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## Drivers and Performance of Exports in WB6 – An Empirical Investigation of the Current Dynamics

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**Abstract:** This paper investigates the main drivers of exports in the case of the Western Balkans six countries. These countries share common realities with respect to socio-economic and political climate, while also sharing the objective of successfully finalizing the EU integration process. In line with this long-awaited step, major reforms are being undertaken to ensure that regardless of their small market sizes, these economies grow strong and stable together by ensuring regional integration. In this regard, different projects are being implemented with the support of EU and the World Bank aiming to advance regional integration as a first step to EU integration. Exports play a significant part in this process and the economic development of the respective countries and the region. Thereupon, this paper examines four different indicators to bring to light those determinants that must be at the forefront of our reforms and policies. Secondary data is retrieved for the last decade 2012-2022 (inclusive) from World Bank database. Panel data regression analysis is used to understand the relationships between the selected variables. Findings and recommendations of this study are useful to policymakers, international strategic partners, and academia.

**Keywords:** panel data; exports; determinants; Balkans

**JEL Classification:** C23; E31; F10

### 1. Introduction

International trade can be crucial for countries, especially in a world where things change dynamically, and equilibria is generally fragile. Exports, in particular, have an important impact on the economic landscape once considered the effect on business earnings, employment, innovation, market reach and more. A higher volume of exports is frequently associated with economic growth. There is a myriad of researchers who have studied the positive impact that exports exert on a county's economy (Dritsaki, 2004; Olsson & Andersson, 2008 and Usman et al., 2012). Such results seem to be persistent both in the short- and long-term horizon.

Western Balkan Six countries have a favorable geo-political location, yet each has a limited market size. Given this limitation, it is hard for these economies to individually compete in a world where competition is fierce, and expectations ever higher. That said, central governments in the region and international partners have focused recently on the concept of regional integration, as a first step towards European integration. Through reform alignment and resource pooling, these small economies can

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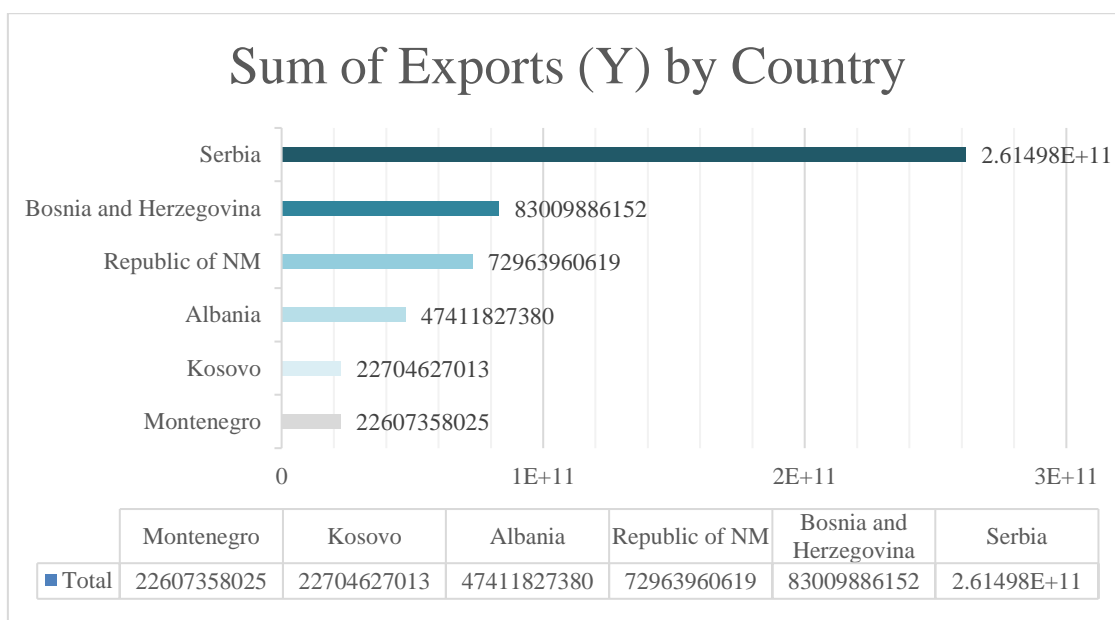
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compete as one in the global arena; hence, having a better chance at ‘survival’, penetrating new markets, and further supporting the pace of growth. According to the European Commission, WB (Western Balkans) holds strong economic and financial ties with EU. The consecutive shocks and crisis, unfortunately have put the resilience of EU to a test, causing growth rates to shrink and comprising economies to weaken. Therefore, international trade across WB economies has suffered, given that the EU is a major trade partner, holding a substantial strategic importance to the region. The exposure and vulnerability that exporting developing economies have towards demand shocks in the importing countries is put forward in the study of Easterly et al. (2009). Authors underline that developing countries are affected to a larger extent by demand shocks in the destination economies as compared to rich ones.

Figure 1 below ranks the WB6 countries from top-least performer with respect to total exports value. As depicted in the graph Serbia ranks 1<sup>st</sup> for the last decade (2012-2022), while Montenegro ranks last. In the paragraphs following this figure there are presented, explained, and analyzed the main projects undertaken by international bodies which aim, besides other things, to vitalize international trade across the region, achieve internal integration and increase export competitiveness.



**Figure 1. Total Exports of WB6 (2012-2022)**

The new Growth Plan of the European Commission consists of a huge investment in the Western Balkan region. A total amount of 6 billion euros is allocated to the regional economies, to be received upon completion of numerous social and economic reforms (European Commission, 2023). One of the key pillars of this growth facility puts emphasis on the creation of the common regional market, which could translate into a major accomplishment prior to Single Market integration.

Another important project undertaken by the World Bank in cooperation with the governments of the regional economies is known as TTFP (Trade and Transport facilitation project). The World Bank divided the project into two phases, the first starting in 2019 till 2023, and the latter expected to come to an end by 2025 (2021-2025). The ultimate goal of the project is to enhance the internal integration within the six comprising economies by strengthening trade. To achieve this trade-related objective, several components are considered, highlighting the need for improved cross-country infrastructure, facilitated cross-border movement of goods and efficiency benefits. Technology is another tool which will be used to generate time, and cost savings by exchanging real-time data and digitalizing customs.

Lastly, it is to be underlined that just recently WB6 reached another milestone. In a joint ministerial with their counterparts and the World Bank, countries addressed the numerous benefits that integration to SEPA (Single European Payment Area) is expected to bring forward. Integration to SEPA goes in line with the regional integration objective and the new Growth Plan of the European Commission. For this step to be successfully finalized there are needed legal changes, and reforms with a target on the modernization of the payment systems. Upon integration into the Single European Payment Area, WB6 will benefit from lower costs, higher efficiency, improved transparency of transactions, better chances of competing in the international trade arena and more.

This study is structured as follows; in Section 2 the existing literature is examined, allowing to compare and contrast researchers' findings on the matter. Section 3 presents the data and the methodological approach employed by the author. Section 4 reveals the empirical findings and section 5 stresses out the concluding remarks.

## **2. Literature Review**

There is a myriad of scientific papers analysing the plethora of firm-specific and macroeconomic factors affecting export volume. In this study, the focus is put exclusively on the latter category, hence aiming to show the impact that external environment has on demand for exports and most importantly understand how governments, through their policies and reforms, can support improvements in their countries' export volume.

Capital is a principal factor of production. Factories, manufacturing goods and more are becoming increasingly necessary in a world that is intensifying its reliance on technology and automation at the cost of labour resources. A country that is well-equipped with capital goods is expected to be able to produce more, and hence export more. The relevance of domestic capital for international trade flows, exports in particular, is studied by Syekh & Zainuddin (2021). Authors studied Jambi province, in Indonesia and found that capital formation explains export changes. Yet, the statistical significance of this variable is not always supported. Tebaldi (2011) carried out panel-data empirical analysis for the years 1980-2008. According to his findings, it appeared that capital formation has no impact, statistics-wise, on high-tech exports.

The next variable which appears in the pertinent literature is per capita income. GDP per capita is expected to have a positive impact on export volume. The more products are available to each individual, the higher the standard of living, and the higher the income per person, the more would be expected from a country in terms of export capacity. Findings in favour of such a positive relation date back long ago. In 1999, Gylfason studied, amongst other determinants, the impact of GNP per capita on exports. The author concluded that intense-exporting economies are characterized by higher levels of GNP per capita. Additional evidence in support of such a direct, significant relationship comes from contemporary studies. Oo, et al. (2019) examined the driving forces behind export performance in the case of ASEAN countries. The results from the empirical, panel data analysis for the period 2000-2015, suggested that GDP per capita has a positive, statistically significant impact on exports. Along the same lines goes Sumiyati (2020). By relying on time series techniques, and a sample of data for Indonesia during 2010-2019, the author was able to underline the critical importance that GDP has for the export capacity.

Less studied in the literature is the potential impact of natural resource abundance on export capacity. Given the rich soil and wealth in minerals that characterizes the Balkans region, it would be interesting to know whether such a natural 'blessing' can be employed in further fostering exports. In the literature,

there are many papers examining the impact of natural resources on growth, yet very little research on the impact of the former on international trade flows. Regarding the impact of natural resource abundance on economic development, authors bring various viewpoints, results, conclusions, and recommendations. A theory known as “Resource curse hypothesis” marks this relationship. According to Auty (1994), countries which are richer in natural resources suffer from low levels of growth. As per the author’s findings, it appears that the wealth of natural resources such as oil and other minerals does guarantee neither a high, or stable economic growth rate, nor intense export flows. Hence, it appears that natural resources present a curse rather than a blessing. Given this theory, it would be interesting to understand whether any empirical evidence could be found on the relationship between natural resources and exports. Jiang & Gao (2023), on their paper for the OECD countries and the nexus between natural resources and export flows, put forward a conclusion that goes in the opposite direction of what “Resource curse hypothesis” suggest. Their results support the existence of a positive relationship between natural resource abundance and exports of goods and services.

Inflation is certainly a key player in determining international trade flows. Higher relative inflation is expected, *ceteris paribus*, to depress exports and increase imports. As inflation makes exported goods more expensive to foreign customers, certainly the general expectation is for it to translate into a lower demand. Nonetheless, inflationary pressures do also signal exchange rate depreciation. If devaluation of currency is greater than the impact of inflation rate on prices, the end result will be cheaper products for foreigners. There are many authors who find evidence of an inverse relationship between inflation and exports. Gururaj, et al. (2016) investigated the performance of exports in India. Their estimation results hinted at a negative impact of inflation on export volume. In the same vein also go Narayan & Bhattacharya, (2019); Sumiyati (2020); and Okpe & Ikpesu (2021). Contrary to this line of research, Oo, et al. (2019) concluded that the impact of inflation on exports is positive. A similar finding comes from Silalahi, et al. (2021). By relying on time series data techniques, authors found that in the long run inflation has a positive effect on exports.

### 3. Data & Methodology

This paper investigates in which way the selected pool of variables does affect the export volume of Balkan countries. Secondary data collected from the World Bank make up the basis for the empirical analysis. Data is retrieved per annum for the following indicators: exports, gross fixed capital formation, inflation rate, total natural resource rents and GDP per capita growth. The studied time-period covers the last decade, hence focusing on the years 2012-2022 (inclusive). As suggested from the scope of this research, sample entities are the 6 WB countries: Albania, Bosnia & Hercegovina, North Macedonia, Serbia, Montenegro, and Kosovo.

Below is presented the equation on which the panel-data empirical analysis builds, together with Table 1 which explains the regression variables.

$$EXP_{i,t} = \alpha + \beta_1 * TNRR_{i,t} + \beta_2 * GFCF_{i,t} + \beta_3 * INF_{i,t} + \beta_4 * GDPCAP_{i,t} + \varepsilon_{i,t}$$

**Table 1. Regression Variables**

Variable	Symbol	Source
Exports	EXP	World Bank Database
Total Natural Resource Rents	TNRR	World Bank Database
Inflation	INF	World Bank Database
Gross Fixed Capital Formation	GFCF	World Bank Database
GDP per Capita Growth	GDPCAPG	World Bank Database

The variables presented above were first tested for exogeneity. Given that the series appeared to be exogeneous, it was decided to employ FEM (Fixed Effects Model) or REM (Random Effects Model) to test the following sets of hypotheses:

H<sub>0</sub>: Natural resources have no impact on Exports.

H<sub>a</sub>: Natural resources are important in defining Exports.

H<sub>0</sub>: Inflation rate has no impact on Exports.

H<sub>a</sub>: Inflation rate is important in defining Exports.

H<sub>0</sub>: Domestic capital has no impact on Exports.

H<sub>a</sub>: Domestic capital is important in defining Exports.

H<sub>0</sub>: GDP per capita growth has no impact on Exports.

H<sub>a</sub>: GDP per capita growth is important in defining Exports.

It is important to ensure that no perfect collinearity exists between the four independent variables. Using the econometric package E-Views XII, the correlation matrix was created and examined, which proved that no traces of multicollinearity existed. Furthermore, the series were tested for non-stationarity. If the variables have a unit root, spurious regression will make the empirical estimation result unreliable and misleading. That said, Philips Perron (Chi-Square) was employed to test the null hypothesis in favor of a unit root, against the alternative hypothesis suggesting stationarity of the series. Results from both, multicollinearity check and unit root test are presented below.

**Table 2. Correlation Matrix**

	GFCF	TNRR	GDPCAPG	INF
GFCF	1.0000			
TNRR	-0.0065	1.0000		
GDPCAPG	0.5280	0.0241	1.0000	
INF	0.4123	-0.0251	0.4275	1.0000

**Table 3. Unit Root Test Results**

Variable	Statistic	P-value
Exports	42.6860	0.0000
Total natural resources rents	40.7707	0.0001
GDP per capita growth	78.2421	0.0000
Growth fixed capital formation	43.4962	0.0000
Inflation rate (CPI)	19.3313	0.0808

Prior to presenting the estimation results, it is important to underline that the Hausman Test was used to choose between FEM and REM. With 95% confidence level, we were able to reject the null hypothesis in favor of REM and conclude that REM would be appropriate. White heteroscedasticity statistics were employed to understand the statistical significance and impact of each variable.

#### 4. Results

In this section, we present the final estimation results. As it appears below, out of four explanatory variables only one is statistically insignificant, gross fixed capital formation. Given that domestic capital in the region can be considered ‘the Achilles heel,’ in part due to the historic context, and in part due to the ongoing development paths of the countries post communism, this result is somehow expected. The poor levels of capital goods in the region seem to be insufficient in triggering growth in exports. On the

other hand, total natural resource rents, GDP per capita growth and inflation seem to be important in explaining changes in exports. GDP per capita growth is significant statistics-wise, regardless of the conventional significance level considered. It appears that any percentage point change in GDP per capita triggers an increase in exports by 0.030% points *ceteris paribus*. This finding suggests that economic development does fuel export growth, which appears in line with the literature. Even though, exogeneity of the variable ruled out the potential bi-directional relationship, it surely appears that this indicator can be relied upon to steer export growth. Secondly, resource curse hypothesis finds no statistical ground in the case of the Balkan region. Even though significant only with 90% confidence level, total natural resource rents seem to contribute to higher export growth rates. Any percentage increase in TNRR causes exports to grow by 0.0321% points *ceteris paribus*. It means that if such countries exploit their natural resources in a careful, well-balanced, and sustainable manner, trade could benefit. Lastly, inflation has a positive impact. For each percentage change in inflation rate, exports are expected to grow by 0.0352 % points *ceteris paribus*. Maybe, during the studied period, inflation has served as a good predictor of currency depreciation, hence magnifying the export growth.

Table 4. Estimation Output

<b>Dependent Variable: GEXP</b>				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant Term	-0.0760	0.0357	-2.1260	0.0391
TNRR	0.0321*	0.0177	1.8163	0.0761
GDPCAPG	0.0320***	0.0118	2.7166	0.0094
INF	0.0352**	0.0174	2.0234	0.0491
GFCF	0.3377	0.3599	0.9383	0.3532
R-squared	71.84%			
Adjusted R-squared	66.07%			
F-statistic	12.4692			
Prob(F-statistic)	0.0000			

\* Note: White heteroscedasticity statistics provided above. \*, \*\*, \*\*\* indicate significance at 90, 95, 99 %

Regarding the regression model, it explains about 72% of the variability in exports. Such an equation can be used to properly understand how the chosen macroeconomic indicators can serve to steer export growth and promote regional integration as a first step towards EU integration.

## 5. Conclusions

International trade is especially important in the contemporary reality marked by connectivity, openness, and globalization. Integration in all its dimensions, especially in the economic sense, is crucial for a smooth navigation towards dynamic change and evolving trends, in particular nowadays that equilibria state seems to be more fragile than ever.

In this paper, the main drivers of exports in the case of the Western Balkans six countries are investigated using panel data techniques. WB6 shares plenty of commonalities with respect to socio-economic and political climate, while also sharing the objective of successfully finalizing the EU integration process. In line with this long-awaited step, major reforms are being undertaken to ensure that regardless of their small market sizes, these economies grow strong and stable together by ensuring regional integration. In this regard, different projects are being implemented with the support of EU and the World Bank aiming to advance regional integration as a first step to EU integration. The new Growth Plan of the European Commission, TTFP, and SEPA integration are only some of the steps which are expected to help with the enabling conditions to bring the region closer to EU. In this context, it becomes important to study exports and their dynamics during the last decades. Economy, international trade and regional

integration are important pillars of the aforementioned reforms; hence, it becomes interesting to know how international flows, especially exports, can be further increased hence serving such an objective.

Secondary data is retrieved for the last decade 2012-2022 from the World Bank and used to conduct panel data regression analysis with the aim to understand the role of GDP per capita growth, natural resources, domestic capital, and inflation on export growth. A fixed effects model was employed to test the hypotheses, which proved the significance of all other regressors apart from domestic capital. Governments must focus on properly exploiting the current growth pace, natural resources and carefully navigate through the inflationary pressures to foster exports and reach regional integration.

Findings and recommendations of this study are useful to policymakers, international strategic partners, and academia.

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