DETERMINANTS OF YOUTH UNEMPLOYMENT IN SEE COUNTRIES

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Abstract

As a result of the COVID-19 pandemic, as well as the economic crisis that national economies are facing, caused a significant distortion in the labor market. The unemployment rate in 2021 in the countries of Southeastern Europe is the highest in North Macedonia 16%, while the lowest unemployment is observed in Slovenia 4%. Differences in the balance of the labor market are evident within these countries. The EU member countries (Slovenia, Romania, Croatia and Bulgaria) have a significantly lower level of unemployment compared to the rest of the Southeastern European countries (SEE) that are not part of the EU. Young workers represent the most vulnerable segment of the labor market, especially in SEE countries. Within SEE countries, young workers from Western Balkan countries are still in an unfavorable position compared to the rest of the countries in the region. The countries from the Western Balkans record the highest level of youth unemployment compared to the EU average and SEE countries. Hence, a basic macroeconomic analysis of the determinants of youth unemployment in SEE countries is required. The results shows that growth of GDP, and the growth of Labor productivity has statistically significant influence on youth unemployment rate. The increase in GDP is directly related to the unemployment rate, and thus also youth unemployment.

Keywords: Labor Market, Youth Unemployment Determinants, SEE Countries

1. INTRODUCTION

Youth unemployment is a topic of research among academics, but also a challenge facing economic policymakers worldwide, especially in developing countries. In addition to causing direct costs to the young workforce, youth unemployment also leads to social exclusion, insufficient motivation for young people to participate in social processes, poverty, and long-term unemployment. It is important to analyze youth unemployment in developing countries because they face high unemployment rates, especially among the young workforce, who represent the future human potential of nations.

The countries of Southeastern Europe (Albania, North Macedonia, Serbia, Bosnia and Herzegovina, Croatia, Bulgaria, and Romania) face difficulties and rigidities in the integration of the young labor force in the labor market. In the previous few decades, these countries are facing significant changes in their political systems, as well as the structure of the economy. Such transition processes in the countries of Southeastern Europe contribute to the slowdown of economic growth and development, as well as significant discrepancies between supply and demand in the labor market. Although the countries of Southeastern Europe in the previous period were dealing with an increase in employment, however, youth unemployment is still at a significant level. Difficulties in labor market integration among young people are observed between all educational levels. At the same time, in these countries, there is a lack of certain profiles of workers, while a significant part of the young workforce has not yet seen initial integration in the labor market. The transition process that affected these economies caused a significant increase in unemployment in these countries. Unemployment in North Macedonia in 2006 was 36%, which means that more than 1/3 of the active population could not find a job. Unemployment rates in 2006 in the rest of Southeastern Europe ranged from 6% in Slovenia to 31% in Bosnia and Herzegovina. Although part of the same political and economic system, is evident that individual countries with different levels of success implemented the necessary reforms. The adaptation of the labor market to the new economic environment in some countries caused a significant increase in unemployment rates, while individual countries implemented the labor market reform process by maintaining a low level of unemployment. The young workforce notices a more difficult integration in the labor market because of insufficient work

experience. Also, the young workforce, after being integrated into the labor market, is the most exposed to negative tendencies, that is, certain distortions of the economic system. This assumption is confirmed by the fact that youth unemployment in the period of COVID-19 recorded a significant increase in the countries of Southeastern Europe, especially in the countries of the Western Balkans. Youth unemployment in the last quarter of 2020 in North Macedonia reached 39.2%, and in Serbia 32.4%. A significant level of youth unemployment is observed in almost all countries of Southeastern Europe, especially among the countries of the Western Balkans that are not members of the European Union (EU). Hence, the movement of the labor force, that is, the intensification of labor mobility beyond national borders, represents an additional reason for the analysis of the determinants of youth unemployment in the countries of Southeastern Europe. The success of young people to find and keep productive and decent work, in addition to other factors, also depends on the degree of economic development of the countries. The quality of education, health care, labor productivity, and the structure of the economy is determined by the degree of economic development of individual economies. Hence, in the paper, an attempt is made to analyze the influence of individual economic determinants on the degree of youth unemployment in the countries of Southeastern Europe. The main determinants covered in the analysis are Economic growth, Labor Productivity Growth, and Inflation Rate. In this analysis, we refrained of considering institutional, political, or other non-economic variables. The selection of countries from Southeastern Europe (Albania, North Macedonia, Serbia, Bosnia and Herzegovina, Croatia, Romania, and Bulgaria) was made as a result of the common roots that these countries have, as well as the fact that some of the countries at the beginning of the 1990s years implemented a process of transition of the economic and political system, i.e. they made an attempt to establish an economy that is based on market principles. Also, the selection of countries enables a comparison of EU member countries with EU candidate countries.

The paper is structured as follows: after the introduction, a brief review of the relevant literature is made, which analyzes youth unemployment and the basic variables that determine it. Furthermore, a brief analysis of the movement trends of the basic indicators of the labor market was made. After the descriptive analysis, a discussion of the obtained results of the econometric analysis is given, while at the end are the concluding findings.

2. LITERATURE REVIEW

According to the latest data around 621 million young people aged 15-24 years old are not in the process of education, nor are employed, while 23% of young people currently employed in the world earn less than 1.25 USD per day (Global Development Commons, 2020).

Considering the fact that the European economies are in an economic crisis, as well as the quite relevant projections that some of the economies will face stagflation, it is considered useful to consult some of the research that analyzes the labor market during economic recessions. The initial negative effects of financial crises on employment are exacerbated by flexible labour markets, but in economies with more regulated labour markets, especially for youth, the negative effects of crises last longer (Bernal-Verdugo, Furceri, & Guillaume, 2012). According to other research, countries with stronger employment protection legislation, rather than weaker employment protection laws, saw a reduction in aggregate demand-induced youth employment loss resulting from the recession (O'Higgins, 2011). According to the same author, a slightly more better picture can be obtained by considering the effects of youth unemployment compared with GDP over time and in relation to institutional contexts (O'Higgins, 2014).

The youth unemployment rate was above 26% in all Western Balkan countries, which is 9 percentage points more than the EU average of 16.8% (Bartlett, et al., 2021)

Some of the studies on the field of labor market, which focus on the youth unemployment rate worldwide have provided significant evidence on the magnitude of the youth unemployment issues. Youth employment has high advantages to both the business firm growth, community, and country growth as well. Despite lacking job experience, young people are fast learners and can easily adapt to the company's standards. They are hardworking individuals with good health, which makes them capable to work for longer periods of time than adults. They also have longer payback on the investment as they can stay for a longer period in the business firms compared to adult employees (ILO, 2011).

Empirical research that analyzed the relationship between wages and labor market productivity in the example of SEE countries, shows that the relationship between the increase in the legal minimum wage and labor productivity is positive in the example of the Western Balkan countries (Albania, North Macedonia, and Serbia), while in the example of EU countries (Bulgaria, Croatia, and Romania) there is a negative relationship between the increase in the legal minimum wage and labor productivity (Trenovski, Kozheski, Tashevska, & Peovski, 2021).

The great recession therefore reflects a long-established link between changing economic conditions and the development of youth unemployment (Blanchflower and Freeman 2000). There have been many studies examining the effect of the current business cycle on young people's employability (Contini 2010; Bell and Blanchlower 2010, 2011; Verick 2011). However, business cycle effects are not sufficient to explain country differences in the level of youth unemployment and the intensity of response of youth unemployment to the business cycle's development. Tuhan (2010) examined the relationship between unemployment and other macroeconomic variables in the case of Turkey., We have examined the impact that the real GDP, consumer price index, unemployment in the previous period, real effective exchange rate, have on unemployment for the period 2000-2008. In the study authors have employed Johansen's cointegration econometric procedures. The results of the research show that there are significant effects of real GDP, consumer price index, and unemployment rate in the previous period, on current unemployment, but no effect of real effective exchange rate.

Unemployment and the unemployment rate are strongly correlated to labour market participation. This applies in particular to young people aged below 25, a significant proportion of whom have not yet entered the labour market. The entry patterns characterizing school to-work transitions and the average age at which specific types of school-to-work transition are observed depend on qualifications and national systems of general and/or vocational education and training (Dietrich 2003; OECD 2010). The expansion of education in a given country increases the average age of new labour market entrants over time. Arslan and Zaman (2014) examined the determinants of unemployment in Pakistan by using OLS analysis for the period 1999-2010. They concluded that inflation, GDP growth, foreign direct investment (FDI), and population growth are main determinants of unemployment. Also, they found that GDP growth and inflation rate have negative impact on unemployment in contrast to positive impact of population growth on unemployment. Also, the effects of the COVID-19 pandemic have contributed to significant distortions in the labor market. In the case of Armenia, due to COVID pandemia, the unemployment rate has seen a downward trend. During the last years, the employment continued to decrease while the unemployment rate did not improve essentially (Anahit & Maria, 2022).

Furthermore, research conducted by Neumark, D. and Wascher, W. (2007) on the effects of the minimum wage on employment in the US sample shows that there is a degree of elasticity of 0.1 to 0.3 among youth aged 16 to 19 years, while among young people who belong to the contingent from 16 to 24 years, the degree of elasticity ranges from 0.1 to 0.2. An elasticity of, for example, 0.1 would mean that if the amount of the minimum wage increases by 10%, employment in this category will decrease by 1%. The result of this research confirms the inversely proportional relationship between the minimum wage and employment. In addition, research on the movement of the minimum wage in the states compared to the federal minimum in the case of the USA allows to get a clearer picture and to see that changes in the unemployment rate are caused by changes in the minimum wage, ceteris paribus. Extensive research has confirmed that nearly two-thirds of more than 100 new studies on the minimum wage have found a proportional relationship between the minimum wage and job losses for low-skilled workers. Also, with the research done by Meer, J. and West, J. (2012) on the example of the USA, it was determined that there are long-term effects of minimum wages on job growth, they concluded that new firms have the right to choose in the combination of production factors, that is, that they would choose a higher investment in technology in order to save labor, as a result of the increase in minimum wages.

According to Bell and Blanchflower (2011), youth unemployment rates have increased relative to those of the adult population. These groups have experienced a widening gap in unemployment rates since the last recession. Youth groups with the lowest skill and education levels are particularly hit by economic stagnation as results of COVID-19 pandemic. In this group, youth were particularly negatively impacted by the recession, as jobs requiring relatively low levels of skills were taken by those with higher levels of skill. In addition, the authors noted that older people with more experience took jobs previously held by young people during and after the recession.

The problems that young people are facing on the labour market have significant consequences on the level of their livelihood, on their families and on the national or international communities to whom they belong. The most significant effects of youth inactivity are the risk of poverty as well as the inability to play an active role in the development of society.

3. LABOR MARKET DETERMINANTS IN SOUTHEASTERN EUROPEAN COUNTRIES

A labor force is not just one of the factors of production but represents the basis for development of all the other factors by forming part of the human capital in an economy. Hence, high unemployment rates have serious consequences on the labor market, but also contribute to an increase in social costs, as well as a decrease in the general well-being of workers and their families (Bell and Blanchflower, 2010, Godfrey, 2003). Hence, analyzed from the aspect of the specifics of the labor market, the level of unemployment is an indicator of the social and economic condition of the national economies. The level of unemployment in the countries of Southeastern Europe for the period 2006-2011 is given in Table 1. The trends of unemployment in these countries, in addition to being determined by the degree of economic development, is primarily determined and from the degree of labor force mobility, that is, from the degree of rigidity of the national labor markets. According to the level of unemployment, countries can be segmented into countries with a significant unemployment rate and into countries with a low (s.ingle digit) unemployment rate. The results show that in the countries of the Western Balkans (Albania, North Macedonia, Bosnia and Herzegovina, Serbia) the unemployment rate in 2021 ranges from 12% to 16%. The highest unemployment rate within this group of countries is observed in North Macedonia 16%, followed by Bosnia and Herzegovina with 15%, Albania and Serbia with 12%. It should be emphasized that in the previous period these countries recorded a significant decrease in unemployment. For the example of North Macedonia, the unemployment rate in 2021, compared to the unemployment rate in 2006, decreased by 20 percentage points. Compared to 2015, unemployment in 2021 has decreased by 10 percentage points. The trend of reducing the unemployment rate with a similar intensity is observed in the example of Bosnia and Herzegovina, where compared to 2006, unemployment in 2021 decreased by 16 percentage points. Compared to 2015, the unemployment rate in 2021 decreased by 13 percentage points. On the example of Albania and Serbia, although a downward trend is observed, considering the fact that the unemployment rate in these countries does not observe significant differences (especially in Albania) in the analyzed period, the diminish is observed at a moderate intensity. The unemployment rate in Albania in 2021, compared to 2006, decreased by 4 percentage points. On the example of Serbia, this reduction amounts to 9 percentage points.

TABLE 1 - UNEMPLOYMENT RATE IN SOUTHEASTERN EUROPE COUNTRIES IN % (2006-2021)

Country	North Macedonia	Albania	Bosnia and Herzegovina	Bulgaria	Serbia	Croatia	Romania	Slovenia
2006	36	16	31	9	21	11	7	6
2007	35	16	29	7	18	10	6	5
2008	34	13	23	6	14	9	6	4
2009	32	14	24	7	16	9	7	6
2010	32	14	27	10	19	12	7	7
2011	31	13	28	11	23	14	7	8
2012	31	13	28	12	24	16	7	9
2013	29	16	27	13	22	17	7	10
2014	28	18	28	11	19	17	7	10
2015	26	17	28	9	18	16	7	9
2016	24	15	25	8	15	13	6	8
2017	22	14	21	6	13	11	5	7
2018	21	12	18	5	13	8	4	5
2019	17	11	16	4	10	7	4	4
2020	17	13	15	5	9	8	5	5
2021	16	12	15	5	12	9	5	4

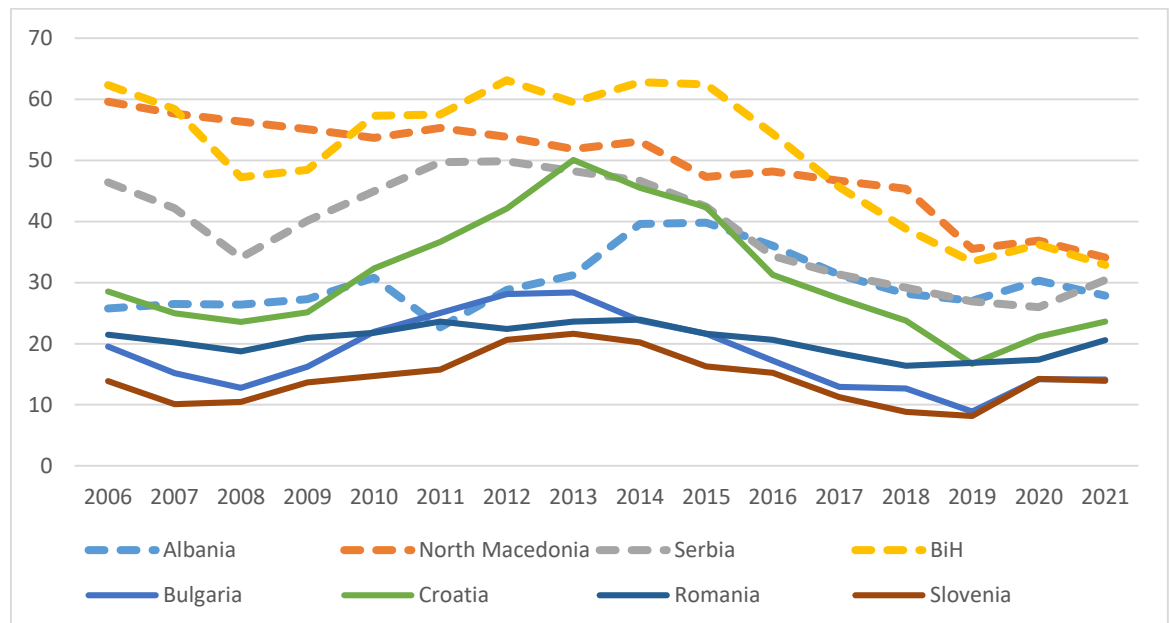Source: World Bank – World Development Indicators Database

In the case of Bulgaria, Croatia, Romania and Slovenia, a single-digit unemployment rate is observed in 2021. It should be noted that these countries, as EU member states, are characterized by a high degree of labor mobility, which is particularly prevalent among the young workforces. The unemployment rate in Bulgaria in 2021 is 5%, Romania 5%, Slovenia 4% which is close to the natural unemployment rate in these countries. The unemployment rate in Croatia in 2021 is 9%, which compared to 2019 represents an increase of 2 percentage points. Specific to Croatia is the fact that a significant part of the labor force is employed in tourism-related activities, so because of the COVID-19 pandemic, there is a slight increase in the unemployment rate in Croatia. The COVID-19 pandemic has contributed to significant job losses, especially in the sectors most affected by the restrictive measures, such as tourism, trade and transport (World Bank Group, 2020). It should also be noted that long-term unemployment persists within these countries. The participation of long-term unemployment in the total unemployment in the countries of the Western Balkans amounts to about 66% of the total unemployment. This situation in the countries of the Western Balkans shows that it is not a matter of a temporary loss of jobs, but that unemployment is a consequence of chronic structural problems of these economies.

Youth unemployment rate is almost twice as high as the total unemployment rate in the analyzed countries (Figure 1). In this regard, it should be noted that in addition to the fact that there are different definitions for the scope of youth unemployment, for the purposes of this paper, the category of youth unemployment includes persons aged 15 to 24 years. For comparison, youth unemployment is around 13% worldwide, while the participation of young workers is around 46% of the total workforce (ILO, 2020). In the previous few decades, youth unemployment in the OECD countries in the period 2005-2008 ranged from 11-13%, while for the period 2009-2015 the level of youth unemployment was 16% on average. Regarding the youth unemployment rate in the EU, it is on average about 4%. The youth unemployment rate in the countries of the Western Balkans in 2021 ranges from 28% in Albania to 34% in North Macedonia. In the other countries that are subject of analysis in the paper (Slovenia, Bulgaria, Croatia, and Romania), the youth unemployment rate in 2021 ranges from 14% to 24%. Hence, there are significant differences in the rate of youth unemployment within the countries of Southeastern Europe, that is, the countries of the Western Balkans and the rest of the EU member states. In North Macedonia and Bosnia and Herzegovina, the highest level of youth unemployment is observed within the entire analyzed period. Youth unemployment in North Macedonia in 2006 was 60%, which means that about 2/3 of the young people aged 15 to 24 who are not part of the educational process, that is, who are actively looking for work, are unemployed. In the period 2006-2014, the youth unemployment rate in North Macedonia is higher than 50%, which is an indicator of deep structural distortions in the national economy and a low level of integration of young people in the labor market. Starting from 2018, there is a more significant decline in youth unemployment in North Macedonia, in 2021 it amounts to 34%, positioning North Macedonia among the countries with the highest youth unemployment in Southeastern Europe. Youth unemployment in the rest of the countries of the Western Balkans shows a similar trend and level, it occupies about 1/3 of the total unemployment in these countries.

For the purposes of our analysis, we use data on labor productivity per employee, not per hour. Although hourly labor productivity provides more accurate results on the level of productivity between countries, it should be taken into account that there is a lack of data in the countries of Southeastern Europe. For those reasons, data on labor productivity per working day are used in the paper. The level of labor productivity of workers in Southeastern European countries is adjusted for Purchasing Power Parity, in order to get a real picture of the contribution of the average worker. The data shows that the highest labor productivity is observed in Slovenia, with 88,138 USD per worker in 2021. Labor productivity in Romania amounts to 84,412 USD, while for the example of Croatia it amounts to 77,669 USD. Labor productivity in Bulgaria in 2021, adjusted for purchasing power parity, is 49,472 USD. Hence, it can be concluded that compared to other EU member states, labor productivity in Bulgaria is significantly lagging behind.

The labor productivity of North Macedonia in the analyzed period points on significant increases in the period 2006-2021. Labor productivity in 2006 was 44,622 USD, while in 2021 it is 44,885 USD. On the other hand, Romania's labor productivity in 2006 was 45,626 USD, while in 2021 it rose to 84,215 USD. Labor productivity in Romania recorded the highest increase, while in the example of North Macedonia and Albania, the increase in labor productivity was small. The labor productivity in North Macedonia in 2021, adjusted for purchasing power parity is 44,885 USD, which together with the labor productivity in Albania, records the lowest level of

labor productivity in Southeastern Europe. Comparing the level of labor productivity for the example of Serbia and Bosnia and Herzegovina in 2021, it can be concluded that the labor productivity in these countries is higher than the labor productivity of Bulgaria (Figure 2).

Source: World Bank – World Development Indicators Database

FIGURE 1 - YOUTH UNEMPLOYMENT RATE IN SOUTHEASTERN EUROPEAN COUNTRIES IN % (2006-2021) (15-24)
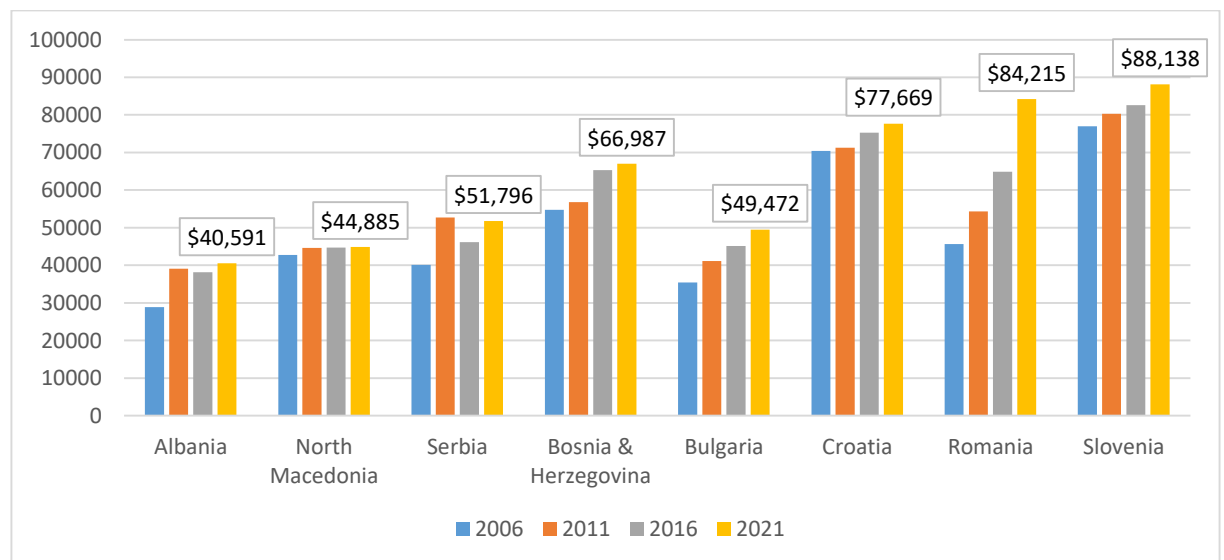
Source: Conference Board Database

FIGURE 2 - LABOR PRODUCTIVITY PER PERSON EMPLOYED (IN 2021 INTERNATIONAL DOLARS, CONVERTED USING PPP)

4. DATA AND RESEARCH METHODOLOGY

The analysis of the determinants of youth unemployment consists of the youth unemployment rate as a dependent variable, which contains data on the unemployment rate of persons aged 15 to 24, in relation to the total active population. On the other hand, the GDP growth rate (in %), the inflation rate (in %), as well as productivity growth are included in this analysis as variables affecting the movement of youth unemployment of labor (in %). The analysis covers the period from 2006 to 2021 and refers to the countries of Southeastern Europe (Albania, North Macedonia, Serbia, Bosnia and Herzegovina, Bulgaria, Croatia, Romania and

Slovenia). Due to the lack of data in the individual time series, Kosovo and Montenegro are not included in this analysis. The data are extracted from the World Bank - Development Indicators database and from the Conference Board Database (Table 2).

TABLE 2- LABOR PRODUCTIVITY PER PERSON EMPLOYED (IN 2021 INTERNATIONAL DOLARS, CONVERTED USING PPP)

Year	Albania	North Macedonia	Serbia	Bosnia & Herzegovina	Bulgaria	Croatia	Romania	Slovenia
2006	28931	42762	40133	54732	35423	70384	45626	76941
2007	30534	44212	42315	55008	36596	71643	48230	79643
2008	34181	43213	42078	53799	37939	71538	53447	80426
2009	37561	41239	44152	52925	37337	66759	52414	75599
2010	38991	44218	48558	54725	39443	68542	52055	78257
2011	39074	44622	52692	56768	41178	71303	54307	80279
2012	38224	43897	52920	57246	42553	72289	54629	78907
2013	40389	42787	52495	59673	42498	74125	57191	78985
2014	40734	43313	46654	61194	42752	71966	58808	80826
2015	39611	44158	47220	63542	44063	72866	61318	81545
2016	38170	44715	46194	65359	45177	75258	64934	82631
2017	37702	43897	45882	65001	45609	75967	68060	84161
2018	37787	45108	47302	65740	46883	76199	71041	85156
2019	38299	45869	48194	65956	48611	76508	73925	85814
2020	37623	43201	47837	64649	47580	71160	72450	82672
2021	40591	44885	51796	66987	49472	77669	84215	88138

TABLE 3 - DESCRIPTION OF VARIABLES

Variables	Description	Source
Dependent variable	Youth unemployment (%)	World Bank
Independent variables	GDP growth (%)	World Bank
	Inflation CPI (CPI)	World Bank
	Labor Productivity Growth	Conference Board Database

Source: Authors' calculations

In order to analyze the individual effects of macroeconomic variables (the GDP growth rate, the inflation rate, and the increase in labor productivity) on youth unemployment on the case of the countries of Southeastern Europe, we employ regression analysis (Ttable 3). The general econometric model which is used for estimation when using panel data can be described as (Brooks, 2014):

$$Y_{it} = \alpha + \beta x_{it} + \mu_{it} \qquad (1)$$

Where y_{it} is a dependent variable, α is the intercept term, β is a k * 1 vector parameters of the explanatory variables to be estimated and x_{it} is a 1 * k vector of observations of the explanatory variables, t = 1,2,…,T; i=1,2,…,N.

Analyzing panel data is simplest by estimating pooled regression, which involves estimating one equation for all observations, so that all cross-sectional data and time series are arranged in a single column. Similarly, all observations of each explanatory variable are arranged in single columns in the matrix x. In that case, this equation is estimated in the usual way using the ordinary least squares (MLS) method. In spite of the fact that this is a straightforward procedure and needs only a few parameters to be estimated, there are some major limitations to this approach. Most importantly, data aggregation in this way implicitly assumes that the mean values of the variables and the relationships between them are constant over time and across all cross-sections in the sample (Brooks, 2014). Several panel evaluation approaches are available for solving this problem: fixed-effects and random-effects. It is possible to adjust the intercepts of fixed-effect regression models cross-

sectionally and temporally, but not over time. On the other side, all estimated slope coefficients are fixed, both cross-sectionally and temporally. The fixed effects model can be estimated using the following equation:

$$Y_{it} = \alpha + \beta x_{it} + \mu_{it} + V_{it} \qquad (2)$$

Where the error term u_{it} can be decomposed into an individual specific effect, u_i, and the "remainder disturbance", Vit, which varies with time and terms (including everything that remains unexplained for Y_{it}. We can count on u_i as covering all variables which affect y_{it} cross over, but do not differ over time. The alternative to fixed-effect model described above is the random-effects model. Each intercept coefficient is different for each member in the random-effects model, as in the fixed-effects model. Assuming that the relationships between the explanatory and explained variables are the same cross-sectionally and temporally, these intercept coefficients are constant over time.

However, the difference is that according to the random-effect model, it is assumed that the intercepts for each cross-member derive from a common intercept α, plus a random variable Ɛi, which varies through the cross-members but is constant over time. From this, Ɛi measures the random deviation of the intercept of each member of the common intercept coefficient α. Because there are fewer parameters to be estimated with the random-effects model (no dummy variables) and therefore, degrees of freedom are preserved, the random effects model should produce a more efficient estimate than the fixed-effects model (Brooks, 2014). The panel model using the random-effects can be written as follows:

$$Y_{it} = \alpha + \beta x_{it} + u_{it}, \text{ where } u_{it} = \mathcal{E}_i + V_{it} \qquad (3)$$

Where x_{it} is still a 1*k vector of explanatory variables, but unlike fixed-effects, there are no dummy variables to capture the heterogeneity (variation) in the cross-sectional dimension. Instead, it happens through member ε_i. It should be noted that this framework assumes that the new error cross member ε_i has zero mean, in independent of the individual error member v_{it}, has a constant variance σ^2, and is independent of the explanatory variables x_{it}.

The setting of the econometric model has a solid theoretical basis and empirical confirmation in previous research. In order to ensure a good fit of the model, that is to examine the integrative characteristics of the time series, their stationarity is determined. In order to determine the level of stationarity, the following first-order autoregressive model AR (1) is applied:

$$\gamma_{it} = \rho_i \gamma_{it} - 1 + X_{it}\delta_i + \varepsilon_{it} \qquad (4)$$

Where i=1, 2,…,N, is the number of cross terms, while Xit represents an exogenous variable in the model that includes certain fixed effects or individual trends, while ρi represents the autoregressive coefficients, while εit represents the random error in the model.

5. DISCUSSION OF RESULTS

Before proceeding to regression analysis, it is considered useful to analyze the degree of correlation between the individual determinants. The degree of correlation shows the interrelationship between the variables that are the subject of analysis, without determining the direction of influence. The results show that, on average, a high degree of correlation is observed between the individual variables, which gives the right to move on to regression analysis (Table 4).

As mentioned above, youth unemployment is analyzed in terms of the impact of individual economic determinants, while political, institutional and other non-economic determinants are excluded from the analysis. As independent determinants in the analysis are included: economic growth, labor productivity growth, and inflation.

The main reason for the inclusion of economic growth, i.e. GDP growth, in the regression analysis is the examination of the widely accepted Okun's law, which claims that the GDP growth leads to an increase in employment, i.e. a decrease in unemployment. This analysis examines the relationship between GDP growth and the movement of youth unemployment, on the example of the countries of Southeastern Europe. The

results of the econometric analysis show that economic growth has a statistically significant effect on reducing the level of youth unemployment. The negative value of the coefficient of economic growth shows that the growth of the economy of 1% will contribute to the decline of youth unemployment by 0.47%. This result is consistent with economic theory, but also with previous empirical analyzes that treated this relationship in other developed and developing countries (Bruno et al., 201). Hence, it can be concluded that although the countries of Southeastern Europe in the previous period were characterized by low GDP growth rates, the economic growth contributed to additional jobs, that is, to the initial integration of the young workforce into the labor market.

TABLE 4 - RESULTS CORRELATION ANALYSIS

Covariance Analysis: Ordinary				
Sample: 2006 2021				
Included observations: 128				
Correlation				
Probability	Youth Unemployment Rate	Labor productivity growth	Inflation	Economic growth
Youth Unemployment Rate	1.000000			

Labor productivity growth	-0.083687	1.000000		
	0.3476	-----		
Inflation	-0.022571	0.269206	1.000000	
	0.8004	0.0021	-----	
Economic growth	-0.052569	0.628303	0.231897	1.000000
	0.5556	0.0000	0.0084	-----

Source: Authors calculations

The inclusion of the inflation rate as a determinant of youth unemployment is an attempt to examine the relationship between these two variables on the example of the countries of Southeastern Europe. In economic science, the thesis is accepted that a moderate level of inflation can have a stimulating effect on economic growth and employment, while high levels of inflation have a disincentive effect on GDP, that is, they can cause significant distortions on the economic system. One of the main postulates of economic thought is the existence of the Philips Curve, that is, the existence of an inverse relationship between inflation and unemployment. Such a postulate starts from the thesis that changes in unemployment can largely predict changes in the inflation rate, and vice versa (Freedman, 1977). Hence, in this paper, an attempt is made to examine this thesis on the example of youth unemployment and inflation in the countries of Southeastern Europe.

The results (Table 5) show that the increase in inflation leads to an additional increase in youth unemployment. A positive but statistically insignificant relationship is observed between the increase in inflation and the increase in youth unemployment. Namely, the increase in inflation by 1% contributes to the increase in youth unemployment by 0.57%, which is an additional indicator of the disincentive effects that the increase in inflation has on employment, but also on the economic situation in general. For example, in most of the empirical research, the increase in inflation affects the decline of youth unemployment, which is in accordance with economic theory but also with the assumption that moderate inflation rates have a positive and stimulating effect on economic growth, and thus on employment.

The positive sign of the inflation coefficient, points to the fact that during a recession, that is, an unfavorable economic environment, when higher inflation rates are observed, it has a negative impact on the employment of young people, it affects an increase in youth unemployment. Hence, it can be concluded that in the countries of Southeastern Europe, especially in the countries of the Western Balkans, in times of unfavorable economic trends, when higher inflation rates are observed, young workers, with little work experience, will receive the blow to the greatest extent, on average, they have low labor productivity.

Changes in labor productivity have been analyzed through the prism of the impact that productivity growth has on unemployment, especially on youth unemployment (Hall et al., 2008). Some authors claim that the increase in labor productivity affects the intensification of economic growth (Bayrak and Tatli, 2018). Also, the increase

in labor productivity is one of the basic determinants of economic development, social progress and the standard of living of workers and their families. Hence, the increase in labor productivity not only has a positive impact on economic growth, it also has a significant impact on structural changes in the economy. Although, in the short term, the increase in labor productivity leads to a short-term decrease in labor demand, in the long term, the increase in labor productivity is the basis for creating additional jobs. The results of the econometric analysis show that the increase in labor productivity has a statistically significant positive impact on youth unemployment. Contrary to the theoretical assumptions that the increase in labor productivity has an inverse effect on youth unemployment, that is, it affects its reduction, the results show a statistically significant positive relationship. From the obtained results it can be concluded that an increase in labor productivity of 1% contributes to an increase in youth unemployment by an average of 0.35%. Such results are also observed in other empirical research on this topic, especially research that focuses on countries in developing countries (Tripier, 2002). The increase in labor productivity and its impact on the increase in youth unemployment is an indicator that, in the short term, the increase in labor productivity contributes to reducing the demand for jobs, while in the long term, the increase in labor productivity in the countries of Southeastern Europe does not contributes enough to the creation of additional jobs.

TABLE 5 - RESULTS REGRESSION ANALYSIS

Dependent Variable: Youth Unemployment Rate		
Method: Method: Panel EGLS (Period random effects)		
Sample: 2006 2021		
Periods included: 16		
Cross-sections included: 8		
Total panel (balanced) observations: 128		
Variable	Coefficient	Prob.
Labor productivity growth	0.348862	0.0341
Inflation	0.571933	0.0380
Economic growth	-0.474303	0.0544
Intercept	30.64024	0.0000
R-squared	0.892015	
Adjusted R-squared	0.882785	
F-statistic	96.64826	
Prob(F-statistic)	0.000000	

Source: Authors calculations

6. CONCLUSIONS

Labor markets in developing countries face significant imbalances, with persistently high levels of unemployment. In these countries, the imbalance in the labor market, that is, the high level of unemployment, is the result of the low level of productivity, the absorptive power of the economy, but also the possibility to create additional jobs. Hence, unemployment in these countries contributes to an increase in social costs, a low level of labor productivity, and a decrease in the general well-being of workers and their families.

The unemployment rate in 2021 in the countries of Southeastern Europe is the highest in North Macedonia 16%, while the lowest unemployment is observed in Slovenia 4%. Differences in the balance of the labor market are evident within these countries. The EU member countries (Slovenia, Romania, Croatia and Bulgaria) have a significantly lower level of unemployment compared to the rest of the Southeastern European countries that are not part of the EU. As a consequence of the increased flexibility and marked mobility of the labor force in the last period, a significant decrease in unemployment can be observed in North Macedonia, Albania, Serbia and Bosnia and Herzegovina. Compared to 2006, the reduction of unemployment in these countries is on average by 14 percentage points.

The youth unemployment rate, on average, is twice as high as the overall unemployment rate. The youth unemployment rate in the countries of Southeastern Europe ranges from 14% to 34%. In the countries that are part of the Western Balkans, compared to the other countries of Southeastern Europe, the rates of youth unemployment show significant differences. Youth unemployment in Slovenia is 14%, which is 20 percentage points less compared to the youth unemployment rate in North Macedonia 34%. However, in the previous

period, youth unemployment rate in North Macedonia decreased significantly. In 2006, youth unemployment in North Macedonia was 60%, which is almost 2/3 of the young people who were actively looking for work could not find employment.

The results for the degree of productivity of the average worker in the individual countries of Southeastern Europe point to the conclusion that, on average, the highest productivity is noticed in Slovenia, while the labor productivity is the lowest in Albania. Labor productivity in North Macedonia in 2021 expressed through purchasing power parity is 44,885 USD. In relation to 2006, no significant increase in labor productivity is noticed in the Republic of North Macedonia, which indicates that the increase in nominal labor productivity is not reflected in a real increase in the efficiency of the economy, nor in the well-being of the average worker. The labor productivity in Bulgaria in 2021 is 49,472 USD, which means that it's only higher than the labor productivity of Albania and North Macedonia, while it accounts to a significant lag in relation to the labor productivity of Slovenia, Romania, Croatia and Bosnia and Herzegovina. Hence, according to the labor productivity trend as one of the indicators of the efficiency of the economy, Bulgaria can state that in terms of the improvement of the state of the labor market, it did not take advantage of the increased mobility of the European labor market.

According to the research, the growth of GDP and labor productivity have statistically significant effects on youth unemployment. The increase in GDP is directly related to the trend of the unemployment rate, and thus also youth unemployment. The results show that the growth of GDP has a statistically significant effect on the diminish of youth unemployment. The increase of GDP of 1% contributes to the diminish of youth unemployment by 0.47%. Hence, it can be concluded that within the countries of Southeastern Europe, economic growth has a positive impact on the degree of integration of the young workforce in the labor market.

The results on the relationship between labor productivity and unemployment indicate the conclusion that the increase in labor productivity affects the increase in youth unemployment. This relationship shows that the increase in labor productivity in the short term affects the increase in youth unemployment. It should be emphasized here that the long-term relationship in the countries of Southeastern Europe between the increase in labor productivity and the reduction of youth unemployment has been lost, that is, the increase in labor productivity does not contribute to the creation of additional jobs for the young workforce.

In the countries of Southeastern Europe, youth unemployment is one of the more serious problems that create long-term and multidimensional negative consequences, both for unemployed young people and for society. As far as the Western Balkans countries are concerned, although youth unemployment has seen a significant decrease in the previous period, it is still at a very high level. Hence, they observe significantly higher rates of youth unemployment compared to the rest of the countries of Southeastern Europe, especially th000000000e Republic of North Macedonia, which records the highest level of youth unemployment.

The high rates of youth unemployment, especially in the Western Balkan countries, could be an indicator of the degree of efficiency of the labor market institutions, the degree of the informal economy, and informal employment. Due to the high degree of informality, many young people are part of the informal economy, especially those who cannot integrate into the formal labor market. Some of these people are also registered as active job seekers, that is, unemployed along with their informal employment. The latest negative shocks in European economies, such as increased inflation, as well as the more realistic expectations for the emergence of stagflation in the economies that are the driving force in the European Union, can have far-reaching consequences on labor markets, especially on young workers. Youth employment, especially young people with modest work experience, represents one of the most vulnerable segments of the labor market. Hence, economic policies should focus on reducing the risk of young workers falling into poverty, that is, becoming working poor in Western Balkan countries.

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