FDI and Economic Growth: The Case of Baltic Countries

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Abstract

During the early stages of transition from socialism to capitalism, transition countries experienced a sudden and big initial recession. In the transition period, they look for substantial amounts of finance in order to reverse their negative growth performances. In this context, foreign direct investments (FDI) can be seen as one the most important factors to foster economic growth in transition countries. FDI-economic growth relationship is a much studied topic but it has not lost its importance. Since there are few studies about Baltic countries, this paper explores the interactions between FDI and economic growth of Baltic countries. This is an empirical study which uses panel data method for the 1996-2008 period. At the end, it is founded that FDI has a positive effect on economic growth in Baltic countries.

Keywords: foreign direct investment, Baltic countries, economic growth, panel data

1. Introduction

At the beginning of 1990s, important political and economic upheavals were seen. Political changes started in the countries which adopted the socialist economical system after the Second World War, has brought the economical change and this process has added the concept of "transition economies" to the literature.

After dissolution of Soviet Union, the term "economic transition" has been commonly mentioned. Transition process has been defined by Kolodko (2004: 2) as the following: Economic transition is a long lasting, historical process of shifting from centrally-planned economy, based on the dominance of state property and bureaucratic control, to an open, free market economy, based on the market regulations and the dominance of private property.

Although the length and intensity of transition changes from country to country and each country has different pace and speed, in a broad sense, transition implies liberalizing economic activity, prices, and market operations, along with reallocating resources to their most efficient use; developing indirect, market-oriented instruments for macroeconomic stabilization; achieving effective enterprise management and economic efficiency, usually through privatization; imposing hard budget constraints, which provides incentives to improve efficiency; and establishing an institutional and legal framework to secure property rights, the rule of law, and transparent market-entry regulations (Havrylyshyn and Wolf, 1999: 13).

In 2000, IMF listed following countries as transitions economies:

Table 1. Classification of transition economies

Classification of Transition Countries				
In Europe and the Former Soviet Union				**In Asia**
*CEE**	Albania	*CIS***	Armenia	Cambodia
	Bulgaria		Azerbaijan	China
	Crotia		Belarus	Laos
	Czech Republic		Georgia	Vietnam
	FYR Macedonia		Kazakhstan	India
	Hungary		Kyrgyz Republic	

	Poland	Moldova
	Romania	Russia
	Slovak Republic	Tajikistan
	Slovenia	Turkmenistan
		Ukraine
Baltics	Estonia	Uzbekistan
	Latvia	
	Lithuania	

Source: IMF (2000)

* Central and Eastern European Economies

** Commonwealth of Independent States

In addition, in 2002 the World Bank defined Bosnia and Herzegovina, and Federal Republic of Yugoslavia (later Serbia and Montenegro) and also Mongolia as transition economies (World Bank, 2002).

In the last twenty years foreign direct investment (FDI) has played an important role in the world economy. Governments, in the hope of financing their economic growth, have adopted various kinds of policy measures to attract more FDI. This leads to poke FDI studies. There are many studies that examine the FDI-economic growth relationship in the literature. However, there no concensus on the debate of FDI enhances growth. FDI plays an important role in the remarkable progress of the transition economies. FDI has multiplier and upgrading effects on the domestic private sector and contributes to robust economic growth. It has also made a crucial contribution to the competitiveness of transition economies in the global market place (OECD, 1999).

In this study the contribution of FDI to transition economies is examined with-in the context of Baltic economies which consist of Estonia, Latvia and Lithuania. Notwithstanding the relatively high importance of FDI, there has been very little academic research on FDI in the Baltics. While some research has been done on Estonia, the other two countries have attracted little outside interest (Hunya, 2004: 93). As one prominent analyst of the region, Sutela says the following: "Perhaps due to the small size of Baltic economies and also reflecting the weakness domestic economic research, little analytical literature is available on these countries" (Sutela, 2001: 9). Since Baltic economies were closed, there were no FDI flows into Baltic economies before 1990. After 1990, they experienced market-based economies and opened their economies to foreign capital flows.

In this paper the aim is to assess the contribution of FDI to economic growth in the Baltic economies for the period 1996-2008. The main hypothesis tested is that whether FDI enhances economic growth in Baltic economies or not. The data used in the analysis have obtained from IMF, EBRD Transition Reports, OECD National Accounts and World Bank (1).

To this end, Section 2 gives an overview of the literature. In Section 3, foreign direct investment is examined for the Baltic economies case. Section 4 summarizes the data and the methodology. Results and their interpretation presented in this section are followed by a conclusion in Section 5. Finally, the last section presents the summary tables.

2. Literature

Studies generally have been made for the developing countries. Applications show that FDI can have positive contribution on the countries' economic growth depending on some conditions, such as countries' human capital accumulation, openness to trade, financial structure, political stability and distance from developed countries, etc.

Apergis et al. (2008: 2) say that the two-way link between FDI and growth stems from the fact that higher FDI stimulates growth in host countries, while higher growth in host countries attracts more FDI. FDI can not only bring capital to an economy, but also transfer knowledge, technology and skills, as well as generate employment and trade. OECD (2007) defines FDI such a key element in the rapidly evolving process of international economic integration. FDI creates direct, stable and long-lasting links between economies. FDI encourages the transfer of technology and know-how between countries, and it allows the host economy to promote its products more widely in international markets. Finally, FDI is an additional source of funding for capital investment.

There exists several empirical evidences based on individual and cross countries some of which are listed below. However, results in this regard appear to be inconclusive due to the techniques, methodology used and the limitations

of the data. Referring to the literature, it can be said that for some countries or for some certain periods it can be experienced positive growth effects of FDI. However, there is no concensus on this debate.

Table 2. Literature survey (1990-2009)

Author(s)	Date	Country / Countries	Period	Direction of Growth-FDI Relation
Wang	1990	Developing		(-)
Blomström et al.	1992	78 Developing	1960-1985	(+)
Saltz	1992	Developing		(-)
Balasubramanyam et al.	1996	18 Developing		(+)
De Mello	1997			(-)
Borensztein et al.	1998	69 Developing	1970-1989	(+) and (-)
Balasubramanyam et al.	1999			(+)
Lensink et al.	2001	Developing	1975-1998	(+) and (-)
Alfaro et al.	2001		1975-1998	(+)
Nair-Reichert et al.	2001	24 Countries	1971-1995	(+)
Obwona	2001	Uganda	1981-1995	(+)
Calvo et al.	2001	18 Countries	1972-1997	(+) and (-)
Campos et al.	2002	25 Transition		(+)
Carkovic et al.	2002	72 Countries	1960-1995	ambigious
Aleksynska et al.	2003	Ukraine		(+)
Basu et al.	2003	23 Developing	1978-1996	(+)
Choe	2003	80 Countries	1971-1995	(+)
Hsiao et al.	2003	23 Developing	1976-1997	(+)
Mercinger	2003	Transition Countries	1994-2000	ambigious
Hansen et al.	2004	31 Developing	1970-2000	(+)
Merlevede et al.	2004	25 Transition Countries		(+)
Papaioannou	2004	43 Countries	1993-2001	(+)
Gatak et al.	2007	140 Countries	1991-2001	(+)
Ledyaeva et al.	2006	74 Russian regions	1996-2003	(-)
Khaliq et al.	2007	Indonesia	1997-2006	(+)
Khan	2007	Pakistan	1972-2005	(+)
Sharma et al.	2007	49 African & 12 South American	1990-2003	(+)
Apergis et al.	2008	27 Transition Countries	1991-2004	(+)
Gbakou et al.	2009	MENA*	1970-2005	ambigious
Jajri et al.	2009	Malaysia	1970-2003	(+)
Wang et al.	2009	69 Countries	1970-1989	(+)

Source: Prepared by the author

* MENA: Middle East and North Africa Countries

3. FDI in Baltic Economies

3.1 Foreign Direct Investment

Capital movements are mainly divided into two sub-groups: physical and pecuniary. FDI is about the physical capital movements, such as the foreign ownership of productive assets like factories, lands, etc. The most important contribution of FDI to the host countries is the direct capital inflows, in other words, the net contribution to the GDP of the host countries. Moreover, the benefits of FDI has been divided into 5 main parts: 1) It acts as a trigger for transfers of technology and know-how; 2) It assists enterprise development and restructuring, not least in connection with privatisation; 3) It contributes to fuller international (trade) integration; 4) It bolsters business sector competition; and 5) It supports human capital formation in the host country (OECD, 2003). The efforts which countries make to attract more FDI, support indirectly the theory about the useful effects of FDI.

Especially after the 1980s, the attitudes of countries towards FDI has changed and FDI has been seen as a tool for growth and development. The reasons beneath this are the limitation of countries with foreign debt and credit restrictions, leaving the cold war term and closed-economy model, free trade agreements made with-in and between regions, and creation of more suitable environments for FDI by international institutions like World Bank. The

countries which are named as transition economies are at the focus of foreign capital investments, need outsources in order to achieve their development and transformation. These countries aim to attract this kind of investments by formulations to provoke foreign investments. Transition economies are centers of attracting foreign investments with their special costs such as labour costs etc., resources and market opportunities. Even though transition economies have these advantages, not all of the investors are at the same distance to these countries.

3.2 Baltic Economies

Baltic countries have very small economies. During their periods of economic boom, "Baltic Tiger" term is used for Baltic economies. Estonia and Latvia have experienced shock theraphy (2) in extreme while Latvia has experienced passive but somewhat more gradual approach to restructuring (Tiits, 2007: 5). In the transition process, priorities must be set for reconstruction of the economic system and an inclusive road map is crucial for arranging the pace of transition. If the aim is healthy transformation in the society, speed of transition and liberalization policies are one of the important issues in comprehensive economic program. Big bang approach has implemented to various reforms rapidly such as monetary policy, trade, exchange rates. On the other hand, gradual approach spreads various reforms over an extended period. At first sight, gradual implementation of reforms is attractive because of following the logical order of the transition program. Besides, gradual reforms do not immediately demolish the structure of previous system. Thus catastrophic results of rapid collapse are not expected to be observed. However, those intuitive ideas are not totally coincides with the facts. Logical ordering is not possible and applicable due to the political reasons and this situation can create conservative reflexes against the overall transition package (Önol, 2006, p.8).

The transformation to a market economy proceeded fast on very liberal foundations in Estonia, followed later by Latvia and Lithuania. According to Hunya (2004: 93), due to this uneven development, only Estonia was considered for years a first-tier accession country. It was the Helsinki EU Council Meeting in December 1999 that set the three countries on an equal footing, anchoring developments not only in Estonia but also in Latvia and Lithuania to the enlargement process. This contributed to an acceleration of transformation in Latvia and Lithuania, which have practically closed the gap in terms of institutional development to Estonia. Having regained independence after the collapse of the Soviet Union in 1990-1991, they are the only countries with such a backround that smoothly integrated into Europe, finally joining the EU in May 2004. The geographical position between Russia and the rest of the EU gives them a briedhood function (Hunya, 2004: 93). Figure 1 shows the improvement in per capita real GDP in Baltic economies after being members of the EU. As seen from the figure, their per capita GDPs increase dramatically as soon as they joined the EU.

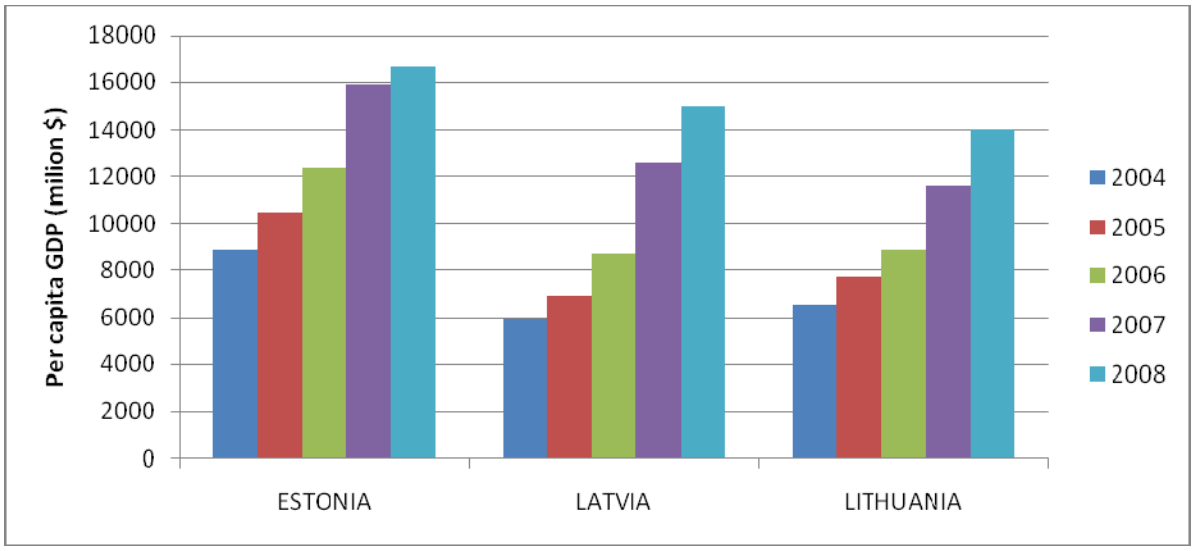

Figure 1. Per capita GDP in Baltic economies

Source: Central Banks

The transformational recession in the early 1990s, amplified by the secession from the Soviet Union, was reflected in a significant fall in GDP. Economic growth resumed around 1995 and was only interrupted in 1999 due to the Russian crisis. Therefore, the period of transition for Baltic economies can be divided into the early so-called decline period (1990-1995) and the later growth period (see Figure 2). After 2000, they have implemented important economic reforms and liberalization which attracted large amounts of foreign investment and economic growth. Between 2000-2007, Baltic economies had the highest growth rates in Europe. In 2008, the economic boom period ended and economic growth slowed down in all three Baltic economies due to global financial crisis (see Figure 3).

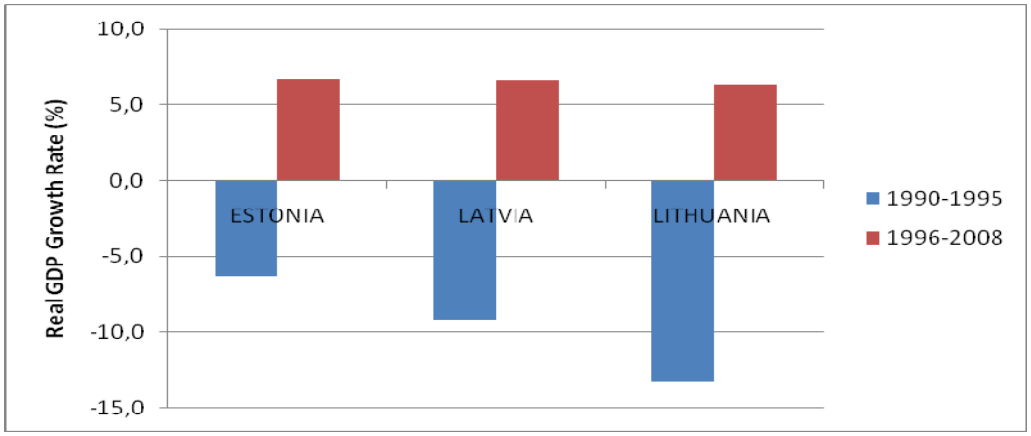

Figure 2. Real GDP growth rates in Baltic economies (1990-1995 and 1996-2008)

Source: Central Banks

The figure above shows that the lowest level of GDP obtained between 1990-1995. In the period 1996-2008 there has been a cumulative increase in GDP since reaching the lowest level. In other words, it was by 1995 that the Baltic economies stopped having negative growth rates which showed the end of the first transitional recession for the region (UNCTAD; EBRD, 2009).

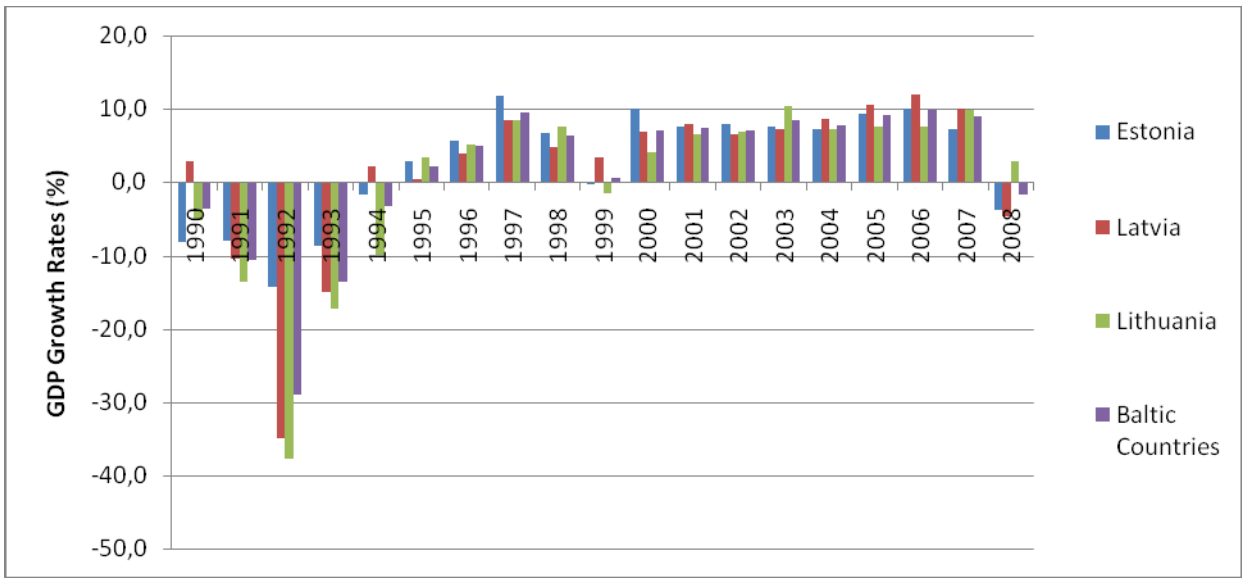

Figure 3. Real GDP growth rates in Baltic economies (1990-2008)

Source: Central Banks

In Figure 3 it is seen that after 1995, all Baltic counttries grew at respectable rates. With a brief recession in 1998-9, their growth rates declined and then they achieved higher growth rates until 2008.

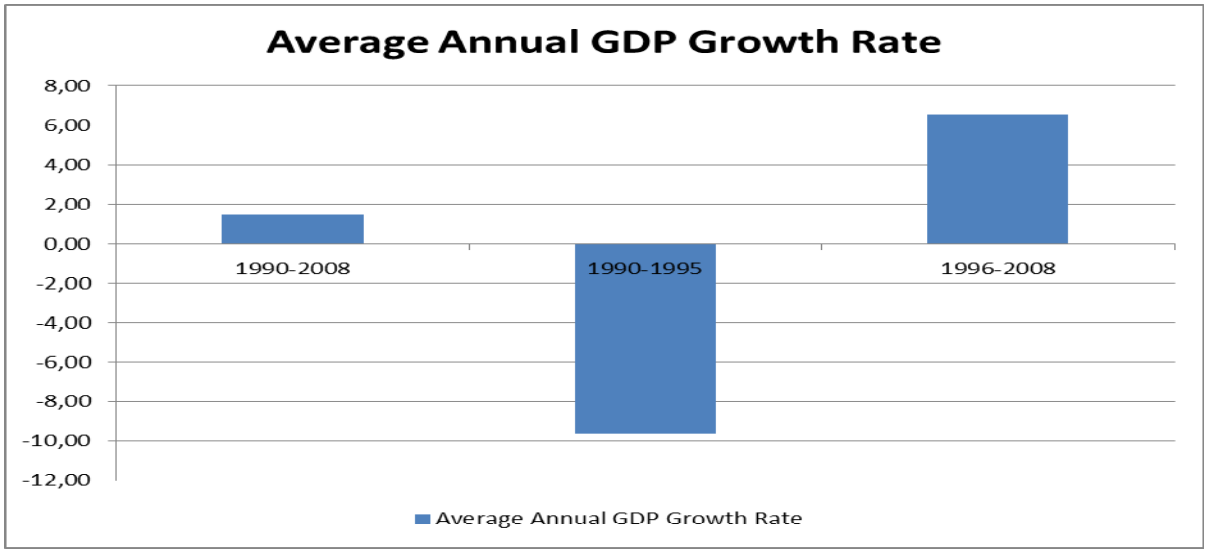

Figure 4. Average annual GDP growth rates for Baltic economies (%)

Source: Central Banks

In sum, in Figure 4 the average annual GDP growth rate for Baltic economies shows that the contraction of growth in 1990-1995 (9,6 % decrease in growth) period could not be compensated after 1995 (6,54 % increase in growth).

3.2.1 The Origin of FDI

Small countries usually attract investments from their richer neighbours. Although Russia is a neighbour, who controlled these countries when they were part of the Soviet Union, Russian firms do not appear as significant investors. In sum, investors from neighbouring, mainly Nordic, countries account for the bulk of FDI in the Baltic economies. Hunya (2004: 99) says that for historical reasons, investors from Russia are not particularly welcome (See Appendix 1).

3.2.2 Attracting Sectors of FDI

The secession from the Soviet Union, the 1998 Russian crisis, and market economy conditions drove much of the manufacturing companies out of business in the Baltic economies. Most of the FDI has been in the service sectors, notably banking and transport. Manufacturing FDI went mainly into low-tech industries (Hunya, 2004: 112). The sector distribution of FDI reflects the structure of the Baltic economies. Service sectors- such as transport, telecommunications, business services, and finance- have attracted the bulk of FDI in the years of 1995-2003, whereas in 1993-1995 most of the FDI went to manufacturing sector (Runiewicz, 2004: 4) (See Appendix 2).

3.2.3 Attracting Factors of FDI

One of the reasons Baltic economies have been successful in attracting FDI is that they opted for radical market reforms that led to the rapid creation of functioning market economies. The main policies to attract FDI have included macroeconomic stabilization, structural reforms, the creation of a business-friendly environment, and privatization. Also, there is tax competition among the three countries, especially corporate income taxes have been reduced. Decisive and early steps in creating a free-market economy, successful macroeconomic stabilization, and the prospect of EU accession combined to create an investor-friendly environment that attracted FDI to the Baltic economies (Hunya, 2004: 112) (See Appendix 3).

3.3 FDI in Transition Economies: The Baltic Case

FDI has often been viewed as a potential catalyst for the economic transition. It has been suggested that FDI may contribute directly by supplying capital and raising employment. Perhaps more importantly, FDI may contribute by transfering technologies, management and labour skills, and marketing channels, and by fostering a market-based business culture (Lankes and Venables, 1996: 331).

FDI has become one of the main drivers of globalization and integration of the transition economies into the world economy, especially the European Union. In addition to fostering the much needed economic restructuring, it also

contributes to the institutional and regulatory reforms, which are the long term basis for sustainability of economic reforms. As an important source of external finance, FDI contributes to growth in the transition economies by increasing the physical stock of capital available for investment (Sohinger, 2004: 26).

At the second half of 1990s, an important process -the integration to the European Union- started. Estonia started the accession negotiations to EU in 1998. Latvia and Lithuania were recommended as member states of EU by the Commission. In 2004, ten countries joined to the EU. Baltic countries were three of them. Together with the EU accession driven reforms, the FDI related incentives to transform the economies have produced a sizeable number of post-socialist countries to become members of the EU (Sohinger, 2004: 26). Estonia, Latvia, and Lithuania are almost completed their transition process since they joined European Union in 2004.

3.3.1 Estonia

Estonia is the smallest of the Baltic countries in terms of both population and GDP. Estonia considers itself mainly a Nordic country, closely linked to Finland and Sweden. It is among the ten most liberal economies in the world. The World Bank switched Estonia from being classified as an upper-middle income economy to a high-income economy in 2006. Estonia has a leading role as a destination of FDI. Between 1998-2008 Estonia attracted the largest FDI inflow (Figure 5), and this relatively high FDI in Estonia is a special case difficult to achieve by the other countries.

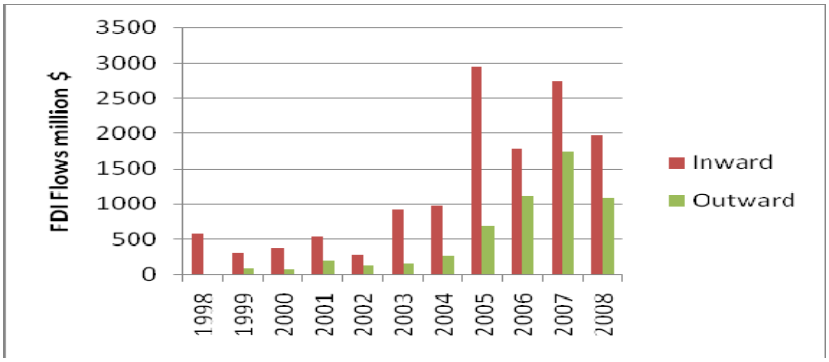

Figure 5. FDI flows in Estonia (1998-2008)

Source: EBRD Transition Report (2009)

Estonia has been able to attract FDI beyond the absorption capacity of its small market by serving as headquarters for many Nordic transnational corporations. In spite of considerable progress in structural transformation in recent years, the other Baltic countries continue to be less attractive. They score worse than Estonia in all international rankings of economic freedom, corruption and credit rating (See Appendix 3). According to Hunya (2004: 96), their institutions are more cumbersome, more prone to corruption, and are from time to time hesitant in supporting FDI.

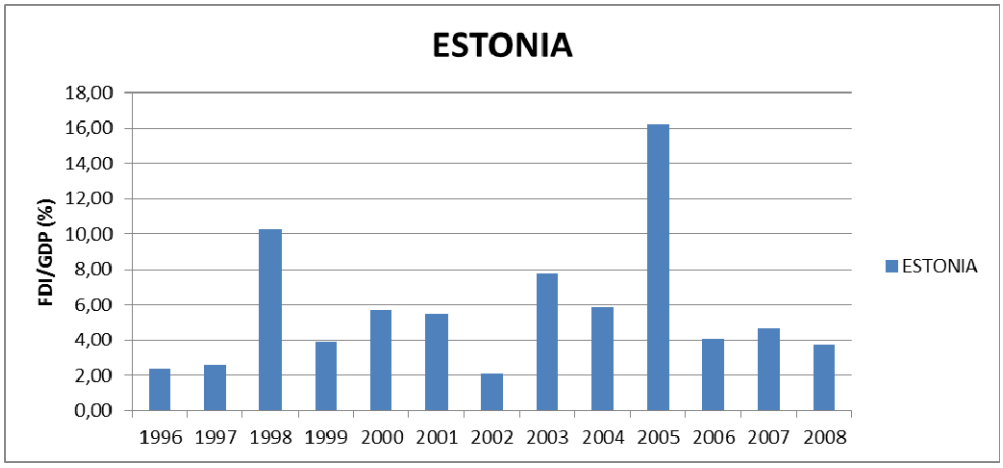

Figure 6. FDI as a percentage of GDP in Estonia (1996-2008)

Source: EBRD Transition Report (2009)

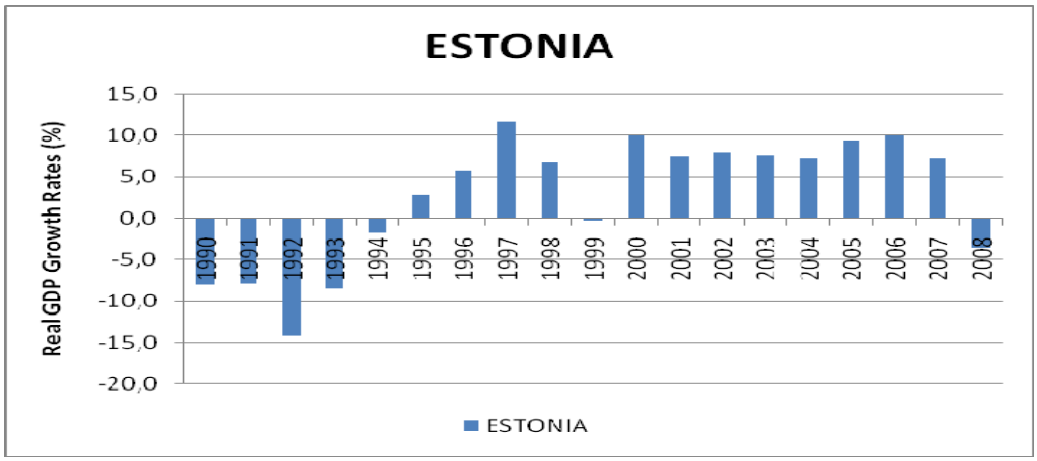

Figure 7. Real GDP growth rate in Estonia (1990-2008)

Source: Bank of Estonia

Figure 6 shows the GDP shares of FDI between 1996-2008. It is seen that FDI as percent of GDP in Estonia has a stable path except from 1998 and 2005. In Figure 7 it is seen that GDP growth felt in 2008 following an 8 year period when growth averaged 8,4 percent year. The slow-down had begun in the domestic sector in 2007 and was further aggravated by the global financial turmoil in late 2008 (EBRD, 2009).

3.3.2 Latvia

Since regaining independence in 1990, Latvia moved towards restoring market economy with structural and financial reforms. However, the 1998 Russian economic crisis slowed down industrial activities considerably with negative fiscal- and current-account developments (UNCTAD).

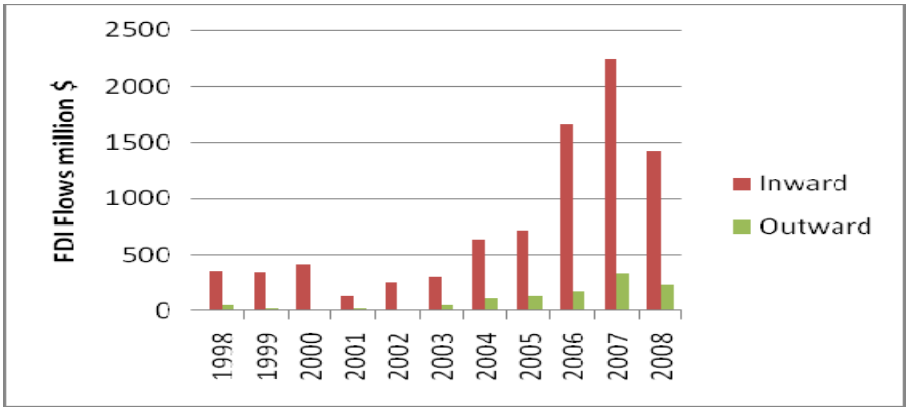

Figure 8. FDI flows in Latvia (1998-2008)

Source: EBRD Transition Report (2009)

As shown in Figure 8, Latvia experienced a period of increasing or relative stable FDI flows in the second half of the 1990s. FDI in Latvia declined markedly in 2001 (UNCTAD).

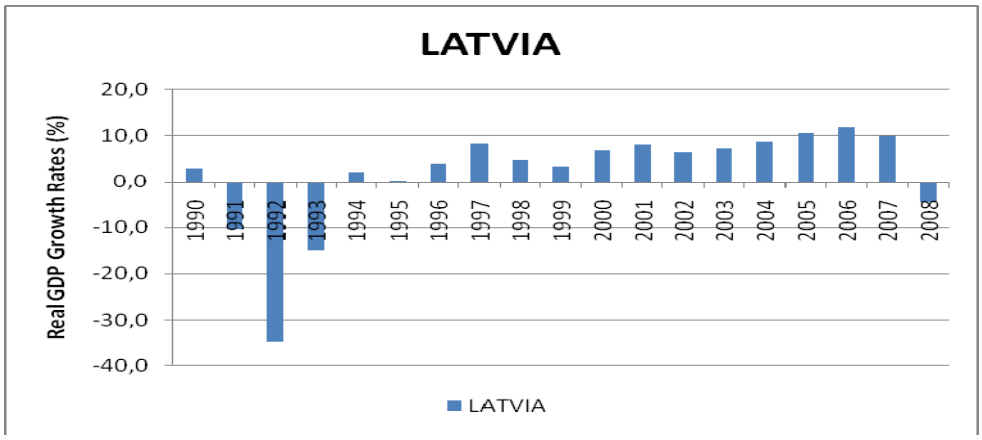

Figure 9. Real GDP growth rate in Latvia (1990-2008)

Source: Bank of Latvia

Of all the countries in transition region, Latvia has been one of the most severely affected by the global economic crisis. GDP growth decelarated sharply from 10 percent in 2007 to -4,6 percent in 2008 (Figure 9). The slow-down has been driven by a rapid decline in credit growth, falling asset prices and weakening external demand (EBRD, 2009).

3.3.3 Lithuania

Lithuania considers itself central European due to its historic ties to Poland. Lithuania was the last Baltic country to provide national treatment and full freedom to foreign investors (Hunya, 2004: 108).

Since restoring its independence in 1990, market-oriented reforms were implemented to encourage foreign investment and the country has become, over the past years, an attractive destination for FDI. Benefiting from its geographical location, Lithuania has good access to huge eastern markets. Lithuania try to attract, encourage and protect foreign investment. It is progressively liberalizing its investment regime, while granting foreign investors national treatment in many respects and offering various types of incentives (UNCTAD).

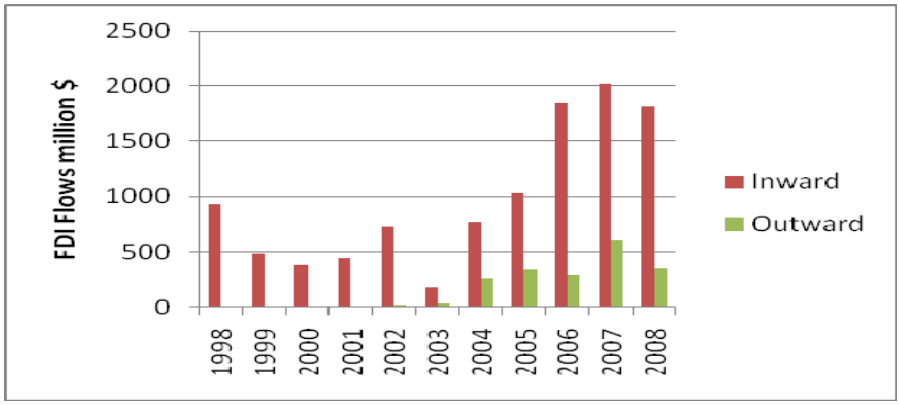

Figure 10. FDI flows in Lithuania (1998-2008)

Source: EBRD Transition Report (2009)

As shown is Figure 10, FDI flows increased rather steadily since the mid-1990s, with the exception of a record year in 1998 when they shot up to almost US$1000 million.

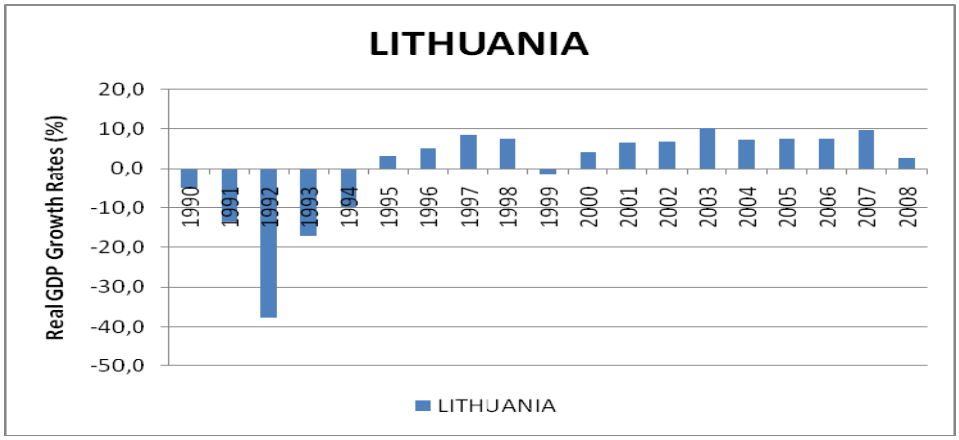

Figure 11. Real GDP Growth rate in Lithuania (1990-2008)

Source: Bank of Lithuania

A policy of regional and international economic integration and changes in legislation relating to the privatization process encouraged higher GDP growth in Lithuania. But depressed exports, mainly due to the Russian economic crisis, resulted in a slow-down both in FDI and growth. However, the economy recovered rapidly and strongly from that crisis, and since then maintained strong growth (UNCTAD, 2006).

As seen in Figure 11 economic activity in Lithuania has slowed drastically since 2008. Real GDP had risen at an annual average rate of 7,5 percent since 2000, before moderating to 2,8 percent in 2008. The slow-down was triggered because of the bank credits, falling assets prices and weakening external demand for exports (EBRD, 2009).

4. Application

The present paper tries to empirically estimate the effect of FDI on economic growth in Baltic countries using the panel data approach. The study is based on the 13 annual observations over the period 1996 to 2008. As said before the data have obtained from IMF, EBRD Transition Reports, World Development Indicators and OECD National Accounts. Based on the main hypotheses tested, it is seen that RGDPG -annual real GDP growth- is a dependent variable. Independent variables are FDI which is measured as the ratio of net FDI flows to GDP, TRDO which is the trade openness as the export plus imports of goods and services measured as the ratio to GDP, HC is the stock of human capital which is measured as public spending on education as percentage of GDP, IS is the infrastructure which is measured with paved roads as a percentage of total roads.

The trade-to-GDP variable measures the openness of the country to international trade. A low value of this variable may signal high tariff barriers, which would attract horizontal FDI, while a high value would indicate openness to trade, which the literature suggests should be attractive to foreign investors in part because it is a sign of international competitiveness. Variables primarily associated with vertical investment include the proportion of students in secondary education, an indication of the quality of the country's labor force and thus its attractiveness as a place to manufacture goods or provide sophisticated services (Brada et al., 2004: 13-4).

Before estimating whether there is any relationship between GDP growth rate and its independent (explanatory) variables, stationarity or unit roots of each series is checked by using Levin–Lin–Chu (2002) test. Here, the null hypothesis is that panels contain unit roots and the alternative hypothesis is that panels are stationary. The results show that the panels are non-stationary in first-differences, in other words, panels exhibit integrated order one.

$$RGDPG = \alpha_0 + \alpha_1 FDI + \alpha_2 TRDO + \alpha_3 HC + \alpha_4 IS \quad (1)$$

The usual panel data model is as follows:

$$Y_{it} = \alpha_{it} + \beta_{it} X_{it} + \mu_{it} \quad (2)$$

where i = 1, ….., N and t = 1, ….., T

Here, X is the vector of the explanatory variables, β is the parameter vector, t is the time period and μ is the error term which is independently and identically distributed (iid). In the econometric analysis, Hausman test is used to decide whether fixed effects or random effects are better. The results show that fixed effect model should be used.

The data used in this study comprise a panel of 3 Baltic countries between 1996 and 2008. The number of observations in the complete panel is 69 (= 3x13). The data used for estimation are unbalanced, because certain observations for the key variables are missing. Transition from planned to market economy started in the early 1990s in these countries, but foreign investors were cautious in the beginning. Due to the difficulty of obtaining sufficiently long series of FDI data, the past studies on FDI in transition were often limited to the more advanced countries in transition (e.g., the CEEB countries), which are also the major recipients of FDI in the region (Campos and Kinoshati, 2003: 8). Therefore, in this study, data covers only 1996-2008 period.

5. Conclusion

After the collapse of communist political system in Eastern Europe, transition countries have experienced radical changes in their political and economic structure. Since their economies turned from socialist system to market-based system, they initially experienced important recessions. In order to recover from these recessions, they benefited from the capital flows, especially FDI, in order to foster their economic growth rates. Since the late 1990s, Baltic countries have experienced unprecedented annual growth, reaching double-digit in some years and this boom has attracted foreign investors.

The relationship between FDI and economic growth is a well-studied subject in the development economics literature, both theoretically and empirically. In this paper, the FDI-growth relation is examined with-in the context of Baltic countries. Even if there is no concensus on the debate whether FDI flows have positive effects on economic growth or not, studies have generally found a positive relation. For Baltic countries there have been few studies about FDI-growth relation. This is due to the lack of sufficient data.

At the end, the results of the study show that there is a positive and statistically significant relation between the growth rate of GDP and FDI.

References

Aleksynska, M., Gaisford, J., & Kerr, W. (2003). Foreign Direct Investment and Growth in Transition Economies *MPRA Paper*, 7668.

Alfaro, L., Areendam, C., Kalemli-Ozcan, S., & Sayek, S. (2001). FDI and Economic Growth: The Role of Financial Markets. *Harvard Business School Working Paper,* 01-083.

Apergis, N. (2008). The relationship between foreign direct investment and economic growth: evidence from transition countries. *Transition Studies Review*, *15*(1), 37-51. http://dx.doi.org/10.1007/s11300-008-0177-0

Balasubramanyam, V. N., Salisu, M. A., & Sapsford, D. (1996). Foreign Direct Investment and Growth in EP and IS Countries. *Economic Journal*, *106*(1), 92-105. http://dx.doi.org/10.2307/2234933

Balasubramanyam, V. N., Salisu, M. A., & Sapsford, D. (1999). Foreign Direct Investment is an Engine of Growth. *Journal of International Trade and Economic Development*, *8*(1), 27-40. http://dx.doi.org/10.1080/09638199900000003

Basu, P., Chakraborty, C., & Reagle, D. (2003). Liberalization, FDI, and Growth in Developing Countries: A Panel Cointegration Approach. *Economic Inquiry*, *41*(3), 510-516. http://dx.doi.org/10.1093/ei/cbg024

Blömstorm, M., Lipsey, R., & Zejan, M. (1992). What Explains Developing Country Growth? *NBER Working Paper*, No. 4132.

Borenzstein, E., De Gregorio, J., & Lee, J-W. (1998). How Does Foreign Direct Investment Affect Economic Growth?. *Journal of International Economics*, *45*(1), 115-135. http://dx.doi.org/10.1016/S0022-1996(97)00033-0

Brada, J.C., Kutan, A.M., & Yiğit, T.M. (2004). The Effects of Transition and Political Instability on Foreign Direct Investment Inflows: Central Europe and the Balkans. William Davidson Institute, Working Paper Number 729.

Calvo, M. B., & Robles, B. S. (2001). Does Foreign Direct Investment Foster Economic Growth? Some Theoretical and Emprical Arguments. *Economic Freedom Workshop Working Paper*.

Campos, N. F., & Kinoshita, Y. (2002). Foreign Direct Investment as Technology Transferred: Some Evidence From the Transition Economies. *The Manchester School Paper*, *70*(3), 398-419. http://dx.doi.org/10.1111/1467-9957.00309

Campos, N.F., & Kinoshita, Y. (2003). Why Does FDI Go Where it Goes? New Evidence from the Transition Economies. *IMF Working Paper*, No: 228.

Carkovic, M., & Levine, R. (2002). Does Foreign Direct Investment Accelerate Economic Growth?. Financial Globalization: A Blessing or a Curse, *World Bank Conference*.

Choe, J. (2003). Do Foreign Direct Investment and Gross Domestic Investment Promote Economic Growth?. *Review of Development Economics*, *7*(1), 44-57. http://dx.doi.org/10.1111/1467-9361.00174

De Mello Jr., & Luiz, R. (1997). Foreign Direct Investment in Developing Countries and Growth: A Selective Survey. *Journal of Development Studies*, *34*(1), 1-34. http://dx.doi.org/10.1080/00220389708422501

EBRD Transition Report Update. (2009).

Gbakou, M., Sadni-Jallab, M., & Sandretto, R. P. (2009). Foreign Direct Investment, Macroeconomic Instability and Economic Growth in MENA Countries. *GATE Working Paper*, No. 08-17.

Ghatak, A., & Halicioglu, F. (2007, January). Foreign direct investment and economic growth: some evidence from across the world. *Global Business and Economics Review*, *9*(4), 381-394. http://dx.doi.org/10.1504/GBER.2007.015101

Hansen, H., & Rand, J. (2004). On the Causal Links between FDI and Growth in Developing Countries. Institute of Economics, University of Copenhagen. *Development Economics Research Group (DERG) Discussion Papers.* Retrieved January 19, 2010, from http://www.econ.ku.dk/wpa/pink/2004/0430.pdf

Havrylyshyn, O., & Wolf, T. (1999, June). Determinants of Growth in Transition Countries. *Finance and Development*, *36*(2).

Hsiao, C., & Shen, Y. (2003, July). FDI and Economic Growth: The Importance of Institutions and Urbanization. *Economic Development and Cultural Change*, *51*(4), 883. http://dx.doi.org/10.1086/375711

Hult, M. (2006). Increased FDI Flows for the EU in 2005, Statistics in Focus. *Economics and Finance*, 21/2006, Eurostat.

Hunya, G. (2004). FDI in Small Accession Countries: the Baltic States. *EIB Papers*, *The Vienna Institute for International Economic Studies*, *9*(2).

IMF. (2000). Transition Economies: An IMF Perspective on Progress and Prospects.

Jajri, I. (2009, August & November). Foreign Direct Investment and Economic Growth: Cointegration Techniques. *The IUP Journal of Managerial Economics*, *VII*(3-4), 7-18.

Khaliq, A., & Noy, I. (2007). Foreign Direct Investment and Economic Growth: Empirical Evidence from Sectoral Data in Indonesia. *University of Hawaii at Manoa, Department of Economics Working Paper*, No: 200726.

Khan, M. A. (2007). Foreign Direct Investment and Economic Growth: The Role of Domestic Financial Sector. *PIDE-Working Papers*, No: 18, Pakistan Institute of Development Economics.

Kolodko, G.W. (2004). Transition to a Market System: Gradualism versus Radicalism. *Tiger Working Papers*, No: 60.

Lankes, H. P., & Venables, A. J. (1996). Foreign Direct Investment in Economic Transition: The Changing Pattern of Investments. *Economics of Transition*, *4*(2), 221-347. http://dx.doi.org/10.1111/j.1468-0351.1996.tb00176.x

Ledyaeva, S., & Linden, M. (2006). Foreign Direct Investment and Economic Growth: Empirical Evidence from Russian Regions. *BOFIT Discussion Paper*, No. 17.

Lensink, R., & Morrissey, O. (2001). Foreign Direct Investment: Flows, Volatility and Growth in Developing Countries. Retrieved January 22, 2010, from http://www.ub.rug.nl/eldoc/som/e/01E16.pdf

Mencinger, J. (2003). Does Foreign Investment Always Enhance Economic Growth?. *Kyklos*, *56*(4), 491-508. http://dx.doi.org/10.1046/j.0023-5962.2003.00235.x

Merlevede, B., & Schoors, K. (2004). Reform, FDI and Economic Growth: Tale of the Tortoise and the Hare., *William Davidson Institute*, The University of Michigan Business School, Working Paper, No: 730.

Nair-Reichert, U., & Weinhold, D. (2001). Causality Tests for Cross-Country Panels: A New Look at FDI and Economic Growth in Developing Countries. *Oxford Bulletin of Economics and Statistics*, *63*(2), 153-171. http://dx.doi.org/10.1111/1468-0084.00214

Obwona, M. B. (2001). Determinants of FDI and Their Impact on Economic Growth in Uganda. *African Development Review*, *13*(1), 46-81. http://dx.doi.org/10.1111/1467-8268.00030

OECD. (1999). Conference on FDI Policy and Private Sector Development in the Baltic States, Conference Conclusions, 17 November.

OECD. (2003). Checklist for Foreign Direct Investment Incentive Policies.

OECD. (2007). Factbook; Economic, Environmental and Social Statistics.

Önol, E. L. (2006). Transition Economies: The Case of Poland. Marmara University, Social Sciences Institute, Unpublished M.A. Thesis.

Papaioannou, S. K. (2004). FDI and ICT Innovation Effects on Productivity Growth: A Comparison between Developing and Developed Countries. Retrieved January 23, 2010, from http://www.fep.up.pt/conferences/earie2005/cd_rom/Session%20II/II.D/papaioannou.pdf

Peleckis, K. (2009). Analysis of Foreign Capital Inflow Impact on Innovative Growth: The Baltic States in the Context of the European Union. *Social Sciences Studies*, *1*(1), 245-268.

Saltz, S. (1992). The Negative Correlation between Foreign Direct Investment and Economic Growth in the Third World: Theory and Evidence. *Rivista Internazionale di Scienze Economiche e Commerciali*, *39*, 617-633.

Sharma, B., & Abekah, J. (2007). Foreign Direct Investment and Economic Growth of Selected African and South American Countries. *International Trade and Finance Association Conference Papers*, No. 1102.

Sohinger, J. (2004). Transforming Competitiveness in European Transition Economies: The Role of Foreign Direct Investment. *Political Economy of International Finance*, UC Berkeley, Institute of European Studies, Working Paper PEIF-17.

Sutela, P. (2001). Managing Capital Flows in Estonia and Latvia. *BOFIT Discussion Papers*, No: 17.

Tiits, M. (2007). FDI and Estonia's Development Experience from 1990 to Today. Expert Meeting on Comparing Best Practices for Creating an Environment Conducive to Maximizing Development Benefits, Economic Growth and Investment in Developing Countries and Countries with Economies in Transition, Geneva, 24-25 September.

United Nations Conference on Trade and Development (UNCTAD). Accounting Practices. United Nations, Geneva.

Varblane, U., & Ziacik, T. (2001). The Role of Government in Creating a Favorable Investment Climate to Foreign Investors: The Case of Estonia. *Journal of Business Research.*

Wang, J. Y. (1990). Growth, Technology Transfer, and The Long-Run Theory of International Capital Movements. *Journal of International Economics*, *29*, 255-271. http://dx.doi.org/10.1016/0022-1996(90)90033-I

Wang, M., & Wong, M. C. S. (2009, October). Foreign Direct Investment And Economic Growth: The Growth Accounting Perspective. *Economic Inquiry*, Western Economic Association International, *47*(4), 701-710.

World Bank. (2002). The first ten years. Analysis and Lessons for Eastern Europe and the Former Soviet Union.

Notes

Note 1. FDI data are usually reported in terms of stocks and flows. FDI stock refers to the value of capital and reserves plus net indebtedness, whereas FDI flow refers to capital provided by or received from a foreign direct investor to an FDI enterprise. FDI flows can be further classified as inflows (capital flows into the host economy) and outflows (capital flows out of the home economy) (UNCTAD, 2006). In this study, only FDI flows are used.

Note 2. The term "big bang" is frequently used as synonym for "shock therapy".

Appendices

Appendix 1. The origin of FDI

THE TOP 3 INVESTING COUNTRIES IN ESTONIA (1998-2008)

INFLOWS

	1998	%	1999	%	2000	%	2001	%	2002	%	2003	%	2004	%	2005	%	2006	%	2007	%	2008	%
1	Sweden	32,5	Sweden	40,6	Sweden	39,8	Sweden	39,4	Sweden	41,0	Sweden	41,4	Sweden	45,4	Sweden	47,2	Sweden	39,6	Sweden	38,9	Sweden	40,1
2	Finland	27,0	Finland	30,0	Finland	29,9	Finland	25,8	Finland	27,3	Finland	26,7	Finland	23,8	Finland	23,2	Finland	26,2	Finland	24,7	Finland	22,1
3	Denmark	5,8	Denmark	4,1	USA	4,6	USA	9,9	USA	7,1	USA	5,7	USA	5,1	USA	3,4	Great Brit	3,8	Netherlan	5,6	Netherlan	7,4

OUTFLOWS

	1998	%	1999	%	2000	%	2001	%	2002	%	2003	%	2004	%	2005	%	2006	%	2007	%	2008	%
1	Latvia	52,7	Latvia	51,0	Latvia	43,6	Lithuania	43,6	Lithuania	43,7	Lithuania	45,0	Lithuania	38,9	Lithuania	31,6	Latvia	34,8	Latvia	33,7	Latvia	31,6
2	Lithuania	23,0	Lithuania	37,0	Lithuania	30,0	Latvia	35,7	Latvia	31,3	Latvia	28,1	Latvia	32,7	Latvia	30,1	Lithuania	30,7	Lithuania	29,3	Lithuania	28,2
3	Cyprus	13,3	Cyprus	7,5	Cyprus	13,9	Italy	7,5	Cyprus	13,7	Cyprus	13,6	Cyprus	11,2	Russia	13,2	Russia	9,0	Russia	8,1	Cyprus	9,8

THE TOP 3 INVESTING COUNTRIES IN LATVIA (2000-2008)

INFLOWS

	2000		2001		2002		2003		2004		2005		2006		2007		2008	
	milion $		milion $		milion $		milion $		milion $		milion $		milion $		milion $		milion $	
1	Sweden	90,7	Germany	40,2	Sweden	64,8	Sweden	52,0	Estonia	136,6	Denmark	118,0	Estonia	277,6	Estonia	472,9	Estonia	346,5
2	Estonia	75,7	Denmark	38,9	Netherlar	25,0	Finland	51,4	Germany	77,1	Estonia	97,7	Sweden	205,2	Sweden	207,9	Sweden	213,7
3	Germany	43,4	USA	36,7	USA	20,8	Netherlar	44,9	USA	59,7	Sweden	96,0	Cyprus	140,7	Denmark	195,5	Ireland	196,2

OUTFLOWS

	2000		2001		2002		2003		2004		2005		2006		2007		2008	
	milion $		milion $		milion $		milion $		milion $		milion $		milion $		milion $		milion $	
1	Liberia	17,6	Malta	4,3	Iceland	0,7	Lithuania	3,9	Switzerla	38,8	Switzerla	45,5	Switzerla	75,4	Luxembo	138,6	Switzerla	63,3
2	Lithuania	5,7	Lithuania	2,9	Lithuania	0,6	Malta	3,4	Russia	10,1	Estonia	16,7	Norway	27,0	Switzerla	67,2	Poland	52,8
3	Germany	3,1	Estonia	2,0	Russia	0,6	Russia	2,9	Estonia	7,2	Lithuania	15,8	Russia	14,4	Russia	40,0	Germany	51,3

THE TOP 3 INVESTING COUNTRIES IN LITHUANIA (1997-2008)

INFLOWS

	1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008	
	mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas	
1	Sweden	42,4	Sweden	316,3	Denmark	93	Sweden	164,0	Estonia	113,3	Russia	134,2	Sweden	89,9	Russia	144,7	Russia	266,6	Finland	93,4	Sweden	228,2	Sweden	329,5
2	Estonia	38,0	Finland	287,0	Switzerla	88,6	Denmark	57,1	Denmark	101,9	Estonia	95,4	Russia	32,4	Sweden	95,8	Denmark	125,1	Sweden	83,0	Russia	198,2	Germany	160,0
3	Germany	26,9	Norway	47,6	Sweden	77,1	Finland	27,6	Sweden	70,2	Sweden	80,2	Denmark	19,3	Estonia	39,7	Estonia	67,2	Germany	56,0	Poland	148,5	Russia	106,0

Source: Central Banks; EBRD Transition Report (2009); IMF; UNCTAD

Appendix 2. Attracting sectors of FDI

Appendix 2a. The top three ındustries in terms of FDI flows ın Estonıa (2008)

	INFLOWS	
		%
1	Financial Intermediation	35,3
2	Real Estate, Renting and Business Activities	23,9
3	Manufacturing	14,2

	OUTFLOWS	
		%
1	Financial Intermediation	37,4
2	Real Estate, Renting and Business Activities	34,7
3	Transport,storage and communication	11,6

Source: Bank of Estonia

Appendix 2b. The top three industries in terms of FDI flows in Latvia (2000-2008)

INFLOWS

	2000		2001		2002		2003		2004		2005		2006		2007		2008	
		million $		million $		million $		million $		million $		million $		million $		million $		million $
1	Manufacturing	54,0	Wholesale and retail trade	63,7	Real estate, renting and business activities	94,8	Wholesale and retail trade	69,4	Wholesale and retail trade	58,5	Wholesale and retail trade	101,8	Real estate, renting and business activities	312,3	Real estate, renting and business	411,2	Manufacturing	275,1
2	Transport, storage, communication	52,4	Transport, storage, communication	53,2	Transport, storage, communication	19,2	Real estate, renting and business activities	65,7	Transport, storage, communication	49,1	Electricity, gas, water supply	81,7	Wholesale and retail trade	186,3	Wholesale and retail trade	255,8	Real estate, renting and business activities	268,3
3	Electricity, gas, water supply	52,1	Real estate, renting and business activities	23,8	Wholesale and retail trade	16,0	Manufacturing	52,4	Manufacturing	45,3	Manufacturing	73,0	Manufacturing	74,9	Manufacturing	213,8	Wholesale and retail trade	90,9

OUTFLOWS

	2000		2001		2002		2003		2004		2005		2006		2007		2008	
		million $		million $		million $		million $		million $		million $		million $		million $		million $
1	Real estate, renting and business activities	11,1	Manufacturing	9,7	Financial Intermediation	5,1	Real estate, renting and business activities	14,8	Wholesale and retail trade	63,6	Wholesale and retail trade	56,2	Wholesale and retail trade	84,5	Financial Intermediation	183,0	Wholesale and retail trade	122,9
2	Financial Intermediation	4,7	Financial Intermediation	3,3	Transport, storage, communication	1,1	Wholesale and retail trade	13,9	Financial Intermediation	26,4	Financial Intermediation	46,6	Real estate, renting and business activities	27,6	Wholesale and retail trade	125,1	Real estate, renting and business activities	59,2
3	Wholesale and retail trade	2,9	Construction	1,7	Construction	0,7	Financial Intermediation	11,5	Manufacturing	4,9	Real estate, renting and business activities	10,3	Transport, storage, communication	15,9	Manufacturing	22,2	Financial Intermediation	49,0

Source: Bank of Latvia

Appendix 2c. The top three industries in terms of FDI flows in Lithuania (1997-2008)

INFLOWS																							
	1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008	
	mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of litas		mil. of lita	
1	Manufacturing	117,5	Transport and communication	543,7	Manufacturing	220,7	Financial Intermediation	217,6	Financial Intermediation	159,2	Manufacturing	308,4	Manufacturing	89,5	Manufacturing	294,0	Electricity, gas and water	263,5	Manufacturing	671,0	Financial Intermediation	379,2	Financial Intermediation	321,9
2	Real estate, renting and business activities	34,2	Manufacturing	145,1	Trade and repairs	78,8	Manufacturing	47,1	Transport and communication	132,5	Financial Intermediation	150,1	Transport and communication	34,1	Electricity, gas and water	65,3	Manufacturing	179,0	Financial Intermediation	190,5	Manufacturing	324,2	Real estate, renting and business activities	206,1
3	Transport and communication	30,1	Trade and repairs	91,8	Financial Intermediation	75,9	Real estate, renting and business activities	46,2	Real estate, renting and business activities	75,1	Electricity, gas and water	56,6	Electricity, gas and water	29,7	Trade and repairs	61,5	Financial Intermediation	156,3	Real estate, renting and business activities	171,2	Trade and repairs	179,7	Trade and repairs	172,9

Source: Bank of Lithuania, Lithuanian Development Agency

Appendix 3. Attracting factors of FDI

Country	Liberalisation and privatisation							Business environment and competition			Infrastructure				Financial sector			Social reform			
	Current account convertibility	Controls on inward direct investment	Interest rate liberalisation	Exchange rate regime	Wage regulation	Tradability of land		Competition office	Quality of insolvency law	Secured transactions law	Telecoms regulatory assessment compliance	Independence of electricity regulator	Separation of railway infrastructure from operations	Independence of the road directorate	Capital adequacy ratio	Deposit insurance system	Private pension funds	Share of population living in poverty	Government expenditure on health (% of GDP)	Government expenditure on education (% of GDP)	Household expenditure on power and water
Estonia	full	no	full	currency board in ERMII	no	full except foreigners		yes	high	inefficient	full	full	full	partial	10%	yes	yes	<2% (2004)	4.0% (2005)	6.0% (2005)	6.1%
Latvia	full	no	full	fixed peg in ERMII	no	full except foreigners		yes	under reform	advanced	full	full	full	partial	8%	yes	yes	<2% (2004)	4.5% (2007)	5.8% (2007)	3.8%
Lithuania	full	no	full	currency board in ERMII	no	full		yes	low	advanced	full	full	partial	partial	8%	yes	yes	<2% (2004)	4.3% (2005)	5.5% (2006)	3.8%

Source: EBRD Transition Report (2009)

Appendix 4. Descriptive statistics

	Mean			
	EST	LVA	LTU	BALTICS
Ease of doing business index (1=most business-friendly regulations)	1,69	2,31	1,92	1,97
GDP growth (annual %)	6,70	6,69	6,15	6,51
Health expenditure, total (% of GDP)	1,98	2,44	2,35	2,25
Labor participation rate, total (% of total population ages 15+)	59,56	58,43	58,93	58,97
Population covered by mobile cellular network (%)	83,94	71,80	92,31	82,68
Population growth (annual %)	-0,53	-0,80	-0,60	1,97
Public spending on education, total (% of GDP)	3,42	3,39	2,45	3,08
Strength of legal rights index (0=weak to 10=strong)	2,31	3,46	1,92	2,56
Time required to start a business (days)	17,54	7,38	12,00	12,31
Unemployment, total (% of total labor force)	9,23	11,61	11,59	10,81

EST: Estonia **LVA: Latvia** **LTU: Lithuania**

Appendix 5. The table of panel data

i	t	Y_{it} (RGDPG)	$X1_{it}$ (FDI)	$X2_{it}$ (TRDO)	$X3_{it}$ (HC)	$X4_{it}$ (IS)
Estonia	1996	5,70	2,35	134,80		53,20
Estonia	1997	11,70	2,57	154,32		50,80
Estonia	1998	6,70	10,28	159,15	6,35	22,10
Estonia	1999	-0,30	3,89	145,79	6,74	21,30
Estonia	2000	10,00	5,70	172,79	5,40	20,10
Estonia	2001	7,50	5,48	162,13	5,28	19,70
Estonia	2002	7,90	2,08	149,22	5,48	24,80
Estonia	2003	7,60	7,75	145,87	5,31	23,40
Estonia	2004	7,20	5,84	153,20	4,94	22,14
Estonia	2005	9,40	16,22	161,94	4,92	22,67
Estonia	2006	10,00	4,07	172,08		
Estonia	2007	7,20	4,67	156,84		28,77
Estonia	2008	-3,60	3,74	155,45		
Latvia	1996	3,90	6,67	101,07		38,30
Latvia	1997	8,40	8,24	101,50		38,30
Latvia	1998	4,70	4,50	106,80	6,29	
Latvia	1999	3,30	4,53	89,97	5,73	
Latvia	2000	6,90	5,11	90,32	5,36	
Latvia	2001	8,00	1,36	92,69	5,48	
Latvia	2002	6,50	2,69	91,50	5,75	100,00
Latvia	2003	7,20	2,28	96,72	5,32	100,00
Latvia	2004	8,70	3,83	103,53	5,07	100,00
Latvia	2005	10,60	3,65	110,08		100,00
Latvia	2006	11,90	7,48	111,23	5,07	100,00
Latvia	2007	10,00	6,64	104,61		100,00
Latvia	2008	-4,60	3,52	96,74		
Lithuania	1996	5,10	1,87	112,36		
Lithuania	1997	8,50	3,31	114,62		
Lithuania	1998	7,50	8,25	102,19		
Lithuania	1999	-1,50	4,37	87,72		
Lithuania	2000	4,10	3,28	95,77		
Lithuania	2001	6,60	3,61	105,09	5,89	
Lithuania	2002	6,90	5,04	111,13	5,84	
Lithuania	2003	10,30	0,76	108,14	5,16	
Lithuania	2004	7,30	2,26	111,18	5,19	
Lithuania	2005	7,60	2,65	122,18	4,90	28,30
Lithuania	2006	7,50	5,15	128,34	4,84	28,30
Lithuania	2007	9,80	3,62	122,18		28,61
Lithuania	2008	2,80	3,08	129,74		