

THE IMPACT OF EU ACCESSION ON FDI FLOWS BETWEEN NEW AND OLD MEMBER STATES

UTJECAJ ČLANSTVA U EU NA TOKOVE STRANIH DIREKTNIH INVESTICIJA (SDI) IZMEĐU STARIH I NOVIH DRŽAVA ČLANICA

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Abstract: *In 2004, 8 countries from Central and Eastern European countries namely: Poland, Hungary, Czech Republic, Slovenia, Slovakia, Lithuania, Latvia and Estonia joined EU. One of the reasons why they joined EU was to make themselves more attractive destination for foreign direct investments (FDI). We will try to show how the membership in EU influenced the FDI flows from EU15 countries to 8 new member countries by using the gravity econometric model.*

Key words: *FDI flows, impact of EU membership on FDI flows from “old” member countries to new member countries, gravity econometric models.*

Sadržaj: *Godine 2004., osam država Srednje i Istočne Europe: Poljska, Mađarska, Češka, Slovenija, Slovačka, Litva, Latvija i Estonija postale su članice EU-a. Jedan od razloga za njihovo članstvo u EU bila je i mogućnost privlačenja veće količine stranih direktnih investicija poboljšavanjem investicijske slike države. Pokušat ćemo pokazati kako je članstvo u EU utjecalo na tokove stranih direktnih investicija iz država EU15 u nove države članice koristeći gravitacijski ekonometrijski model.*

Ključne reči: *SDI tokovi, utjecaj članstva u EU na tokove SDI-ja iz starih u nove države članice, gravitacijski ekonometrijski modeli.*

INTRODUCTION

In this paper we will try to show how the EU membership affected the foreign direct investment (FDI) flows to new EU member states Lithuania, Latvia, Estonia, Poland, Czech Republic, Slovakia, Hungary, and Slovenia which joined EU in 2004 from old EU member states meaning the 15 EU member states prior to 2004 enlargement. We will test this impact by using the gravity econometric model.

By joining Regional Economic Integrations (REI), and EU is presently the most advanced and complex form of REI, states give up some of their sovereignty and expect to be compensated for this by accelerating their economic growth by gaining access to large markets and increased foreign investments. These are the two main economic reasons for countries to join REI. If country has a successful industry it will want to expand its market, and thus allow it to reap more benefits from the economics of scale (this is especially true of the industries in the small countries). The other reason is the attraction of FDI which is particularly important for small and medium sized countries which by joining REI offer potential investors access to enlarged “market” therefore enabling them to reap the benefits of economics of scale.

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THEORY OF FDI

FDI are simultaneously one of the essential ingredients of economic growth and indicators of openness, and indicator of desirability of a country as a partner in the international trade. Usually FDI are defined as a type of international investment by residents of one country with the aim of establishing a lasting interest in enterprises within the economy of another country. Also, FDI is viewed by many economists to be one of the main pillars of globalization (de Soysa, 2003) and even the great John Stuart Mill once famously observed that “the opening of foreign trade sometimes works a sort of industrial revolution in a country whose resources were previously underdeveloped” (quoted in de Soysa, 2003, p. 20).

Gilpin makes an interesting observation about the FDI: “in the ideal world of the neoclassical economist firms would not invest abroad. Furthermore firm’s behaviour is determined almost entirely by market signals and that, therefore, the nationality of firm and whether it is operating domestically or internationally is of slight importance” (Gilpin, 2001, p.279).

The Eclectic paradigm of John Dunning is one of the most famous theories dealing with and FDI and was developed in 1977.

The cornerstone of this theory is the so called OLI paradigm. O stands for ownership, L for location and I for internalization. (Cantwell, Narula, 2003, p.1). Location specific advantages come into consideration only if the first two parts of the OLI paradigm have been successfully satisfied. Location advantages can come into being due to political factors such as: import barriers that rule out exporting (access to local and regional markets), or due to geographical features which cause prohibitive transportation costs or overly long shipping times. They can take the form of pull factors like cheap or free real estate, low (skilled) labour costs (India), financial incentives for incoming FDI (tax exemptions), and not to forget the natural resources like oil, gas, gold, iron, etc. Location comes into play because some of the production factors like cheap labour force and natural resources are simply not movable (Cantwell, Narula, 2001).

There are two opposing views of the FDI. One believes that FDI is beneficial to source country, and the other view is that it actually is not that beneficial to the source country. There are many reasons to favour pro and anti FDI stance taken towards FDI by economists, political scientists and general public.



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Mody gives the following three praises for FDI: “FDI is thrice blessed. It brings scarce capital where capital is needed and productive. It stimulates the domestic market for corporate control and hence serves to discipline managers. It is the bearer of knowledge to enhance productivity, potentially to the levels of international best practice (Mody, 2007, p. 1).

Neuhaus defines three channels through which FDI has impact on economic growth in host economy:

- 1). Direct Transmission (through “Greenfield Investments”)
- 2). Indirect Transmission (through “Ownership Participation”)
- 3). Second-Round Transmission (through “Technology Spillovers”) (Neuhaus, 2006, pp. 43-44).

Critics of FDI point out that FDI is not beneficial to host countries economy. Kersan-Škabić and Zubić for an example analyzed the impact of FDI on the job growth in Croatia, a typical transitional country. The authors found that there is negative correlation between FDI and job growth rate in Croatia (Kersan-Škabić, Zubić, 2009). Why is it so? First of all the majority of FDI in Croatia were (and still are) the so called Brown investment, by which we understand taking over of the existing domestic firms by the foreign firms (though privatization or buying up the privatized Croatian firms). Croatia was part of the socialist former Yugoslavia, which had a mixed economic system, which was partially planned economy and partially market economy. All the firms had some problems with over employment. So when the foreign owners came the first thing they did was to fire the workers that they no longer needed. The same was true of all the socialist transition countries. If there was FDI in privatisation of state ran firms, unemployment increased.

The truth is that FDI is neither a blessing for a country or a curse for it. If a country has a well ordered economic and political system, it will probably attract the best FDI possible. In other words the efficiency of FDI depends on the skills of the government to provide best conditions for economic development.

GRAVITY ECONOMETRIC MODELS

The mathematical equation of gravity model goes like this:

$$F_{ij} = G \frac{M_i M_j}{D^2}$$

Where F is the trade flow, M is the economic mass of each country, D is the distance and G is constant. Trade flow between two countries is proportional to the product of each country's economic mass (this is generally measured in GDP), divided by the square distance between countries' respective economic centers of gravity”, usually their capitals (Štiblar, 2007). The variables can be in their absolute or logarithmic forms. This baseline factors can be expanded additional factors that represent specific trade flow determinants in the form of dummy variables such: being member of FTA, sharing a common border, FDI etc.

Zwinkels and Beugeldsdijk in their paper tried to show the utility of gravity models in explaining international trade and FDI. Their conclusion are that if time series and cross country series are not analyzed properly gravity models become Trojan horse in explaining international trade and FDI flows²⁰ (Zwinkels, Beugeldsdijk, 2009).

²⁰ According to them: The biased estimation of effect sizes of the traditional setup holds a clear danger in terms of policy recommendations as well. For example, the political discussion on WTO membership is informed by

Wang and Fireston for example used gravity models in explaining market for negative emission permits (Wang, Fireston, 2009).

Dow and Ferencikova in their research on FDI in Slovakia used the gravity model to show the impact of cultural differences on the volume of FDI inflows to Slovakia. They examined the influence of psychological distance on FDI flows²¹ (Dow, Ferencikova 2009). They managed to prove that there is negative impact on FDI flows if countries differ in their cultural, political, cultural and religious systems. Physical distance between the countries helped them to shape the psychological distance and both of these distances have negative influences on FDI.

The most ambiguous use of gravity econometric models in explaining FDI in Central and Eastern Europe has been done by Bandelj (Bandelj, 2008). She tried to show that each and every one of the states in Central and Eastern Europe had specific strategy in attracting FDI, specific relation to potential costs and benefits of FDI attraction and specific relation to FDI in general. For example up till 2009 the Baltic states and Slovenia had a different outlook on FDI. In Baltic states FDI was seen as a key instrument of economic development while in Slovenia it was viewed more cautiously (Bandelj, 2008).

Kimura for example used the gravity model to retrace the link between foreign aid and the FDI in Japanese case. He found the link between the Japanese foreign aid and the inflow of Japanese FDI to selected countries because foreign aid raised the level of national income of these countries making them more attractive for Japanese investment. His conclusion based on his use of gravity econometric model are that Japanese foreign aid is partially motivated by reason of possible increase of investments by Japanese firms in those countries (Kimura, 2009).

We decided to test the impact of EU accession on FDI flows from EU 15 countries to new EU member countries from Central Europe and Baltic region by using the following gravity model:

$$\text{LOG}(1+\text{FDIGDP}) = a + \text{INFL} + \text{DLOG}(\text{GDP}) + \text{DLOG}(\text{GDP_EU15}) + (\text{EXGDP}) + \text{RIA} + [\text{CX}=\text{R}]$$

1+FDIGDP, t stands for the share of FDI in GDP of Central European and Baltic countries. We will take the logs rather than the absolute form because it is a standard practice in the gravity model.

academic studies on the trade effects of membership. If these effects are mis-specified, the incomplete or wrong conclusions derived from these studies spill over to actual policy making (note that in our case the expected effect on exports is not negative, as indicated by the traditional model, but positive). Combined with the results obtained by Baldwin and Taglioni (2006), we therefore conclude that not correcting for the cross-country and time-series aspects in data properly, the gravity model is not the preferred workhorse in explaining trade and FDI flows, but may actually turn out to be a Trojan horse instead (Zwinkels, Beugeldsdijk, 2009 p. 112)

²¹ Johanson and Wiedersheim-Paul defined psychological distance as: "factors preventing or disturbing the flow of information between firm and market. Examples of such factors are differences in language, culture, political systems, level of education, level of industrial development, etc"(Johanson and Wiedersheim-Paul 1975 quoted according to Dow, Ferencikova 2009, p. 47)

GDP Host_j, is the logarithm of the real GDP of the host country (individual Central and Baltic European country). If it is growing it will positively influence the FDI attraction of host country since there will be more investment opportunities for foreign and domestic capital.

GDP Source_i, is the logarithm of the real GDP of the source country namely the EU 15 combined (average value). If the GDP at source country is growing it will have a negative influence on FDI flows to host countries since there will be more investment opportunities in “home” economy.

D (EXGDP) stands for the GDP of individual Baltic country or Central European country extended by the GDP of all of the other countries which are co-member of BAFTA, CEFTA or EU in the observed year. This variable captures the enlarged market and economy of scale impact on FDI attraction.

RIA_{ij} is a country dummy variable, which will take the value of 1 if the host country is the member of CEFTA, BAFTA or EU, otherwise it will be 0.

Inflation_j is the annual inflation rate in the host country at period t , to control for macroeconomic instability. We should expect a negative relation between inflation rates and FDI flows.

By using the gravity pooled data panel model we tried to show the impact of EU accession on FDI flows from EU15²² countries to 8 new member states from Central Europe (Poland, Hungary, Czech Republic, Slovakia and Slovenia) and Baltic countries (Estonia, Latvia and Lithuania) for the period between 1997 to 2007. The time series was chosen partly because of the availability of data which are available for these countries from 1997 onwards and because 1997 marks the end of the transition for most of host countries namely when their GDP managed to reach level of pre transition GDP in 1989 (Poland was first to reach this level in 1995). The year 2007 was chosen as the last year of our time series in order to exclude the impact of great economic crisis of 2008 onwards on FDI flows since it is a known that during the economic crisis trade and FDI flows are significantly lower²³ and therefore we would have to test different hypothesis by using different econometric model. The panel is unbalanced since we could not obtain all the data²⁴ in our time series.

Dependent Variable: LOG(1+FDIGDP)
 Method: Panel EGLS (Cross-section random effects)
 Date: 5/1/15 Time: 10:51
 Sample (adjusted): 1997 2007
 Periods included: 11
 Cross-sections included: 11
 Total panel (unbalanced) observations: 77
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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²² EU 15 countries members of EU before 2004 enlargement namely: UK, Spain, Portugal, Belgium, France, Netherlands, Luxembourg, Germany, Italy, Austria, Denmark, Finland, Sweden, Greece, and Ireland.

²³ About the impact of economic crisis on FDI flows to selected EU countries see more in Pilipović, Ahtik, Rančić, 2015 : „FDI inflows in time of Economic Crisis: panel data analysis of FDI inflows to the selected EU member states“.

²⁴ Data used in the econometric model were obtained from Eurostat and The Vienna Institute for International Economic Studies

C	0.215935	0.055668	3.878957	0.0002
INFL	-0.011171	0.002651	-4.214090	0.0001
DLOG(GDP)	0.408104	0.145708	2.800834	0.0066
DLOG(GDP_EU15)	-1.194043	0.605954	-1.970518	0.0527
D(EXGDP)	3.82E-09	2.56E-09	1.489834	0.1407
RIA	0.056551	0.041836	1.351744	0.1807

Effects Specification

	S.D.	Rho
Cross-section random	0.090395	0.6990
Idiosyncratic random	0.059322	0.3010

Weighted Statistics

R-squared	0.318619	Mean dependent var	0.048752
Adjusted R-squared	0.270635	S.D. dependent var	0.069646
S.E. of regression	0.058477	Sum squared resid	0.242789
F-statistic	6.640038	Durbin-Watson stat	0.809279
Prob(F-statistic)	0.000040		

Unweighted Statistics

R-squared	0.049644	Mean dependent var	0.200502
Sum squared resid	0.710692	Durbin-Watson stat	0.276468

$$\text{LOG}(1+\text{FDIGDP}) = 0.215935482887 - 0.0111710999197*\text{INFL} + 0.408104406818*\text{DLOG}(\text{GDP}) - 1.1940430498*\text{DLOG}(\text{GDP_EU15}) + 3.82106123944\text{e-}09*\text{D}(\text{EXGDP}) + 0.0565509176904*\text{RIA} + [\text{CX}=\text{R}]$$

According to the results of econometric analysis we can see that economic theory assumptions on FDI attraction factors have been confirmed. Inflation has a negative influence on FDI attraction. In our model inflation stood as a proxy for macroeconomic stability which is primarily seen through the prism of low inflation rate. Investors tend to avoid countries which have a high inflation rate (Cohen, 2007; Krugamn, Obstfeld, 2003) and if they decide to invest they demand higher return on the capital invested (Olson, 2003). If the GDP of the host country is growing there will be more investment opportunities for foreign and domestic investors and therefore it has a positive impact on FDI attraction. Unfortunately the other three variables were not statistically significant though their coefficients are in accordance with economic theory.

CONCLUSIONS

Even if we have not managed to prove by using the econometric analysis that EU membership has a positive influence on FDI attraction it doesn't mean it is not so in practice. EU membership means far more than mere "enlargement of the domestic market" which is so dear to investors who want to reap the benefits of economics of scale. EU membership stands for rule of law where investors will be certain that their property and contractual rights will be protected and enforced if needs be. EU membership also stands for sound macroeconomic policy due to the provision of Stability and Growth Pact which want to promote responsible fiscal and monetary policy which will in turn positively influence FDI attraction. This will

hopefully result in lower inflation rates and lower budget deficits which are so dear to potential foreign and even domestic investors.

We should also bear in mind that even if our two variables of $D(EXPGDP)$ and RIA by which we have tried to capture the impact of EU membership on FDI attraction are not statistically significant they do show us the expected positive coefficients. That should not surprise us since membership in CEFTA in case of the Central European states or BAFTA in case of the Baltic States and their joint accession to EU in 2004 significantly expanded their “domestic” market thus making them more attractive for foreign investments.

Therefore the conclusion of this paper would be that if a country embarks on the path of EU accession and if it manages to do the necessary reforms in its legal and economic systems it will be far more attractive to potential foreign investors and FDI will flow to that country. The path to EU membership is not an easy one and it demands certain sacrifices as well. Luckily we have positive examples of the states which were the object of this study in front of us. Each of them now has higher living standards and attracts more FDI than in period prior to joining the EU.

REFERENCES

- Bandelj, N., *From Communists to Foreign Capitalists: The Social Foundations of Foreign Direct Investment in Postsocialist Europe*. Princeton University Press, 2008.
- Dow, D., Ferencikova, S., More than just national cultural distance: Testing new distance scales on FDI in Slovakia *International Business Review* 19 (2010) 46–58.
- Cantwell J., Narula R., 2001. "[The Eclectic Paradigm in the Global Economy](#)," [International Journal of the Economics of Business](#), Taylor and Francis Journals, vol. 8(2), pages 155-172.
- Gilpin, R., *Global Political Economy*. Princeton University Press, 2001
- Kersna Škabić, I., Zubin, C., Utjecaj izravnih stranih ulaganja na rast BDP-a, na zaposlenost i na izvoz u Hrvatskoj. *EKONOMSKI PREGLED*, 60 (3-4) 119-151 (2009).
- Kimura, H., Todo, Y., Is Foreign Aid a Vanguard of Foreign Direct Investment? A Gravity-Equation Approach. *World Development* Vol. 38, No. 4, pp. 482–497, 2010.
- Krugman, P R. and Obstfeld, M., *The International economics: Theory and Policy*, sixth edition. The Addison-Wesley Series in Economics, 2003.
- Mody, A., *Foreign Direct Investment and the World Economy*. Routledge, 2007.
- Neuhaus, M., *the impact of FDI on Economic Growth: An Analysis for transitional countries of Central and Eastern Europe*. Physica Verlag, 2006.
- Olson, M., *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships*. Basic Books, 2000.
- Štiblar F., *The Balkan Conflict & its solutions: Creating Conditions for Peace, Stability and Development in the Western Balkans*. Pravna fakulteta Univerze v Ljubljani, 2007.
- Wang, H., Firestone, J., The analysis of country-to-country CDM permit trading using the gravity models in international trade. *Energy for Sustainable Development* 14 (2010) 6–13.
- Zwinkels, R.C.J. Beugelsdijk, S. Gravity equations: Workhorse or Trojan horse in explaining trade and FDI patterns across time and space. *International Business Review* 19 (2010) pp. 102–115.