

FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM THE WEST BALKAN COUNTRIES

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Abstract

Foreign direct investments have attracted the attention of academics and policy-makers for their role and importance in macroeconomic variables in their countries of origin. The purpose of the paper is to explore the effects of foreign direct investment and other variables such as remittances, exports, capital formation, and labour force on economic growth in the six former Western Balkan communist countries (Albania, Kosovo, Macedonia, Montenegro, Bosnia and Herzegovina and Serbia). This study utilizes a strongly balanced panel data over the 2005-2015 period for the six Western Balkan countries using the ordinary least squares method (OLS), i.e. Pooled regression model to evaluate the parameters. The relationship between economic growth and foreign direct investment has turned out to be statistically insignificant and negatively related for the countries under the study. Also we find the statistically significant positive relationship between economic growth and other variables included in the model such is remittances, exports, capital formation, and labour force. Thus, the main findings of this research confirm a no significant negative relationship between foreign direct investment and economic growth in countries under this study.

Keywords: Foreign direct investment, Balkan transition, Economic growth

JEL classification: F23, F63, O40

1. INTRODUCTION

It is widely believed that Foreign Direct Investment (FDI) is the largest source of foreign capital in many countries and is of particular importance to emerging and transition economies. FDI's have the potential to create employment,

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increase productivity, and transfer skills and technologies. Given the great importance of investments for a country, different countries strive in different ways to create a friendly and attractive environment for attracting foreign investment, eliminate or at least reduce the shortcomings in this regard. Improving these conditions greatly contributes to creating investor confidence in investing in more diverse countries, depending on the investor's economic and financial security and affordability.

According to UNCTAD (2009, p. 35) “FDI can be defined as an investment made by a resident of one economy in another economy, and it is of a long-term nature or of “lasting interest.” The second element is that the investor has a “significant degree of influence” on the management of the enterprise. For operational purposes, 10 percent of the voting shares or voting power is the level of ownership necessary for a direct investment interest to exist” (UNCTAD, 2009).

(Farrell, 2008), defined FDI as a package of capital, technology, management, and entrepreneurship, which allows a firm to operate and provide goods and services in a foreign market.

The Western Balkan countries are undergoing a very specific process of transition and economic integration. On the one hand, they are making efforts for a regional integration in order to normalize economic relations by creating common markets. On the other hand, the Western Balkan countries are trying to join the European Union, as has also happened with the other countries of the Central and South-eastern European countries.

Transition from socialist economy to the market economy for the Western Balkan is much slower and is lasting more than in the other countries of the Central and South-eastern European countries, due to the specific circumstances and events that this region has gone through, such as the breakup of Yugoslavia in 1991, the various wars in Croatia, Bosnia and Herzegovina and Kosovo after 1990s.

All of these events in the Western Balkan have left long-term economic and political consequences, which are reflected in numerous problems such as: an economic structure that is not affordable at all with the dominance of the services sector and the lack of production sector, the level of consumption in these countries is very high and mainly is covered with investments, savings and external aid, high trade deficits which consequently have current account deficits, with not very efficient institutions, with a significant level of corruption, with problems in education and training system and many other problems.

The Western Balkan countries are the countries with the lowest economic development compared to the other countries in the Central and South-eastern European. They are market-oriented but the free functioning of the markets is still unstable. What distinguishes the countries of Western Balkan is a high unemployment rate, averaged around 20 percent in 2016. More than 70 percent of unemployed have been unemployed for the prolonged periods. The youth unemployment rate is about twice higher than the working age population, which may have consequences for future income generation (WB, 2017).

The Western Balkan countries in 2000 had some positive developments, improving economic performance and accelerating economic reforms associated with economic growth. There has been an increase in FDI, driven by privatization of enterprises and banks and the improvement of economic prospect. There has also been a significant increase in the volume of international trade as a result of market liberalization after 2000, both with the EU countries and other countries in the region. Thus, by 2008, these countries had a rapid economic growth and an increase in macroeconomic stability. (Estrin & Uvalic, 2016) (p.5)

Table 1. Dynamics of FDI in the Western Balkan countries (as a percentage of GDP), 2005-2016

Years	Country					
	AL	KS	MA	MN	SR	B&H
2005	3.22	3.58	2.32	22.18	6.01	5.56
2006	3.62	9.07	6.23	23.07	13.9	6.57
2007	6.1	12.48	8.8	25.55	10.98	11.68
2008	9.63	9.44	6.17	21.57	8.23	5.26
2009	11.15	7.22	2.76	37.41	6.87	0.79
2010	9.13	8.41	3.2	18.32	4.29	2.59
2011	8.14	8.05	4.84	12.26	10.61	2.53
2012	7.47	4.53	3.47	15.13	3.13	2.28
2013	9.81	5.25	3.72	10	4.52	1.73
2014	8.69	2.7	0.54	10.83	4.52	2.82
2015	8.7	5.33	2.95	17.41	6.31	1.81
2016	9.12	3.6	5.26	5.43	-	1.57
Country average (2005-2016)	7.9	6.64	4.19	18.26	7.22	3.77
The West Balkan average (2005-2016):	8.0					

Source: World Bank Development indicator, 2017, and author's calculations

The flow and dynamics of FDI in the Western Balkan countries has been with many variations, sometimes more and sometimes less. The share of their volume in the GDP of the respective countries is low and ranges from 3.37% in Bosnia and Herzegovina to 18.26 in Montenegro, for the observed period 2005-2016. For this period only Albania and Montenegro have greater participation than the average for the Balkan countries, while other countries such as Kosovo, Macedonia, Serbia, Bosnia and Herzegovina are below the Balkan average of 8%.

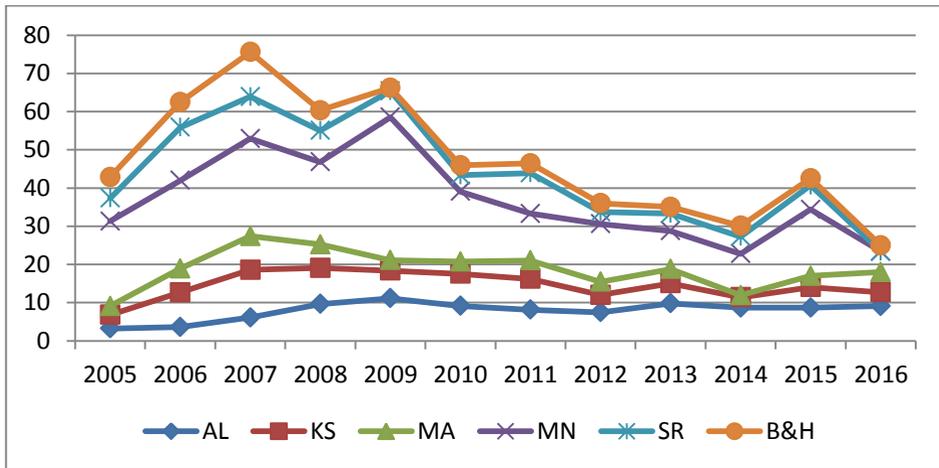


Figure 1. Dynamics of FDI in the Western Balkan countries (% of GDP), 2005-2016
 Source: World Bank Development indicator, 2017, and author’s calculations

In 2016, compared to 2015, in the Western Balkan countries FDI have declined, but still continue to remain the main source of external financing in these countries. The causes of decline in these countries have been different. In Kosovo there has been a fall of investments as a result of over-saturation in diaspora demand for direct investment, in particular in real estate and investment portfolio growth. In Montenegro, FDI has dropped 17% of GDP in 2015 to 5.43% in 2016, as a result of high outflow of dividend payments from the telecommunications industry. They only fund half of the current account deficit. Net FDI continues to be more than sufficient to finance all external deficits of the FRY Macedonia and Serbia and 25 to 60 percent of its GDP for the rest of the region. In Macedonia although there has been a decline of investments in 2106, FDI have grown since they are concentrate in e free economic zone and are affected by non-debt-generating flows (WB, 2017).

According to the “World Development Report 2017” (UNCTAD, 2017, p.18) in Southeast European countries, a FDI flows declined slightly to \$4.6 billion. While in Albania and in the Former Yugoslav Republic of Macedonia FDI have increased, in Serbia and Montenegro FDI has declined. In the Former Yugoslav Republic of Macedonia there was an increase of 65% for the purchase of shopping centre operator - Skopje City Mall, by Hystead Ltd - UK (for \$100 million). Albania also is attracting investors. For example, 12 Chinese investors were interested in projects which deal with road construction, acquiring access to natural resources (Geo-Jade Petroleum bought controlling rights in two Albanian oil fields for \$442 million), and obtaining the concession for Tirana International Airport. There has been an increased interest of Chinese investors in Serbia as well, such as & Steel GCo Ltd acquired Serbian State-owned Zelezara Smederovo for \$52 million.

The average FDI per capita stock in the European Union is over five times larger than in the Western Balkan. While in the European Union is around €14,300,

in the Western Balkan it is around €2,600, which means that the Western Balkan countries remain significantly behind the European Union in this regard. (Sanfey, et al., 2016).

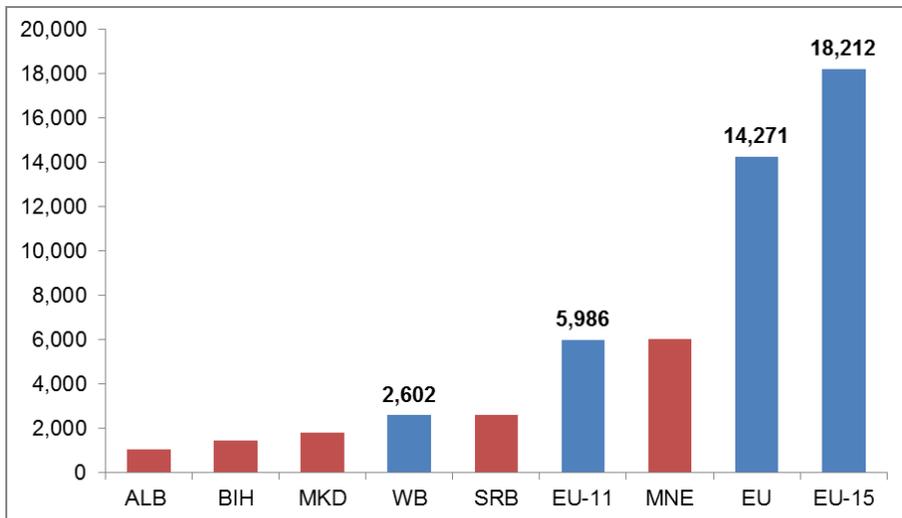


Figure 2. FDI stock per capita (€), 2014

Source: IMF World Economic Outlook, cited by (Sanfey, et al., 2016)

According to the authors (Estrin & Uvalic, 2016), there are three specific features that have characterized the Western Balkan countries during the transition process that affected the low level and inefficiency of FDI: *Privatization process* - which has been delayed in comparison to other countries in transition; *De-Industrialization* - that has accompanied these countries for a long period of time and continues even today to be the most de-industrialized country in the South-eastern Europe; *Sectorial distribution of FDI* - FDI has mainly been oriented in the non-productive sectors, focusing on banking sector, telecommunications, real estate, and on the wholesale and retail trade.

The purpose of this paper is to analyse the FDI's impact on economic growth in the Western Balkan countries for the period 2005-2015, in addition to other variables such as remittances, gross fixed capital formation, export of goods and services and labour force.

The structure of the paper is as following: the following section gives an overview about the various theoretical and practical researches of the role of FDI in the Western Balkan countries and other countries in transition. The third section deals with the research methodology, data and variables. The fourth section presents the empirical results and their interpretation, while in the last section we will give a brief summary and conclusions.

2. A BRIEF LITERATURE REVIEW

The effects of FDI have prompted many authors to undertake studies and analyse their role in the economy of host countries.

The scientific literature and practical experiences have argued that both internal and external sources (in this case FDI) in most developing countries promote economic growth through higher technological progress and through greatest investment in physical and human capital.

The vast majority of scientific and research paper on the role of FDI in economic growth have found that the effect of FDI on economic growth is positive and important, while another part of the research has found that FDI does not have any significant effect on economic growth of host countries. The number of studies that show positive effects of FDI is much higher than those that focus on negative effects.

The authors, (Almfraji & Almsafir, 2014) have examined and analysed a considerable part of scientific research papers that have inquired into relationship between economic growth and FDI for the period 1994 to 2012. In most of the research papers they have found that FDI have a positive effect on economic growth of host countries, while in other research papers they have found that FDI in host countries is negative or unimportant. Based on the research, the authors have come to the conclusion that factors such as the level of human capital, financial developed market, the free trade regime, are the factors that influenced that the effect of FDI to be positive on economic growth.

Following the detailed researches of 880 reported evaluations in 180 published papers, the authors, (Iamsiraroj & Ulubaşoğlu, 2015), in an econometric analysis that have used 140 countries in a global level for 1970-2009, have documented that FDI impact positively economic growth. According to the authors, factors that influenced on the FDI's withdrawal are the market opening and financial development, before the level of workers education of the host countries

(Moura & Forte, 2010).

(Brenton, et al., 1998) using an empirical bilateral FDI flows between the EU and Eastern European countries have found that the main determinants of foreign direct investment in the region are the increase in income and governance policies that are more favourable to businesses.

About the role of FDI in the economic growth and in other macroeconomic indicators in the Western Balkan countries there are a considerable number of researches by various authors and institutions that have come to a different conclusion.

In a study of the role of FDI on economic growth for some selected Western Balkan countries (Macedonia, Monte Negro, and Bosnia and Hercegovina) the authors (Domaze & Marjanovic, 2017) concluded that that the flow of FDI did not have a major effect on the economic development of these countries. According

to the authors, however, FDI are important for the economic development of these countries, but they are not decisive factors of development. They have come to these results through the use of linear correlation and regression techniques.

The authors (Randelovi, et al., 2017) have explored the impact of several economic variables such as trade openness, market growth, market size, and population size in the course of FDI in the Western Balkans for the period of 2007 to 2015. Using multivariable regression techniques they have come to the conclusion that the market size, market growth and population size have a significant positive effect on FDI flow, while trade openness proven to be negative and insignificant in the flow of FDI. The main finding of their research is that the market size is an important determinant in the course of FDI of Western Balkan Countries

In a deeper research on distribution effect of the FDI in Western Balkan countries for the period of 2002-2012, the authors (Estrin & Uvalic, 2016), through their analysis have concluded that FDI in Western Balkan countries did not have any significant effect on the added value of production, increase employment in the manufacturing sector as well as the production export growth during the observed period. They also strongly argued that the institutional, economic and political factors of the Western Balkan countries have limited the potential distribution of FDI. According to the authors, the small effect of FDI on employment growth in the manufacturing sector can be explained by the fact that FDI mainly was oriented to the non-labour-intensive sectors.

In an effort to explore a long-term relationship between FDI and unemployment in the Western Balkan countries for the period 1998-2012, the authors (Kurtovic, et al., 2015) have used the panel times series data and sophisticated panel data models, such as panel unit root, cointegration, vector error correction model (VECM) and Granger causality test. The main conclusion from their analyses is that there is a long-term relationship and cointegration between FDI and unemployment in a sense that FDI positively influence the reduction of unemployment in most countries of the WB. Through the Granger causality test, they found that there is bidirectional causality between the FDI and unemployment in the countries of the WB.

Authors, (Svrtinov, et al., 2017), explored the impact of FDI on export performance, economic growth, unemployment rate and current account deficit in WB countries for the period 2005-2015. Through the coefficient of correlation, they identified weak correlation between foreign direct investment on the one side and export, GDP and employment rate on the other side. While in the most countries they found statistically significant correlation between FDI and current account deficit.

In one interesting article, authors (Garriga & Phillips, 2014), has examined how foreign aid provides an important signal to investors, affecting FDI flows into post-conflict developing countries. They argued that post-conflict situations are uniquely low-information environments, and therefore investors look for signals to

indicate the potential return on their investment. Aid functions as a signal because it suggests some level of trust of the recipient government, on the part of the donor government.

In a deep study, the authors (Estrin & Uvalic, 2014) have found that there are three groups of factors that are important for FDI in the Western Balkan countries: The size of the Western Balkan economy is relatively small; their location is relatively remote from major foreign investors and the institutional environment has a very significant impact on the low level of FDI in the Western Balkan countries. According to the authors, the Western Balkan countries have not had much success in improving their institutions, especially in property rights issues and in improving the investment climate. They further point out how looks the recent unlucky political history in the region, with conflicts, fragmentation and low economic growth, have exerted an independent and stable effect on their prospects for FDI admission. Political risk, arising from various unresolved political issues in region, still seems to have a negative impact on FDI.

The author (Botrić, 2010), in a paper on the role of FDI in the Western Balkan countries has come to a conclusion that the government of these countries are very much interested in creating a suitable environment for attracting the private investments by the fact that they bring with them the knowledge, experiences and are the important sources of the capital. According to the author, the Western Balkan countries in order to benefit from FDI, the structure of FDI needs to be changed towards activities that promote export and improve technology. Since the projects of privatization are being finalized, the countries of the West Balkan should make efforts to direct FDI to other activities.

In a very profound study, the authors (Curwin & Mahutga, 2014), cast doubt on the most optimistic mechanism that links the FDI penetration to the economic growth. According to the regression results they have used, the smallest penetration of FDI is better than the greatest penetration. They also conclude that domestic investments are better for the economic growth than foreign investments and that penetration of foreign investment can lead to economic contraction if it happens very soon. A credible mechanism that has affected the negative link between FDI and economic growth is the weak institutional environment in which the penetration of FDI has occurred. Authors are very confident that institutions mediate the impact of globalization process such as FDI in advanced capitalist countries. Moreover, foreign investments entered in region during a period of dramatic and fair institutional changes, since privatization was undermining the national economic institutions.

Another interesting aspect when we talk about FDI is how different countries attract them. For example (Mateev, 2009) argues that FDI flows to different transition economies are determined by the same macroeconomic factors. In the context of FDI we have also to talk about privatization. The study from (Estrin, et al., 2009) found that the objects that are privatize and have foreign owners, influence productivity growth. With the exception of two of Slovenia's

studies, all studies consistently suggest that privatization by foreign owner's increases efficiency.

The author (Ganchev, 2010) in an analysis of FDI in Bulgaria came to the conclusion that for the period 1992-2008, FDI has managed to change to a certain extent the image and structure of products and technology in different branches. According to him, Bulgaria has made a lot of efforts to attract the FDI into the economy and one of the potential opportunities for bringing foreign direct investment consists in the so called „green technologies”, in terms of preserving the environment and development of several sectors of the economy such as tourism and the rural economy.

(Carstensen & Toubal, 2004) based on the dynamic analysis of Central and Eastern European countries with traditional variables find that foreign direct investment has a strong and positive impact. On the other hand the results from applied Bayesian analysis by (Lyroudi, et al., 2004) for transition economies during the period 1995-1998 show that there is no significant relationship between FDI and growth.

Re-evaluating the relationship between FDI and economic growth for 72 countries, for the period 1960-1995, the authors (Carkovic & Levine, 2002) have found that FDI both in developed and developing countries did not have an independent effect on economic growth. According the authors, the exogenous component of FDI did not have a positive effect on economic growth even under conditions where the level of education, the level of economic development, the level of financial development and market opening were appropriate.

The paper from (Sabirianova, et al., 2005) found data largely indicating that the effect of private domestic ownership and mixed ownership is negative or insignificant, but foreign ownership seems to have positive and significant effects. In general, the effect of private domestic ownership on company efficiency seems to be more positive in the CEE region than in the CIS, but never as great as the effect of foreign ownership.

In a research on the relationship between FDI and economic growth for eight countries in transition (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia) – candidate for EU membership - 1991-2001, the author (Mencinger, 2003), has found that there is a significant negative link between FDI and economic growth in these countries. According to Mencinger, this situation may be explained by the form of FDI. In the observed period, purchases were predominant form and the revenues earned were mainly spent on consumption and import rather than increased production activities. The other reasons may be the small size of the host countries and the concentration of FDI in the trade and finance that have weakened the spread of productivity and increased efficiency of domestic firms. According to the author for the countries surveyed in the observed period, FDI has more impacted on growth of import than the growth of export.

In an interesting paper about the relationship between FDI and economic

growth for 27 countries in transition stage over the period 1991-2004, the authors (Apergis, et al., 2008) concluded that FDI has a positive impact on the economic growth of these countries if taken as a whole. But if impact of FDI is analysed in two separated groups, the authors have found that in the countries with the higher income level and with the successful privatization process the effect of FDI has been positive and higher than in a group of countries with the lower income level and unsuccessful privatization process.

(Kekic, 2005), states that it is striking that increase in involvement of the foreign private sector in West Balkan is based on only few minimum conditions, restoration of peace and basic security, beginnings of economic recovery and modest improvement in business environments. According to him, the mid-term projections suggest that rapid trend of FDI is likely to be stable.

The Authors (Duttaray, et al., 2008), have analysed 66 developing countries in their research into effects of FDI on economic growth, taking into account their interaction with exports and technological changes. They have come to the conclusion that FDI have a positive effects on 66 countries out of 66 that were included in a sample, but the mechanism through which the FDI operates are different in different countries. In most countries the export is the most important mechanism, while in some other countries the productivity growth is more important. According to the authors in most of the countries analysed the economic growth has no impact on FDI.

3. DATA AND METHODOLOGY

3.1 VARIABLES AND DATA

This study focuses on exploring the impact of foreign direct investment (FDI), and other controlling variables such as: exports of goods and services (EXP), worker remittances (REM), capital formation (C) and labour force (LF), on the economic growth in the West Balkan countries. In order to test the impact of these variables in economic growth we have created and used a strongly balanced panel data (also known as longitudinal or cross-sectional time-series data) for six former communist countries of West Balkan which are still in the transition process. The final sample includes countries namely: Albania (AL), Kosovo (KS), Serbia (SR), Macedonia (MA), Montenegro (MN), and Bosnia and Herzegovina (B&H). All Western Balkan countries are in the process of meeting the standards to be integrated into the European Union. From the Western Balkan countries, only Croatia has become a member of the European Union, so we have excluded it from the analysis.

In this paper we have constructed a simple growth model including FDI as variable of interest, and other controlling variables: export of goods and services, remittances, alongside traditional production factors such as labour and capital.

All variables used in the analysis are in natural logarithms of absolute values. Logging series often has an effect very similar to deflating: it straightens out exponential growth patterns and reduces heteroscedasticity (i.e., stabilizes variance). A great advantage of this, for the purpose of analysis, is that small changes in the natural log of a variable are directly interpreted as percentage change, to a very close approximation.

The Table 2 describes all the variables in the model that are going to be estimated.

Table 2. *The variables in the model*

Variable name (Symbols)	Description	Type of variable	Expected sign
ln GDP	GDP (current US\$)	Dependent	Not known
ln FDI	Foreign direct investment, net inflows (BoP, current US\$)	Independent	+
ln REM	Personal remittances, received (current US\$)	Independent	+
ln EXP	Exports of goods and services (BoP, current US\$)	Independent	+
ln C	Gross fixed capital formation (current US\$), as proxy for Capital	Independent	+
ln LF	Labour force, total (people) as proxy for Labour	Independent	+

Data source is the World Development Indicators of the World Bank (WB, 2016) covers the interval from 2005 to 2015. Data for Gross Domestic Product (GDP), foreign direct investment (FDI), remittances (REM), export of goods and services (EXP) and Gross fixed capital formation (C) are in current US\$, while data for Labour force (LF) are in people. The data for the Labour Force in Kosovo we obtained from Agency of Statistics of Kosovo, since the World Bank Development indicator does not contain these data. We have made selection of the time period according to the availability of secondary data.

Table 3. *Descriptive statistics of Variables (2005–2015)*

Variable	Mean	Std. Dev.	Coefficient of variation (%)	Min	Max
GDP (mill \$)	14,600	12,600	86	2,260	49,300
FDI (mill \$)	989	1,050	106	60,9	4,930
REM (mill \$)	1,460	1,240	85	196	4,650

EXP (mill \$)	4,900	4,720	96	413	19,200
C (mill \$)	3,270	2,520	77	406	12,300
LF (persons)	1,253,643	950,298	76	243,413	3,265,003

Source: Authors calculations

Table 3 presents the descriptive statistics for the sample of 6 countries covering period 2005 to 2015. From the data we can see that the average volume of FDI is much lower than the volume of remittances and export of goods and services in countries under the study. The minimum value of FDI during the 11 years of study is 60.87 million US\$ observed in Macedonia in 2014, while maximum value of 4,929 million US\$ is observed in Serbia in 2011. All the variables show high variability. The highest variability is shown in Foreign Direct Investment (106%).

3.2 RESEARCH METHODOLOGY

Employing a panel data modelling technique, we provide the answers to our main research questions: *What is the impact of Foreign Direct Investment on economic growth in the West Balkan Countries?*

For exploring the impact of Foreign direct investments (FDI), and other controlling variables such as: workers' remittances (REM), exports of goods and services (EXP), and the two basic traditional production factors, capital formation (CF) and labour force (L) on the economic growth in six West Balkan countries, we have used three models that are appropriate for panel data: *Pooled OLS Regression; Fixed Effect or LSDV model and Random Effect model or GLS Model.*

Same methodology is used by (Goschin, 2014), (Meyer & Shera, 2017).

The Pooled regression model has the following expression:

$$Y_{it} = \beta_0 + \sum_j \beta_j K_{itj} + \varepsilon_{it} \quad (1)$$

where: $i = 1, \dots, 6$ (countries), $t = 2005, \dots, 2015$, Y_{it} is the dependent variable, in our case in lnGDP, K_{itj} are the independent variables included in the model, β_j is the parameter that summarize the j factor contribution to the dependent variable, and ε_{it} is error term with zero mean and constant variance.

By taking natural log (ln), Equation 1 has been transformed in to Equation 2.

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln EXP_{it} + \beta_3 \ln REM_{it} + \beta_4 \ln C_{it} + \beta_5 \ln LF_{it} + \varepsilon_{it} \quad (2)$$

The major disadvantage with this model is that it does not distinguish between the various countries that we have. In other words by combining 6 countries and by pooling (Pooled OLS) we deny the heterogeneity or individuality that exists among countries.

Fixed effect (FE) or LSDV Model allows for heterogeneity or individually among 6 countries, meaning that we have different intercepts for different

countries. The term fixed effect is due to the fact that although the intercept may differ across the countries, but intercept does not vary over time that is time invariant. The fixed effects model captures the sources of change within countries. According to (Stock & Watson, 2015), fixed effect regression is the main tool for regression analysis of panel data as an extension of multiple regression that exploits panel data to control for variables that differs cross countries but are constant over time.

The fixed effect model that is addressed in this paper is:

$$Y_{it} = \beta_0 + \gamma_t + \sum_j \beta_j X_{itj} + \varepsilon_{it} \quad (3)$$

where: $i = 1... 6$ (countries), $t = 2005, \dots, 2015$, Y_{it} represents the dependent variable (lnGDP). The terms γ_t are called the entity fixed effects, in our case could be economic growth and crises, change in migration, policies, etc. They control for the omitted variable (unobserved heterogeneity) that varies from country to country but not over time. The parameter β_0 reflects cross-sectional fixed effects (country characteristics that are time-invariant over 2005-2015), β_j is the parameter that summarize the j factor contribution to the dependent variable. Term ε_{it} present error term with zero mean and constant variance.

The slope coefficient of the population regression line, β_j , is the same for all states, but the intercept of the population regression line varies from one state to the next.

Random effects model (RE) assumes a random variation across countries and is more appropriate if differences among countries affect the dependent variable.

The random effect model or GLS model assumes that the constant is a random variable and the individual intercepts β_0 are random deviations from the average constant β_0 .

The general specification of the random effects model is as follow:

$$Y_{it} = \beta_0 + \sum_j \beta_j X_{itj} + u_{it} \quad (4)$$

To decide which model is suitable to accept, Fixed effect (FE) or Random effect (RE), for our panel data set, we have applied a *Hausman Test*. It basically tests whether the unique errors (u_i) are correlated with the regressors. Random Effects is inconsistent while Fixed Effects is still consistent. The test statistic is based on the difference of the two estimators. The null hypothesis will be rejected, if the difference is large. The hypotheses for *Hausman test* are as follow:

H_0 : *Random Effect Model is appropriate; H_1 : Fixed Effect Model is appropriate.*

Also, we have employed the *Breusch and Pagan Lagrangian multiplier test* for random effect model, in order to test which model is more appropriate, Random effect or Pooled regression model. The hypotheses for this test are as follow:

H_0 : Pooled Regression Model is appropriate; H_1 : Random Effect Model is appropriate.

In order to check whether there is a serial correlation in the residual, we used *Durbin Watson (DW) test*. The hypotheses for Durbin Watson test are as follows:

H_0 : No first order autocorrelation; H_1 : First order correlation exists

We used *Breusch-Pagan/Cook-Weisberg test for heteroskedasticity* for groupwise heteroskedasticity in pooled regression model to check whether there is heteroskedasticity in the panel data. The hypotheses are as follow:

H_0 : Residuals are homoscedastic; H_1 : Residuals are heteroscedastic.

Authors, (Stock & Watson, 2015), suggested that in a case of not very large sample there is no necessary to employ any standard tests of *stationarity*. Since our sample size is not so huge ($n=66$), we have not employed any test of stationarity.

And finally, to make the results unbiased or to fight heteroscedacity, we add to robustness.

4. EMPIRICAL RESULTS

The results of pooled regression model are presented in Table 4. Since the probability value for *Hausman Fixed test* ($p=0.1318$), is larger than level of significance ($\alpha=0.05$) we did not reject the Null hypothesis meaning that the Random Effect Model is more appropriate for our panel data. After testing with *Breusch and Pagan Lagrangian multiplier test* for Random Effect Model, we decided to accept the null hypothesis that for our panel data the ***Pooled regression model is more appropriate.***

In the time series data we often encounter problems like multicollinearity or correlation. Since, in our time series data the dependent variables and the independent variables have significant trends over the observed time, this has influenced the R-squared value to be quite high that may be due to multicollinearity. However, after the testing through the Durbin-Watson test, we consider that the regression results are valid and acceptable. The value of the calculated DW test ($DW = 1.53$) is within the allowed limits of 1.5 to 2.5. (Rule of thumb). Also (Field, 2009) suggests that if the value of the DW test is between 1 and 3 there is no cause for concern.

Breusch-Pagan/Cook-Weisberg test for heteroscedasticity has the p-values greater than level of significance, so we can't reject the null hypothesis and conclude that residuals are homoscedastic. However, in order to make the results unbiased, we add to the regression the robustness (The values of test statistics employed in our panel data analysis are presented in table 4).

We are going to interpret only the results that are derived from Pooled Regression Model.

Table 4. Results from the Pooled Regression Model Robust

Dependent variable lnGDP	Std. Err. adjusted for 6 clusters in country			
	Variable name	Coefficient	Robust Std.Err.	T
ln FDI	-0.0269235	0.0163196	-1.65	0.104
ln REM	0.1922774	0.0200113	9.61	0.000
ln EXP	0.3485298	0.0200113	9.58	0.000
ln C	0.3213835	0.0835595	3.85	0.000
ln LF	0.1435079	0.0581368	2.47	0.016
Cons_	3.088443	0.7594067	4.07	0.000
Number of observation:	66			
Adjusted R ² :	0.9852			
F-statistic (5, 60) = 693.52	Prob>F = 0.0000			
Hausman Fixed Prob > chi2				Pr= 0.1318
Durbin-Watson d-statistic (6, 66) = 1.53				
Breusch and Pagan Lagrangian multiplier test for random effects (chibar2 (01)=0.00				Pr =1.000
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity: chi2(1) = 0.00 Prob > chi2 = 0.9766				Prob > chi2 = 0.9766

Source: Authors estimations

Results are statistically significant, adjusted R² ratios are near to one, t-ratios are high (p-values are lower), F-ratios are high. Most of the variables have expected signs and are theoretically satisfactory.

Since the *p-value* of F-statistic is less than the level of significance $\alpha=0.05$, we can conclude that the coefficients in the model are different than zero which means that they are statistically significant in explaining the variation in economic growth in West Balkan countries.

The model shows a positive relationship between REM, EXP, C and LF on GDP, while the relationship between FDI and GDP are negative but statistically insignificant.

The finding of our paper is that the flows of FDI in the region of the Western Balkan during the period of analysis did not increase the economic growth in these countries. What is interesting is that FDI turned out to be negative, but

statistically insignificant in the economic growth in these countries. The result shows: that an increase by 1% in the coefficient of FDI, growth on average will decrease by 0.03%.

What we can say is that our results can be taken as preliminary, because there is a lack of data. To make our results more significant we need to use data for longer periods which is not available for the time being. . But the findings of our paper are also consistent with literature and consistent with the findings of other authors (Domaze & Marjanovic, 2017), (Estrin & Uvalic, 2016), (Goschin, 2014), (Mencinger, 2003), (Lyroudi, et al., 2004), (Apergis, et al., 2008), (Curwin & Mahutga, 2014), (Estrin & Uvalic, 2014), etc.

In general there are many reasons why the coefficient of FDI can be negative. FDI can result in increase in investment level and also on the productivity by bringing know-how technologies in these host countries, but they can reduce the rate of growth by creating price distortions. FDI can also cause the misallocation of resources (like human resources). Another can be that the monopolization of domestic firms by foreign investors and the pricing transfers will cause an under-utilization in resources' (especially in the labour market) which will result in creating a lag in domestic demand giving us a stagnation on growth.

As our focus is on Western Balkans we argue why FDI can be negative in this part of the world. First the size of economies of Western Balkan countries is small, their location is relatively remote, and these countries are relatively closed economies. This region in Europe has had an unlucky political history, starting with wars, fragmentations, and overall low economic development, and this has caused that the quantity of FDI to decrease and as a result the quality to fall as well. Western Balkan countries have traditionally been followed by poor institutional environments, where the markets for FDI have not been clearly regulated creating room for manipulations and corruption and as a result leaving FDI free to exploit resources.

Infrastructure with education system, the overall stability both politically and economically and with government efficiency are key ingredients for countries to attract quality FDI, but the destructions from the war and the reasons stated above have failed to deliver these conditions.

Since these countries are small and FDI is mostly based in finance and trade sector this can have a negative effect in both of them and causing the economic growth rate to fall. First, in the finance sector FDI have more advanced techniques and are more productive than local firms, and this will cause a lot of local firms to close since they cannot compete with them, and a lot of workers to go work with the large corporations because they bring better conditions for the worker. Second, FDI can cause increases in imports resulting in the growth rate to fall.

The outcomes advocate that the coefficient of remittances to GDP is positive and statistically significant and demonstrates that for a given country, as remittances increase by 1%, the GDP increases on average around 0.19%, (ceteris

paribus). The outcomes are consistent with the literature and empirical results that support the positive effect of remittances in economic growth (Goschin, 2014), (Giuliano & Ruiz-Arranz, 2006), (Meyer & Shera, 2017) etc.

The other coefficient of exports of goods and services is also positive and statistically significant, showing that for a country as exports increase by 1%, GDP increases on average approximately by 0.35%,(ceteris paribus). The outcomes are consistent with other findings and empirical results that support the positive effect of export in economic growth.

The coefficients of Gross Fixed Capital Formation (C) and labour force LF are positive, suggesting that both physical and human capital is important for economic development in Western Balkan Countries.

5. SUMMARY AND CONCLUSION

The main aim of this study is to examine the impact of foreign direct investment (FDI) in the process of economic growth in six countries of the Western Balkans, using the annual panel data for period 2005-2015. The selection was based on data availability.

The results from the regression analysis confirm that there is negative relationship, which is not significant between foreign direct investment and economic growth in countries under this study.

Given that in most developing countries and particularly in the Central and Eastern Europe countries, the effect of FDI has been positive in their economic development, either through economic growth, employment growth, the acquisition of new experiences, the growth of competitiveness of local firms, productivity growth and other effects, the Western Balkan countries should overcome the institutional, political, economic and other obstacles in order to use FDI more efficiently and affect the economic development of these countries.

Western Balkan countries in order to benefit from FDI, the FDI structure needs to be changed to activities that promote the export and improve technology.

As the privatization project is under way, the Western Balkan countries should make efforts to direct FDI into production sectors since so far this sector has received the least FDI and thus improve their economic structure with the relative growth of production sector.

Western Balkan countries in order to stimulate economic development should make efforts to attract FDI, as they have significant advantages as a destination for investment. These countries have untapped potential in areas such as trade integration, transport infrastructure, energy development and innovation. There are seven features of the region that are: macroeconomic stability prospective, EU membership, favourable taxes, strategic location, diverse economies and low labour costs combined with a relatively educated population

(Sanfey, et al., 2016).

The impacts of other variables such as, remittances (REM), export of goods and services (EXP), capital formation (C), labour force (L) show a positive relation and significant impact on economic growth.

The evidence from the statistical analysis suggests that the attraction of remittances, the increase in exports, capital formulation, and labour force are important to promote economic development in the West Balkan Countries.

Limits and future directions of the study

The main limit of our study is the size of sample. The statistical tests normally require a larger sample size to find significant relationships from the data and to ensure a representative distribution of the population and to be considered representative for the entire population.

Future study will focus more on how does FDI influence the economic growth in the West Balkan Countries and does this influence change under different legal, institutional, educational and economic conditions?

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