The Impact of Foreign Direct Investment on the Export Performance: Empirical Evidence for Western Balkan Countries

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Abstract

Recently there are many authors that have studied and analyzed the impact of foreign direct investments (FDI) on the export performance. They have different opinions about the effect of foreign direct investments on the export performance. Some of them in their papers conclude that FDI have positive effect on the export performance and some not. There are also findings that FDI do not have any impact on the export performance. Of course for economic benefit of host country it is not important only the amount of FDI, but also their structure. To measure the effect of FDI on the export performance is not easy.

Therefore, the main objective of this paper is to analyze empirically the foreign direct investments and exports performance during the period of 1996-2013 in Western Balkan countries. The paper also investigates for the fixed effects and individual heterogeneity across countries and years. Based on the panel regression techniques and Least Square Dummy Variable (LSDV) regression method, FDI positively affect export performance in the sample countries in various model specifications.

The results and conclusions of this paper we hope that will help everybody who are interested and studying this matter, especially the policy makers. The last ones have the obligation

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to facilitate and promote the export if they award confirm that FDI contribute on developing their economy.

Key Words: Export; FDI; Western Balkan`s countries; LSDV

1. Introduction

No matter the level of economic development, countries are oriented towards the creation of economic policies that encourage attracting FDI. They want to realize the benefits from FDI. It is known that FDI can encourage the countries` economic development by making companies become more competitive, bringing new capital, new technology and growth of the employment.

The process of globalization has tremendous impact on the spread and growth of foreign direct investment. Today enterprises are more aggressive than ever before in the global market. One of the strategies to enter firms in the global market is FDI.

The concept of FDI and trade are in coherence to each other. Investments as economic concept represent a step preceding the trade. Successful entities before the start of the production process, they need to plan production cost and the margin profit. Both of these are elements that are related to the orientation of investment decision.

Western Balkan countries are a diverse and complex region. They are characterized by political instability and low level of income compared to the other part of Europe. These countries, most of them are still in the transition phase and that takes a long time; they consider that the role of FDI is an engine for their economy. The FDI contributes to the economic growth by providing additional financial capital and managerial and marketing skills.

Foreign direct investments are investments that are associated with the movement of production of goods and services across the border. FDI are real asset investments. Investor's role is active. It has the right to control the company.

Recently there are a lot of articles about the effect of relationship between FDI and exports. The aim of this paper is to assume the impact of FDI on export performance. We would like to prove such relationship if exists and in which direction it is going, especially in the economy of Western Balkan countries. The paper is organized as follows. The following

section gives a short review of the relevant theory and of the empirical findings from earlier studies about the relationship between FDI and exports. This is followed by the presentation and analysis of data on FDI in Western Balkan countries in order to get knowledge on positive impact of FDI in exports performance. Next part, an empirical model is given and discussed and summary statistics for other variables are presented. The results of the estimation are presented in the fifth, while some concluding remarks are given in the last section.

2. Literature Survey

2.1. Theory

Multinational companies are the main actors of FDI. When they enter foreign market, they prefer more FDI than other forms and strategies. The main reasons are as follows: cost of transport, market faith strategic behavior of companies, cyclical life of production and location-specific advantage.

2.2. Previous empirical findings

Different theoretical approaches give different predictions about the relationship between FDI and exports. The recent FDI theories suggest that FDIs have trade improving effects and there are many studies about net exports and FDI relationship in the empirical literature. In this paper we have tried to summarize only the most significant empirical studies.

The results of Zhang, KH (2005) indicate that FDI had positive and significant impact on the exports of China. He stated that China`s export boom was accompanied by substantial inflows of foreign direct investments and China becomes from the 32nd in 1978 to the 3rd largest exporting country in the world in 2004.

The relationship between FDI and export performance was estimated by Jongwanich (2010) with the data of eight Asian countries over the years 1993-2008. The conducted analysis suggests that the inward FDI is positively related to the export performance in these countries.

Jevcak, Suardi, Setzer (2010) analyzed FDI inflows in 10 new EU member countries (EU enlargement from 2004). They found that FDI in the mentioned countries does not have higher contribution to productivity growth and export potential.

Gunawardana and Sharma (2009), both authors investigate how FDI inflows, labor productivity and effective rate of industry assistance possibly affect the export of Australian manufacturing sectors over the period of 1988 through 2005. FDI and exports appear to be positively correlated in all cases. Research implies that in a short-run, 1% increase of FDI inflows causes 0.397% increase in exports of Australian manufacturing industries. The effect of four-quarter lagged FDI variable on exports is found to be 0.09% higher, whereas in a log run was observed 2.668% possible increase in exports.

3. Methodology and Data

The empirical analysis of this study consists of panel regression techniques, precisely of fixed effects model, random effects model and Least Square Dummy Variable (LSDV) regression method. Also a pooled Ordinary Least Squares (OLS) is conducted solely for the comparison purpose of the empirical results. For a comprehensive analysis of the effects of FDI on export performance were performed a series of models by adding or excluding other control variables in the baseline model. This allows for the researchers to decide for the most consistent and efficient model on this issue, as well as for the proposed countries.

The dataset of this study covers a slightly unbalanced panel of 8 South East European (SEE) countries[1] (four of which are member states of EU) over the period 1996-2013. The data availability for this set of countries limit the sample to start in 1996 and end in 2013. The data are provided mainly from the database of World Development Indicators – World Bank, except the data of real effective exchange rate (for Albania, Bosnia & Herzegovina, Serbia and Slovenia) that are provided from the database of Zsolt, D. (2012)[2].

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[1] The included countries in the empirical analysis are: Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Serbia, Bulgaria, Romania, Serbia and Slovenia.

[2] The database includes real and nominal effective exchange rates from the paper: Darvas, Zsolt (2012), "Real effective exchange rates for 178 countries: A new database", Working Paper 2010/06, Bruegel; Discussion paper 2012/10, Research Centre for Economic and Regional Studies, Hungarian Academy of Science.

3.1. Model Specification

For examining the effects of FDI on export performance for the sample countries we use the following panel regression model:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \delta_i Z_i + \varepsilon_{it} \tag{1}$$

where Y represents the exports for country i at time t, X is a vector of control variables which includes the FDI variable and the other determinants of exports, whereas Z_i is an unobserved variable that varies from one country to the next but does not change over time (Stock and Watson, 2003). We want to estimate, β_1, the effect of X on Y, holding constant the unobserved country characteristics Z. Because Z_i varies from one country to the next but is constant over time, the regression model of exports can be interpreted as having 7 intercepts[3], one for each country. ε_{it} is the stochastic term.

Let: $\qquad\qquad\qquad a_1 = \beta_0 + \delta_i Z_i$

then the equation becomes: $\quad Y_{it} = \beta_1 X_{it} + a_1 + \varepsilon_{it} \tag{2}$

This equation represents the fixed effects regression model by which we estimate the fixed effects on export performance for the SEE countries. Beside the FDI as an external factor, the export performance may be also determined by other factors such as: the real effective exchange rate, GDP growth rate, savings, gross fixed capital formation, industry[4]. The specified equation for export promotion is as follow:

$$EXP_{it} = f\,(FDI_{it},\, REER_{it},\, GDP_{it},\, SAV_{it},\, GFCF_{it},\, IND_{it}) \tag{3}$$

The variables appearing in the equation are defined as follows:
EXP = Exports of goods and services as percentage of GDP,
FDI = Foreign Direct Investments as a percentage of GDP,
REER = Real effective exchange rate index (2010=100),
GDP = Gross domestic production annual growth,

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[3] Since they are binary (dummies) we have n-1 entities (in this case countries) included in the model.

[4] We have also considered other potential determinants of exports, but resulted statistically insignificant, so they are excluded from the model.

SAV = Gross domestic savings as a percentage of GDP,
GFCF = Gross fixed capital formation as percentage of GDP,
IND = Industry value added as a percentage of GDP.

As mentioned in the previous section the effects of FDI in exports performance is contentious. Some studies find positive impact of FDI on exports (Fontagne and Pajot, 1997; Clausing, 2000; Alguacil et al.2002; Vuksic, 2011), especially for the countries with export oriented MNCs, whereas some other studies find no robust evidence or weak influence of FDI on exports (Hoekman and Djankov, 1997). Moreover, Ibraimova (2010) finds a negative relationship for developing countries.

Regarding the next determinants of exports, we expect a positive sign for real effective exchange rate. A fall in the relative domestic prices due to exchange rate depreciations makes exports cheaper in international markets, resulting in increased demand for exports. The real growth of gross domestic production is the main impetus of export expansion, because surplus of output can be exhausted in international markets. So we expect a positive sign for this variable. Higher savings means higher available amounts of goods for exports. Thus, we expect a positive impact of this variable on exports. Physical capital accumulation is an important determinant of exports. Firms can accumulate know-how through capital accumulation, thus some investments can produce growing returns and promote exports. Physical capital accumulation in this analysis is proxied by the share of gross fixed capital formation (GFCF) in GDP. Based on the existing literature, the coefficient of this variable is predicted to be positive. The higher industry value added, the higher industrial exports, so we also expect a positive effect of this variable on exports.

4. Empirical Findings and Interpretations

In this section we present the empirical results based on the regression models. The study examines whether FDI can be considered as a determinant of exports promotion for SEE countries or not. The panel data model is estimated by allowing the deterministic shifts across the countries. Since the models use panel data, it is likely to suffer from the problem of autocorrelation and heteroscedasticity. We removed them by applying appropriate econometric techniques. Also, an important assumption of the fixed effects model is that the error terms and the constant (which captures

individual countries characteristics) should not be correlated with the others. If the error terms are correlated then fixed effects is not suitable since inferences may not be correct, so in this case, random-effects model is more appropriate. For this reason it was used the Hausman test to decide for the suitable model for the tangible research. In (Table 1) below are displayed the regression results of pooled OLS, fixed effects and random effects.

Table 1: Regression results of pooled OLS, fixed-effects model and random-effects model

Variables	Pooled OLS	Fixed effects	Random effects
FDI	0.9248*** (0.1875)	0.3098* (0.1790)	0.9241*** (0.2387)
REER	0.0734 (0.0965)	0.0759* (0.0477)	0.0744 (0.0677)
GDPg	0.5221* (0.2880)	0.1477* (0.1294)	0.5221** (0.2224)
SAV	1.3760** (0.02807)	0.5924*** (0.14522)	1.376* (0.1844)
GFCF	-0.4646 (0.3078)	0.1305 (0.1948)	- 0.4646 (0.2653)
IND	0.2716 (0.1360)	-0.78807*** (0.2098)	0.2699 (0.4451)
Constant	5.6047 (9.3835)	38.0191 (8.2318)***	5.6047 (17.7482)
Hausman test		Chi2(6)=4.63 Prob>chi2=0.0991	
Number of observation	129	129	129
Number of countries	8	8	8

Notes: Robust standard errors are in parentheses. For the specification tests, p-values are reported. Time dummies are included in all regressions (not reported). *, ** and *** indicate that the coefficients are significant at the 10%, 5% and 1% level of significance, respectively.

Table 2: Country specific intercepts of the fixed effects of LSDV model

Countries	Fixed Effects	Countries	Fixed Effects
Albania	-6.0447** (2.5884)	**Romania**	3.7440 (2.5804)
Bulgaria	17.7207*** (2.7125)	**Serbia**	-3.8758 (2.6810)
Croatia	7.7457*** (2.5806)	**Slovenia**	29.3416*** (2.6111)
FYR Macedonia	15.022*** (2.5810)	**Bosnia & Herzegovina**	—

Notes: Robust standard errors are in parentheses; *, ** and *** indicate that the coefficients are significant at the 10%, 5% and 1% level of significance, respectively.

The findings indicate that the coefficients of FDI are found to be positive and statistically significant in all three models, at 1% level of significance in pooled OLS and random effects model, while at 10 % level of significance in the fixed effects model. This shows that FDI exerts significant effect on exports promotion in SEE countries (see Table 1). The coefficient of real exchange rate has the expected sign and is significant at 10 % level in the fixed effects model, while it results insignificant in the pooled OLS and random effects model. The costs and benefits of depreciation of currencies across the countries depend upon their domestic structure of economies. This is why our results find weak positive relation. The GDP growth is significant at 10% level of significance and it affects positively the exports in SEECs. Higher rates of economic growth are usually associated with an increase in the profitability of MNCs. The effect of savings is positive and significant. It facilitates investment tendencies that determine exports. Higher savings imply lower interest rates that promote investment opportunities. The investment is the key channel for export growth. Thus, savings may be utilized by domestic investors. The coefficient of gross fixed capital formation was found to be statistically insignificant. While the coefficient of industry value added is statistically significant only in the fixed effects model, but the sign of the relation is negative. This means that industry is not enough developed in these countries.

The fixed effects of FDI on exports are higher in Slovenia, Bulgaria and FYR of Macedonia, while lower, even negative in Albania and Serbia (see Table 2).

5. Conclusion

The objective of this paper was to survey the effects of FDI on exports performance in South East European countries. Using the panel regression techniques and LSDV estimation method, we find positive and statistically significant effect of FDI on exports performance for this set of countries. It was also investigated for the regional imbalances of the aforementioned countries. The fixed effects of FDI on exports are higher in Slovenia, Bulgaria and FYR of Macedonia, while lower, even negative in Albania and Serbia. Econometric results also show that in SEE countries the exports promotion is determined by the output growth, the exchange rate, savings, and the industry.

Considering that this is the first attempt of establishing a relationship between FDI and exports for this set of countries, the findings are crucial for the current discourse for this region as they underpin the importance of regional and international trade related development. In spite of the limited size of the sample, the models perform well for this analysis. However we contend that our study provides only a promising step towards developing a more comprehensive empirical research by a dynamic estimation procedure.

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