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Economic growth in the Central East European Union and the Western Balkan countries in the course of Stability and Growth Pact and COVID-19*

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Abstract

This research aims to provide an empirical assessment of the relationship between fiscal policy sustainability factors, like fiscal deficit and economic growth in the Western Balkan countries and East European Union Countries, using panel-level data for the yearly time span from 2000-2021. The empirical model provides the impact of fiscal deficit, alongside other control variables like inflation, schooling, total investments, trade openness, and output gap on economic growth in the selected group of countries. For the purpose of research, we employed Static and dynamic panel estimation techniques like Fixed Effects with Driscol and Kraay standard errors and system GMM. The findings confirm that fiscal deficit has significantly affected the growth level in both groups of countries. In addition, when the fiscal deficit has interacted with the COVID-19 dummy, it appears as a growth-enhancing factor. However, when the fiscal deficit interacts with the Eurozone debt crisis period, it becomes a growth-deteriorating factor. Other control variables like inflation, trade openness, total investments, and the output gap are found important factors in explaining the growth performance of the Central East European and Western Balkan countries.

Key words: *growth, fiscal policy, GDP, Western Balkan countries, public finances*

JEL classification: *H3, H6*

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1. Introduction

Fiscal policy influences the country's economic activity through efficient use of public spending, taxation, and borrowing, affecting at the same time both aggregate demand and aggregate supply. The Keynesian approach views fiscal policy as a management tool for boosting economic growth by the increase of aggregate demand, output, and employment. On the other hand, the monetarist approach views fiscal policy as a temporary tool for boosting economic growth in the short run, leaving more room for the monetary policy as the main anchor for growth enhancement. Expansionary (Contractionary) fiscal policy through increase (decrease) of public spending is manifested in the case of economic decline (recovery). While the target of expansionary fiscal policy is to increase the aggregate demand and stimulate consumption and investments during recessions, the target of contractionary fiscal policy is to reduce the aggregate demand during the booms when the economic cycle shows signs of overheating (Mara, 2012; Cashin et al., 2018).

The heterogeneous framework of the fiscal policy in the Western Balkan (WB, hereafter) and Central East European Union (CE-EU, hereafter) countries has been subject to many considerations of institutional bodies due to the constant threats that the fiscal policy has experienced from a different crisis, the latest one being the pandemic COVID-19. Concerning the so-called preventive arm of the Stability and Growth Pact (SGP hereafter), the European Union countries that do not achieve the medium-term budgetary objectives, of keeping a reasonable level of the debt ratio, must adjust their budgetary rules in line with the requirements of the SGP[3]. By the end of 2019 and the beginning of 2020, due to the disturbing effect of COVID-19 on the European economic cycle, the EU member states were subject to a preventive arm, by activating for the first time, since 2011, the SGP general escape clause[4] (Hauptmeier and Leiner-Killinger, 2020).

The WB countries, which follow the EU approximation path concerning the EU integration agenda, are constantly facing economic challenges concerning the sustainability of the fiscal policy in line with the framework of the SGP performance. In this paper, we analyze the fiscal policy sustainability factor in the WB countries[5] in the course of the Stability and Growth Pact (SGP) framework, subordinated from the Maastricht treaty and see its impact on economic growth.

[3] This means replacing the application of the SGP's debt rule, introduced with the six-pack and two-pack regulations in 2011.

[4] The EU member states were permitted to diverge from the fiscal adjustment requirements that would normally apply under the normal conditions, by allowing the coordination of fiscal and monetary policy to counter-act the negative effects of the pandemic.

[5] The Western Balkan countries include the following sample of the countries: Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Kosovo and Serbia.

The descriptive part of the paper outlines the evolution of fiscal policy sustainability factors starting from 2000 onward to reveal the governmental policy factors in the WB countries concerning debt and fiscal deficit criteria, having regard that fiscal rules of the Western Balkan countries are heterogeneous in nature. In addition, the impact of the pandemic COVID-19 is captured in the analysis by outlining the consequences of the deficits and the necessity of financing these deficits through public indebtedness to address possible solutions for the fiscal discipline in the WB countries, required by the European Union. The findings suggest growth enhancement effect fiscal deficit for the WB and CE-EU countries. In addition, the growth enhancement effect of fiscal deficit is confirmed for both groups of countries, WB and CE-EU, during the COVID-19 era also, and the growth-deteriorating effect of fiscal deficit is confirmed during the Eurozone debt crisis period. Concerning control variables, total investments, trade openness and output gap appear to be positively related to economic growth, whereas the inflation rate is negatively related to economic growth. By applying different estimation methodologies associated with panel data of the WB and CE-EU region for e yearly period: 2000-2021, the paper contributes to the literature on economic growth affected by fiscal sustainability factors in the transition countries. In this regard, this research fills the gap in the growth literature, which explains fiscal sustainability behavior with the growth performance of the transition countries of the WB region. The paper is organized as follows. The next section proceeds with empirical studies concerning the relationship between fiscal sustainability factors and economic growth. Section three describes the methodology, econometric assessment, and hypothesis. Section four presents the empirical data and analysis by relying on the descriptive nature of the research. Section five discusses the results obtained by estimating the empirical model framework. The last section concludes the research.

2. Literature review

The empirical literature on the relationship between fiscal sustainability factors and economic growth is rich for developing countries but is missing considerably for the developing and emerging countries, especially for the Western Balkan countries, being in general only of a descriptive nature. This paper aims to add value to the missing part of the empirical contribution on the relationship between fiscal deficits and economic growth for the panel of WB and CE-EU countries.

Lau and Yip (2019) in the study of the relationship between fiscal deficits and economic growth for the ASEAN countries, using data from 2001 to 2015, mainly capturing the global financial crisis period, found that fiscal deficits were growth deteriorated in the pre-crisis period and growth-enhancing in the post-crisis period. Concerning emerging countries, Rana and Wahid (2017), in the study of fiscal deficit and economic growth in Bangladesh, relying on a time series analysis, using

vector error correction model and granger – causality analysis, found a negative impact of government budget deficit on economic growth. Genevieve (2020) in a study assessing the impact of fiscal deficit on economic growth for Morocco, using cointegration analysis, found that fiscal deficit affects economic growth in the Moroccan economy in the long run, while the equilibrium correction was found to be significantly quicker. Aragaw (2021) in a study of twin deficits and economic growth in the selected panel of 27 African countries, using a dynamic panel threshold model found that a budget deficit of less than 0.152% is growth-enhancing.

The theoretical literature identifies three schools of thought on the impact of fiscal policy on economic growth, mainly the Classical school, Keynesian and Ricardian school. The classical school, based on a free-market economy with no need for governmental intervention, is characterized by significant market failures due to the incapability of the markets on income distribution on an equitable basis among the economic agents, leading to the great depression in the years of 1930 (Paul, 1994; Samuelson, 2015). The classical school uses the concept of tax reduction as a necessary stimulus for economic growth (Friedman, 1978; Buchanan and Wagner, 1978; Keho, 2010). The neoclassical school considers fiscal deficit as a factor for enhancing public investment, leading to crowding out of the private investment and thereby growth[6]. If the external debt is serviced mainly through foreign capital, there is little room left for the enhancement effect of investments on growth in the second cycle of the economic activity. In this case, the cost of servicing the public debt via external debt, which for the Western Balkan countries is a severe case, can *crowd out* public investment expenditures, thus, reducing the total investments and complementing the private investment (Karagol, 2012). Keynesian school, which promotes governmental intervention in the economic life of the society, considers the fiscal deficit and enhancement factor of domestic production, generated from the boost of private investment as a crucial factor for enhancing the positive cycle of public investment, thus, encouraging economic growth in the short and long run (Zuze, 2016). The Ricardian School views public spending as an irrelevant factor for the tax rate. The budget deficit has no influence on private investments due to the irrelevant impact of taxes on consumption and thereby on the growth enhancement (Krajewski and Mackiewicz, 2007).

On the grounds of the relationship between government debt and economic growth, the empirical literature is twofold with respect to growth enhancement associated with the increase of public debt. Public debt is the amount of domestic and external

[6] The increase of public spending generated from tax revenues, will increase fiscal deficits and hence raise consumption, on the second run. Via third round effects of the economic cycle, this scenario will lower savings and therefore private investment, resulting on the increase of interest rate of the capital market, above the equilibrium level, which thereafter will crowd private investments and thus reduce the economic growth.

debt. External debt is likely to happen in the emerging economies because of the insufficient funds of the respective economy for financing the initial investments. Low-income countries are exposed to external debt, to finance productive investment, which thereafter leads to macroeconomic instability (Akram, 2011). However, high indebted countries are likely to be exposed to unproductive investment and hence end up with a low level of economic growth. In line with this, Casares (2015), when analyzing an endogenous growth model with two goods from the tradable (manufacturing) and non-tradable (non-manufacturing) sectors found an inverted U-shaped non-linear relationship between external public debt to GDP ratio and the growth rate. Çiftçioğlu and Sokhanvar (2018), on the study of external debt – economic growth nexus in the selected CEE countries provide evidence of adverse effects of external debt on the long-run economic growth in a sample of twelve emerging economies of Central and Eastern Europe (CEE). However, Schclarek (2005) found that for developing countries, lower external debt is positively related to higher growth rates, which is mainly triggered by the public external debt and not by the private external debt, whereas for the industrial countries there is no significant evidence for the relationship of gross government debt and economic growth. Chaudhry et al. (2017) in a study of the relationship between Foreign Direct Investment, external debt, and economic growth in the selected developing countries found a positive and significant impact of external debt on economic growth, where the growth rate is upgraded by 2.13 units, per unit rise of external debt. As concern to the relationship between public spending and economic growth, the empirical literature is rather scant especially for the transition countries, being in general only of a descriptive nature. Considering a sample of 23 developed countries, Cashin (1995) in the study of governmental spending, taxes, and economic growth, covering the period from 1971 to 1988, found the growth-enhancing effects of investments in the public sector, originated from the discretionary taxes that are used to fund such public spending. However, despite the huge empirical literature investigating empirically the relationship between fiscal policy and the growth performance of both developed and less developed countries, the effects of public spending on economic growth are missing to a large extent, especially for transition countries. The paper will add empirical value to the tested hypothesis related to the impact of fiscal deficit on the economic growth for the WB and CE-EU countries in line with the SGP framework and hence contribute to maintaining a healthy fiscal convergence policy for the EU integration agenda of the WB countries.

3. Methodology

The paper will try to shed light on the impact of fiscal deficit on economic growth of the CE-EU and WB countries, relying on a yearly panel data set for the period 2000-2021. The reduced form of the growth equation for the estimation purpose is as follows:

$$g_{it} = \beta_1 x_{it} + \beta_2 y_{it} + \beta_3 x \times d_i + d_i + \theta_i + \gamma_t + u_{it} \quad (1)$$

Where g_{it} is the dependent variable denoting the growth level of the CE-EU and WB countries, x_{it} is the vector of the fiscal sustainability variable, y_{it} is the vector of control variables, d_i is the dummy variables denoting the covid-19, WB countries, financial crisis dummy and Eurozone debt crisis dummy. θ_i is country dummy and γ_t is year dummy. u_{it} is the usual standard error. Extending the approach of Mara (2012), the equation for estimating the impact of fiscal deficit factors on economic growth in the selected countries is the following:

$$g_{it} = \beta_1 y_{(it-1)} + \beta_2 gsb_{it} + \beta_3 inv_{it} + \beta_4 sch_{it} + \beta_5 to_{it} + \beta_6 inf_{it} + \beta_7 og_{it} + \\ + \beta_8 gsb_{it} \times d_1 + \beta_9 gsb_{it} \times d_2 + \beta_{10} gsb_{it} \times d_3 + \beta_{11} gsb_{it} \times d_4 + \theta_i + \gamma_t + u_{it} \quad (2)$$

Where the $i = 1, 2, ..., n$ is the country index, $t = 1, 2, ..., t$ is the time index, denoting the years from 2000 to 2021. The empirical model assumes that growth level of the WB countries is a function of fiscal sustainability factor[7], namely general structural balance and the control variables[8] like total investment, schooling, trade openness, inflation, output gap, as well as the interaction terms between fiscal deficit with COVID dummy (d_1), WB dummy (d_2), financial crisis dummy (d_3) and Eurozone debt crisis dummy (d_4). Based on the interaction between structural balance and the dummy variables, d_1 and d_2 the aim of the study is to differentiate the impact of fiscal deficit on economic growth across two periods, the pandemic period and the non-pandemic period and two group of countries, WB countries[9] and CE-EU countries[10]. On the grounds of the interactions between structural balance and the dummy variables, d_3 and d_4 the study will distinguish growth related factor of fiscal variable, during the financial crisis period and Eurozone debt crisis period, respectively.

3.1. Econometric framework

Static panel analysis: Fixed effects with Driscoll and Kraay standard errors

Driscoll and Kraay standard errors (FEDK) are asymptotically efficient in the panel samples where time series, 'T' exceeds the number of panels 'N' (Hoechle,

[7] This variable constitutes the main interest of the study.

[8] The control (regime) variables are included in the model to augment the regression model of the growth equation, which explain the variation of growth level of the WB countries, due to changes in the fiscal sustainability factor, with other standard variables that may affect the relationship between growth and the fiscal sustainability variable.

[9] Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia.

[10] Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

2007). By relying on large T asymptotic, FEDK estimates assumes that the standard nonparametric time-series covariance matrix estimator is robust to general forms of cross-sectional as well as temporal dependence (Hoechle, 2007). Driscoll and Kraay's estimates are robust to heteroscedasticity and autocorrelation. To control for the presence of cross – sectional dependence we apply the Driscoll and Kray standard errors in the fixed regression model, using the stata command *xtscc, fe,* accounting for two time lags. We also control for time and country fixed effects in the FEDK estimates. Assuming the linear regression of a model.

$$y_{it} = x'_{it}\,\theta + \varepsilon_{it},\ i = 1, 2,..., N;\ t = 1, 2,..., N \tag{3}$$

Where, the dependent variable is y_{it} is a scalar, x'_{it} is a vector of independent variables, θ represent the vector of unknown coefficients, i denotes the cross-sectional units and t denotes time dimension of the sample and ε_{it} represent the scalar disturbance term. It is assumed that the regressors x'_{it} to be uncorrelated with the scalar disturbance term ε_{it}. However, since in the standard pooled OLS the disturbance term ε_{it} are allowed to be auto correlated, heteroscedastic and cross-sectional dependent, Driscoll and Kraay standard errors for the coefficient estimates are then obtained as the square roots of the diagonal elements of the asymptotic (robust) covariance matrix.

$$V(\hat{\theta})=(X'X)^{-1}\,\hat{S}_T\,(X'X)^{-1} \tag{4}$$

Where $\hat{S}_T$ is defined as in Newey and West (1987), allowing the Driscoll and Kraay's covariance matrix estimator to be equal to the heteroscedasticity and autocorrelation consistent covariance matrix estimator of Newey and West (1987) applied to the time series of cross-sectional averages.

Dynamic panel analysis: System GMM

To check for the robustness of our results obtained using the static panel data techniques, we run dynamic panel data regression using Arrellano-Bover/Blundell/Bond estimation procedure (Arrellano and Bover, 1995; Blundell and Bond, 1998). The basic dynamic panel model to be estimated is as follows:

$$y_{it} = \sum_{j=1}^{p} a_j\, y_{i,t\text{-}1} + x_{it}\,\beta_1 + c_{it}\,\beta_2 + v_i + \varepsilon_{it} \tag{5}$$

Where a_j and p are the parameters to be estimated, x_{it} is a column vector of exogenous regressors, c_{it} is the column vector of endogenous regressors, while β_1 and β_2 are row vectors enclosing parameters to be estimated. v_i is the individual panel level effect and ε_{it} is the disturbance term. Model (5) assumes that v_i and ε_{it} are independent for each i over all t. The benefits of system GMM is that it

exploits more instruments.[11] In all cases, the dependent variable and output gap are endogenous and other explanatory variables are treated as exogenous. Following Roodman (2008), we keep the dummy variables in the model to allow for interaction term between the specified dummy variables and our variable of interest, namely fiscal sustainability factor of general structure balance as a percentage of GDP. We utilize lag limit of the dependent variable and other endogenous component and collapse the instruments, in order to treat the instruments eruption.

Data description and hypothesis[12]

The dependent variable g_{ti} denotes the economic growth of WB countries, calculated as a percentage change of real GDP growth, and sourced from IMF, world economic outlook (WEO) database of January 2021. Lagged dependent variable, g_{ti-1} is included in the GMM model to control for the initial level of growth, capturing the convergence effect of growth and potential endogeneity problem.

Fiscal deficit variable gsb_{ti} is the general government structural balance as a percentage of GDP. This variable measures the general government cyclicality adjusted balance for nonstructural elements, beyond the economic cycle. Data is sourced from World Economic Outlook, IMF. The fiscal deficit is expected to have a significant impact on economic growth in the WB countries. The growth enhancement (deteriorating) effect of the fiscal deficit variable is expected in case of a positive (negative) sign of the fiscal deficit variable. The growth enhancement effect of fiscal deficit is financed by the increase of capital accumulation and public investments, crowding out future private investments. The deteriorating effect of fiscal deficit causes an increase in interest rates, making the government deficit financing activity costly, which in turn crowds out private investments as capital investments drop, leading to the joblessness of the low-skilled sectors (Genevieve, 2020).

Inflation rate variable inf_{it} is the percentage change of the average consumer prices, sourced from WEO. The inflation rate is the first control (regime) variable employed in the model[13]. The empirical literature supports the growth-deteriorating

[11] System GMM is more persistent than difference GMM particularly with a higher persistence of the dependent variable and a lower time dimension (Blundell and Bond, 1998). The improvement in efficiency is enhanced by the ability of system GMM to use more information by generating more instruments not only for the lagged dependent variable, but for other regressors as well, which might themselves exhibit high inertia.

[12] Descriptive statistics, correlation matrix, the source and measurement unit of the data is given in the appendix.

[13] Control variables are included for increasing the explanatory power of the model and choosing the best fit of the data that minimizes the error sum of a square as mentioned by Hansen (2000).

effect of the inflation rate (Fisher, 1993; Barro, 1995; Bullard and Keating, 1995; Alexander, 1997; Bruno and Easterly, 1998; Faria and Carneiro, 2001), the growth enhancement effect of inflation rate (Lucas, 1973; Mallik and Chowdhury, 2001; Gillman and Nakov, 2004) and non-linear relationship[14] between inflation and economic growth (Khan and Senhadji, 2001). Following the rich empirical literature regarding the nexus between inflation and economic growth, it is expected that a high inflation rate will be negatively associated with growth.

Total investments inv_{it}, denoted by the total value of gross fixed capital formation and changes in inventories and acquisitions less disposal of valuable for a unit or sector, as a percent of GDP[15], data sourced from the World Bank, World Development Indicator. The Gross Fixed Capital Formation (GFCF) consists of the investment components, which mainly come from the private, public, and government sectors. The empirical evidence regarding the impact of each investment category within GFCF on economic growth is mostly positive. Private investment is considered to have a growth enhancement effect due to the increase in productivity from the technology spillover effect. In addition, public investment increases the productivity of the private sector, which in turn raises economic growth. Public investments applied by governments may enhance growth in the long run through positive spillover effects provided by the value-added activity from the public goods, in terms of positive externalities that public investments in education, physical infrastructure, and research and development contribute to growth. Following the empirical evidence regarding the nexus between investments and growth, we expect the growth enhancement effect of investments. Accordingly, we develop the hypothesis of a growth enhancement effect of total investments.

Trade openness; to_{it} denote trade openness measured by the sum of exports and imports over GDP, data sourced from UNCTAD. This variable is included in the model to capture de jure trade liberalization progress and foreign exchange transactions in the WB countries. The empirical literature supports a positive association between trade liberalization and economic growth, mainly due to the gains that trade liberalization provides to economic growth, like providing a steady-state level of income, reduction of corruption and smuggling, greater economies of scale and scope, knowledge and technology spillovers and stimulation of export

[14] Nonlinear relationship between inflation and economic growth is supported in the models with two thresholds. Existence of a double threshold divides the inflation into three categories i.e. low inflation, moderate inflation and high inflation. Inflation, below the first threshold (6 percent), has positively, but insignificant impact on economic growth; inflation rate at high level (above 11 percent), has significantly negative impact on economic growth. Moderate inflation rate, (in between two thresholds, 6 and 11 percent), has significantly negative effect on economic growth, and the impact is marginal (Iqbal and Nawaz, 2009).

[15] More specifically, Gross fixed capital formation is a flow value who measures net investments resulting from the difference of acquisition and disposals in fixed capital assets by enterprises, government and households within the domestic economy, during an accounting period.

platform FDI (Lee, 1995; Falvey et al., 2012). In this case, we test the hypothesis of a positive association between trade openness and economic growth.

Schooling, sch_{it}, measured in terms of the percentage of the total working-age population with advanced education data sourced from the World Bank. The schooling variable is included in the model to account for the impact of human capital development on the economic growth of the WB countries (Barro, 1992). There is growing empirical literature related to the positive association of human capital with the economic growth, mainly supported by the hypothesis that human capital development through raising the marginal product of physical capital induces further accumulation of human capital, influencing the rise of output (Barro, 1992; Qayyum, 2007). Both the microeconomic and macroeconomic research approaches on the relations between education and productivity appear consistent with each other and strongly recall a causal interpretation of Barro's finding of a positive effect of educational investments on economic growth. Therefore, human capital developments in the WB countries are expected to be positively related to economic growth. On the grounds of the relationship between schooling and economic growth, we test the hypothesis that schooling has a positive impact on economic growth.

Output gap, og_{it}, is measured as a percentage difference of actual GDP (aggregated demand) from trend – potential GDP, (aggregate supply), as calculated with the Hodrick-Prescott filter. Theoretically, the underlying expansion in economic growth is explained through the increase in the output gap, meaning that actual GDP (aggregate demand) converges to potential GDP (aggregate supply), by introducing demand pressures in the goods market, thus, forcing inflation pressures, when actual GDP is higher than potential GDP (Fischer et al., 1997). This creates a space for an economy to operate above its sustainable capacity, hence, increasing the likelihood to generate inflation. Therefore, on the grounds of the relationship between the output gap and economic growth, we test the hypothesis of a positive association between these two variables.

Dummy variables, d_1 denotes the dummy variable capturing the outlier effect of the pandemic covid-19, where $d_1 = 1$ stands for the pandemic year of 2020 and $d_1 = 0$ captures the benchmark category of the normal years without pandemic. d_2 denotes the WB dummy variable, where, $d_2 = 1$ stands for the WB Countries and $d_2 = 0$, captures the benchmark category of the CE-EU member states. On the grounds of the relationship between the interaction terms and economic growth, the developed hypothesis is that economic growth may, to a certain extent, be independent of the country-specific determinants. Therefore, it may be related to the WB countries' geographical region plagued by political instability in the near past during the observed period. Following, d_3 captures the differential impact of financial crisis on economic growth, where $d_3 = 1$ stands for the global financial turmoil for the year 2008 and $d_3 = 0$ stands for the rest years. Additionally, d_4 is a dummy variable employed in the model to distinguish the differential impact of

fiscal deficit on economic growth between two periods, the Eurozone debt crisis period, $d_4 = 1$ considering the years from 2009 to 2012 and the benchmark category of the years without such crisis, $d_4 = 0$.

4. Empirical data and analysis

4.1. Data description

Assessment of fiscal sustainability performance of the Western Balkan countries

The Stability and Growth Pact (SGP) preventive arm matrix controls countries' fiscal adjustment requirements for the next year according to the output gap, i.e. the difference between real GDP and potential output, and whether the government debt-to GDP ratio is above or below the Maastricht Treaty's reference value of 60% of GDP.

Table 1: Stability and Growth arm matrix

		Required fiscal adjustments in percentage points of GDP	
	Condition	Debt < 60 of GDP and no sustainability risk	Debt > 60 of GDP and sustainability risk
Exceptionally bad times	Real Growth <0 or Output gap < -4	No adjustment needed	No adjustment needed
Very bad times	Real Growth < -4 or Output gap < -3	0	0.25
Bad times	Real Growth < -3 or Output gap ≤ -1.5	0 if growth below potential, 0.25 if growth above potential	0.25 if growth below potential, 0.5 if growth above potential
Normal times	Real Growth < -1.5 or Output Gap < 1.5	0.5	> 0.5 [0.6]
Good times	Output Gap ≥ 1.5	≥ 0.5 if growth below potential, ≥ 0.75 if growth above potential	≥ 0.75 if growth below potential, ≥ 1 if above potential

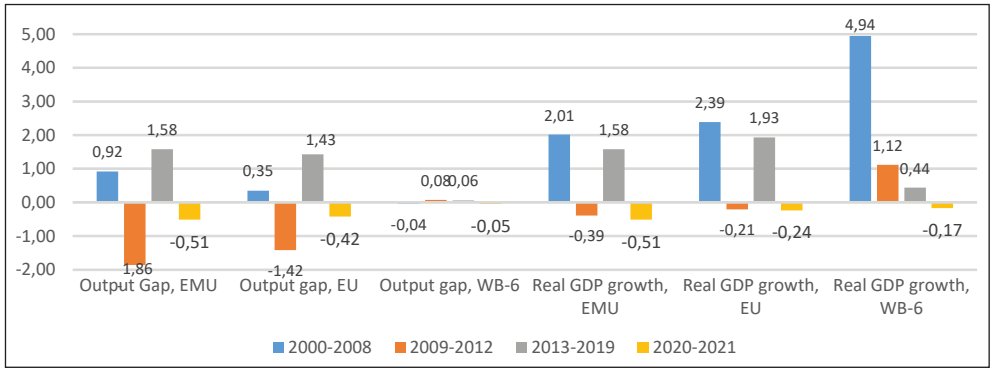
Notes: Real Growth refers to growth of real GDP.

Source: Stability and Growth Pact, Code of Conduct and Killinger and Hauptmeier (2020)

The partitioning of the business cycle and the output gap as well as the resulting adjustment needs for the structural balance are extremely marginal (Hauptmeier and Killinger, 2020). As a result, small decimal-point changes in output gap estimates is complemented with a difference in a country's annual structural adjustment requirement of a quarter-percentage point of GDP (Hauptmeier and Killinger, 2020).

The navigation of countries' fiscal position in the EU's fiscal background based on the unobservable output gap – which represent a crucial component of the SGP preventive arm matrix – is persuaded to making policy mistakes in real time (Hauptmeier and Kamps, 2020). In satisfactory (fragile) economic situations, the unobservable output gap has a propensity to be glorified (underrated). Therefore, in case of a larger (smaller) fiscal adjustment risks, in relation to the limit of the preventive arm matrix, economic cycles are likely to occur in respect of deviations from the normal position.

Figure 1: Output gap and Real GDP growth in the EU, EMU and WB-6 countries



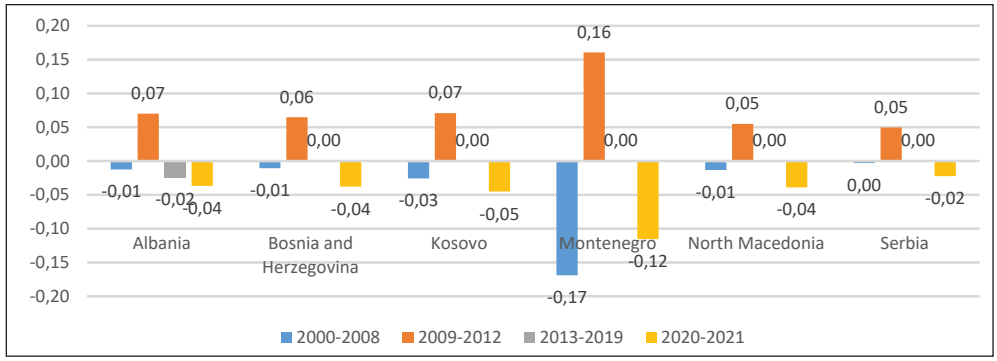
Notes: Output gap is defined as a percentage deviation of actual from trend GDP as calculated with Hodrick-Prescott filter.

Source: International Monetary Fund, World Economic Outlook Database, April 2022 and author's calculations.

Referring to Figure 1, during the observed pre-financial crisis period 2000-2008, the output gap, on average, recorded a positive value for both EU and EMU countries with respective percentage deviations of actual to potential GDP by 0.92 and 0.93 percentage change, representing a favorable economic situation. During the observed period, 2009-2012, which outlines the Eurozone debt crisis period, the output gap in the EU and EMU, on average, recorded negative values reaching the levels of -1.86 and -1.42 percentage change, respectively, for both EU and EMU countries, which represent a downturn economic situation. During the pre-COVID-19 crisis period, covering mainly the years 2013-2019 the respective values of the output gap were positive for both EU and EMU countries, reaching the respective levels of 1.58 and 1.43 percentage change. During the COVID-19 era covering the yearly period 2019-2021 the output gap was negative, reaching the respective levels for the EU and EMU countries by -0.51 and -0.42 percentage changes. The real growth of GDP in the EU and EMU countries followed the same trajectory with output gap cyclical changes during the observed periods. However, the GDP growth in the WB-6 countries, on average, as outlined in Figure 1, exhibit a decreasing trend during the observed periods, recording negative values during

the covid era (2019-2021), by -0.17 percentage change. The Western Balkan Countries, as viewed in Figures 1 and 2, went through contrary cyclical movements of the output gap in relation to EU and EMU countries, during the pre-financial crisis period (2000-2008) and sovereign debt Eurozone crisis (2009-2012), possibly due to the reasons that both crises were not a case for the WB-6 countries.

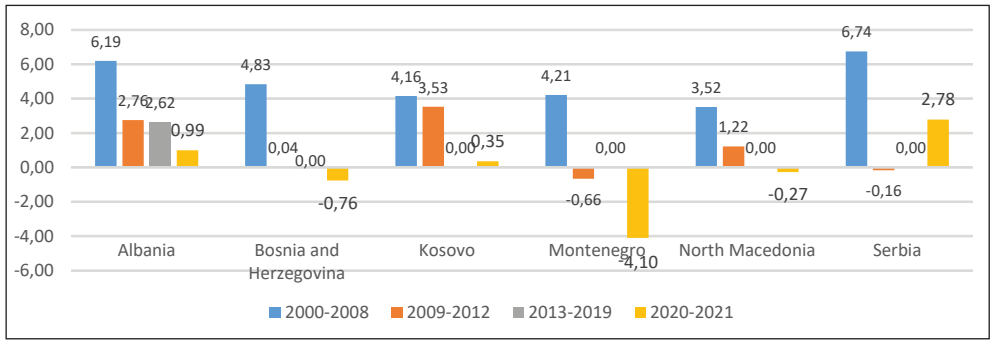
Figure 2: Output gap in the individual WB-6 countries



Source: International Monetary Fund, World Economic Outlook Database, April 2022 and author's calculations.

On the other hand, during the pre-COVID era (2013-2019), the output gap in the WB-6 countries was positive, and during the COVID period, in the economic sense considered a hard time, the output gap was negative. The smallest value of GDP growth among the WB countries, as viewed in Figure 3, during the pandemic period was recorded in Montenegro (-4.10 percent), followed by Bosnia and Herzegovina (-0.76 percent) and North Macedonia (-0.4 percent).

Figure 3: Real GDP growth in the individual WB-6 countries

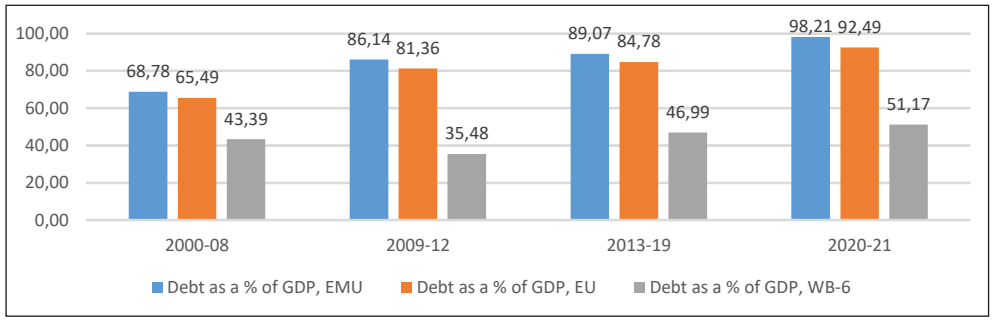


Source: International Monetary Fund, World Economic Outlook Database, April 2022 and author's calculations.

Fiscal challenges in the Western Balkan countries in the light of SGP performance

The Stability and Growth Pact (SGP) contributes to accomplishing macroeconomic stability in the European Union (EU) and plays a key role in securing low inflation and low-interest rate, which on the other hand, adds value to sustainable economic growth and job creation (Heipertz and Verdun, 2003). The main motivation of the Stability and Growth Pact is to guarantee sound budgetary policies permanently, thus, creating a space for the Fiscal Policy in the European Union for the long-term stability of public finances of the EU countries. The economic reason for endorsing the creation of SGP is to provide a policy tool for the member states for maintaining a budgetary discipline, in line with the normal cyclical fluctuations of debt and deficit level, according to excessive debt procedures (EDP)[16] (Dauti, 2021). The EDP procedures allow countries to deal with fiscal rules, subordinated to the Maastricht Treaty, which specify normal cyclical fluctuations of debt and deficit level about the reference value specified by the Maastricht criteria (Dauti and Herzog, 2009). EDP is activated by the debt or deficit criterion. *The debt criterion* is activated if the general government debt is higher than the reference value of 60 percent of GDP and the annual debt reduction target of one-twentieth of the debt over the 60 percent threshold has not been achieved over the last three years (European Central Bank: Convergence Report, 2020). *The deficit criterion* is activated if the general government deficit is higher than the reference value of 3 percent of GDP at market prices[17].

Figure 4: General government gross debt as a percentage of GDP in the EU, EMU and WB-6 group countries.



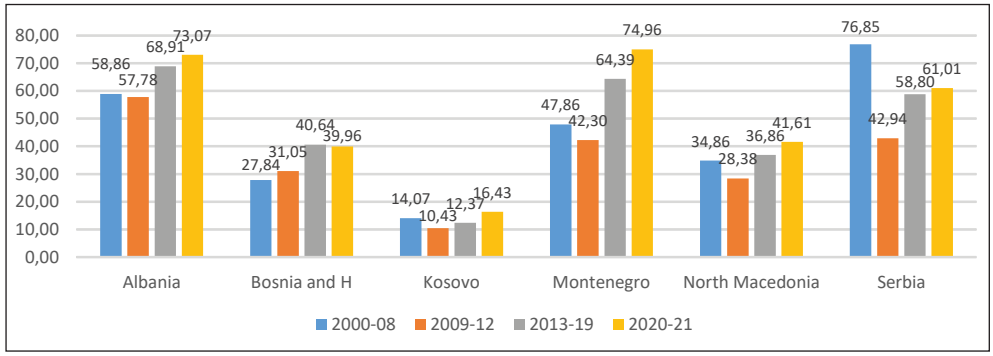
Source: WEO database, April 2022 and own calculations.

[16] The conditions for applying the excessive deficit procedure (EDP) are governed by Article 126 of the Treaty of the Functioning of the European Union (TFEU). Based on protocol No 12 of the TFEU (2012), the Council Regulation (EC) No 1467/97 (1997) and the Regulation (EU) No 1173/2011 (2011).

[17] Based on Article 126 (11) of the TFEU, the EDP also provides sanctions in cases of non-compliance using a fine, consisting of a fixed component (0.2 per cent of GDP) and a variable component (up to a maximum of 0.5 per cent of GDP for both components taken together) (European Central Bank: Convergence Report, 2020). The maximum fine may not exceed 0.5 per cent of GDP.

With respect to the debt criterion, the results shown in Figure 4 outline a worsening trend for the EU and EMU countries, which show excess values of the debt/GDP ratio above the tolerated limit of 60%, a case that does not constitute for the WB-6 countries. Viewing the data on the grounds of crisis periods, the results outline a worsening trend of debt to GDP ratio during the Eurozone crisis period (2009-2012) and COVID era (2020-2021), in relation to the period up until the global economic crisis in 2008. During the normal years of the pre-COVID period (2013-2019) debt to GDP data were also recording an excess value above the specified limit of 60%.

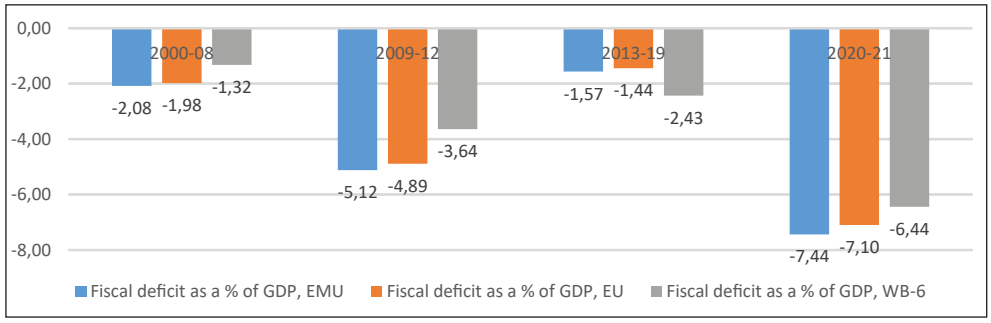
Figure 5: General government gross debt as a percentage of GDP in the individual WB-6 countries



Source: WEO database, April 2022 and author's calculations.

For the debt criterion, the viewed results in Figure 5 confirm a worsening case scenario for Montenegro and Albania during the years 2020 and 2021, recording the excess value of the debt/GDP ratio significantly higher than the tolerated limit of 60% concerning GDP. As viewed from Figure 5, Kosovo, on the other hand, proved to show a success story regarding the sustainability of public finances at the debt level, recording almost two times lower values of debt to GDP ratio than the reference level of 40 percent, (Figure 5), as specified from the Kosovo debt limit rule (see Table 2).

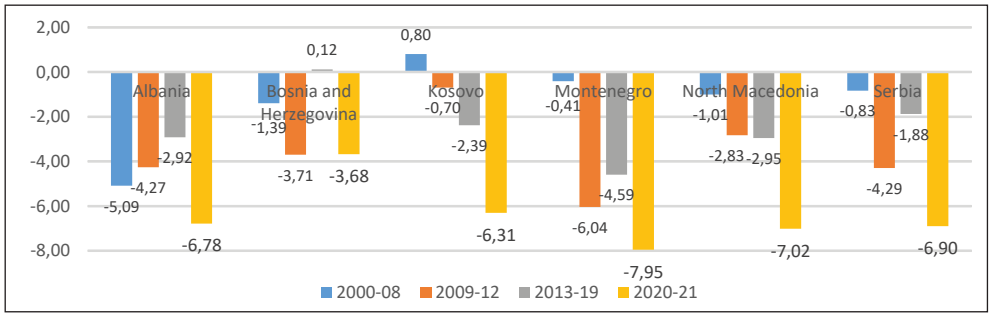
Figure 6: Fiscal deficit as a percentage of GDP in the EU, EMU and WB-6 group countries



Source: WEO database, April 2022 and author's calculations.

On the grounds of fiscal deficit, as viewed from Figure 6, again EU and EMU countries are showing worsening results, reaching the minimum point in the pandemic COVID years of 2020 and 2021, although during the Eurozone crisis period (2009-2012), the worsening trend of fiscal deficit in the EU and EMU is not negligible. This scenario confirms a sensitive case concerning the sustainability of the European public finances, mainly provoked by the pandemic COVID-19 crisis and Eurozone crisis, due to the cyclical effect of fiscal policy in Europe, subordinated from the increase of government spending, financing the economic consequences of both crises.

Figure 7: Fiscal deficit as a percentage of GDP in the individual WB-6 group countries



Source: WEO database, April 2022 and author's calculations.

Observing the fiscal sustainability performance of individual WB-6 countries, from Figures 6 and 7, concerning fiscal deficit criteria, we outline significant evidence of excessive deficits above the tolerated limit of 2-3 percent of GDP for all individual WB countries. This evidence is more severe during the pandemic years of 2020

and 2021 for the WB countries, recording an average value of fiscal deficit of -6.44 percent (see Figure 6). The following table outlines the fiscal rules in the individual WB-6 countries. However, viewing the fiscal performance of the Western Balkan countries with regard to the sustainability of the public finance concerning EDP procedures at the deficit and debt criterion would be highly hypothetical since the individual WB – 6 countries are neither members of the EU nor are to become members of the European Monetary Union in a near future.

Table 2: Fiscal rules in the WB-6 countries

Countries	Debt limit, in relation to GDP	Deficit limit, in relation to GDP
Albania	45 %	2% if g > 5%
Bosnia and Herzegovina		
Federation of Bosnia and Hercegovina	60%	
Republic Srpska	45%	3%
Kosovo	40%	2%
North Macedonia	Considering adaption of the EU fiscal rules	3%
Montenegro	60%	3%
Serbia	45	$1.9 + 0.7dt - 1 - 0.4gt$

Notes: *g* denotes growth rate of real GDP, $dt-1$ is the last year fiscal deficit

Source: Kikoni et al., 2019

The WB-6 countries are heterogeneous in relation to the EU accession status[18], exchange rate regimes[19] and the size of public expenditures. Therefore, each country must face its own decisions with respect to the specified fiscal rules, since fiscal policy consist the only major instrument for the economic stabilization and therefore needs to be controlled during economic booms, but flexible enough to allow deficit spending during economic downturns (Kikoni et al., 2019). Fiscal policy in the Western Balkan countries is a pivotal element for the sustainability of public finances, which within the different WB-6 countries is manifested through proficient use of taxation in the course of preserving a reasonable level of fiscal deficit and national debt (Dauti, 2021). The importance of the fiscal policy is also

[18] Albania, North Macedonia, Montenegro and Serbia are candidate countries for EU membership, while Bosnia and Herzegovina and Kosovo are still considered as potential candidate countries for EU membership.

[19] Kosovo and Montenegro both use the euro, while Bosnia and Herzegovina has a currency board and North Macedonia has a de facto euro peg. Albania and Serbia have flexible exchange rates, allowing some of the burden of stabilization to be borne by monetary policy and the exchange rate.

crucial for endorsing economic growth in the WB-6 countries enlightened through the transmission channel of fiscal policy. The expansion of fiscal policy through investment stimulation will improve the economic growth of the WB countries via the enhancement effect of investment on disposable incomes and therefore on consumption, which leads to economic welfare, triggering new jobs and new incomes for households (Dauti, 2021). This scenario will lead to an increase in tax receipts for the budget, which in turn stimulates public spending.

4.2. Empirical analysis

We discuss the economic interpretation of the Fixed Effects with Driscoll and Kraay's standard errors. To distinguish the effect of fiscal deficit on economic growth, concerning the pandemic COVID-19, WB countries, global financial turmoil period, and Eurozone debt crisis period, we have included the interaction terms between the respective dummy variables and the continuous variable of fiscal deficit[20]. By these interactions, we test the hypothesis that the effect of fiscal deficit on the economic growth is different among different periods distinguished with crisis factors and countries. The interaction term of fiscal deficit with the COVID dummy (d1) is statistically significant at 5 percent level of significance (column 2). Regarding this interaction term, the estimated coefficient of fiscal deficit for the COVID year of 2020, is 0.227(0.067 + 0.160 × 1) percent, whereas, for the non-pandemic years, this coefficient is 0.067(0.067 + 0.160 × 0) percent. The statistically significant difference of 0.067 percentage points in favor of COVID years means that the size of economic growth between two periods (pandemic and non-pandemic period), vary on the grounds of its magnitude, with respect to changes in the level of government structural balance. Hence 10 percent increase in the level of deficit component of a government structural balance, enhances economic growth in the pandemic and non-pandemic period, on average by 2.2 and 0.6 percent, ceteris paribus. Expansionist short run fiscal policies applied due to the pandemic COVID-19, in all the sample countries lead to increase of public expenditures and therefore maintain the economic growth at e reasonable level. The interaction term of fiscal deficit with Eurozone debt crisis is positive and statistically significant at 5 percent level of significance (column 5).The estimated coefficient of fiscal deficit for the Eurozone crisis period is -0.186(0.321 – 0.507 × 1), whereas

[20] The presence of a significant interaction indicates that the effect of one predictor variable on the response variable is different at different values of the other predictor variable. It is tested by adding a term to the model in which the two-predictor variables are multiplied. Adding an interaction term to a model drastically changes the interpretation of all of the coefficients. If there were no interaction term B_1 would be interpreted as the unique effect of fiscal deficit on economic growth at the whole sample countries. Since the interaction indicates that the effect of fiscal deficit on economic growth is different for different values of COVID dummy *(d1),* WB dummy *(d2),* financial crisis dummy *(d3)* and Eurozone debt crisis dummy *(d4),* the unique effect of fiscal deficit is not limited to B_1, but also depends on the values of the dummy variables.

for the benchmark category of years without such crisis, the growth enhancement effect of fiscal deficit is estimated to be 0.321(0.321 – 0.507 × 0) percent. Hence, 10 increase of the fiscal deficit, decreases (increases) economic growth in the debt crisis period (normal period) on average, by 1.8 (3.2) percent, respectively.

Table 3: Results from static panel estimation: Fixed effects with Driscoll and Kraay standard errors

Dep variable g_{it}	(1) Regular variables	(2) Covid-19 interaction	(3) WB interaction	(4) Financial crisis interactions	(5) Eurozone debt crisis interactions
gsb_{it}	0.0747***	0.0678***	0.145**	0.0796***	0.0586**
	(0.0212)	(0.0226)	(0.0547)	(0.0229)	(0.0229)
inv_{it}	0.226***	0.227***	0.219***	0.226***	0.229***
	(0.0657)	(0.0654)	(0.0639)	(0.0651)	(0.0664)
sch_{it}	0.0194	0.0182	0.0255	0.0201	0.0150
	(0.0260)	(0.0251)	(0.0257)	(0.0266)	(0.0246)
to_{it}	0.0359**	0.0366**	0.0350**	0.0362**	0.0343*
	(0.0168)	(0.0172)	(0.0164)	(0.0171)	(0.0166)
inf_{it}	-0.0425***	-0.0431***	-0.0428***	-0.0425***	-0.0421***
	(0.0117)	(0.0119)	(0.0120)	(0.0117)	(0.0116)
og_{it}	5.724***	5.753***	5.599***	5.798***	5.451***
	(1.513)	(1.530)	(1.478)	(1.513)	(1.467)
$gsb_{it}\times d_1$		0.160**			
		(0.0634)			
$gsb_{it}\times d_2$			-0.175		
			(0.142)		
$gsb_{it}\times d_3$				-0.0925	
				(0.0868)	
$gsb_{it}\times d_4$					0.179**
					(0.0680)
Observations	374	374	374	374	374
R-squared	0.693	0.694	0.696	0.694	0.695
Number of groups	17	17	17	17	17

Notes: Dependent variable is economic growth. Driscoll and Kraay standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1 indicate significance level at 1, 5 and 10 percent level of significance. d_1 stands for covid-19 dummy, d_2 is the regional dummy variable capturing the WB countries, d_3 is the financial crisis dummy and d_4 stands for Eurozone debt crisis dummy.

Source: Author's calculation

The growth-declining effect of fiscal deficit in the debt crisis period can be attributed to the low fiscal space of the EU and EMU countries, once having regard the significant increase of public debt in these countries in the late years, especially during the Eurozone debt crisis (2009-2012) and the COVID era (2020-2021) (see Figure 5). On the other hand, the growth enhancement effect of fiscal deficit can be attributed to the high fiscal space of the respective countries to finance their economic activity from the deficit component of fiscal policy. This result indicates that the Keynesian approach of fiscal policy for governmental intervention in the real sector should be encouraged in the CE-EU and WB group of countries. For WB countries, the growth enhancement effect of public debt is an indication that WB countries, due to insufficient level of domestic capital, at the early stages of development rely pretty much on foreign resources to finance the domestic production activities, mainly via external debt, which for the transition countries constitute a significant component of the debt component. This finding coincides with the research which claims that public debt in the developing countries should be about half of that in developed countries (Mencinger et al., 2015). The insignificant coefficient of the interaction terms between fiscal deficit and WB countries (column 3) and financial crisis dummy (column 4), means that the size of economic growth between two group countries (WB and CE-EU countries) and two periods (financial crisis period and normal period), respectively, does not vary with respect to changes in the level of fiscal deficit. Therefore based on the country and financial crisis difference, we interpret the results with regular variables (column 1), which outline a growth enhancement effect of fiscal deficit. The positive relationship of the structural balance variable on economic growth is an indication that the Central East European Union and Western Balkan countries do rely on a debt component of the fiscal policy to finance the domestic production activities.

Considering the control variables, gross fixed capital investments are confirmed as growth enhancing factor, in all estimates, influencing growth level by 2 percent, per 10 percent increase on investment potentials in the sample of WB and CE-EU countries, other things being equal. The coefficient of trade openness is significant at 1 percent level of significance and its impact on growth magnitude is found to be marginal. Growth enhancement impact of trade openness is estimated to be only 0.3 percent, per considerable increase of the openness level of trade by 10 percent cent. This result can be attributed to low profile of applied EU integration policies of the WB countries, especially, once having regard that many of the WB countries are still facing EU integration challenges on the grounds of economic and political circumstances, making the EU approximation path still difficult for this group of countries. Inflation rate is confirmed to rely on a significantly negative association with the level of economic growth, in all the relevant estimates, although its size in economic terms is very small. Hence, a considerable level of 10 percent increase of inflation rate decreases average growth by 0.3 percent, ceteris paribus. On the other hand, the other coefficient, which in addition to cyclical component of

the economic activity proxy the potential inflation pressures, namely, output gap variable, is found to be statistically significant in all estimates, at 1 percent level of significance. All relevant estimates from table 3, confirm growth enhancement effect of output gap, as expected, although in economic sense, following Keynesian approach this potentially may instinct inflation pressures, which arises due to demand components of the economy. Table 4 show the system GMM estimates. These estimates report robust two - step GMM estimates which offers standard errors that are robust to heteroscedasticity and serial correlation (Roodman, 2006). The downward bias of standard errors is addressed in the two-step GMM by using the proposed correction term by Windmeijer (2005), which is implemented by the *xtabond2* stata command. Following Roodman (2008) suggestion for choosing appropriate system GMM specification, based on the p-value[21] of 0.25 obtained from Sargan test[22], we can choose the appropriate model of the robust system GMM estimates, for interpreting the results (Bowsher, 2002).

Table 4: Results from the dynamic panel estimation: System GMM

g_{it}	(1) Regular variables	(2) Covid-19 interaction	(3) WB interaction	(4) Financial crisis interactions	(5) Eurozone debt crisis interactions
g_{it-1}	0.328***	0.240**	0.315**	0.320***	0.277**
	(0.0988)	(0.109)	(0.108)	(0.102)	(0.101)
og_{it}	-15.72	-15.32	-13.90	-15.65	-10.000
	(9.344)	(9.209)	(9.712)	(9.434)	(8.531)
gsb_{it}	0.0904	0.143	0.0532	0.101	-0.0158
	(0.118)	(0.111)	(0.128)	(0.122)	(0.0907)
inv_{it}	0.195***	0.210**	0.197**	0.191***	0.164***
	(0.0647)	(0.0830)	(0.0684)	(0.0645)	(0.0549)
sch_{it}	0.0110	0.0348	0.00352	0.0126	0.007 02
	(0.0858)	(0.0851)	(0.0962)	(0.0841)	(0.0963)
to_{it}	0.00816	0.0105	0.00698	0.00761	0.00253
	(0.0084)	(0.00909)	(0.00893)	(0.00805)	(0.00731)

[21] The Bowsher results suggest that merely keeping the instrument count below N does not safeguard the Sargan-test, The danger is compounded by a tendency among researchers to view p-values on specification tests above 'conventional significance levels of 0.05 or 0.10 with complacency. Those thresholds, thought to be conservative when deciding on the significance of a coefficient estimate, are liberal when trying to rule out correlation between instruments and the error term. A p-value as high as, say, 0.25 should be viewed with concern (Roodman, 2008).

[22] The Sargan test is used for testing the validity of instruments, extremely large and small p - values of this test weakens the validity of instruments. As much instruments we include in the regression model, the Sargan test becomes sufficiently powerful to reject Ho for the validity of instruments.

g_{it}	(1) Regular variables	(2) Covid-19 interaction	(3) WB interaction	(4) Financial crisis interactions	(5) Eurozone debt crisis interactions
inf_{it}	-0.00712 (0.0063)	-0.00191 (0.00778)	-0.00444 (0.00608)	-0.00741 (0.00652)	-0.00842 (0.00729)
$gsb_{it}\times d_1$		1.391*** (0.262)			
$gsb_{it}\times d_2$			0.247* (0.120)		
$gsb_{it}\times d_3$				-0.0666 (0.220)	
$gsb_{it}\times d_4$					0.530** (0.240)
Constant	-3.197 (7.055)	-5.539 (6.906)	-2.697 (8.075)	-3.084 (6.922)	-1.165 (8.192)
Observations	357	357	357	357	357
Nrof groups	17	17	17	17	17
AR test (1) in 1st difference	0.001	0.003	0.001	0.001	0.001
AR test (2) in 1st difference	0.053	0.048	0.062	0.042	0.039
No of instruments	12	12	12	12	12
F statistics, p value	0.000	0.000	0.000	0.000	0.000
Sargan test overd.rest, p	0.000	0.000	0.000	0.000	0.000
Hansen test overd.rest. p	0.058	0.057	0.039	0.061	0.063
Diff. in Hans test for ex. of instr.					
Hans test for excluding groups	0.059	0.041	0.053	0.058	0.240
Difference	0.177	0.251	0.121	0.191	0.048
Gmm (g_{it-1}, col (1,2))					
Hans test for excluding groups	0.021	0.024	0.024	0.019	0.054
Difference	0.278	0.253	0.172	0.318	0.157
Gmm (og_{it}, col(2,3))					
Hans test for excluding groups	0.095	0.847	0.091	0.120	0.071
Difference	0.096	0.028	0.065	0.087	0.128

Notes: Dependent variable is economic growth. Z-statistics in brackets, ***, ** and * indicate significance of coefficients at 1, 5 and 10 per cent, respectively. Internal instruments are used for endogenous variables (lagged dependent variable and output gap). Lag limits are 1/2 for the lagged dependent variable and 2/3 for endogenous regressors. The collapse option is always used.

Source: Author's calculation

Moreover, based on the Hansen test of over-identifying restrictions and the Hansen test of the exogeneity of GMM instruments, the diagnostic tests provide evidence of the instruments' validity. The validity of instruments for endogenous components and the GMM system is applied for estimation purposes. The p-value of 0.00 of the F test in all specifications suggests rejection of the null hypothesis that the independent variables are jointly zero. The dynamics are important in the estimates in order to capture the convergence process of the selected WB and CE-EMU countries. All system GMM estimates are confirming the theoretically expected result that current growth is subject to persistence effects. The results have proved that the increase of agglomeration effect is by 10 percent, resulting in an increase in the current growth level in the WB and CE-EU countries, by 3 percent, on average, ceteris paribus. The fact that some of the significant explanatory variables reported in the static panel models become insignificant in the system GMM specification, with the exception of the lagged dependent variable, suggests that some of the explanatory power of the lagged dependent variable is misleadingly attributed to the other variables in the static specification. Therefore, the empirical results of the model imply that some lost dynamics exist in the static panel models, thus endorsing that the empirical findings of the static models should be recognized with vigilance.

5. Results and discussion

The results of the research confirm that the fiscal sustainability factor, which constitutes the main interest of the study, like fiscal deficit measured by general government structural balance, as a share of GDP, appears vital element in explaining growth behavior of the WB countries. The magnitude of the estimated coefficients denoting the size of the impact, the significance level, and the estimated sign of the coefficients are robust to different specifications of the growth model (columns 1-5) concerning the financial performance of the WB countries. Highlighting the details, we outline a growth enhancement effect of fiscal deficit in the WB and CE-EU countries, which is an indication that the Keynesian approach of fiscal policy for governmental intervention in the real sector should be encouraged in both groups of countries. The practical implication of this argument is that fiscal deficit rises domestic production due to the increase of public capital expenditures, which in the second cycle influence private investments. Therefore, the involvement of the governments in the economic life of the WB countries is recommended, to boost private investments and encourage growth in the short and long run. When interacting with COVID-dummy, the fiscal deficit is found to be in a positive relationship with growth. The explanation of the growth enhancement effect of fiscal deficit in the pandemic COVID-19 years can be attributed to the fact that public spending during the COVID-19 crisis went through a rapid restructuring in all the WB and CE-EU countries. The intention was to finance the liquidity in the

private sector, mainly the service sector to save jobs and manage the sustainability of economic development. In addition, all the WB countries during COVID received significant IMF support in the name of the Macro-Financial Assistance program from the EU, being credited 1.5 billion euros (World Bank, 2021). Albania, North Macedonia, Kosovo, and Bosnia and Herzegovina, also received support from the World Bank to disburse emergency COVID -19 operations in response to the pandemic (World Bank, 2021, Elezi, 2020). Based on a World Bank Report on subdued and greening the recovery, the region of the WB countries in 2020, on average recorded 6% of GDP higher public expenditures than the previous year. In Albania, Bosnia and Herzegovina, and Serbia, capital expenditures increased, while in the other (three) countries in the region they decreased, due to the transfer priorities and costs for social transfers and subsidizing the economy with anti – COVID measures (World Bank, 2021). In addition, the growth enhancement effect of the cyclical component of fiscal deficit is an indication that transition countries were financing their investment needs, during the late 90th and early 20th years, from external debt, once, outlining the fact that public debt in the transition countries was mainly composed of the external debt, rather than domestic debt, during the observed period. However, public debt in the WB countries is not sufficiently large to offset potential investments (Dauti, 2021). Low public debt increases the ability to implement procyclical fiscal policy, resulting in lower volatility and higher growth, which is usually evident in the electoral years, once pointed out that WB countries during the near past went through many cyclical electoral campaigns, due to turbulent political circumstances they went through. However, when interacting with the yearly period capturing the Eurozone debt crisis, a growth declining effect of fiscal deficit is confirmed, which can be attributed to the low fiscal space of the Central East EU and EMU countries. With respect to regular variables, the results of the study outline a growth enhancement effect of investments, trade openness and the output gap, and the growth-declining effect of the inflation rate, as expected. The negative impact of inflation on economic growth is due to the inherent effects of inflation and the inflation rate, which was running high, especially, during the observed different crisis periods like the global financial turmoil crisis, Eurozone debt crisis, and post-COVID-19 economic crisis (World Bank, 2021). The results claim that Trade openness also induces growth, potentially due to the gains that trade liberalization may provide for the increase of economies of scale and scope and the increase of the income level in the CE-EU and the WB countries, although in terms of the economic impact the effect is marginal. This result is an indication that trade liberalization policies in the WB region should be encouraged furthermore, for enhancing growth, by providing greater economies of scale and scope, technology spillover, and stimulation of the export platform of FDI in the second stage (Dauti, 2016). The growth enhancement effect of total investments verifies the theoretical basis of investments on growth, which is mainly driven by different factors affecting the demand and supply side of the economy. Moreover, the confirmed evidence of a positive impact of the output gap on economic growth, on a theoretical basis means

a convergence of actual GDP to its potential level, which is explained through the expansion of the demand components of the economy, like consumption, investment, government expenditures or net exports. In addition, economic policy reforms that the WB countries have gone through in the near past, for reaching a suitable level of EU approximation path have pushed forward an increasing trend of the actual levels of GDP over the trend level, mainly via the increase in the demand components of the growth. The insignificant coefficient of schooling, which is a proxy for human capital development in the WB and CE-EU countries, suggests that developments in the human capital in both country groups are likely to be heterogeneous in nature, making the case an empirical matter for each country. This indicates that the potential growth enhancement effect of human capital in each country can produce an understanding for the policymakers of these countries to build an appropriate public policy for education and training programs.

6. Conclusion

The presented results of our analysis proved the hypothesis that the fiscal sustainability factor of a fiscal deficit has a significant effect on growth level. Growth-heightening effect of fiscal deficit for the selected WB and CE-EU countries is grounded on the productive use of public investments, indicating that initial development stages in the transition countries are mainly financed by foreign capital through borrowings via external debt during the early development stage. On the other hand, the growth-declining effect of the fiscal deficit during the Eurozone debt crisis period is explained through the low-fiscal space of public investments due to high debt limits reached by the CE-EMU countries during the observed period. The control variables help explain the economic growth in the WB countries and find that trade openness positively influences the growth, although its effect is marginal in terms of economic size. Total investments and the output gap are confirmed as growth-enhancing factors, whereas the inflation rate is a growth-declining factor. This research contributes to the growth literature, by examining empirically the effects of fiscal deficit on economic growth in the WB and CE-EU region, having regard to the fiscal performance of the WB region, especially in terms of fiscal deficit and public debt subject to the Stability and Growth Pact, are crucial factors for economic EU adherence criteria of the WB region. The limitations of the research are pertaining to the institutional factors at a governance level, which are missing as control variables in the research, which on the other hand can be considered as deep forces behind managing the financial performance of the WB region. Therefore, a fruitful direction for future research would be to treat the impact of the interactions between the governance factors and the fiscal sustainability performance of the WB region, especially, on economic growth, once having regard that the WB region went through institutional challenges associated with conflicts and wars in the near past.

From the forward-looking perspective, the Western Balkan countries face extensive structural challenges as they struggle to adjust their national fiscal policies in coherence with the EU agenda in order to make their economies adaptable to EU standards. Efforts in the WB countries directed at sustaining deficit and debt levels at realistic highnesses, aggravated by different factors like population aging and shortage of labor supply due to migration, may be unproductive. This situation leads to a potential increase in expenditure pressure, provoking new borrowings and hence an increase in debt and deficit levels. The WB countries are persistently exposed to the need for fiscal consolidation as their approximation paths to the EU integration process reach a suitable level. In terms of fiscal consolidation, from the viewpoint of the supply-side economics, the recommendation for the sample countries would be to concentrate the capital and public investments on productive economic sectors, during normal times, which contain competitive advantages at a national and regional level that expectedly will result on lower inflation and higher output. From the viewpoint of demand-side economics, the recommendation for the sample countries would be to stimulate aggregate demand through consumption and investment increase, during recessions, in bad times.

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Gospodarski rast u Srednjoistočnoj Europskoj uniji i zemljama Zapadnog Balkana tijekom Pakta o stabilnosti i rastu i COVID-19

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Sažetak

Ovo istraživanje ima za cilj utvrditi empirijsku procjenu odnosa između čimbenika održivosti fiskalne politike, poput fiskalnog deficita i gospodarskog rasta u zemljama zapadnog Balkana i zemljama Istočne Europske unije koristeći panel baze podataka za godišnji vremenski raspon od 2000. do 2021. godine. Empirijski model istražuje utjecaj fiskalnog deficita, uz ostale kontrolne varijable poput inflacije, školovanja, ukupnih ulaganja, otvorenosti trgovine i proizvodnog jaza na gospodarski rast u odabranoj skupini zemalja. Za potrebe istraživanja koristili smo statičku i dinamičku panel procjenu tehnike poput fiksnih učinaka s Driscol i Kraay standardnim greškama i sustav GMM. Nalazi potvrđuju da je fiskalni deficit značajno utjecao na razinu rasta u obje skupine zemalja. Osim toga, kada se fiskalne varijable dovedu u interakciju s COVID-19 dummy varijablama, fiskalni deficit rezultira značajnim i pozitivnim učinkom na gospodarski rast. Međutim, kada je fiskalni deficit u interakciji s razdobljem dužničke krize u Euro-zoni, on postaje čimbenik koji pogoršava rast. Ostale kontrolne varijable poput inflacije, otvorenosti trgovine, ukupnih ulaganja i proizvodnog jaza smatraju se važnim čimbenicima u objašnjavanju uspješnost rasta zemalja srednje i istočne Europe i zapadnog Balkana.

Ključne riječi: *fiskalna politika, BDP, zemlje Zapadnog Balkana, javne financije*

JEL klasifikacija: *H3, H6*

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Appendices

A – Table 5: Descriptive statistics

Variables	Observations	Mean	Standard deviations	Min	Max
g_{it}	374	3.175	3.813	-15.2	11.965
gsb_{it}	374	-2.408	2.824	-12.798	7.557
inv_{it}	374	23.955	4.832	12.201	39.215
sch_{it}	374	77.321	4.792	62.12	86.32
to_{it}	374	107.63	32.037	22.49218	190.6986
inf_{it}	374	108.154	47.399	31.97	313.248
og_{it}	374	-.0047	.1014	-1.106	.432
d_1	374	.0454	.2085	0	1
d_2	374	.3529	.4785	0	1
d_3	374	.0454	.2085	0	1
d_4	374	.1818	.3862	0	1

Source: Author's calculation

B – Table 6: Correlation Matrix

	g_{it}	gsb_{it}	inv_{it}	sch_{it}	to_{it}	inf_{it}	og_{it}
g_{it}	1						
gsb_{it}	0.255	1					
inv_{it}	0.229	0.067	1				
sch_{it}	0.051	-0.073	0.124	1			
to_{it}	-0.030	0.008	-0.081	0.194	1		
inf_{it}	-0.158	-0.005	-0.219	-0.072	0.026	1	
og_{it}	0.0278	-0.152	0.271	0.024	0.103	0.062	1

Source: Author's calculation

C – Table 7: Variable description

Variables	Definition	Source
g_{it}	Economic growth, calculated as a percentage change of real GDP growth, IMF, world economic outlook (WEO) database of January 2021	IMF, world economic outlook (WEO)
gsb_{it}	Fiscal deficit, government structural balance as a percentage of potential GDP, general government cyclicality adjusted balance for nonstructural elements, beyond the economic cycle.	IMF, world economic outlook (WEO)
inv_{it}	Investments, gross fixed capital formation and changes in inventories and acquisitions less disposal of valuavble for a unit or sector, as a percent of GDP	World Bank, World Development Indicator
sch_{it}	Schooling, percentage of total working-age population with advanced education	World Bank
to_{it}	Trade openness, The sum of exports and imports over GDP	UNCTAD
inf_{it}	Inflation, percentage change of the average consumer prices	IMF, world economic outlook (WEO)
og_{it}	Output gap, percentage difference of actual GDP from trend GDP, as calculated with Hodrick-Prescott filter	IMF, world economic outlook (WEO) and author's calculation
d_1	$d_1 = 1$ stands for the pandemic year of 2020 and $d_1 = 0$ captures the benchmark category of the normal years without pandemic	Own knowledge
d_2	$d_2 = 1$ stands for the WB Countries and $d_2 = 0$, captures the benchmark category of the CE-EU member states	Own knowledge
d_3	$d_3 = 1$ stands for the global financial turmoil year of 2008 and $d_3 = 0$ is for the rest years	Own knowledge
d_4	$d_4 = 1$ stands for Eurozone debt crisis period, considering the years from 2009 to 2012 and $d_4 = 0$ is the benchmark category of the years without such crisis.	Own knowledge

Source: Author's calculation