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# THE EFFECTS OF THE WAR IN UKRAINE ON THE ECONOMIC PERFORMANCE OF WESTERN BALKAN COUNTRIES

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ABSTRACT

*This paper will analyze the economic performance of six Western Balkan countries. The intention is to utilize the index of economic performance for each country in this region. The analysis will look at the data for the past decade (2010-2022). In addition, secondary data available from publically available databases have been included in this analysis. EPI is constructed by using important macroeconomic indexes such as unemployment, inflation, budget deficit, and annual growth. Also, this paper will analyze the impact that the war in Ukraine has had in affecting the economic performance of Western Balkans countries. To do this, graphs, descriptive statistics, and regression models have been used. In line with conventional wisdom, the results show that countries with lower unemployment have performed better than the countries with higher unemployment rates. Contrary to expectations, higher growth rates have not translated to better performance, as well as increased public borrowing has not correlated to better performance.*

**KEYWORDS:** *EPI; inflation; unemployment; public debt; economic growth.*

## 1. INTRODUCTION

The concept of growth sometimes is viewed by economists as a monochromatic white or black outcome. But this approach cannot be further from the truth. There are no uniform formulae that ensure economic growth, and there is a myriad of ways to measure the said growth. Some countries resolve to

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interpret statistical indicators showing no regard for whether this growth has had any impact on the well-being of the people or has helped in reducing unemployment. Seen from this perspective, it can be deduced that nowadays people are more preoccupied with the methodology rather than the essence, as many countries report economic growth, but fail to show the reduction of unemployment or any improvement in the standard of living. [1], [2]

This paper will look at the Six Western Balkan Countries: Albania, Serbia, Bosnia and Hercegovina, Montenegro, North Macedonia, and Kosovo, commonly referred to as WB6 countries. WB6 countries have displayed a constant Growth of the Domestic Product (GDP) in the past years, but still face many macroeconomic challenges such as high unemployment, high public debt, etc. Given that there is an agreement that GDP is not the most appropriate index of economic prosperity, this study turns to another indicator.

The Economic Performance Index (EPI) is a complex macroeconomic indicator that should alleviate some of the shortcomings that simple indices such as GDP, display. This indicator is developed by the International Monetary Fund (IMF)[3] in 2013 and it combines inputs from the inflation – a monetary indicator, unemployment – production indicator, GDP budgetary deficit – fiscal measure, and the change of Real GDP – an aggregate performance measure for the economy.

Using the conventional indices for 2021 it can be seen that the WB6 countries economies have had a faster recuperation from the recession caused due to the COVID-19 pandemic. GDP growth for 2021 is projected to be 5.9%, which follows a contraction of 3.1% in 2020. The growth trend forecasts an increase of 4.1% in 2022 and 3.8% in 2023. This growth can be attributed to a list of factors, internal and external, that have created favorable conditions for exports. The reduction of infection rates meant that economies could relax their anti-Covid-19 measures, which enabled the release of the 'accumulated' funds within households and firms during lockdowns. Suddenly, people were able to travel, so tourism was generating a lot of income as well as affecting positively the demand and increased consumption. This was helped also with the recovery packages put in place by each country as a response to the pandemic. However, despite the economic growth, the region remains fragile as

[1] Sedlacek, E. W.*: Using noncognitive variables in assessing readiness for higher education:* University of Maryland, 25, 2011, p. 187-245.

[2] Misini, Sh., Badivuku, M.: *Parameters of Economic Growth in Kosovo: Journal of Economcs & Business Research*, 22 (2), 2016, p. 227-243.

[3] International Monetary Found.: *The Economic Performance Index (EPI): an Intuitive Indicator for Assessing a Country's Economic Performance Dynamics in a Historical Perspective*. IMF Working Papers, 2014, p. 29.

high unemployment persists. This was exacerbated by the loss of jobs during the pandemic which mostly affected women and the young population, which can hamper efforts to increase the very low workforce participation index in the region.[4] As a consequence, Western Balkan countries are faced with high emigration, and a drop in natality figures of the population which translates into a decrease in the economic performance of these economies. Thus, according to this paper's analysis, the constant increase of the GDP in WB6 did not translate into an increase in EPI.

The war between Russia and Ukraine has affected the Western Balkans, starting with the increase in energy and food-related items. This impact was exacerbated by the fact that Russia and Ukraine are among the largest producers and suppliers of the above-mentioned items. About 40% of gas is consumed in the EU and 17% of the wheat comes from Russia. Rising energy and environmental costs, notably in the main trading partners of the West, have reduced the EU's economic competitiveness. In the Western Balkans' it appears that Bosnia and Herzegovina has suffered the highest impact from the war between Russia and Ukraine on its economy (2021-2022).[5]

In the attempt to prove the superiority of the EPI compared to other indices, this paper in section 2. will present a literature review, followed by section 3. an explanation of the methodology, which is a prelude to empirical analysis and results in section 4., and conclusions in section 5.

## 2. LITERATURE REVIEW

Literature shows different approaches to estimating the macroeconomic performance of an economy, and some of these studies fail to acknowledge the impact that economic growth has on unemployment, inflation, public debt, and other macroeconomic aspects. This is often due to a lack of available data but every once in a while, one encounters authors who emphasize positive macroeconomic indices and ignore the negative ones hence ignoring the systemic effects those may cause.

It is to be expected, given that countries are comprised of a multitude of actors, and thus interests, that there are more ways to present the economic performance of a country. Some think that rather than traditional macroeconomic indices, a better indicator can be the well-being of the public. But this also

[4] Economic Growth, World Bank retrieved Mars 20, 2022.

[5] The Vienna Institute for International Economic Studies.: *The impact of the Ukrainian Crisis on the economy of the Western Balkans. Chamber investment forum Western Balkans 6*. March 29.2022.

comes with its problems, since as Cook and Kenny[6] 2005 study reports, there is a difference in the perception of subjective well-being and economic development. This brings a strand of authors discussing the *GDP per capita* as a macroeconomic indicator. Despite some shortfalls in reflecting the inequalities in income distribution, *GDP per capita* is superior to GDP in reflecting the overall development of the economy.[7], [8] This is in line with Stiglic et al.[9] 2009 who find that the benefits of the growth of the GDP are rather enjoyed by few individuals, and more attention should be paid to the metrics of *GDP per capita* which may capture better the well-being of the public and the overall performance of the economy. Two separate crises have wreaked havoc on the global economy and the local economy. These two crises, COVID-19 and the war between Russia and Ukraine have exercised tremendous stress on economies. COVID-19 has increased unemployment (and later inflation due to quantitative easing measures put in place by virtually all developed economies, and the conflict in Russia has exacerbated inflation through the increase of energy and food-related prices.[10]

When discussing macroeconomic indicators, Elmendorf and Mankiw[11] (1999) find that public debt can positively impact the aggregate demand thus helping in short-term growth, but in the long term, public debt adversely affects growth. High public debt can hamper investment.[12],[13],[14] Deterioration of the public debt is detrimental to economic growth, even though in some cases

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7 Georgescu, G.: *The Gross Domestic Product. History, relevance and limitations in its interpretation:* University Library of Munich, Germany, 2016, p.116.

8 Motofei, C.: *Vectors of economic growth in the eastern area of the EU: Theoretical and Applied Economics*, 24(1), 2017, p. 215-226.

9 Stiglitz, J. et al.: *The measurement of economic performance and social progress revisited: Reflections and Overview*. OFCE – Centre de recherché en economie de Sciences, France, 2009, p. 2-4.

10 African Development Bank.: *Africa's Economic Performance and Outlook*, May 25, 2022, p. 14.

11 Elmendorf, D. et al.: *Government Debt. in Taylor, J.B. and Woodford, M. (ed.). Handbook of Macroeconomics*. Vol. 1, Chapter 25, Amsterdam, The Netherlands, 1999, p. 1615-1669.

12 Modigliani, F.: *Long - Run Implications of Alternative Fiscal Policies and the Burden of the National Debt:* Economic Journal 71(284), 1961, p. 55, 730.

13 Gale, W. et al.: *The Economic Effects of Long-term Fiscal Discipline: Urban - Brookings Tax Policy Center Discussion Paper No. 8*. The Urban Institute, Washington, DC, 2003, p. 4.

14 Baldacci, E. et al.: *Fiscal Deficits, Public Debt and Sovereign Bond Yield: Working Paper,* International Monetary Fund, Washington DC, 2010, p. 14.

helps in raising public capital. [15],[16],[17] In general, public debt is perceived to incentivize skewed taxation, or higher inflation to pay for the debt, which in turn reduces the potential growth in the future. Thus, public debt restricts the scope of fiscal policy instruments for the government. [18],[19] International Monetary Fund[20] (2023) studying the relationship between public debt and inflation for the following countries: the United States, England, and Brazil, concluding that all citizens underestimate public debt levels and raise inflationary expectations. Furthermore, people associate high public debt with stagflationary effects, and the sensitivity of inflation expectations to public debt is significantly higher among those who have fallen down the rankings.

Reinhart and Rogoff[21] (2010) examining the relationship between inflation, debt, and growth, find a non-linear relationship between public debt and growth. Their analysis suggests that for developed countries, lower debt, all else equal translates into higher growth proportionally. This relationship, according to authors, holds also for emerging markets, albeit at a lower intensity. The nonlinearity in the relationship between growth and debt is confirmed also by Checherita and Rother[22], [23] (2010). Looking at OECD[24] countries for

[15] Adam, C. et al.: *Fiscal Deficits and Growth in Developing Countries:* Journal of Public Economics 4, 2005, p. 571 –5 97.

[16] Saint-Paul, G.: *Fiscal Policy in an Endogenous Growth Model:* Quarterly Journal of Economics, 107 (2), 1992, p. 59.

[17] Aizenman, J. et al.: *Economic Growth with Constraints on Tax revenues and public Debt: I implications for fiscal policy and Cross - country Differences*. National Bureau of Economic Research, Cambridge, 2007, p. 127.

[18] Aghion, P. et al.: *Cyclical Macro-Policy and Industry Growth: The Effect of Countercyc local Fiscal Policy*. Harvard University, Cambridge, 2007, p. 358.

[19] Woo, J.: *Why Do More Polarized Countries Run More Procyclical Fiscal Policy:* Review of Economics and Statistics 91(4), 2009, p. 850 – 870.

[20] International Monetary Found.: *Public Debt and Household Inflation Expectations*. IMF Workgin Paper, Research Departament. Prepared by Frances Grigoli and Damiano Sandri. March 2023, p. 2-8.

[21] Reinhart, C. et al.: *Growth in a Time of Debt:* American Economic Review 100(2), 2009, p. 78, 573.

[22] Checherita.C. et al.: *The impact of high and growing government debt on economic growth an empirical investigation for the euro area:* Europian Economic Journal, 56 (7), 2010, p. 1392-1405.

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[24] Growth and Debt, OECD, retrieved June 15, 2021.

the period 1960-1992, Andrés and Hernando[25] (1997) find a significant negative correlation between inflation and income, which they interpret as moderate inflation rates affect adversely growth, thus reducing income per capita. Their data seems to suggest that a 1 percent decrease in inflation rates can be translated into a 0.5 – 2 percent increase in income per capita. Mamo[26] (2012) however, seems to suggest the correlation between growth and inflation can vary between positive, negative, and neutral. Fisher[27] (1993) reports a negative relationship between inflation and growth, which is partially confirmed by Mallik & Chowdhury[28] (2001) for economies with high inflation rates. In economies where inflation is low, they find a positive relationship between the two. Sidrauski[29] (1967) pushes further this discussion by suggesting that inflation has no bearing on growth which is supported by Švigir & Miloš[30] (2017) as their empirical research fails to find a statistically significant relationship between inflation and GDP growth. Özyilmaz[31] (2022) finds that high inflation has a negative effect on investment decisions which consequently directly leads to a decrease in economic performance.

On the other hand, numerous studies are finding a relationship between growth and unemployment. For instance, countries that experienced continuous year-to-year growth, have seen a drop in unemployment rates. This was true for countries such as Antigua, Barbuda, Bahamas, and Barbados.[32], [33] However, the relationship between growth and unemployment does not seem to be very potent. Middle Eastern/Arab countries, like Alger, Jordan, and alike, despite having experienced economic growth, failed to see any drop in unemploy-

[25] Andrés, J. et al.: *Does inflation harm economic growth? National Bureau of Economic Research,* Massachusetts Avenue Cambridge, 1997, p. 26.

[26] *Mamo, F. T.: Economic growth and inflation. Master's Thesis: Södertörns University, 2012.*

[27] Fischer, S.: *The role of macroeconomic factors in growth*. National Bureau of Economic Research, Cambridge, 1993, p. 456.

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[29] Sidrauski, M.: *Rational choice and patterns of growth in a monetary economy:* American Economic Review 57(2), 1967, p. 534-544.

[30] Švigir, M, et al.: *Relationship between Inflation and Economic growth:* comparative experience of Italy and Austria: 5 (2), 2017, p. 96 – 99.

[31] Özyilmaz, A.: *Relationship between inflation and economic growth in EU Countries. Journal of Economic Policy Researches*. Istanbul University Press: 9 (2) 2022, p. 434-435.

[32] Baker, J. L.: *Poverty reduction and human development in the Caribbean: A cross-country study*: World Bank Discussion Paper, 1997, p. 366.

[33] Osinubi, S. T.: *Pakistan Economic and Social Review:* School of Economics, Univeristy of the Punjab, Lahore, Pakistan, 15 (2), 2005, p. 157.

ment.[34] This holds for Kosovo's economy also, at least not at a satisfactory level as Misini & Badivuku[35] (2017) find that the growth in Kosovo does have an impact on lowering unemployment, but it does not follow Okun's law. However, the lack of a potent relationship between growth and unemployment does not seem to have put off researchers. Then there are those who found their arguments in rapid growth and argue that this growth has to do with government capacities and is correlated to good governance. [36],[37] Ozen (2022)[38] argues that the growth of the economy will increase economic expenditure, therefore investments will also increase and these positive developments will create jobs and affect the reduction of unemployment. This is in line with the postulation that low growth will generate high unemployment which leads to a disproportionate distribution of wealth between many that get impoverished and a few accumulating most of the nation's wealth. Growth is expected to help lift the economy out of poverty if the distribution model is geared more toward equality. Thus, faster growth can assist in establishing a more just distribution model which is perceived as an important factor in the overall performance of a country. [39] A real-life example of this is Hong Kong's economy which managed to move from a poor to a rich country by using continuous growth as a vehicle. [40]

The influence of the Russia-Ukraine war on all countries throughout the world has been and continues to be substantial. The rise in the price of oil and gas has resulted in an increase in the price of all other products, raising the cost of living for all people globally. Russia is the world's leading wheat exporter, accounting for 18% of total global wheat exports, while Ukraine accounts for more than 25% of total worldwide wheat exports. Furthermore, these two countries man-

[34] Hobees A. et al.: *The relationship between Unemployment and Economic Growth in Jordan and some Arab countries:* Word Applied Sciences Journal 18 (15). 2012, p. 679.

[35] Misini, Sh., Badivuku-Pantina, M.: *The effect of economic growth in relation to unemployment:* Journal of Economics and Economic Education Research, 18 (2), 2017, p. 7.

[36] Acemogly, D. et al.: *Why Nations Fail: The Origins of Power,* Crown Business, New York, 2012, p. 529.

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[39] Vijayakumar, S.: *An Empirical Study on the Nexus of Poverty, GDP growth, Dependency Ratio and Employment in Developing Countries:* Journal of Competitiveness, 5 (2), 2013, p. 71-72.

[40] Bade, R. et al.: *Foundations of macroeconomics: 5th Edition,* Pearson College, England, 2013, p. 467.

ufacture processing metals for industries such as automobiles and computers.[41] The war has had a profound influence on people all across the world, particularly in the Western Balkans. This war is also reflected in the most crucial indicators of economic success in Western Balkan countries, such as inflation, unemployment, public debt, and a slowdown in economic growth, among other things.

To sum up, growth in real terms and improvement of well-being can be attributed to good governance and vice-versa, lack of growth and well-being are mainly due to poor institutional governance of the country.

## 3. METHODOLOGY

This paper will look at the indices of Western Balkan countries, using secondary data produced by World Bank, International Monetary Fund, OECD, etc. Annual data for the period from 2010 to 2020 was used for this analysis.

As explained earlier, the Economic Performance Index (EPI) measures some macroeconomic indices looking at three main sectors of the economy: households, firms, and government. This study will utilize the approach of the World Bank's (2014) work and compose the EPI using the following indices:

- Inflation rate as a proxy for the monetary positioning of the economy;
- Unemployment rate as an indicator of the production function sustainability of the economy;
- Budgetary deficit as a proportion of the total GDP, to indicate the overall fiscal positioning of the economy;
- Change in Real GDP, to evaluate the aggregate performance of the economy as a whole.

The panel data was used to test the following model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \text{.....} + B_n X_n \quad (1)$$

To assure comparability among countries, the estimated model for this study was constructed as below:

$$EPI_t = 100\% - |Inf(\%) - I_t| - (Unem(\%) - U_t) - (Def/GDP(\%) - Def/GDP_t) + (\Delta GDP(\%) - \Delta GDP_t) \quad (2)$$

where: Inf(%) is the current inflation rate; Unem(%) is the current unemployment rate; Def/GDP(%) is the current budget deficit as a share of GDP; and ΔGDP(%) is the real GDP growth rate.

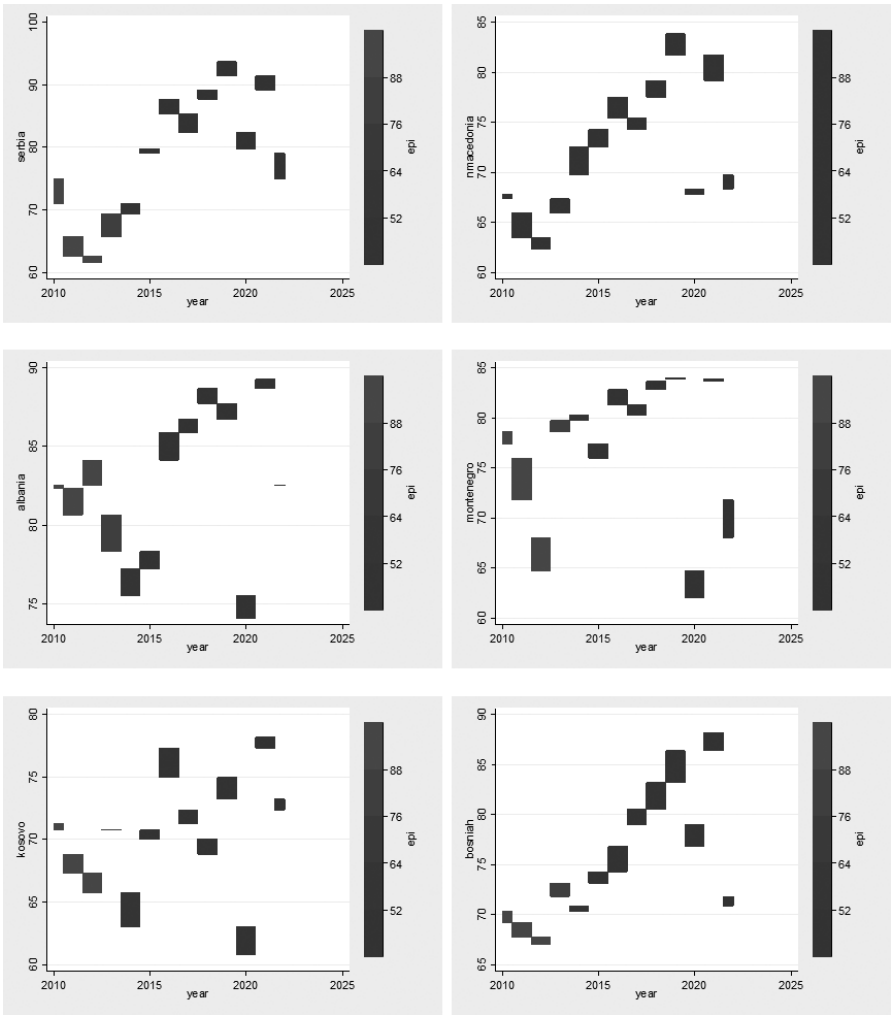
[41] The Vienna Institute for Invernational Economic Studies.: *The impact of the Ukrainian Crisis on the economy of the Western Balkans. Chamber investment forum Western Balkans 6*. March 29.2022.

$EPI_t$ is the dependent variable while inf, unem, def ΔGDP(%) are the independent ones.

## 4. THE EMPIRICAL ANALYSIS

The empirical study is commenced by visualizing the available data. For each country, the EPI of each country is plotted against a decade of respective economic performance.

**Graph 1. EPI for 6 countries (Western Balkans)**



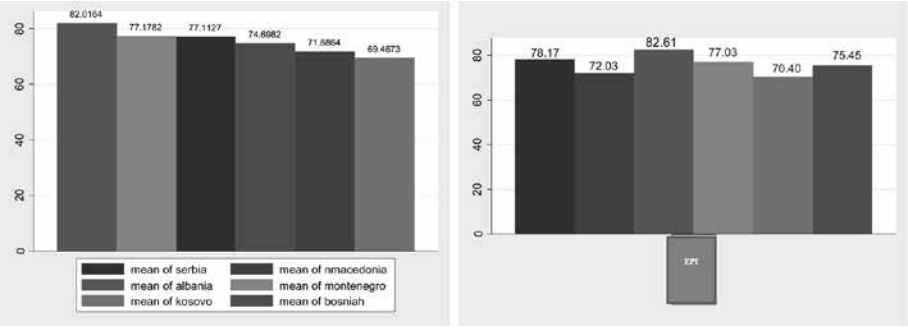

Source: author's calculation

The graphs reflect the usual development trends of each country's economy. However, an interesting observation emerges as in 2020 all countries suffer a drop in their respective EPIs. This can be attributed to the Covid-19 pandemic that the entire globe was fighting. However, the drop was more severe for some than others. It can be argued that Albania, Montenegro, and Kosovo suffered more in 2020 than the other three, due to the importance of the tourism industry[42] in their respective EPI.[43]

Also, the impact of the war (Russia-Ukraine) has affected the economic performance of these Western Balkan countries, but the war has had the greatest impact on the reduction of economic performance for Bosnia and Herzegovina, with a reduction of EPI by 17.2 points; from 2021, when it was 88.2 points, it has decreased to 71.05 points. Montenegro, which had 83.8 points in 2021, now has 68.68 points in 2022. The third country where the war affected economic performance is North Macedonia, where the score dropped from 79.6 points in 2021 to 68.36 points in 2022. The war also influenced other countries (2021–2022): Serbia's economic performance decreased by 10.37 points, Albania's economic performance decreased by 6.76 points, and Kosovo's economic performance decreased by 5.84 points.

Plotting the mean EPI for all countries in the dataset provides insight into the comparability of these regional economies (EPI before the war and after the war).

**Graph 2. EPI means (before the war)** **EPI means (after the war)**




Source: authors' calculation

[42] Lack of tourists in these countries adversely affected the demand for seasonal work, hotel and lodging services, and overall money supply, thus the drop in the respective EPI is much sharper.

[43] In the case of Kosovo, the effect created by the lack of tourist inflow, is mimicked by the lack of visits by Kosovo's diaspora.

According to the graphs above, there is little variation in the average economic performance of Western Balkan countries over 13 years. There is a difference for all the countries that have had an increase of 0.5 points on average, but it can be seen in these two graphs that the economic performance within these countries is different. Before the war, Montenegro ranked second in economic performance, while after the war Serbia is ranked second, that is, it surpasses Montenegro by a few points because this country (Montenegro) has had a greater reduction in economic performance. In other countries, we see no differences in the ranking of economic success between the graphs before and after the conflict, based on their average over 13 years of analysis.

Using IMF 2013 p.12 classification, and based on these results, except for Albania which is classified as 'Fair' all other countries in this dataset are classified as 'Poor'.

With the information obtained from the visualization of the data, this study turns to modeling the data using a more advanced statistical methodology. As shown in Table 2 below, there is data for each country covering 13 years for the period 2010 – 2022, totaling 78 observations.

**Tab 2. Descriptive Statistics (6 countries)**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| inflation | 78 | 2.742179 | 3.461685 | -1.6 | 14.2 |
| unemployment | 78 | 20.30077 | 6.72649 | 9.01 | 35.26 |
| budgetdefi~1 | 78 | -2.650128 | 3.327553 | -8.7 | 9.3 |
| growth GDP | 78 | 2.736538 | 3.668834 | -15.31 | 12.4 |
| epi | 78 | 75.95474 | 7.780673 | 60.8 | 93.73 |

Source: authors' calculation

The authors used a panel data approach to estimate models (1) and (2) described above. By setting country and year as panel variables, data were regressed and the following results were obtained.

**Tab 3. Regression**

| Source | SS | df | MS | Number of obs = 78 |
|---|---|---|---|---|
| | | | | F( 4, 73) = 286.19 |
| Model | 4382.05742 | 4 | 1095.51436 | Prob > F = 0.0000 |
| Residual | 279.43617 | 73 | 3.82789275 | R-squared = 0.9401 |
| | | | | Adj R-squared = 0.9368 |
| Total | 4661.49359 | 77 | 60.5388779 | Root MSE = 1.9565 |

| epi | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| inflation | -1.131074 | .0671372 | -16.85 | 0.000 | -1.264878 | -.9972698 |
| unemployment | -.9494337 | .0339341 | -27.98 | 0.000 | -1.017064 | -.8818032 |
| budgetdeficit1 | .2069034 | .0673564 | 3.07 | 0.003 | .0726623 | .3411446 |
| growth gdp | 1.066651 | .0622235 | 17.14 | 0.000 | .9426398 | 1.190662 |
| _cons | 95.95997 | .8197282 | 117.06 | 0.000 | 94.32626 | 97.59369 |

Source: authors' calculation

All diagnostic tests show the model to be well-specified and appropriate for this analysis.[44] Also, all variables are statistically significant at a 1 percent level of confidence. In addition, these results from the regression do not contradict common knowledge and expectations as each variable displays the anticipated sign. It can be said that, according to regression results, inflation and unemployment have an inverse relationship with EPI. This means that the results suggest that if inflation increases by 1.13 percentage points, all else equal, EPI will be reduced by 1 percentage point. The same logic is applicable for unemployment, except for the fact that the effect is almost balanced, i.e. a 0.94 percent point increase in unemployment, ceteris paribus, will result in a 1 percent point drop in EPI. Budgetary deficit and GDP growth have a positive relationship, meaning that the increase in these indicators will translate into an EPI increase.

[44] Diagnost tests produced by Stata are available upon request.

## 5. DISCUSSION OF THE FINDINGS

The paper analyzes the graphs for each state, estimates their performance, and examines the EPI between two crises: COVID-19 and the Russian-Ukrainian war. The graphs suggest that COVID-19 has had the greatest impact on lowering economic performance in Western Balkan countries that rely on coastline tourism, such as Albania and Montenegro. Other countries have been affected by COVID-19 but to a lesser extent than the two countries mentioned here.

In addition, the plotting of our estimates in graphs seems to indicate that the Russia-Ukraine war has hit the hardest among Western Balkan Countries the economic performance of Bosnia and Herzegovina which experienced a drop in performance of 17.2 points, and Montenegro with a drop in performance of 15.12 points. While other Balkan countries' economic performance has declined (North Macedonia 11.24 points, Serbia 10.37 points, and Albania 6.76 points), Kosovo seems to have suffered the smallest drop in economic performance with only 5.84 points.

According to the regression, the two parameters: inflation and unemployment have a negative impact on the state's performance, whereas the budget enhances the state's economic health. All of these variables are statistically significant and the findings are compatible with economic theory. In addition, our regression results suggest that economic performance is positively influenced by the increase in public debt and economic growth.

Our findings seem to indicate that the labor force has the most impact on economic performance. However, this also seems to suggest that employment driven by the private sector is important, a conclusion drawn by the fact that in our sample there are few countries with a significant proportion of public sector, yet their performance was weak compared to the rest despite the low unemployment rates

Given the political implications in every sphere of life in the Western Balkans and the informality that these states have, it is possible that the limitation of obtaining correct employment and other relevant data. Respective institutions offering country analysis rely on data received from local governments, and their findings are not independently analyzed.

## 6. CONCLUSION

In conclusion, this study finds that EPI as an index is informative and in line with common wisdom and economic theory. This is true for the analysis carried out in this study as the results generated are grounded in theory in addi-

tion to being intuitive and sensible. Furthermore, in terms of WB6, EPI has managed to provide a reasonable representation of the actual performance of respective countries. In addition, EPI has picked up the effect of the Covid-19 pandemic in these economies while the authors provide a possible explanation for the divergence of EPI among countries in the database. Furthermore, the Russia-Ukraine war has had a significant impact on the economic performance of these Balkan countries.

Advanced statistical modeling has decomposed the EPI and provided insights into how each of the variables used to generate EPI, contributes to the final outcome. This information has served authors to understand better the disparity of EPI for each country, especially in the last year of data analyzed which is the year 2022.

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