioning of the social security system (Ehrlich and Kim 2005). Studies reveal that the connections between the economy and social security systems are more complex than previously thought. However, in general, it can be said that the social security system contributes to better human capital formation and this has a positive economic impact (Welfens 2013).

The concept of social security is used narrowly in some countries, particularly the United States, to refer only to the federal government's social security pension

scheme. In Europe and many other western countries, the term is used broadly to refer to a variety of income protection programmes, including income-tested social assistance, premium social insurance and social benefits (Kimura 2021). In many countries of continental Europe, the term social security refers to health insurance while in many Latin American countries, it covers not only income protection but also the provision of health care, social work activities and even educational and recreational facilities (Tang and Midgley 2008; Galenson 1968).

In this context, when the concept of social security is considered broadly, it also includes social services and social assistance. The financing of social services and social assistance fields is generally provided by tax revenues. Social services include meeting the needs of people in need of care and groups with special needs so that they can lead a dignified life. The field of social assistance, on the other hand, aims to struggle against poverty in general (Gümüş 2010: 4-5). When social work is taken with these dimensions, its close relationship with the economic structure of the country and the concepts of economic growth comes to the fore.

The concept of the social state or the welfare state, with which the concept of social security is closely related, emerged especially in the climate of the western democracies of the 20th century. They have become widespread in European geography since the 1940s although they have their origins in earlier periods. That the concept of the social state began again to be questioned in the framework of the developments in the world economy in the 1970s led to an approach to the issues related to the social state being made in a different way, increasing the number of studies on the subject and attaching new meanings to the concept (Türkoğlu 2013: 278).

Especially in recent years, the increasing debate on poverty has brought up the methods of fighting against poverty and the mechanisms of alleviating its consequences. At the forefront of these methods and mechanisms are issues such as social policy instruments, social security, social assistance and active labour policies. In the main, it is areas such as health, housing, education, social security and social services that constitute the components of social policy, while the practices related to it are conceptualised through expressions such as social protection, welfare society and the social state.

Social protection encompasses protection mechanisms including insurance and the other benefits that public institutions offer and make possible for the individual (Paunović and Kosanović 2011). Social protection systems include all those public transfers that seek to provide income security and prevent or alleviate poverty in a society, all the measures that guarantee public access to health and social services and all the measures that protect the income, health and wellbeing of workers (Cichon and Scholz 2009). It is possible to say that total public social spending is negatively related to poverty and inequality (Cammeraat 2020). Thus, social protection as a system of income redistribution aims to free people from social insecurity and the resulting existential fear. Undoubtedly, good design and management of the system is very effective in achieving these goals (Cichon and Scholz 2009). Considering the previous definitions of social security, it may be seen that this meets the concept of social protection. In this context, it is a reality that social security mechanisms are

evaluated together with the general course of the economy and employment policies, the labour supply and changes in the family and social structures which are shaped in this direction and that they are affected by them (Şener 2010: 2-3).

It is evident that social security spending is in a relationship with the determinants of growth such as economic expansion and savings, human capital investment and fertility (Zhang and Zhang 2004). In general, the relationship between social security and the economy, and the relationship between social security spending and economic growth, which is the subject of our study, has been a matter of some debate. This refers either to the cause and effect relationship identified in the past and which is thought still to apply in the present, or otherwise to the presence of different forms of ties, with one or other variable being affected alongside each other as the result of an existing phenomenon or where each, in turn, have an effect on the others. While Keynes put forward a theory that argues that the relationship between social security spending and economic growth is positive due to the multiplier effect (Keynes 1936), classicists argue that it is negative due to the exclusion effect (Smith 1776).

This study seeks to explore and determine the direction of the discussion for Turkey, Serbia, North Macedonia and Albania.

Methodology

Cross-sectional dependence

Cross-sectional dependence (CSD) means that an effect that may occur in one cross-section of the variables used in panel data analysis may also have an effect on the other cross-section. In the literature, different tests are used to determine whether CSD exists or not. These tests are the Lagrange Multiplier (BP_{LM}) test, developed by Breusch and Pagan (1980); Pesaran Scaled LM (PS_{LM}), developed by Im et al. (2003); Pesaran CD (P_{CD}), developed by Pesaran (2007); and Bias Corrected Scaled LM (BCS_{LM}) tests, developed by Baltagi et al. (2012).

The BP_{LM} test gives good results in cases where the number (n) of cross sections is small and the time dimension (t) is big, but the PS_{LM} test can eliminate its disadvantages. However, if the time dimension is significantly big, the P_{CD} test gives the best results among these tests. The difference of the BCS_{LM} test is that it is effective in fixed-effect heterogeneous panel data analysis instead of the default fixed effect homogeneous panel model in the P_{CD} test.

For each of the CSD tests, the null hypothesis claims no CSD while the alternative hypothesis claims its existence. These hypotheses can be shown as:

$$H_0: Cov(\varepsilon_{ik}, \varepsilon_{kt}) = 0 \text{ vs. } H_1: Cov(\varepsilon_{ik}, \varepsilon_{kt}) \neq 0, \forall t \text{ ve } i \neq k \quad (1)$$

In Equation 1, ε_{ik} shows the independent error term with the same distribution; and t shows the time dimension (Büyükkör 2022: 100).

Arellano and Bover (1995) and Blundell and Bond (1998) System GMM method

The Difference GMM method developed by Arellano and Bond cannot provide effective results when the horizontal dimension (N) and time series (T) are small and the N is not big enough. To eliminate these situations, a new instrument variable GMM method using the orthogonal deviations method was developed by Arellano and Bover (1995) and Blundell and Bond (1998). This method is known as System GMM.

Consider the following static panel data model:

$$Y_{it} = X'_{it}\beta + Z'_i\gamma + \upsilon_{it} \tag{2}$$

$$Y_i = W_i\eta + \upsilon_i \tag{3}$$

Here, Z_i is a time variable, X_{it} are variables that vary with both time and units, $\eta:(\beta', \delta')$, $\upsilon_i:[X_i, \iota_T Z'_i]$ and ι_T is the unit vector of the T dimension.

Arellano and Bover transformed this equation into a system and obtained the following equation:

$$H = \begin{bmatrix} C\upsilon_i \\ \overline{\in_i} \end{bmatrix} \tag{4}$$

Here, C shows the (T-1)xT dimensional matrix of line (T-1) providing $C\iota_T = 0$. The following estimator is used for the converted estimator in the application:

$$\widehat{\Omega}_i = \frac{\sum_i^N{}_{=1} \hat{\upsilon}_i^{+} \hat{\upsilon}_i^{+'}}{N} \tag{5}$$

$\hat{\upsilon}_i^{+'}$ shows the residuals from the consistent initial estimate (Yerdelen-Tatoğlu 2012: 80-88).

In addition, with this method, more effective results emerge in cases of autocorrelation, varying variance and internality issue.

Empirical findings

The aim of this study is to examine the effect of social security spending on economic growth for the 1996-2020 period in terms of the four European Union (EU) candidate countries Albania, North Macedonia, Serbia and Turkey, using the panel data analysis method. Data for Montenegro, which is also an EU candidate country, could not be accessed, so it was not included in the analysis. In this framework, the following econometric model will be estimated:

$$Gdpg_{it} = \alpha_0 + \alpha_1 Popg_{it} + \alpha_2 Cor_{it} + \alpha_3 Sc_{it} + u_{it} \tag{6}$$

Gdpg is GDP growth rate per capita (%), Popg is the population growth rate (%), Cor is the corruption index, Sc is social spending contributions (as a percentage of income) and u is the error term. Furthermore, i is the horizontal section, that is, EU candidate countries, and t indicates the 25-year time period within 1996-2020. Relevant data were obtained from the World Bank database and the Worldwide Governance Indicators database.

Descriptive statistics regarding the variables in the model are given in Table 1.

Table 1 – Descriptive statistics

Variable	Observations	Average	Std. Dev.	Min.	Max.
Gdpg	100	3.57	3.99	-10.92	12.89
Cor	100	41.39	12.26	7.61	62.09
Popg	100	0.19	0.80	-0.94	1.70
Sc	100	24.83	7.21	0.00	35.54

According to the descriptive statistics in Table 1, when the 1996-2020 period is taken into account for EU candidate countries, the average growth rate of gross domestic product is 3.57, the average corruption index is 41.39, the average population growth rate is 0.19 and the average social spending is 24.83.

Table 2 – Cross-sectional dependence test result

Test	Gdpg		Cor		Popg		Sc	
	Statistics	Prob.	Statistics	Prob.	Statistics	Prob.	Statistics	Prob.
Breusch-Pagan LM	13.04	0.04	50.22	0.00	17.48	0.01	20.20	0.00
Pesaran scaled LM	2.03	0.04	12.77	0.00	3.31	0.00	4.10	0.00
Bias-corrected scaled LM	1.95	0.05	12.68	0.00	3.23	0.00	4.02	0.00

Table 2 shows the cross-sectional dependence test results for EU candidate countries. There is a 5% cross-sectional dependence between countries for the variables of gross domestic product, corruption, the population growth rate and social spending. This finding shows evidence of a possible spillover effect to another country of an effect that may occur in one country in the sample for the relevant variables.

Table 3 – Unit root test results

Method	Gdpg		Cor		Popg		Sc	
	Statistics	Prob.	Statistics	Prob.	Statistics	Prob.	Statistics	Prob.
Levin et al. t	-5.95	0.00	-0.65	0.26	-0.29	0.39	-2.85	0.00
Im et al. W-stat	-5.66	0.00	-1.42	0.08	-2.85	0.00	-2.71	0.00
ADF - Fisher Chi-square	43.17	0.00	12.87	0.12	22.24	0.00	21.00	0.01
PP - Fisher Chi-square	42.99	0.00	23.26	0.00	18.61	0.02	34.57	0.00

Table 3 shows the first generation unit root test results for Levin et al. t; lm et al. W-stat (IPS); ADF – Fisher; and PP – Fisher. When the relevant results are examined, it can be said that the series show stationary properties of series in general. The null hypothesis of these tests states the existence of a unit root, while the alternative hypothesis states that there is no unit root. When the results in Table 3 are examined, it can be seen that the variables of the gross domestic product growth rate, corruption, the population growth rate and social spending are integrated from a zero degree; that is, they are stationary at this level. Thus, it means that the null hypotheses are rejected and the alternative hypotheses may be accepted.

Table 4 – Arellano and Bover / Blundell and Bond Generalized Method of Moments system model estimation results

Gdpg	**1st model**	**2nd model**	**3rd model**
	Coefficient	Coefficient	Coefficient
Gdpg(-1)	0.19***	0.09***	0.13***
	(0.02)	*(0.03)*	*(0.02)*
	[0.00]	*[0.00]*	*[0.00]*
Gdpg(-2)	0.06*	-0.02	-0.04
	(0.04)	*(0.04)*	*(0.06)*
	[0.10]	*[0.65]*	*[0.54]*
Popg	1.00	-1.11	-0.91
	(1.71)	*(1.55)*	*(1.31)*
	[0.56]	*[0.47]*	*[0.49]*
Cor		0.08***	-0.04
		(0.03)	*(0.04)*
		[0.01]	*[0.36]*
Sc			0.23***
			(0.03)
			[0.00]
Wald Test Result	3251.35 [0.00]	48.66 [0.00]	16.54 [0.00]

Note: ***, **, and * denote statistical significance at the level of 1%, 5% and 10%, respectively. () shows standard errors and [] shows probability values. Resistive estimators were used for the results of all models, taking into account the problem of varying variance and autocorrelation.

Table 4 shows the model estimation results using the Arellano and Bover / Blundell and Bond System Generalized Method of Moments. When the results of the 1st model are examined, an increase in the gross domestic product growth rate

in the prior period increases the GDP growth rate by 19%; and an increase in the population rate increases the growth rate by 100%. Considering the model estimation results for the 3rd model (that is, the most general one), an increase in the gross domestic product growth rate in the prior period increases the GDP growth rate by 13%; an increase in social spending increases the growth rate by 23%; while an increase in corruption reduces the growth rate by 4%. The prior period variables for social spending and the gross domestic product growth rate are statistically significant.

Conclusion

The focus of the social security field is to eliminate the effects of economic and social risks for individuals. In this context, it seeks to create an income security system that eliminates or mitigates the negatives for individuals that arise through public expenditure programmes by implementing some necessary precautions. Due to the assistance and support provided to those who are exposed to such risks, the social security field is mainly addressed and evaluated from a social policy perspective.

However, expenditures related to social security come to the fore in particular with the economic dimension. It is possible to say that there is a mutual interaction between social security spending, economic indicators and economic growth. Factors such as demographic changes, average expectations from life, the quality of social welfare services and unemployment rates all affect social security spending. Problems related to social security spending and the financing of expenditure items vary according to the structure and approach of different countries, but they have existed from the past right up to the present. At this point, the social security model adopted, its scope and the financing technique and structure of the social security system are also important.

There are different studies and views about the effect of social security spending on economic growth. It is generally accepted that social security systems have a forced savings effect, especially for those with low income levels.

All these issues are effective in the creation of social security policies for EU candidate countries which are in the process of integrating with the economy of the European Union. In addition, the processes of economic change and transformation are also taken into account in the formation of these policies.

In this study, in which the effect of the social security spending by European Union candidate countries on economic growth during the 1996-2020 period was examined by the Arellano and Bover, and Blundell and Bond, System Generalized Method of Moments, a conclusion was reached in parallel with the theory of Keynes in those four countries which formed the sample group. As a result of the analysis, it may be determined that social security spending is an important factor that positively affects economic growth and at a statistically significant level.

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