



ECONOMIC EFFECTS OF THE FEDERAL BUDGET BALANCE – WESTERN BALKAN COUNTRIES ANALYSIS

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Abstract

The purpose of this paper is to empirically examine the relationship between government budget balance and economic growth in Western Balkan during 2000-2020. Since the countries of the Western Balkans are known for low levels of public debt, the paper aims to measure the level of influence of public debt and other macroeconomic indicators on economic development in these countries. For the realization of this paper, different techniques such as OLS, fixed and random effects, and the Tausman-Taylor model with instrumental variables as diagnostic tests are employed. The results from the linear regression show a negative relationship between public debt and economic development in the Western Balkan countries, suggesting that the increase in public debt by one percentage point affects, on average, the economic decline for 0.0000316 percentage points. Given that the last two decades were accompanied by the two biggest economic shocks, the global crisis and the recent covid 19 crisis, we proved that both had negative impact on real GDP growth per capita. Based on the effect of public debt as a promoter or inhibitor of the economic development, the findings of this study might be used as basic information in the design of economic policies, with special emphasis on countries that have undergone the transition process in the last two decades.

Keywords: Economic Growth, Panel data, Macroeconomis Determinants, Global Crisis, Covid19



INTRODUCTION

The relationship between the budget deficit and economic growth has been discussed widely over time from different economic perspectives; in this sense, many authors have given different ideas regarding this relationship. While Keynesian economics claims that the latter two are positively related, neo-classical economists have the opposite view. Among others, the well-known economist David Ricardo raises and defends his hypothesis that the budget deficit, through interest rate, has a neutral effect on economic growth, which is also a prominent factor in his study of this report. Fortunately, today we have access to numerous studies of different perspectives to assess the possible effects of public debt as a result of increasing budget imbalances and their impact on economic growth. Even though there are many controversies, regressing impact of the government budget imbalance and its implications for the economy, especially in countries that have been aiming for convergence with European criteria for many years, such studies for the Western Balkan countries are scarce.

The budget deficit reflects the degree of economic activity that varies with the course of economic cycles. According to the CBO analysis, the budget balance resulting in an increase in the deficit rate intensifies the debt share as a percentage of GDP. Conversely, the deficit decrease results in a decrease in the debt ratio as a percentage of GDP. From here steams further analysis of the performance of an economy that depends on the budget deficit and the degree of use of public debt as an alternative to the use of fiscal policy (taxes). These controversies, however, remain less studied in transition countries, in other words, countries that have not increased convergence to the extent of the developed countries of Western Europe.

The empirical study covers the period from 2000-2020, a series of data of variables (economic indicators), including economic growth as the dependent variable, and as independent variables (that test their effect on GDP per capita) budget deficit, government debt, and gross national savings. Respectively, the implications of the budget deficit on the level of economic growth of the Western Balkans, such as Albania, Kosovo, Bosnia and Herzegovina, Montenegro, Northern Macedonia, and Serbia. Economists generally prefer to measure deficit or surplus as a percentage of GDP according to the fact that, since GDP expresses revenues from the domestic production of goods and services, the presentation of the deficit, in our case as a percentage of GDP, shows the burden of government debt as part of the general revenue of a country (Hyman, 2010). Furthermore, the data analysis has been made by Stata14, a software for statistical analysis, with the simple linear regression and application of the least square method (OLS). After that, we apply Effective Effect and Random Effects Pattern tests to evaluate the effectiveness of econometric models.

The heterogeneity between states and years is tested by fixed effect, whereas regression OLS and LSDV (least squares dummy variables model) are applied as a suitable model to better understand the fixed effects. On the random effects model, the random intercept and partial pooling model are applied. Hausman-Taylor Recording tests were used to test which model is more reliable for interpretation and have the highest significance as well. The political and economic systems of Western Balkans have seen considerable changes in the last two decades. European economies experienced many economic cycle crises in the recent decade, from 2000 to 2020. This emphasizes the need for examining the effects of various fiscal policies on overcoming crises to be able to develop policies that expedite the exit from the crisis and accelerate economic growth.

In this regard, we pose the research questions of whether an increase in the budget deficit within the Maastricht framework, aimed at a profitable investment level, will result in economic growth. What is the impact of public debt if it is kept within the 60% limit? What is the relationship between the trade deficit and economic development in WB6, and what is the ratio of Gross National Savings to economic growth? What impact does the trade imbalance play in the Western Balkan countries' economic growth? The following hypothesis is proposed to answer this question:

H1: *Public debt within the limit of 60% of GDP has a positive impact on economic growth.*

H2: *The increase of the budget deficit is positively related to the economic growth in the Western Balkan countries.*

The data were collected from World Bank and International Monetary Fund. Even though many variables were difficult to include in the model due to non-compliance with the criteria needed to build the model since countries such as Kosovo and Montenegro have more noticeable data gaps in specific variables, thanks to software, observations with missing values are erased or replaced, allowing statistical procedures to provide relevant conclusions.

LITERATURE REVIEW

There are many different empirical studies that have analyzed the relationship between public debt and economic growth. The budget deficit or surplus reflects the degree of economic activity and how budget changes with the course of economic cycles. Changes that, through interactions between other economic components often affect the achievement of economic stability. (Nayab, 2015) On the other hand, productive spending has a positive relationship with economic growth in the long run. Among many other authors who have tried to solve the dilemma of the extent of the impact of the budget deficit on economic growth (Saleh, 2003) reached results that are in line with Keynes's conventional proposal, which suggests that an

increase in the budget deficit would stimulate domestic absorption, and as an approach, the expansion of imports causing an even stronger current account deficit.

Meanwhile, regarding the impact of budget deficit on increasing the interest rate, it is estimated that such effect depends largely on the chosen form of financing this deficit, by increasing money demand or through taxes. Thus the study also strongly supported the Keynesian model of the high significance of the positive correlation between budget deficit and interest rate. The same goes for the ratio of budget deficit and inflation, where increasing the deficit leads to high inflation levels.

One of the recent studies, (Fetai , Avdimetaj , Bexheti , & Malaj, 2020) assessed the relationship between public debt and economic growth in the European transition countries from 1995 to 2017, trying to determine the threshold to which public debt has statistical effect on economic growth. They found out that low level of public debt has a positive effect on economic growth. As far as less developed European transition countries are concerned, it has been established that the threshold values of debt to GDP have been lower than for more developed ones in this sample. The findings therefore give European transition countries, which have debt levels exceeding the threshold values, further information in terms of reducing their public debt and helping to foster a longer term growth outlook.

In the case of 155 countries over 1970s, a research study by has studied links in terms of growth, government debt and productivity. 2008. They found that economic growth has been negatively affected by a high debt ratio to GDP as well as the Financial Crisis. The effects of the sovereign debt to GDP ratio on 14 European countries' economic growth were analysed by Afonso and Alves in 2015. The period from 1970 to 2012 is 43 years. In the case of 155 countries over the 1970s, a research study of (Panizza & Presbitero, 2013) has studied links in terms of growth, government debt, and productivity. 2008. They found that economic growth has been negatively affected by a high debt ratio to GDP as well as the Financial Crisis. (Afonso & Alves, 2014) conducted a study testing the effects of the sovereign debt to GDP ratio on 14 European countries' economic growth from 1970 to 2012. The study found that, in the short term as well as in the longer term, government debt has a negative impact on growth. This contrast was made by Panizza and Presbitero in 2013 who stated that there is no evidence to support the existence of a debt that affects economic growth, with different ways through which large public debt might harm the economy.

(DAO Thanh Binh and DOAN Hong Hai, 2013) investigated the long-run link between the budget deficit and economic growth in Vietnam from 2003-2012. They concluded that there is a long-term causality relationship resulting from the budget deficit and government spending on economic growth. The study tested whether an increase in the budget deficit has a negative

(non-significant) influence on economic growth, which is in line with the Ricardian hypothesis. At the same time, government expenditures proved to have a significant impact on economic growth, productive expenditures have also proved to be positively related to economic growth, and non-productive expenditures negatively related to economic connectivity.

Researchers highlight the importance of evaluating government projects to promote efficient public investment that accelerates economic growth. (Goher Fatima, Mehboob Ahmed and Wali ur Rehman, 2012) examined the impact of the budget deficit on economic growth from 1978 to 2009, highlighting the negative consequences of Pakistan's high budget deficit rate. The authors stated that the government's inability to effectively estimate spending has resulted in a rise in the deficit rate to 7.3 per cent of GDP over time. Tests revealed that negative impact on economic growth occurs due to governments inability to resources to pay their long-term obligations. Monetary supply by printing money for domestic use is not the greatest way to finance the deficit because it comes with a high cost of inflation and other negative consequences on foreign trade. Whereas they suggest altering the tax structure, direct and indirect taxes is the most equitable strategy to combat the deficit and its negative effects on economic growth. The campaign against tax evasion, with a special emphasis on wealthy individuals, is encouraged as part of the tax reform.

(Próchniak, 2011) Conducted an empirical analysis of the determinants of economic growth of 10 Central and Eastern European countries from 1993-2009. The results affirmed that among the determinants of economic growth in the CEE countries are human capital measured by the level of education in the workforce, the development of the financial sector, and among them with a very favorable position of economic growth is the good fiscal position which means a moderate level of the budget deficit, not so high level of public debt, as well as low-interest rates associated with low inflation. (George A. Vamvoukas, Vassilios N. Gargalas,, 2008) investigated the causal effect and relationships between the budget deficit and the interest rate, concluding that the budget deficit and interest rates are mutually incidental. The findings of the Granger test and the IRF contradict the Ricardian equivalence, which states that the interest rate is unaffected by the budget deficit. In the case of Greece, the budget deficit influenced the rise in the inflation rate, which is consistent with Keynesian theory's predictions. According to the authors, debt monetization was the target of fiscal and monetary policy in 2001, while debt financing was continuously realized through the issuance of bonds leaving no other option but to raise interest rates in Greece as a way of financing the government debt, resulting in extensive damage to the Greek economy.

Another interesting theoretical approach to the relationship between economic growth and macroeconomic variables that influence it is the investigation of (McCandless, 1991), who

explain the impacts of the deficit from a different perspective, claiming that the influence of the budget deficit on the supply side affects the cash flow in the economy (infrastructure and education). He claims that when expenditures exceed revenues, cash flow will increase in the economy and thus generate more employment and output. However, (IMF, 1996) concluded that in the 80s, developed countries that had deep fiscal imbalances had lower economic growth rates too compared to countries with lower balance sheet gaps fiscal. In the series of studies of this time, (Rao, 1953) asserted that government spending on productive projects in developed countries does not turn out to be inflationary due to higher productivity growth. As we see in the early 2000s, economic growth has been accompanied by a good fiscal position. Despite the fact that the region's economy grew, Western Balkans revenues increased faster than government spending. This contributed to the overall financial improvement that resulted in a decrease in government debt. Meanwhile, among the most controversial debates about public debt and economic growth, some economists claim that public debt is associated with future economic decline and the lowering of living standards.

On the other side, according to (Hyman, 2010), the famous classical economist David Ricardo minimized the effect of public debt on economic growth; he argued that ultimately increasing public debt does not affect economic growth because of human interactions and economic circumstances. Unlike most studies, Ricardo claimed that the interaction of public debt to finance the deficit is predicted by individuals, respectively for future expectations of rising tax levels. Furthermore, this expectation results in lower current consumption instead of creating savings reserves to compensate for future tax financing losses. As a result, the interest rate is kept from rising, the rate of investment is not disrupted, and the lack of economic growth is not present, confirming the correlation's neutrality. The author (Rahman, 2012) studied the relationship between economic growth and public debt from the perspective of the state of Malaysia. In the study, he used variables such as real economic growth, budget deficit, government debt, productive and non-productive expenditures. The results of the study turned out to be consistent with the hypothesis of Ricardian equivalence, claiming that in the long-run public debt proved no impact on Economic growth. (Deimante Blavasciunaite, Lina Garsviene and Kristina Matuzeviciute, 2020), investigated the impact of the trade balance on economic growth, with particular emphasis on estimating trade deficit periods for European Union (EU) countries 28. The study concluded that the high rate of trade deficit reduces the rate of economic development. According to the IFM, all Western Balkan countries should work to improve tax compliance to reduce tax evasion.

(WorldBank, 2019) reported that the Western Balkans area had government budget deficit that were lower than the EU average before the global financial crisis of 2008. Since than,

the region has experienced weak economic growth, reduced government tax receipts, and increased government spending. In nearly all Western Balkan countries, the budget deficit rate has increased in recent years, while the implications for GDP did not appear to have changed, as the impacts of imbalances are dependent on the deficit financing technique chosen by the governments. However, according to (WorldBank, 2019) values that forecast the future as a higher public investment through FDI, privatization of revenue-financed projects, and transfers will further deepen the rate of public spending, that will result in an increased budget deficit. Also, in the last year, the situation aggravated by the covid-19 pandemic, large economic packages in all Western Balkan countries have worsened the deficit even more. A scrutiny examination of the research on the relationship between savings and economic growth in developed and those in transition reveals that domestic savings and economic growth are positively related. (Misztal) assumes that increased savings may stimulate economic growth through increased investment. According to the author, if domestic savings would properly invest, it would contribute to economic growth. So that, the primary goal of national economic policy should be to encourage individuals to save, and authorities should try to provide proper conditions for reallocating national resources from old (non-growth) sectors to modern (growth-led) sectors of the economy, to promoting economic growth.

PUBLIC DEBT ON WESTERN BALKAN COUNTRIES – COVID 19 PROSPECTIVE

Public debt in the states of the Western Balkans marked a substantial increase in 2020 by 10.8% of GDP, while the largest increase was recorded on Montenegro by 28.4% (from 78.8% in 2019 to 107.2% in 2020), then North Macedonia with 10.6%, Albania 9.9%. According to the IMF, Kosovo, and Montenegro have reached a public debt of around 6% of GDP. In Albania, the public debt increased to 77.2% of GDP at the end of 2020, and due to the forecast of increases in expenditures, this level of public debt is expected to continue in 2021, according to IMF forecasts, the public debt is expected to reach 80 % of GDP by the end of 2021 among the highest rates in the region. In Bosnia, the increase in the level of spending reflects the increase in public debt from 31.7% of GDP in 2019 to 35.2% of GDP in 2020, i.e. an increase of 3.5%. In Kosovo, as a result of the increase in expenses during the 2019-2020 period, the public budget in Q4 increased by 23.9% compared to the same previous period. In relation to GDP, this report reached 21.8% of GDP in 2020 (while in 2019 it accounted for 21.8% of GDP). The public debt in Kosovo for Q4 was recorded to be 1.68 billion euros, i.e. an increase of 13.1% (double-digit increase) compared to the previous year, I report a double-digit increase of 13.1 percent. Public debt in Kosovo is by law expected to be kept within the framework of 40%

of GDP, and the rate of 23.3% in 2021 keeps Kosovo among the states with the lowest rate of public debt in the region.

According to the (World Bank) public spending in North Macedonia as a result of the virus situation increased from 33.7% of GDP as it was in 2019 to 38.4% of GDP (an increase of 4.7%); while income as a percentage of GDP fell by 1.3%, from 31.5% of GDP (2019) to 30.2 in (2020). Therefore, the public debt increased by 10.7% from 2019 to 2020 (it was 40.7% in 2019 and 51.4% in 2020), and projections for the future predict that the public debt will increase further to 53.9% in 2021. Montenegro was one of the states with the highest level of public debt even before the pandemic crisis where its level for 2019 was 79%, this level of debt was linked to an infrastructure project (Bar-Borjale highway). According to (IMF, 2022) the high fiscal deficit and the decrease in the level of GDP was added to a 7-year emission of Eurobonds worth 750 million euros, raising the level of public debt to 107%, one of the highest levels of public debt among the states of the Western Balkans. In Serbia, the fiscal package to serve the consequences of COVID-19 resulted in an increase in the fiscal deficit, where after its implementation this cost the government an 8.1% increase in the deficit. According to the World Bank, public debt is expected to reach 60.3% of GDP by the end of 2021.

RESEARCH METHODOLOGY

Research Design

This research approaches the quantitative method which is used to test hypotheses and theories; whereas the structure of the research includes: (i) The use of theory - books and scientific papers are used to analyze theoretical topics in public finance respectively, how macroeconomic indicators such as GDP, fiscal policy, monetary policy, inflation, and interest work and interact, for this purpose books and scientific articles, have been used; (ii) Data collection - secondary data were provided by the IMF and the World Bank, which spanned the years 2000 to 2020. The tables A and B in the appendix contain information on data and source of data.

Econometric Model and Data

For purpose of the study, we used the OLS model, random effects, and the Hausman–Taylor IV. Hausman test is employed to estimate which model is more appropriate and reliable for interpretation (Baltagi, 2013). Since the Hausman–Taylor model is considered more efficient than the fixed and random effects, we use the Hausman–Taylor instrumental IV in the empirical model to assess the relationship and the causal link between GDP growth and other macroeconomic variables such as the budget deficit, gross national saving, public debt, trade

balance, real interest rate, and lending interest rate, in six Western Balkan countries during 2000 to 2020. In this paper, we also show the results from the OLS model, fixed effects, and random effects for comparison purpose. Applying the Hausman–Taylor IV, we provide a solution for the endogeneity problem, which is particularly significant in econometrics.

$$y_{it} = c + \beta_1 (y_{it-1}) + \beta_2(\text{govdefi}_{it}) + \beta_3 (\text{govdefi}_{it}) + \beta_4(\text{govdebt}_{it}) + \beta_5(\text{debtsquare}_{it}) + \beta_6(\text{trbal}_{it}) + \beta_7(\text{reintrat}_{it}) + \beta_8(\text{lenintrat}_{it}) + \mu_{it}$$

where, y_{it} is the dependent variable which represents real GDP per capita rate for each country i and t represent years; c is term of constant; the explanatory variables include y_{it-1} is the first lagged of dependent variable among with budget deficit, gross national saving, public debt, trade balance, real interest rate, and lending interest rate. u_{it} represents the exogenous disturbance.

ANALYSIS AND RESULTS

Descriptive Statistics

Table 1 shows the summary statistics. In the appendix, Tables A and B contain information on data and data sources.

Table 1. Statistical description of exogenous and endogenous variables

Variable	OBS	Mean	Std. Dev.	Min	Max
Gdpcap	84	3.385304	2.526905	-5.99697	8.726416
Gdpperclag1	83	3.463182	2.564341	-5.99677	8.726416
Govdebt	84	41.12325	19.2243	5.51	73.72
Govdebtsquare	84	2056.243	1609.102	30.3601	5434.639
Trbal	84	-27.1555	11.81397	-68.11	8.63
Reintrat	84	5.540731	3.620661	-5.89361	13.06305
Lenintrat	84	8.734075	2.88079	3.03	14.83336
Grosssav	84	15.81641	8.483638	-8.27973	32.44514
Govdefi	84	-2.24084	2.665729	-6.81	8.43

Testing Hypotheses and Interpretation

The results of pooled OLS, fixed effects, random effects, and the Hausman–Taylor IV are presented in this section. Because of the heterogeneity of unobservable individual-specific effects, the coefficient from the pooled OLS estimator is skewed. From the result of the Hausman Taylor, we failed to reject the null hypothesis thereafter the model suggests that the appropriate model is the random one. Random effects assume that the entity's error term is

unrelated to the predictors, allowing time-invariant variables to be used as explanatory variables (Torres-Reyna, 2007).

The random effect model suggests that some of the covariates are correlated with the unobserved individuals (Torres-Reyna, 2007). We use the Hausman Taylor since we have endogeneity problems, in this case, we use the exogenous explanatory variables (gdpperclag1, govdebt, debtsquare, trbal, reintrat, lenintrat) as instruments. When running the HT test we got joint effect significant $\text{prob} > \chi^2 = 0.0000$ implying that we have all important variables included. After conducting FE and RE test, we did the Hausman Taylor estimation IV test to choose between models. From the results we see that the estimated of $\sigma_u = .70767764$ and $\sigma_\varepsilon = 2.0030982$ indicating that a large fraction of the total error variance is attributed to u_i .

Table 2. Results from regression analysis

VARIABLES	OLS	Fixed Effects	Random Effects	Hausman Taylor
	Model 1	Model 2	Model 3	Model 4
Gdpperclag1	--	--	--	-0.038
Std. Err.	--	--	--	(0.107)
Govdefi	0.547***	0.541***	0.547***	0.527***
Std. Err.	(0.106)	(0.114)	(0.106)	(0.112)
Grosssav	0.086**	0.104*	0.086**	0.073
Std. Err.	(0.038)	(0.057)	(0.038)	(0.048)
Govdebt	0.056	0.103	0.056	0.114
Std. Err.	(0.058)	(0.114)	(0.058)	(0.080)
Debtsquare	-0.00026	-0.0008	-0.0002	-0.0009
Std. Err.	(0.001)	(0.001)	(0.001)	(0.001)
Trbal	-0.059**	-0.125**	-0.059**	-0.079**
Std. Err.	(0.029)	(0.062)	(0.029)	(0.038)
reintrat	-0.147	-0.116	-0.147	-0.192*
Std. Err.	(0.091)	(0.115)	(0.091)	(0.103)
lenintrat	0.217*	0.146	0.217*	0.210*
Std. Err.	(0.114)	(0.146)	(0.114)	(0.125)
Constant	-1.197	-3.565	-1.197	-0.830
Std. Err.	(1.917)	(4.116)	(1.917)	(2.534)
OBS	84	84	84	83

Note: Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The generated coefficients from the regression analysis show that an increase of one point on the budget deficit will have a positive impact on the economic growth by 0.5268% in the Western Balkans countries assumption that is in line with *the* (Nayab, 2015) proposal that productive budget spending has a positive relationship with economic growth in the long run. For every increase of one point in the gross national saving, the economic growth is predicted to

be higher by 0.0727%. These results are consistent with the theory of (Miształ, 2011) that suggests that domestic savings and economic growth are positively related. Moreover, if the trade balance respectively trade deficit increases by one point percentage, it will have a negative effect of -0.0792 % on the economic growth, the results of this study are consistent with most previous studies (Deimante Blavasciunaite, Lina Garsviene and Kristina Matuzeviciute, 2020).

Regarding the relationship between the lending rate and GDP, results show that an increase in lending interest rate by one percentage point will have a positive impact on economic growth by 0.2095%. Debtssquare represents debt square indicating a non-linear relationship between government debt and economic growth. Theory admits that the correlation between public debt and economic growth is non-linear we expect reduced debt rate to have a positive effect on economic growth and debt in square to have a negative effect on economic growth (Manmohan S. Kumar and Jaejoon Woo).

The public debt has a negative impact on economic growth, but based on the results, precisely the p-value and t statistic we conclude that this independent variable does not have a significant influence on economic growth. While the t-test for the variables budget deficit, trade balance, real interest rate, and lending interest rate is above 1.5 level of significance we say that the coefficients got a strong significance. Therefore, through this result, we confirm the hypothesis which is in line with the Keynesian theory: H1: An increase in the budget deficit affects the economic growth in the transition countries. After execution of the test, we see that in the WB6 countries, we accept the alternative hypothesis against zero hypotheses.

Table 3. Results from regression analysis pooling OLS, LSDV, Fixed Effects, Random Effects and Hausman-Taylor 2000-2020

	OLS Pooling (absolute convergence)		LSDV (Random effects)		Fixed effects		Hausman Taylor
Constant	1.072613	0.002	1.113519	0.001	1.22549	0.001	--
lngdp_cap_ppplag1	0.8796256	0.000	0.8759805	0.000	0.871264	0.000	-0.004716
gpv_debt	0.0034416	0.002	0.0032811	0.005	0.001481	0.479	-0.0018
gpv_debtsqr	-0.0000316	0.000	-0.0000313	0.000	-2.54E-05	0.006	5.90E-06
R²	0.8447	--	--	0.8447	--	0.8373	--
F1	0.0000	--	--	--	--	--	--
F(3, 111)	201.31	--	--	--	--	--	--
obs	115	--	--	115	--	115	--
--	--	--	Wald chi2(3)	575.99	F(3,106)	162.51	--
--	--	--	Prob > chi2	0.000	Prob > F	0.0000	--

Note: 1%; ** 5%; * 10% - :no significant results

In this section, we see empirical results from 2000-2020. The coefficient from pooled OLS is biased due to its heterogeneity on specific individual unobservable effects. Below you find empirical results that measure the effect of public debt on GDP growth per capita in Western Balkans for the time period from 2000 to 2020, including the covid19 period as well. The patterns of growth prevailing across the group of transition economies provide high empirical significance. The regression equations have negative slopes for each analyzed period, they show very large statistical properties with R square below 84% for regression.

From the empirical results of the pooled OLS regression for Western Balkan countries for the time period 2000-2020, coefficient B3 shows that the increase in public debt by 1%, affects on average the reduction of GDP per cap by -0.0000316%, which is in accordance with the hypothesis of presented at the beginning of the paper. We say average because the relationship between variable x and y is imprecise, ie not all data lie exactly on the linear regression line. Since the p-value = 0.000 is less than 0.05, we conclude that the coefficient has strong significance. The Hausman Taylor test is applied to enable us to compare the estimators from the fixed and variable effects whose results are presented in table 3. The Hausman Taylor statistical test is 1.76, which means that we cannot reject the null hypothesis of the Hausman Taylor. The results in table show the negative effect of the public debt (doubled) on the economic development for the Western Balkan countries, with a high level of significance of 1%, this is in accordance with the requirements of the European treaty, for maintaining the level of debt below predetermined limits.

CONCLUSION

This empirical study has given an insight into the economic situation of the West Balkans. The period from 2000 to 2020 has shown that, at a low level, the impact of public debt is positive for economic growth but this effect deteriorates even further. Thus, we say that empirical results are in line with the assumptions of the hypothesis that public debt within the limit of 60% of GDP has a positive impact on economic growth. Moreover, the negative effect of the public debt (doubled) on the economic development of the Western Balkan countries, with a high level of significance of 1%, is under the requirements of the European treaty, for maintaining the level of debt below predetermined limits. Knowing that many European transition countries already have high debt levels, precisely some of them higher than the threshold level determined by Masctrich criteria, the only possible decent sound economic advice for Western Balkan countries is to try to keep public debt on moderate level, and carefully choose investments that need to be covered by public debt. On the other hand we did not find any suport for H2 hypothesis supposing negative relationship of budget deficit with the

GDP per capita on Western Balkan Countries, since as we saw empirical results did not indicate negative relationship between these two variables.

The results from the econometric calculation show that the increase in the budget deficit by one percentage point will have a positive impact on the economic growth by 0.5268% in the Western Balkans countries. This outcome is consistent with Keynesian philosophy, which offered academic and intellectual legitimacy to deficit spending initiatives. According to Keynes, a decrease in consumer spending can be compensated by an increase in deficit spending, which is assumed to keep demand in balance and avoid a high unemployment rate. However, in difficult economic times, this discretionary policy must be used with prudence, as there is evidence that these steps often lead to permanent deficits and uncontrollable debt if financed by debt. Regarding gross national savings, consistent with the economic theory is also a positive relationship between gross national savings and economic growth. The results from the model found that an increase of gross national saving by one percentage point its effect will be positive on economic growth on average by 0.0727%. These results are consistent with the theory of (Miszta, 2011) that suggests that domestic savings and economic growth are positively related. Regarding the relationship between trade balance and economic growth, the model suggests that there do exist negative relations. The result in Table 2 shows that if the trade balance respectively trades deficit increase by 1%, it will have a negative effect on economic growth on average by 0.0792%, this result relies on indicators that show that there is a high significance between these variables (p -value = 0.035), the results of this study are consistent with most of the previous studies (Deimante Blavasciunaite, Lina Garsviene and Kristina Matuzeviciute, 2020). The budget deficit has a negative impact on economic growth, whereas the real interest rate has a positive impact on economic growth, but based on the results, precisely the p -value and t -statistics we conclude that these independent variables do have a significant influence on the economic growth, but it is classified as an endogenous variable that bias the result. The findings of many authors that conducted studies of the same sphere, (George A. Vamvoukas, Vassilios N. Gargalas, 2008), (Goher Fatima, Mehboob Ahmed and Wali ur Rehman 2012), (DAO Thanh Binh and DOAN Hong Hai 2013), are into conflict with the findings presented in the model. And finally, an increase of lending interest rate by 1%, will have a positive impact on the economic growth by 0.2095%.

However, revenues in the Western Balkan countries are failing to offset government spending. Most Western Balkan countries' economic policies, on the other hand, are in line with Article 126 of the Treaty on the Functioning of the European Union, which requires member states to avoid excessive budget deficits. The Maastricht Treaty states that the yearly budget deficit must not exceed 3% of GDP and that public debt shall not exceed 60% of GDP.

According to the data, most Western Balkan countries had an average deficit rate of less than 3%, except Albania, which had an average deficit rate of roughly 4% during these years. It is worth mentioning that the results of the approaches used revealed a significant positive association between economic growth and the budget deficit. Since the study spans a period of nearly half a decade marked by multiple economic crises, all of which left their imprint on the Western Balkan countries that were in the midst of transformation at the time. In conditions of high unemployment, economic downturn, due to the improper level of investment, and an extremely high trade deficit, Western Balkan countries must concentrate on more productive budget expenditures and harmonize more favorable fiscal policies that promote consumption, increase turnover, and enable the country's economic development. The study suggests moderate use of public debt, mainly oriented to investments that generate higher returns that can be translated into economic development. As there are practices of genuine use of debt as one of the primary mechanisms for economic progress, these practices are important to know and practice from institutions and policymakers.

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APPENDICES

Table. A Information on data

Countries of the Western Balkans	
Albania	
Kosovo	
Bosnia and Herzegovina	
North Macedonia	
Montenegro	
Serbia	

Table. B Information on description of variables

Description of the variables	
Gross Domestic Product (GDP) per capita	Gdpcap
Budget Deficit	Govdefi
Gross National Saving	Grosssav
Public Debt	Govdebt
Trade Balance	Trbal
Real Interest Rate	Reintrat
Lending Interest Rate	Lenintrat