The Impact of Foreign Direct Investment on Trade in Transition Countries

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Abstract

The main objective of this study is to examine whether foreign direct investments (FDI) have enhanced the performance of the volume of trade in 23 transition economies of Central, Eastern and Southeastern Europe during the period 2000 to 2015. For this purpose, we employ different econometrics techniques such as the models of fixed effects, random effect, the Hausman-Taylor IV, and the generalized method of moment (GMM). The findings show that FDI has a positive effect on the volume of trade in the countries in transition. Other factors that show positive effects with the level of trade are investments (gross capital formation in percent of GDP) and trade liberalization index (TLI). The factors that have no significant effect regarding the volume of trade are GDP and the exchange rate (ER).The study suggests that the countries in transition should develop strategies that improve the level of infrastructure, human resources, governance, or business environment. Since the FDI has positive effect on the level of export, the result could be recommended to Government's policymakers as a course of action to take institutional improvements, and to provide more incentives for foreign companies and implementing new appropriate reform in order to attract more FDI, which in turn leads to higher growth of export.

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1. INTRODUCTION

There is a bulk of the empirical evidence about the relationship between FDI and the volume of trade (export and import). Most of the studies (Ahmadi and Ghanbarzadeh, 2011, Aizeman and Noy, 2005, Bevan and Estrin, 2000, Brainard, 1997, Fugazza, 2004, Golberg and Klein, 1999, Markusen, 1996, 1998, 2002, Vuksic, 2005, Zhang and Song, 2000) find a positive impact of FDI on the exports and imports of the host countries. Surprisingly, only a few studies have investigated the relationships between the FDI and trade in countries in transition, particularly in the Western Balkans. Because countries in transition have been plagued with several problems including war, political instability, and hyperinflation, their financial sector collapsed. In transition, these countries has now offered an interesting case study, particularly with regard whether FDI has improved the performance of the export and import in the Central, Eastern and Southeastern Europe. Therefore, the main objective of this study is to answer the research question whether FDI affects the volume of trade in countries in transition. The study includes 23 transition economies of Central, Eastern and Southeastern Europe, for the period 2000 to 2015. For this purpose, we employ different techniques such as the model of fixed effects, the model of random effect, Hausman-Taylor Regression, and the generalized method of moment (GMM), in order to answer the research questions whether FDI affects the volume of trade in countries in transition.

The contribution of this study is twofold: Firstly, we contribute to the few studies that have analyzed the effect of FDI on the volume of trade in countries in transition and whether FDI has a positive influence on the development of international trade. Secondly, the study attempts to fill the gap in the literature concerning the impact of FDI on exports and imports in countries in transition, including the Western Balkans countries. Moreover, the study includes control variables such as the exchange rate, GDP per capita, domestic investment and the trade liberalization index. Most of the studies have examined only the relationships between FDI and exports and imports of these countries.

The empirical results show that FDI has a significant effect on exports and imports in countries in transition. The investment and the trade liberalization index (TLI) have a positive effect on exports and imports. The factors that have no significant effect regarding the level of exports and import are GDP and the exchange rate (ER).

The paper is organized in four sections. The first section presents the review of literature, the third section shows the econometric methodology and data, and forth section empirical models and findings of the study.

2. REVIEW OF LITERATURE

The relevant theories can be classified into two strands, standard international trade theory and enterprise theory. Since there is not a single theory to explain the effects of FDI on the volume of trade, we attempt to analyze the most important empirical evidence relating to the relationships between FDI and trade. Concerning the relationships between FDI and trade, the empirical evidence does not provide a conclusive answer. However, in recent years the relationship between FDI and exports received wide attention in empirical studies. The lack of consensus can be due to different time periods, a different set of countries and econometric method applied in these researches. Findings by Brainnard (1997) show that there is a strong empirical link for horizontal FDI between countries with the same economic development. Goldberg and Klein (1999) analyze the link between FDI and trade in US and Latin America. In their study, the authors find that the FDI from the US may lead to significant, and varied,

shifts in the composition of activities in many Latin American countries and across many manufacturing industries. The study by Aizeman and Noy (2005) argue also that there is a positive relationship between FDI and freight trade. However, according to the authors, it is difficult to identify if FDI inflows and outflows refer to different types of goods. Nath (2009) applied a panel data approach to investigate the effects of FDI and trade in 13 transition economies of Central and Eastern Europe and the Baltic region from 1991 to 2005. He shows a significant positive effect of trade on growth, but FDI has had no significant impact on growth in these transition economies.

On the other hand, the study by Choong and Lam (2011), applying a panel method for 70 developed and developing countries, finds that FDI has a strong negative effect on economic growth in developing countries due to weak legal regulations, shallow of financial intermediaries which led to misallocation of private capital and thus decreasing the economic performance. Kersan-Skabic and Zubin (2009) show that FDI has a negative effect on employment whereas it does not have an effect on GDP growth and exports in the Croatian economy. The positive effect had failed because of the low share of Greenfield investments. Findings by Bevin and Estrin (2000) show the positive impact of FDI on the export of transition countries and their impact on the process of integration of these countries towards EU countries. The result showed a positive correlation between FDI and the process of integration in countries in transition. Dauti (2016) finds the evidence on the mixed nature of FDI into the host SEE-5 and EU-NMS-10 countries, supporting both complementary and substituting relationships between trade and FDI in the host countries.

To summarize, a number of studies have examined the various factors that affect export-import in developed and developing countries. However, only a few studies have developed empirical models in countries in transition, particularly in the Western Balkans countries. In order to better understand the FDI process and FDI impact on export-import and thus in economic growth, this research sets up an empirical model in order to investigate the effect of FDI on trade on countries in transition, including the Western Balkans countries, and how the policies can manage FDI.

3. ECONOMETRICS METHODOLOGY AND DATA

3.1 Econometric methodology

We test the relationship between FDI and trade (exports and imports) by including 23 transitions countries of Central and Eastern Europe over the period 2000 to 2015. The countries are Albania, Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kosovo, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, and Ukraine. This choice has been determined by the availability of data. The source of datasets are from World Bank's Development Indicators and International Financial Statistics.

The specification of dynamic panel model (GMM) for testing the impact of FDI in trade (export/import performance) of transition countries is as a follow:

$$TRADE_{i,t-1} = \mu_t + B_1 FDI_{i(t-1)} + B_2 ER_{i(t-1)} + B_3 GDP_{c,i(t-1)} + B_4 INV_{i(t-1)} +$$

$$B_5 TLI_{i(t-1)} + \delta_i + \gamma_i + \varepsilon_{it} \qquad (1)$$

The dependant variable $TRADE_{i,t-1}$ stands for exports (or imports) flows from country in year *t* (as in Sun 2001 and Zhang and Song 2000). In this econometric model, the first explanatory

variable is the accumulated stock of FDI. This variable is chosen based on FDI inflows and the relative importance of foreign investors. The accumulated stock is a good predictor of overall effects on exports, which is a source of indirect effects on the economy. The second independent variable in this study is ER. The ER reflects the internal and external pricing conditions, with an increase in its value, indicating real appreciation. In his study, Sun (2001) uses the nominal ER, but this does not fully identify differences in price levels. There are many factors influencing price changes, so the real effective exchange rate is the best option. Authors Goldberg and Klein (1999) use real exchange rates. The other independent variable is the gross domestic product (GDP). The growth rate of GDP of the economies that cooperate in the field of trade are to be found in the Goldberg and Klein (1999) model, but not in the models of Sun (2001) and Zhand & Song (2000).

Based on macroeconomic theory to analyze the impact of FDI on the exports of transition countries, another factor to be considered is the change in capital formation in order to contribute to the effects of domestic investment (INV). In this econometric model one should be careful because it can be a causal link between FDI and gross fixed capital formation, particularly in the case of greenfield investments. Krksoka (2001) finds that many of the transition countries have more FDI inflows caused due to the fusion of local firms in the privatization process. Therefore, these flows are considered an important source of funding for capital formation. An index has been added as a proxy for trade liberalization (TLI).[3] It can take values between 1 and 4.3, where the lower value stands for less liberalized regime. The term δ_i is the country fixed effect that enables us to control for time-invariant unobservable factors that may affect economic growth which otherwise may lead to bias coefficients. The term γ_i is common time effect that covers business cycle effect which otherwise may lead to spurious regression between dependent variable and explanatory variables. The term ε_{it} is the usual standard error. For testing these variables we have used some of the statistical tests: fixed effects model, random effects model, Hausman-Taylor-Regression and Generalized Method of Moments (GMM). The purpose of these tests is to compare results, which are approximately the same. We will only interpret the results of the fourth empirical model, GMM. We use the GMM estimator in order to deal with endogeneity problems in our regression.

3.2 Data description

The data for the export of 23 countries in transition during the period 2007 to 2015 is presentedin table 1. The United States of America is ranked as the leading market for attracting FDI, with 22 percent of the world stock of FDI in 2014. Meanwhile, if regional markets are taken into account, the EU is the region that has absorbed the highest level of global FDI, with 32 percent of the world stock by 2014. Within the EU almost half of these investments are attracted by Great Britain, Germany, Spain and the Netherlands. On the other hand, EU countries are also the main investors in the global economy, with 37 percent of global stock of global investment.

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[3]The index was constructed by EBRD and it is called: "Index of forex and trade liberalization" (see EBRD 2003).

**Tab. 1: Export in transitions countries, 2007 – 2015**

No.	States	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Albania	28.1	29.6	29.6	32.4	34.0	33.4	35.4	28.1	27.1
2	Armenia	19.2	15.0	15.5	20.8	23.8	27.6	28.4	28.5	29.7
3	Azerbaijan	68.1	65.8	51.6	54.3	56.4	53.7	48.7	43.3	37.8
4	Belarus	60.9	60.9	50.5	53.2	81.1	81.3	60.3	56.9	60.1
5	Bosnia & Herzegovina	27.1	26.9	25.0	29.7	32.1	32.2	33.6	33.9	..
6	Bulgaria	52.0	52.3	42.4	53.7	62.3	63.4	67.0	65.1	66.5
7	Croatia	39.0	38.5	34.5	37.7	40.4	41.6	43.0	46.3	49.4
8	Czech Rep.	66.6	63.4	58.8	66.2	71.6	76.6	77.3	83.8	84.5
9	Estonia	63.2	66.8	60.8	75.1	86.5	86.6	86.8	83.9	79.8
10	Georgia	31.2	28.6	29.7	35.0	36.2	38.2	44.7	42.9	45.0
11	Hungary	78.3	79.7	74.8	82.3	87.2	86.8	88.0	89.3	..
12	Kosovo	15.5	15.7	17.1	19.8	19.6	18.3	17.3	19.6	19.1
13	Latvia	38.5	39.6	42.6	53.7	58.0	61.5	60.4	59.5	58.8
14	Lithuania	50.4	57.1	51.9	65.3	75.0	81.7	84.1	81.2	77.3
15	Macedonia	44.1	43.2	32.8	39.8	47.1	45.4	43.4	47.8	48.5
16	Moldova	47.5	40.8	36.9	39.2	45.0	43.5	43.3	41.5	43.4
17	Montenegro	44.4	39.5	32.1	37.0	42.3	43.7	41.3	40.1	43.3
18	Poland	38.8	38.3	37.6	40.0	42.5	44.4	46.3	47.5	49.4
19	Romania	29.1	26.9	27.4	32.3	36.8	37.5	39.7	41.2	41.1
20	Russia	30.2	31.3	27.9	29.2	28.3	27.4	26.6	27.5	29.5
21	Serbia	28.4	29.1	26.8	32.9	34.0	36.9	41.2	43.4	47.7
22	Slovakia	83.5	80.2	67.8	76.6	85.3	91.8	93.8	91.9	93.8
23	Ukraine	44.8	46.9	46.4	50.7	49.8	47.7	43.4	49.2	52.8

Source: World Bank.

The region of Southeast Europe *(Albania, Bosnia and Herzegovina, Montenegro, Macedonia, Serbia, Bulgaria and Romania)* absorbed less than 1 percent (exactly 0.9 percent) of the global FDI stock by 2014, according to UNCTAD data. Even worse, if Bulgaria and Romania are excluded, which have attracted higher amounts of foreign investment after their entry in EU, the figure reaches the very low level of only 0.4 percent of the global FDI stock. According to the Central Bank of Kosovo, FDI received in Kosovo by September 2015 marked the value of 270.4 million euros, or 148.6 million euros more than in the same period of 2014. FDI growth is the result of the higher FDI inflow, while the difference with the same period of the previous year is due to the fact that 2014 was characterized by super-dividend

distribution. FDI in Kosovo is mainly concentrated in the sectors of the economy as real estate with 54.2 percent of total FDI realized by September 2015, construction by 18.7 percent, financial services by 15.7 percent, transport and communication by 7.7 percent, energy by 4.2 percent, etc. (Central Bank of Kosovo, 2016). Figure 1 presents some data for FDI-inflows in South East Europe between 1990 and 2015.

Fig. 1: FDI inflows, by region and economy in South East Europe between 1990 and 2015
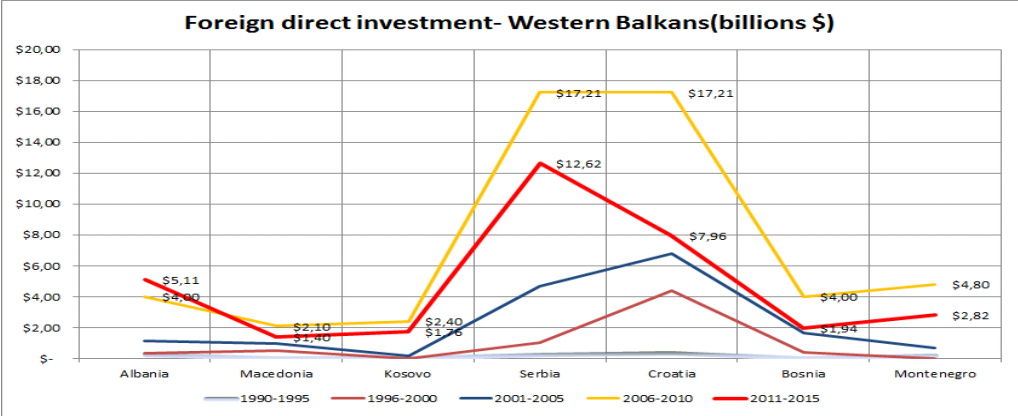
Source: Author's calculation

The FDI inflow in Albania has maintained a positive growth trend over the years. For 2016, referring to the data of the Bank of Albania, it has attracted more FDI than previous years, maintaining this trend. Specifically, from the value of EUR 890 million in 2015, the FDI inflow in 2016 amounted to 983 million Euros (Bank of Albania, 2016). Foreign companies invested in the Albanian economy 10.5 percent more than a year earlier. According to the recent data from the National Bank of Macedonia, FDI have fallen by 12.4 million euros. Only in February 2017, foreign investments amounted to 19.1 millioneuros, and compared to January, when it had 31.9 millioneuro, the minus reached 12.4 million. The same is in March 2017, when compared to March 2016, FDI marks a reduction of nearly 17 million euros.

Fig. 2: FDI-inflows, by region and economy in South East Europe, 1990 to 2015
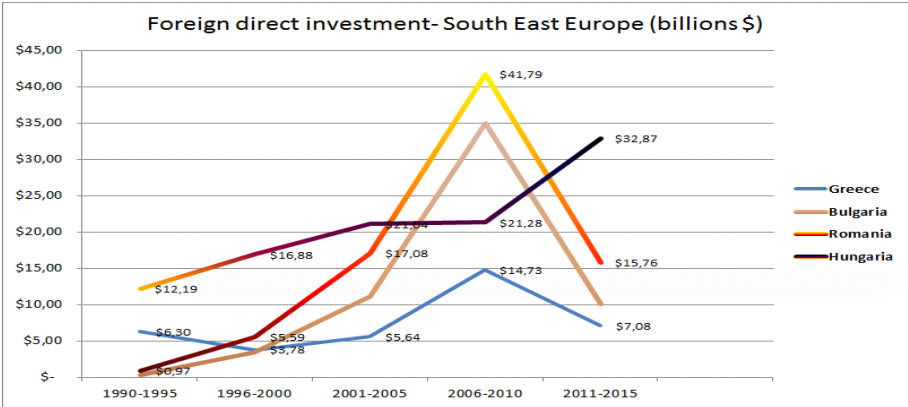
Source: Author's calculation

4. EMPIRICAL RESULT

Table 2 shows the results from equation (1). The results show that all econometric models are well calculated, as trade coefficients (Export - Import) are statistically significant. Moreover, Sargan test with p associated value, which examines the validity of the instruments, is accepted as a suitable instruments. Therefore, the results from the GMM model have supported the hypothesis that instruments variables are not correlated with the set of residuals. As a result, p-value Sargan test can not reject the null hypothesis.

	Fixed – Effect Model (1)	Random Effect Model (2)	Hausman Taylor Regression (3)	GMM Model (4)
Trade (export – import)	-	-	-	0.0791**
				(0.007)
Foreign Direct Investment (FDI)	0.1157***	0.1180***	0.1155***	0.0574***
	(0.001)	(0.000)	(0.001)	(0.078)
Exchange Rate (ER)	0.0133**	0.0110**	0.0117**	-0.0078**
	(0.130)	(0.167)	(0.143)	(0.813)
GDP per capital	-0.1025**	-0.1020**	-0.1029**	-0.1681**
	(0.011)	(0.010)	(0.010)	(0.000)
TLI index	0.4531**	0.4541**	0.4546**	0.4923**
	(0.000)	(0.000)	(0.000)	(0.000)
INV	0.3687**	0.3622**	0.3657**	0.4444**
	(0.000)	(0.000)	(0.000)	(0.000)
Arellano – Bond test for AR (1)	(0.000)	-	-	(0.000)
Arellano – Bond test for AR (2)	(0.363)	-	-	(0.363)
Sargan Test	(0.000)	-	-	(0.000)

Note: Trade (Export – Import) is a dependant variables. The results are first step GMM estimator. Two lag are utilized as instruments of GMM method. All GMM regression is used in robust standard error. Robust standard error in parenthesis, *, **, ***, denote significance at the 10%, 5% and 1% respectively. Sargan test shows the p-value for null hypothesis of the validity of instruments. The AR (1) and AR (2) are p-values for first and second order of auto correlated of error term. That is no autocorrelation between the residuals.

Source: Author's calculation.

Results of the fourth column (GMM model) indicates that FDI has a positive impact on export – import of countries in transition. The coeficient is statisticaly significant at the 10% level of significance. An increace of FDI for one percent will generate 0.05% growth of exports and import. As it could be seen from Table 2, the exchange rate negatively affects the export - import of transition countries. The coeficient is statistically significant at 5% level.

Based on this analysis, we can see that GDP per capita has a negative impact on the export and import of these 23 transition countries. If GDP per capita rises to 1%, this would result in

the reduction of export and import for 0.16%. These two variables are significant at the 5% significance level (0.000). TLI index positively affects the export of transition countries. If TLI index rises by 1%, it will affect the growth of export and import for 0.49%. Based on the GMM results, we can see that there is a significant relationship between domestic investment and export - import of the countries involved in this study. If the domestic investment increased to 1%, it would affect the growth of export - import of these countries for 0.44%.

Based on empirical results, there is a positive impact of FDI on the export of transition countries. The development of exports as part of international trade has a consistency regarding to FDI. The results of the paper show that FDI can have very important effects on export promotion. FDI in transition countries is the main indicator of export growth because the choice of other export promotion instruments is being reduced as a consequence of international trade agreements or because of direct export subsidies in specific industries which resulted ineffective in many cases. FDI and their positive impact on exports is particularly important for those countries in Central and Eastern Europe whose purpose is to integrate into the European Union. Since the governments of the transition countries are aware of the potential benefits of FDI in the economy of the host countries, therefore, from this fact, there is a very strong international competition for FDI. The results presented in the empirical analyses proved the hypothesis that FDIs have an important effect on the trade of 23 transition countries.

5. CONCLUSION

The study examined whether internal FDI has positive effect on trade (export – import) in transitions countries over the period 2000 to 2015. Therfore, the aim of this paper was to investigate whether the foreign direct investment in Central and Eastern Europe countries has affected the export performance of the host economies. Attracting foreign direct investment in transition countries can contribute to the export of these countries by increasing supply and output capacity, but also through the specific effects of FDI, since multinationals companies have a better knowledge of international foreign markets, advanced technology, lower production costs and better connectivity with the supply chain. Based on the literature review and the empirical results of our study, we can conclude that FDIs have a significant positive impact on the exports of these countries as well as the countries that are new EU members. This positive impact is the result of the fact that all the countries involved in this research during period 2000-2015 attracted more foreign direct investments oriented in export, as an important indicator of the economic development of these countries.

The empirical results of this paper may have important implications for the governments' policies in these countries, which should develop policies that encourage internal FDIs, providing more incentives for foreign companies and implementing new appropriate reforms which will attract foreign investors. It is recommended that these countries involved in this study should develop strategies that will improve the level of infrastructure, human resources, governance, business environment etc. These strategies will have a positive impact on business transactions, production costs, and overall economy competition. Investment policymakers should give more value to export promotion, regardless of the various facts presented by empirical evidence. So, potentially, FDIs could have boosted the economic growth of transition countries, affecting exports growth.

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