

Foreign Direct Investment into the Western Balkans: The Statistical Analysis of Determinants in Bilateral Investment

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This paper aims to analyze the determinants of foreign direct investment (FDI) in the Western Balkans, which are located in the western part of the Balkan Peninsula. This region is one of the poorest regions in Europe and their need for the economic development is necessary. In this paper, we analyzed the relationship between the latest FDI data and the amount of official development assistance (ODA), the number of emigration, religious similarity and the existence of investment treaties by using statistical methodology. The results indicate that ODA and the religious similarity are positively correlated with FDI flows. We also find correlation between FDI and the number of emigration. However, its impact is different by country. While in Bosnia and Herzegovina and Slovenia the number of emigration is positively correlated, in Macedonia and Montenegro it is negatively correlated with FDI flows.

I. Introduction

The Western Balkans, which are specifically defined as following eight countries- Slovenia, Croatia, Bosnia and Herzegovina (BiH), Serbia, Montenegro, Kosovo, Macedonia and Albania-are located in a part of

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Southeast Europe. From worldwide point of view, what is well known about this region is the wars in 90's. Slovenia, Croatia, Bosnia and Herzegovina, Kosovo and Macedonia suffered massive wars in the past.

More than ten years has passed since the final war ended in Macedonia in 2001 and it is often said that direct influence from a series of wars have already disappeared. Indeed, according to the World Bank's data base "World Development Indicators", income levels of these countries are rated not so bad (only is Kosovo classified as "Lower middle income" and the other countries are classified as "High income" or "Upper middle income"). Compared to the least developed countries (LDCs), economic situation the Western Balkans face today looks less serious than that of LDCs. Similarly, GDP per capita of the Western Balkans from 1995 to 2012 has been growing gradually as a whole (see Figure 1).

However, the Western Balkans still holds some concerns in their society behind these indicators. The Western Balkan countries, which experienced the shift of economic system during the past two decades, are defined as transitional economies. Economic system of these governments is

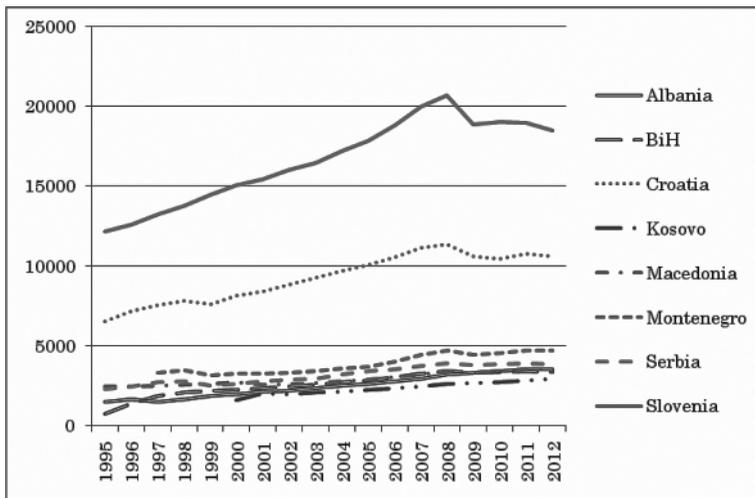


Figure 1: GDP per capita in the Western Balkans (constant 2005 US \$)

Source: World Development Indicators

now capitalism, but their free market is still unstable. Secondly, bribery in the arena of politics and business has been recognized as conventional practices in the Western Balkans. There is some concern of bribery causing weak governance. From a viewpoint of business conduct, bribery causes extra cost for enterprises and it usually plays a role of obstacle to the business conduct. Thirdly, unemployment rate in the Western Balkans is extremely high in general. Especially in Kosovo, Macedonia and Bosnia and Herzegovina, more than one from five people does not work in recent decade (see Figure 2).

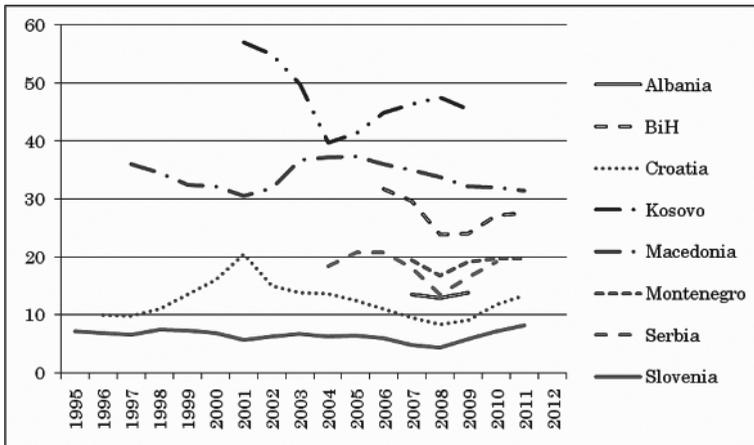


Figure 2: Unemployment rate in the Western Balkans (% of total labor force)

Source: World Development Indicators

Then see the Figure 3, which indicates inward FDI trend into the Western Balkans these days.

The major driving forces of FDI attraction are Croatia and Serbia (Serbia and Montenegro, by 2006). Nearly 59% of total FDI inflow into the region goes only to these two countries. From 1995, FDI inflows have been increasing in all countries by 2008 in general, but after the global financial crisis its volume fell down sharply and still has not recovered in the level of 2008.

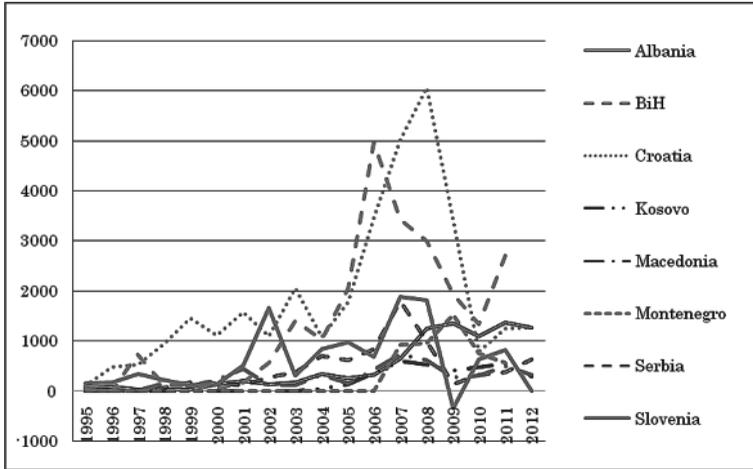


Figure 3: Foreign direct investment, net inflows in the Western Balkans
(Current US \$, millions)

Source: World Development Indicators

The Western Balkans countries are in transition in various points and their institutions are not functioning properly. Firstly, all countries of the Western Balkans sifted their economic systems to capitalism after the end of the Cold War, but the process of transition to free market has not completed yet. Secondly, most of the Balkan countries are trying to be a member of the European Union (EU). Slovenia and Croatia already joined EU in 2004 and 2013. The other countries have already applied for membership or are recognized as candidates or potential candidates by EU member countries. EU membership requires the adoption of EU legislation across the range of commercial and civil law, including trade rules, financial regulation, and competition policy. However, the process of this adoption is also still in the middle.

At the end of the introduction, we state two research questions of this paper to enter the next chapter.

- 1) What are the major determinants of attracting FDI into the Western Balkan countries that leads to economic development?

- 2) How much of the amount of inward FDI could be estimated if the influential determinants change, that found through the following statistical analysis?

II. Previous works and backgrounds

In this chapter, we review the previous studies on FDI in the Western Balkans. There are a few quantitative economic studies.

Jelena (2011) analyzes the economic environment that the Western Balkan countries face after the global economic crisis and assessed its effect on FDI. She states that it is the indigenous structural problem in the Western Balkans that caused inward FDI reduction, so just focusing on dealing with economic crisis is not sufficient to the FDI attraction. Valerija (2010) shows the relationship between the level of privatization of national companies and FDI attraction in the Western Balkans using the panel data framework. Valerija and Lorena (2006) investigate the main determinants of FDI in the Southeast European Countries by using regression-based estimation. They conclude privatization, trade openness and density of infrastructure appear to be robust as determinants of inward FDI. Hubert and Phanindra (2004) also try to find the FDI determinants between EU member countries and central and east European candidate economies in transition. They reveal that the key determinants are size of the host economy, host country risk, labor costs in host country and openness to trade. In terms of the effects of EU accession on inward FDI, Alan and Saul (2004) find that besides unit labor costs, gravity factors, market size and proximity, announcements about EU accession proposals have an influence on FDI inflows into the European transition economies.

These studies mainly focus on the national status of destination countries of FDI. For that reason, bilateral indicators have been hardly analyzed as variables. The traditional variables such as the level of privatization, trade openness, density of infrastructure, size of the host country do not vary from whichever country inward FDI originates. On the

other hand, bilateral indicators such as inward ODA, geographic distance, the number of emigration always vary depending on the combination of host country and origin country.

In this paper, therefore, the relationship between FDI flows and economic indicators, emphasizing on bilateral indicators, are analyzed.

III. The analytical method and the model

We determine a model to see the correlation between inward FDI into the Western Balkans and bilateral indicators. Based on the model proposed by Alan and Saul (2004), we use the following arranged one to employ regression analysis in this paper.

$$\ln FDI_{ij}^t = \alpha + \beta \ln ODA_{ij}^t + \gamma \ln EMI_{ij}^t + \delta CRD_{ji}^t + \varepsilon ITD_{ij}^t$$

We denote the year by t , the origin country by j , and the host country among the Western Balkans by i . FDI is placed at the left side as dependent variable. Independent variables are ODA , EMI , CRD and ITD . “Official Development Assistance” (ODA) represents the amount of money officially given by the government of origin country. “Emigration” (EMI) represents the total number of people who left country i and are living in country j . This variable measures only outflows of the people from arbitrary countries among the Western Balkans so inflows of the people from outside do not affect its values. A dummy variable “Common Religion Dummy” (CRD) represents 1 when the selected two countries i and j share common religion as the largest majority of the population in their own country. A dummy variable “Investment Treaty Dummy” (ITD) represents 1 when the selected two countries i and j ratified bilateral investment treaty among them and it had already took effect at that time.

In order to put each values of real number into above variables in the model, we employ natural logarithm (\ln) of ODA , EMI and FDI . The selected countries i and j are indicated in Table 1. Origin countries are selected for

their large amount of investment during the period 1995-2012.

The range of the year t is basically from 1995 to 2012 ($1995 \leq t \leq 2012$). The data of countries which became independent after 1995 (Serbia, Montenegro and Kosovo) covers the period after their independence. Because of the limitation of available data, the original data downloaded from online databases contained some defect part. As for variable EMI , we substituted the

Table 1: Country list to analyze

Host country (i)	origin country (j)
Albania	Austria
Bosnia and Herzegovina	France
Croatia	Germany
Kosovo	Greece
Macedonia	Hungary
Montenegro	Italy
Serbia	Luxembourg
Slovenia	Netherlands
	Switzerland
	United Kingdom

estimated values. Combinations of the data of ODA , EMI , CRD and ITD that have still some defect part are dropped from the dataset. Finally the remaining data is all arranged in the table which has years as columns and countries as rows to put this panel data into regression analysis.

The original data used for these variables are obtained from following websites. FDI from International Monetary Fund “Coordinated Direct Investment Survey”, ODA and EMI from Organisation for Economic Co-operation and Development “OECD.stat”, CRD from Central Intelligence Agency “The World Factbook” and ITD from International Centre for

Settlement of Investment Disputes “ICSID Database of Bilateral Investment Treaties”.

We employed two types of aggregation in this study. In the first stage, the dataset is aggregated by the host country (*i*). In the second stage, we changed the way of aggregation using the same dataset, in order to inspect the determinants from the side of the origin country (*j*). These results are indicated independently in the next chapter.

IV. The empirical results

The results of regression analysis based on the model discussed in the previous chapter are shown in Table 2 and 3.

Comparing the obtained coefficients by country, we can see that the number of emigration from the host country is correlated with FDI inflows in most of the Western Balkans, but its effect is not the same direction. While in Bosnia and Herzegovina and Slovenia emigration and FDI is in positive correlation, in Macedonia and Montenegro they are in negative correlation. As for Croatia, not the number of emigration but ODA allocation from abroad has significantly positive effect with FDI inflows. The country which shows significant positive correlation between common religion dummy and FDI inflows is Slovenia. This means Slovenia attracts more FDI from the catholic countries. We could not observe any difference by adding *ITD* variable, because all of the selected countries *i* and *j* had already held bilateral investment treaty with any other partner country. That is why *ITD* rows remain null.

Table 3 shows results of regression analysis by the origin countries. In this analysis, we choose Austria, France, Germany, Hungary, Luxembourg and Switzerland to aggregate the dataset. We analyzed these six origin countries of FDI and summarized the results of regression analysis below.

Seen from the points of views of origin countries, variable which positively correlated with FDI is the similarity of religion between origin countries and host countries. Austria, France and Hungary show significant

Table 2: The results of regression analysis by the Western Balkan countries

	Albania	BiH	Croatia	Kosovo
Partial regression coefficient	-	-	-	-
(a) <i>ODA</i>	0.3398 [0.2569]	0.1045 [0.1086]	0.7047** [0.0703]	0.4786 [0.2412]
(b) <i>EMI</i>	0.1422 [0.2283]	0.2828* [0.1003]	-0.1904 [0.0822]	
(c) <i>CRD</i>			1.1408 [0.3967]	
(d) <i>ITD</i>				
Constant	17.9706	18.4923	21.3800	16.3937
R square	0.8793	0.8332	0.9640	0.2194
Adjusted R square	0.7586	0.7832	0.9370	0.1636
Degree of freedom	6	13	7	15

	Macedonia	Montenegro	Serbia	Slovenia
Partial regression coefficient	-	-	-	-
(a) <i>ODA</i>	0.2082 [0.1334]	-0.2495 [0.1752]	0.0179 [0.1884]	
(b) <i>EMI</i>	-0.3805* [0.1329]	-0.2214* [0.0926]	0.0392 [0.1522]	0.9426** [0.0575]
(c) <i>CRD</i>	-0.6764 [0.6158]			2.9740** [0.2242]
(d) <i>ITD</i>				
Constant	20.0985	17.6960	19.9824	16.8381
R square	0.6049	0.6617	0.2591	0.9583
Adjusted R square	0.5137	0.4588	-0.0187	0.9528
Degree of freedom	16	8	11	17

* represents P value under 0.05. ** represents P value under 0.01.

Standard errors in [brackets].

correlation between *FDI* and *CRD*. In other words, these three countries tend to choose Catholic countries in the Western Balkans as a destination of their direct investment. Austria and France also hold *ODA* as a positively correlated variable in the second place. In contrast, from the columns of Germany and Switzerland we can see a positive correlation of variable *EMI* with *FDI*.

Table 3: The results of regression analysis by the origin countries

	Austria	France	Germany
Partial regression coefficient	-	-	-
(a) <i>ODA</i>	0.3279** [0.0625]	0.9569** [0.2146]	-0.1763 [0.3005]
(b) <i>EMI</i>	0.1170 [0.0485]		1.6577** [0.3043]
(c) <i>CRD</i>	2.7279** [0.1065]	2.4513** [0.5581]	
(d) <i>ITD</i>			
Constant	19.3715	17.4935	12.5511
R square	0.9933	0.7873	0.7768
Adjusted R square	0.9892	0.7487	0.7362
Degree of freedom	8	13	13

	Hungary	Luxembourg	Switzerland
Partial regression coefficient	-	-	-
(a) <i>ODA</i>	0.0009 [0.2546]	0.0476 [0.9229]	0.0004 [0.0723]
(b) <i>EMI</i>	0.0219 [0.2625]	1.7697 [2.1682]	0.3926* [0.1225]
(c) <i>CRD</i>	3.0624* [1.1699]		0.8938 [0.4256]
(d) <i>ITD</i>			
Constant	18.8973	18.4767	18.0196
R square	0.4332	0.2251	0.7167
Adjusted R square	0.2632	-0.0848	0.6223
Degree of freedom	13	7	12

* represents P value under 0.05. ** represents P value under 0.01.

Standard errors in [brackets].

Historically these two countries have adopted characteristic immigration policy that they acquire international immigrants positively, so that the two countries now accommodate a lot of foreign people including the Western Balkan people.

V. Concluding Remarks

We analyzed in this study what are the main determinants for the Western Balkan countries to attract FDI from abroad. In specific, through applying statistical regression analysis to the latest available data, we examined if inward FDI and those variables – the amount of ODA, the number of emigration from the Balkan country, similarity of religion and existence of bilateral investment treaty – show some correlation through two types of aggregation.

Though these Balkan countries are bounded on each other and they were forming one country in the near past except Albania, we find that economic characteristics from the viewpoint of FDI are different among countries. Even though they are called “the Western Balkans” as the united group, the Western Balkans hold diversity in its attraction of FDI.

Also in the second analysis, we observed similar phenomenon in terms of the difference in significant variables among origin countries of FDI. Because of the defect parts of some countries in raw data, we were not able to conduct regression analysis with all of the origin countries. However, the result that ODA and acceptance of immigrants have a positive correlation with FDI flows suggests that policies taken by each government have influence on the money flows in private sector even though it is indirect.

Looking into the analytical results by country in the Western Balkans, we can see that Slovenia and Croatia, which are the more developed countries among the Western Balkans, show different characteristic from the others in that their significant variable to FDI is not EMI. It may likely imply further study on economic development and variables used in this study. Also sophistication of estimation method of missing values and adding more various bilateral variables would be beneficial for more precisely identifying FDI attraction factors in the Western Balkans.

Since the global economic crisis occurred in the first decade of the 21st century, the Western Balkans, as well as the other part of the world, has been experiencing difficult economic conditions. The empirical

findings examined through this paper would be one of the keys to the future development of the Western Balkans.

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