

Andresson, Kairi; Reiljan, Janno; Reiljan, Ele

## Conference Paper

# Attractiveness of Central and Eastern European Countries for Foreign Direct Investment in the Context of European Integration: The Case of Estonia

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**ATTRACTIVENESS OF CENTRAL AND EASTERN EUROPEAN  
COUNTRIES FOR FOREIGN DIRECT INVESTMENT IN THE  
CONTEXT OF EUROPEAN INTEGRATION: THE CASE OF ESTONIA**

Janno Reiljan, Ph.D. (Econ.)  
Chair of International Economy  
University of Tartu, Estonia  
e-mail: [reiljan@mtk.ut.ee](mailto:reiljan@mtk.ut.ee)

Ele Reiljan, MA (Econ.)  
Chair of International Business  
University of Tartu, Estonia  
e-mail: [ele@mtk.ut.ee](mailto:ele@mtk.ut.ee)

Kairi Andresson, MA (Econ.)  
Chair of International Economy  
University of Tartu, Estonia  
e-mail: [kairi@ec.ut.ee](mailto:kairi@ec.ut.ee)

**Abstract**

The main aim of this paper is to find out the possible changes in foreign direct investment flows to Estonia in the context of European integration. Results of the analysis suggested that it could be expected that the inflow of market-seeking foreign direct investments to Estonia will not be significantly changed after integration to the European Union. At the same time, impact of the integration on efficiency-seeking foreign investments is unambiguous. In the case of natural-resources-seeking and strategic-assets-seeking foreign investments Estonia's integration into the European Union is not likely to increase significantly the inflows of these types of foreign investments to Estonia.

## INTRODUCTION

Foreign direct investment (FDI) flows in the world have increased rapidly during the last decade. Most of the FDI inflows are targeted to developed countries (78% in 1999), about fifth of the flows are going to developing countries and Central and Eastern European transition countries are the host countries for only 2% of the world FDI.

The necessity of foreign investments in the transition countries is the result of industrial restructuring in post-socialist Eastern Europe and the Baltic countries. New markets, lower production costs and higher profit rates have been the main motivators in investing to the transition countries. Privatization programs of some of these countries have also facilitated foreign direct investments.

A number of Central and Eastern European transition countries are in the middle of process of integration to the European Union now. Economic integration has impact on the flows of the foreign direct investment. The main aim of this paper is to find out the possible changes in attractiveness of investment climate for different types of foreign investors in the Central and Eastern European transition countries in the context of European integration. There are quite significant differences between transition countries and because of this the case of Estonia is used as an illustrative example. Taking into account the aim, paper is divided into four parts:

- theoretical foundations of foreign direct investments movements and results of the previous empirical research are presented,
- theoretical foundations of the impact of regional integration on foreign direct investment flows is discussed,
- determinants of FDI inflows in Estonia are analyzed by using generalized component, regression and multinomial logistic analysis,
- potential changes in attractiveness of the Estonian investment climate are discussed and some economic-political recommendations for the government are presented.

At first a short overview of previous empirical research on foreign direct investment determinants and impact of the regional integration on FDI flows is presented. After this, an analysis of FDI determinants in Estonia is carried out by means of principal component and multinomial regression analyses. Finally, possible impact of Estonia's integration to the European Union on foreign direct investment inflows is discussed.

## 1. PREVIOUS RESEARCH ON DETERMINANTS OF FOREIGN DIRECT INVESTMENTS

Four groups of foreign investors have been distinguished in the literature considering their different strategic objectives (Brewer 1993, p. 4; Chudnovsky *et al.* 1997, p. 2; Dunning 1994, p. 36; Foreign Direct Investment 1998, p. 21; Oxelheim 1993, p. 180):

- 1) market-seeking foreign investors concentrate on servicing the host country's (and its neighboring countries') market(s);
- 2) efficiency-seeking investors are interested in low-cost host countries and the production is exported to the home country of foreign direct investment and/or other target markets;
- 3) natural-resources-seeking investments are motivated by desire to reduce costs and provide access to raw materials;
- 4) strategic-assets-seeking foreign direct investments are orientated toward acquiring resources and capabilities that the investing firm believes will sustain or advance its core competencies in regional or global markets.

Although some FDI projects include elements of more than one of these strategic objectives, most projects are focussed on only one.

The main aim of market-seeking investments is to provide access to the host country's (and sometimes also to its neighbouring countries') market. Brewer (1993, p. 180) has suggested that in service industries where many FDI projects are undertaken by firms that follow their home country corporate clients, these foreign investments could also be classified as market seeking ones. Some authors (see for example Brouters *et al.* 1996, p. 2; Foreign Direct Investment 1998, p. 22) distinguish between two types of market-seeking investors. Defensive market-seeking investments are done for preventing host country's tariff or non-tariff barriers. At the same time, offensive market-seeking investors are interested in taking advantage of growing demand and opening up of new markets. However, distinction between two types of market-seeking investments is quite complicated in practice.

Efficiency-seeking (or rationalized) foreign investors are interested in taking advantage of low production costs "for increasing the efficiency of regional or global MNC activities" (Dunning 1994, p. 36). They can produce either components or final products to be exported to the home country or other countries. Unlike market-seeking

investment, efficiency-seeking investment occurs only in the case of relatively free trade between the host country and export markets (Éltető 1999, p. 2). Dunning (1998a, p. 5) has pointed out that most efficiency-seeking foreign investments in developing countries tend to be vertically integrated and most horizontally integrated FDI's are concentrated in the advanced industrial economies (and particularly in some of the knowledge intensive sectors).

The purpose of the natural-resources-seeking investments is to use the raw materials available in the host country and lacking in the home country (Brouthers *et al.* 1996, p. 2). Brewer (1993, p. 180) has an opinion that this kind of FDI projects are "typically oriented to export for world markets rather than for the domestic host country market" but Borsos-Torstila (1998, p. 28) suggests that raw materials are used "either for export or further processing and sale in the host country".

Dunning (1994, p. 36) has defined strategic-assets-seeking investment as the one with purpose to acquire resources and capabilities that an investing firm believes will sustain or advance its core competencies in regional and global markets. These assets may range from innovatory capability and organizational structures to accessing foreign distribution channels and a better appreciation of the needs of consumers in unfamiliar markets. This kind of FDI is expected to occur in capital, technology or information intensive sectors, and those in which an oligopolistic market structure is the norm (Foreign Direct Investment ... 1998, p. 22).

Market-seeking and natural-resources-seeking motives are typical in the case of initial entry to the foreign market. Efficiency- and strategic-asset-seeking investments are believed to represent the main modes of expansion by established foreign investors. (Dunning 1994, p. 35)

Éltető (1999) has noted in the case of market-seeking investments and Narula and Dunning (1998a, p. 7) in the case of purely resource-seeking investments, that the relationships between parent company and affiliate are likely to be weak and affiliate is integrated into parent's international network to a limited extent. At the same time, Petrochilos (1989, p. 18) and Chudnovsky, Lopez and Porta (1997, p. 2) have stressed the ease and importance of integrating an affiliate to the parent company's network in

the case of efficiency-seeking foreign investments for enhancing affiliate's export activities.

Table 1 gives a short overview of the most important host country determinants of FDIs, taking into account differences in the foreign investor's strategic objectives. In his article "Location and the Multinational Enterprise: A Neglected Factor" (Dunning 1998b, p. 15-16) J.H. Dunning has thoroughly discussed the main changes in FDI determinants during the period 1970-1990.

Foreign investments to developed countries have mostly market-seeking nature. On the other hand, efficiency- or natural-resources-seeking FDI flows are usually orientated towards developing countries (Brouthers *et al.* 1996, p. 4; Narula 1994, p. 3). Strategic-assets-seeking investments, as a rule, are secondary in explaining foreign capital movements (Hunya 1998, p. 2). In the transition countries, however, due to privatization-related foreign investments the share of such FDIs is relatively large.

Table 1

**Main host country FDI determinants considering  
the foreign investor's strategic objective**

<b>STRATEGIC OBJECTIVE</b>	<b>ECONOMIC DETERMINANTS</b>	<b>POLITICAL DETERMINANTS</b>	<b>OTHER DETERMINANTS</b>
Market seeking FDI	<ul style="list-style-type: none"> <li>• nominal GDP</li> <li>• GDP <i>per capita</i></li> <li>• GDP growth rate</li> <li>• previous FDI</li> <li>• real wage</li> <li>• production costs</li> <li>• transport costs</li> <li>• infrastructure tariffs and other import restrictions</li> </ul>	<ul style="list-style-type: none"> <li>• ownership policies</li> <li>• price controls</li> <li>• convertibility of foreign exchange</li> <li>• performance requirements</li> <li>• market access constraints</li> <li>• sector-specific controls</li> </ul>	<ul style="list-style-type: none"> <li>• geographical location</li> <li>• cultural differences</li> <li>• different languages</li> <li>• population</li> <li>• local content requirement</li> <li>• country-specific customer preferences</li> </ul>
Efficiency-seeking FDI	<ul style="list-style-type: none"> <li>• inflation</li> <li>• exchange rate</li> <li>• real wage</li> <li>• savings rate domestic investments</li> <li>• production costs</li> <li>• infrastructure transportation costs</li> <li>• previous FDI</li> </ul>	<ul style="list-style-type: none"> <li>• market access constraints</li> <li>• ownership constraints</li> <li>• taxes/subsidies</li> <li>• price controls</li> <li>• performance requirements</li> <li>• foreign investment's incentives</li> <li>• trade agreements</li> </ul>	<ul style="list-style-type: none"> <li>• geographical location</li> <li>• availability of suitable workforce</li> <li>• existence of suppliers</li> </ul>

		<ul style="list-style-type: none"> <li>• requirements of environmental protection</li> </ul>	
Natural-resources-seeking FDI	<ul style="list-style-type: none"> <li>• prices of raw materials compared to world markets</li> <li>• infrastructure</li> <li>• transportation costs</li> <li>• domestic investments</li> </ul>	<ul style="list-style-type: none"> <li>• foreign investment's incentives</li> <li>• foreign investment's restrictions</li> <li>• sector-specific controls</li> </ul>	<ul style="list-style-type: none"> <li>• existence and quality of raw materials</li> </ul>
Strategic-assets-seeking FDI	<ul style="list-style-type: none"> <li>• existence and quality of infrastructure</li> <li>• intensity of R&amp;D activities</li> </ul>	<ul style="list-style-type: none"> <li>• protection of immaterial property</li> <li>• foreign investment's incentives or restrictions in using the host country's resources</li> <li>• risk level</li> <li>• innovation policy</li> </ul>	<ul style="list-style-type: none"> <li>• existence of patents, trade marks, etc.</li> </ul>

Source: Modified and adapted by the author, based on Contractor 1990, p. 35; Dunning 1994, pp. 36, 40-41; Dunning 1998b, p. 15-16; Oxelheim 1993, p. 180; Petrochilos 1989, p. 18; World Investment Report 1998, p. 91.

New markets and rapidly changing economic environment in Central and Eastern European transition countries have got attention of many economist and several studies have attempted to study foreign direct investment determinants in these countries. Lankes and Venables (1996), and Lankes and Stern (1998) have noted that previous studies have shown predominance of market-seeking investors in the Central and Eastern European countries and factor-cost considerations have appeared to be of less importance for the majority of investments. A survey that was carried out by the EBRD (Lankes *et al.* 1996) also showed predominance of market-seeking investments in these countries. At the same time, the authors pointed out that the type of FDI varies significantly, depending on the host country's progress in the economic transition. They found that FDI projects in the transitionally more advanced countries were more likely to be export-oriented, more integrated into their foreign parent's multinational production process, and more likely to exploit the comparative advantage of the host economy. The results of a multinomial logistic regression analysis (Lankes *et al.* 1998, p. 7) suggest that market-seeking investors are interested in making use of first mover advantage, while efficiency-seeking investors postpone their projects until the risk level is acceptable to them.

A study by Meyer (1995) affirms that at the beginning of the transition process the local market of the Central and Eastern European countries was the primary motive for making foreign direct investments whereas factor costs had only a secondary role in investing into those markets. Meyer suggests that efficiency-seeking FDIs emerge only if the host country additionally offers an attractive local market. Marinov and Marinova (1999) and Pye (1997) have reached similar results: they say that the local market is the primary driving motive for investing into the Central European transition countries.

Éltető (1999) has found that two most important types of foreign investors in the Central and Eastern European countries are efficiency-seeking and market-seeking ones. The results of several other studies (Barrell *et al.* 1999; Borsos-Torstila 1998; Garibaldi *et al.* 1999; Guimaraes *et al.* 1997; Holland *et al.* 1998a, 1998b; Reiljan 1999; Wang *et al.* 1995; Ziacik 2000) have also shown the significance of the determinants that are important for these types of investors in explaining the flows of foreign investments into the transition countries. Due to the relative lack of natural resources and strategic assets, the other two types of foreign investors are not so important. However, it has to be taken into consideration that there are quite big discrepancies between different countries and sectors as regards the share of different types of foreign investors.

## **2. THEORETICAL ANALYSIS OF IMPACT OF REGIONAL INTEGRATION ON FOREIGN DIRECT INVESTMENT INFLOWS**

Regional integration induces several different changes in investment climate. These changes do not always mean increase in the host country's attractiveness from the viewpoint of foreign investors. Therefore, several scientists (for example, Barrell *et al.* 1997, Blomström *et al.* 1997, Brenton *et al.* 1998, Pain *et al.* 1997) have done research on the impact of regional integration on foreign direct investment flows. As there are differences in the potential impact of integration, they have pointed out that following aspects should be taken into consideration:

- impact of regional integration on foreign direct investment flows differs between regional block member countries and other countries;
- differences in the impact of regional integration on foreign direct investment flows may come from the aspect that foreign investors have different motives,



- there are significant differences in the analysis of regional integration on foreign direct investment flows depending on how foreign trade and foreign direct investments have considered – are they substitutes or complements,
- differences in the impact of regional integration on foreign direct investment flows may also come from the differences in existence and levels of tariff- and non-tariff barriers for foreign trade,
- impact of the regional integrations depends on the geographic location of a country (is the country in the core or in the periphery of a regional block).

**Market-seeking foreign investors** are mostly interested in servicing the local market. In this case, impact of the integration on foreign direct investment flows from the other member states of the regional block depends on the nature of a good (a physical good or a service) and on the level of transportation costs. Pain and Lansbury (1997, p. 90) have suggested that in the case of services or goods with high transportation costs, no significant change in foreign direct investment inflows is expected. In their paper they pointed also out that necessity for differentiation and adaptation of goods and services is additional argument favouring this opinion.

In analyzing the impact of regional integration on the foreign direct investment inflows to the sectors where the transportation costs of goods are low, one very important aspect that should be taken into account is the nature of foreign trade and foreign direct investments. If these are substitutes, abolishment of trade barriers between countries would increase the amount of foreign trade and decrease foreign direct investment flows. In the case where trade and investments are complements, liberalization of foreign trade would stimulate foreign investments. (Blomström *et al.* 1997, p. 3; Brenton *et al.* 1998, p. 24)

Results of the research by Brenton, Di Mauro and Lücke (1998, p. 23) indicated that as a consequence of regional integration, economic activities are tended to concentrate on the member countries of the regional block where the demand is the highest. In this case horizontal foreign direct investments are replaced by foreign trade for exploiting advantages coming from the economies of scale. This principle in selecting the host country for foreign investments is valid both in the case of investments from the member countries of regional block and from the other countries (Pain *et al.* 1997, p. 89). Several authors have attempted to examine the validity of this kind of approach in

their empirical analysis. For example, Barrell and Pain has got contradictory results suggesting that despite of relative cost advantages and flexible labour market, only few manufacturers in the Great Britain have decided to increase manufacturing at the home country (and to exploit economies of scale in this way) and service the whole European market by export (Barrell *et al.* 1997, p. 70). As a result, there were no significant changes in the foreign direct investment flows.

Impact of the regional integration on the FDI flows from the third countries is somewhat different as the one described above. Namely, tariff- and non-tariff barriers that regional bloc introduces for the imports from the third countries may favor foreign direct investments as the entry mode to the member countries' markets (Barrell *et al.* 1997, p. 67) and as the result increase in foreign direct investment inflows is expected. However, the impact of transportation and other costs and the size of the target market(s) have to be taken into consideration in this case also. For example, if an enterprise from a third country already has a manufacturing unit in one of the member countries and it is possible to service the markets of new member countries with a production from this unit, increase in FDI flows is not expected. Instead of that, manufacturing units in some countries may be closed down as a result of concentration of activities for exploiting the advantages of economies of scale.

**Efficiency-seeking foreign investors** take into account production and transportation costs as well as availability of qualified labor in analyzing the attractiveness of a host country. In the case of services and goods with high transportation costs, the analysis of impact of regional integration on FDI flows does not differ significantly from the approach presented above. In the case of goods with low transportation costs, additional dimension – existence of cost advantages in the regional block member country – has to be taken into account (for example, see Pain *et al.* 1997, p. 90). Results of the several empirical analyses have shown that the bigger is a change in the investment climate and the stronger are locational advantages of a host country, the more likely is an increase in FDI inflows both from regional block's other member countries and from the third countries after regional integration (Blomström *et al.* 1997, p. 25).

If the production of an enterprise is targeted to the regional block's member countries' markets and the foreign investment's host country does not have cost advantages, a decrease in FDI is expected as a consequence of regional integration due to the fact that

foreign investors relocate their activities to the member country (or member countries) that have cost advantages. If a new member country of a regional block has cost advantages, foreign direct investment flows to this particular country may increase after removal of tariff- and non-tariff barriers for foreign trade. (Barrell *et al.* 1997, p. 67)

Pain and Lansbury (1997, pp. 89-90) have suggested that assembling plants that make intensive use of labour are concentrating in the periphery of the regional block after integration since the level of labour costs in these areas is lower. At the same time, more capital-intensive activities are relocated to the core countries of a regional block. Some of the regional blocks have introduced restrictions for relocation of economic activities after the integration for decreasing the uncertainty. For example, European Commission may prohibit regional aid for the projects that relocate investments from less to more favourable regions. However, European Commission has mainly concentrated on regulating manufacturing industries and has not paid thus far so much attention to the service sector (Foreign Direct Investment ... 1998, p. 8).

If the target market of a production of a company with foreign participation is a third country, the impact of regional integration on the FDI inflows from the third and regional block's other member countries depends on existence and level of tariff- and non-tariff barriers that are implemented by a third country for a production from the regional block. If there was a free trade agreement between FDI host country and a third country before integration but particular third country has introduced barriers for a regional block, a new member state may lose cost advantage(s) and thus a decrease in foreign direct investment inflow is expected. (see Blomström *et al.* 1997, p. 5) In the opposite case, an increase of foreign direct investment inflows to a new member country is expected.

In the case of **natural-resources-seeking foreign investors** there are no significant differences in impact of regional integration on the foreign direct investment between member countries of the regional block and third countries. If the particular resource is scarce, no significant change in FDI inflows is expected. Changes are possible in specific cases – for example, regional block may prohibit foreign investments to the enterprises that are extracting and/or making extensive use of specific natural resources.

In the case when natural resources are not scarce, the impact of regional integration on foreign direct investments depends both on the relative price of a resource and transportation costs. If natural resources are exported to the third countries, potential changes in barriers for the foreign trade has to be taken into consideration similarly as in the case of efficiency-seeking foreign investors.

No significant changes are expected in **strategic-assets-seeking foreign direct investment** inflows after regional integration. Increase in FDI flows from third countries is possible if access to the regional aid or grants (for example, for enhancing research and development) given by regional block is made possible in that way.

Previous empirical research on the impact of regional integration on foreign direct investment inflows has been somewhat ambiguous. Barrell and Pain (1997) have suggested that increase in foreign direct investment inflows in several countries in Europe is a consequence of member status in the European Union and access to the EU-s market. Pain and Lasbury (1997) pointed out that the Internal Market Program has had an positive and significant impact on foreign direct investment flows between the European Union member states both in the case of manufacturing and service sector. Results of an analysis carried out by Brenton, Di Mauro and Lücke (1998) have shown an increase in FDI flows in ten European Union member countries after introduction of the Single European Act. They pointed also out that decrease in foreign investment flows to the present member states of the European Union is not probable as a result of integrating Central and Eastern European transition countries to the EU. At the same time, results of the analysis suggested that member status of the European Union has not a significant impact on foreign direct investment flows from the third countries.

### **3. ANALYSIS OF FDI DETERMINANTS IN ESTONIA**

In 1997-2000 the Estonian Investment Agency and the Faculty of Economics and Business Administration of the University of Tartu carried out four surveys of foreign investors. 80-100 responses were received each year and all the biggest investors have been included in the sample. Some of the firms replied yearly and thus the sample consists of 199 different firms. Since some of the firms failed to answer all the questions, the overall number of valid cases is 185. If we take into account, on the one

hand, the motives of foreign direct investments that are presented in the theoretical part of the paper, and on the other, determinants of different types of foreign investors presented in Table 1, the need to analyze different types of investors separately will become evident. Thus, considering the field of activities, export performance, and several other factors, the firms have been divided into four different groups – market-seeking investors (65%), efficiency-seeking investors (18%), natural-resources-seeking investors (10%), and strategic-assets-seeking investors (7%).

Different groups of foreign investors in the sample have the following characteristics:

- 1) Market-seeking investors are orientated in servicing Estonian and also Latvian, Lithuanian, Russian and Ukrainian markets. The share of export in the turnover is relatively small, or they do not export at all. Some of these investments have been made into Estonia in order to decrease the economic and political risks in servicing East European markets.
- 2) The main aim of efficiency-seeking investors is to use comparatively low production costs and qualified labour for servicing the parent companies' home market and/or other European developed countries' markets. A small part of their production could be marketed in Estonia or in the markets of other Central and East European transition countries. Since the production costs have been increasing and there is a lack of qualified labour, Estonia is not a very attractive host country for this type of foreign investors any more.
- 3) Estonia has few natural resources: hence the share of natural-resources-seeking investors is quite small. Most of these investments are made into enterprises dealing with buying up and processing wood. A large part of the production of these firms is exported to the developed countries of Europe.
- 4) There are also some firms which could be classified as strategic-assets-seeking ones. These are foreign investors who have mostly been interested in acquiring the knowledge base and networks of infrastructure enterprises and almost all of these investments are related to privatization.

FDI determinants were grouped by means of principal component analysis. The five principal components describe 64,5% of the variation of initial indicators. The principal components can be characterized as complex indicators, the substance of which is to be explained by finding correlation coefficients between the preliminary indicators. The

principal components are statistically independent of one another, therefore multicollinearity between principal components is eliminated. The interpretation of the five principal components is as follows ( $r$  expresses linear correlation between initial indicator and component):

$C_1$  – stability and progress of the transformation process

Initial indicator	$r$
free movement of capital	0,800
rapid economic reforms	0,780
convertibility of the Estonian currency	0,765
political stability	0,656

Component  $C_1$  accounts for 19,6% of the variation of the initial indicators. Several transition countries have set barriers to the movement of foreign investments. At the same time, Estonian foreign investment policy has been fully liberal, which could be one reason for Estonia's success in attracting FDI flows. Foreign capital has actively participated in the privatization and restructuring of enterprises and this has accelerated the process of transformation into a market economy. Due to lack of local capital, the economic reforms would have slowed down without foreign capital.

A successful monetary reform and convertibility of the Estonian currency have delivered positive signals to foreign investors about stability of Estonia's economy. Estonia has currency board system and its exchange rate policy has been stable throughout all the transition years. Both the country's economic and political stability and the exchange rate system have influenced credibility and convertibility of the currency. In addition to stability, devaluation of the currency at the moment when the exchange rate was being fixed created a relative advantage to those enterprises that produce in Estonia and export their products.

No radical changes in government policies have occurred during the transition years and all the governments have favoured the inflow of foreign direct investments to Estonia. All these factors have impacted on foreign investors' opinion about political stability in Estonia. Thus, considering all the above mentioned facts, it can be said that the principal component that consists of indicators expressing free movement of capital, rapid

economic reforms, convertibility of Estonian currency, and political stability characterizes the stability and progress of the transformation process.

*C<sub>2</sub> – attractiveness of the Estonian market*

Initial indicator	r
entry to the Estonian market	0,803
possibilities for market growth	0,755
production costs	-0,642
availability of the required raw materials	-0,565

Component  $C_2$  accounts for 14,7% of the variation of the initial indicators. This principal component consists of indicators that characterize the attractiveness of Estonian market – these indicators are, entry to Estonian market, possibilities for market growth, production costs and availability of the required raw materials

The above indicators ‘entry to the Estonian market’ and ‘possibilities for market growth’ serve to characterize the attractiveness of the local market – when foreign investors evaluate a market’s potential, both the number of potential customers and their income level are important. In terms of potential customers the Estonian market is small. At the same time, the income level is much higher than in Russia and a bit higher than in the other Baltic countries. Moreover, foreign investors from Finland and Sweden (the most important investors in Estonia), being Estonia’s close neighbours, appear to have more information about Estonia than about Latvia or Lithuania.

Production costs in Estonia are lower than in the Central European transition countries but this advantage is cancelled by transportation costs in the servicing markets of the developed Western European countries. At the same time, Estonia has higher production costs than Latvia, Lithuania and Russia and hence has no significant advantages in production costs in the servicing markets of the Scandinavian countries. Taking into account these facts, the level of the production costs decreases the attractiveness of Estonia for foreign investors. Furthermore, Estonia has only few natural resources, therefore the effect of this indicator is as expected – unavailability of the required raw materials will also make the country less attractive.

*C<sub>3</sub> – infrastructure*

Initial indicator	r
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internal transportation network	0,855
Estonian ports	0,743
communication system	0,564
banking sector	0,555

Component  $C_3$  accounts for 13,7% of the variation of the initial indicators. This principal component consists of the indicators that characterize Estonian physical and financial infrastructure – these indicators are the country’s internal transportation network, its ports, communication system, and the banking sector.

All of the indicators have a positive impact on the overall level of development of the infrastructure. Estonia’s internal transportation network is not as developed as that of the developed countries but the differences with several other Central and East European transition countries are not great. Both the Estonian ports and the communication system have developed rapidly during the past decade and now the communication system is comparable with those of the developed countries. Estonia’s banking sector underwent a crisis at the beginning of the 1990s but has stabilised and developed fast after that.

$C_4$  – labor

Initial indicator	r
labor	0,892

Component  $C_4$  accounts for 8,5% of the variation of the initial indicators. This principal component consists of only one indicator – labor. There are two important aspects that are related to competitiveness in terms of labor – these are the availability and cost of labor. Qualified and relatively inexpensive labor was one of Estonia’s advantages at the beginning of the 1990s. But due to the fact that there are less than 1.5 million inhabitants in Estonia, the country is now experiencing a lack of qualified labor. Labor costs have also increased and thus Estonia still has a relative advantage in comparison to Finland and Sweden, but compared to the other Baltic countries and Russia, it has a disadvantage.

$C_5$  – potential of the neighbouring markets

Initial indicator	r
potential of the CIS market	0,862



prospects of Estonia joining the EU 0,488

Component  $C_5$  accounts for 8,0% of the variation of the initial indicators. This principal component consists of indicators that characterize the potential of Estonia's neighbouring markets – these indicators are the potential of the CIS markets and the prospects of Estonia joining the EU. There are several barriers to Estonian production in these markets and hence the potential of these markets is not fully exploited. Removal of the Russian double tariffs and the European Union's tariffs and non-tariff barriers would increase Estonia's attractiveness for foreign investors.

All the above-mentioned principal components are going to be used as independent variables in the multinomial logistic regression. The type of foreign investor (TFI) is a dependent variable and strategic-assets-seeking investors ( $TFI_j$ ) are set to the base category. The model has the following form:

$$\log \left( \frac{P(TFI_i)}{P(TFI_j)} \right) = B_{i0} + B_{i1}C_1 + B_{i2}C_2 + B_{i3}C_3 + B_{i4}C_4 + B_{i5}C_5 + u_i$$

where  $TFI_i$  denotes the type of foreign investor,

$TFI_j$  – strategic-assets-seeking foreign investors,

$C_i$  – the generalized component,

$B_{ij}$  – the coefficient,

$u_i$  – the disturbance term.

Hypothesis about the impact of each of the above-mentioned principal components on each group of foreign investors as compared to strategic-assets-seeking investors are presented in Table 2.

Table 2

**Expected impact of the principal components as compared to strategic-assets-seeking investors**

	<b>Market - seeking</b>	<b>Efficiency- seeking</b>	<b>Natural- resources-seeking</b>
$C_1$	low	moderate	moderate
$C_2$	high	low	low
$C_3$	low	moderate	moderate
$C_4$	moderate	moderate	low
$C_5$	high	high	moderate

The results of the multinomial logistic regression analysis are presented in Table 3. Coefficients for stability and progress of the transformation process and infrastructure are not significantly different from 0 in all three logits. This could be explained by the fact that these factors are equally important for all types of investors who are investing in Estonia.

Table 3

**Results of the multinomial logistic regression analysis**

	<b>Market-seeking</b>	<b>Efficiency-seeking</b>	<b>Natural-resources-seeking</b>
<i>Int.</i>	2,550** (0,408)	1,063** (0,460)	-1,549* (0,870)
<i>C<sub>1</sub></i>	-0,360 (0,348)	-0,279 (0,385)	-6,34E-02 (0,472)
<i>C<sub>2</sub></i>	1,132** (0,396)	-0,505 (0,436)	-2,460** (0,696)
<i>C<sub>3</sub></i>	0,289 (0,338)	0,537 (0,384)	0,349 (0,483)
<i>C<sub>4</sub></i>	0,573* (0,326)	1,012** (0,373)	-0,134 (0,485)
<i>C<sub>5</sub></i>	0,913** (0,338)	0,930** (0,373)	1,128** (0,469)

Notes: \*\* – 5% level of significance; \* – 10% level of significance; Standard errors in parenthesis; The reference group is foreign investors with a strategic-assets-seeking motive.

Log Likelihood = -128,596; Chi-square = 113,420; Number of observations is 185.

Attractiveness of the local market, the potential of the neighbouring markets, and labour are more likely to increase the flow of market-seeking FDIs than strategic-assets-seeking investments. The principal components of labour and the potential of the neighbouring markets are significantly different from 0 in the case of efficiency-seeking foreign investors – this means that the higher these components are, the higher the odds of getting efficiency-seeking investments as compared to strategic-assets-seeking ones. Attractiveness of the Estonian market decreases and the potential of the neighbouring markets increases the flows of natural-resources-seeking foreign investments as compared to strategic-assets-seeking investors. In conclusion, it could be said that the results accord to both theoretical understandings and the expected significance of determinants that are presented in Table 2.

Since Estonia have had liberal foreign trade and foreign investment policy thus far, **market-seeking investors** have mainly been interested in entering to the local market

and avoiding tariff- and/or non-tariff barriers has not been a reason for investing here. At the same time, it is not reasonable to assume that protection of the local market would have been increased foreign direct investment inflows to Estonia since the size and purchasing power of a local market is too small for making local market attractive for this kind of investors. After integration to the European Union an increase in FDI flows from the third countries to Estonia is expected due to the introduction of tariff- and non-tariff barriers. Additional investments can also be expected because of the differences in growth rates of economies – GDP growth in Central and Eastern European transition countries exceeds the one in the European Union present member countries.

Enterprises from the present member countries of the European Union have been the main investors to Estonia thus far. Most of them have already manufacturing plants in the EU and because of this no significant changes in foreign direct investment inflows are expected after removal of the tariff and other barriers for foreign trade.

It is complicated to estimate the impact of the integration to the European Union on **efficiency-seeking foreign investors**. The flows of this type of foreign investments may increase due to the smaller political risk and instability. In addition to that, Estonia has several cost advantages as compared to present member states of the European Union. However, because of the Estonian geographical location in the periphery of the EU, transportation costs are higher than in the case of the other integrating transition countries that also have cost advantages. Relative lack of (qualified) labour decreases also the competitiveness of Estonia as a potential host country for foreign direct investments.

No significant changes are expected in **natural-resources-seeking and strategic-assets-seeking** foreign investments after the integration to the European Union. Since the share of foreign direct investments from the third countries is very small in Estonia, the grants that are provided by different funds of the EU does not have significant impact on foreign investors' decisions. Increase in these types of FDIs from the present member states of the European Union is expected only if the grants are linked with the regional aid programs.

## CONCLUSIONS

The main aim of the present article was to analyse potential changes in Estonian foreign direct investment inflows in the context of integration into the European Union. Differences in the impact of regional integration on foreign investors with different motives are discussed separately.

Analysis of the data of four foreign investors' surveys that were carried out in Estonia during the period 1997-2000 suggested that about 65% of foreign investors in Estonia tend to have market-seeking nature, the share of other types of foreign investors being considerably lower. The results of the multinomial logistic regression analysis suggest that attractiveness of the Estonian market is likely to increase the flows of market-seeking and decreasing flows of natural-resources-seeking investors as compared to strategic-assets-seeking investors. The potential of the neighbouring markets is more important for all types of investors other than strategic-assets-seeking ones. Labour is a significant determinant in the case of market- and efficiency-seeking investors. Other principal components – stability and progress of transformation and infrastructure – were not significantly different from 0. Thus, there are no significant differences in the impact of these factors on the decisions taken by different groups of foreign investors.

Taking into account the results of previous analysis, it could be expected that the inflow of market-seeking foreign direct investments to Estonia will not be significantly changed after integration to the European Union. At the same time, impact of the integration on efficiency-seeking foreign investments is unambiguous. In the case of natural-resources-seeking and strategic-assets-seeking foreign investments Estonia's integration into the European Union is not likely to increase significantly the inflows of these types of foreign investments to Estonia.

It has to be considered that the above results have several limitations. Firstly, only the type of the foreign investor has been taken into account, whereas other aspects should also be considered. Moreover, the analysis covers only a small range of FDI determinants and the nature of the data sets some limits to the methods of analysis.

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