

An Analysis of Foreign Direct Investments: Inflows and Determinants

A study of the Nordic and the Baltic Countries

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This Master's Thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

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Preface and Acknowledgements

This Master thesis is the final part of the MSc in Business Administration at the University of Agder and equal to one semester of full time work.

I would like to point out the fact that many countries experience economical recession in these days and for that it was very interesting to look for different ways how these countries could enhance their economies with the help of foreign investments. Thus, the choice of topic is based on my interest in international business and investments, as well as my knowledge, which was gained through both writing publication about Chinese investments in Baltic Sea Region¹ (Finland) and Master studies in Kaunas University of Technology² (Lithuania). I have investigated country's attractiveness to FDI in my previous Master thesis, but just with index and using five years period. Master studies in Norway have provided opportunity for me to go much deeper into the topic which I was familiar from before. This thesis is extended and improved a lot by rejecting not relevant information, including relation analysis as well as extending analysis time period to ten years. It must be also pointed out, that the process of finding the most appropriate theories and research model which would be able to explain and to show country's attractiveness to foreign direct investment was quite challenging. But with the help of much work and professional support the work was done with pleasure.

Therefore, I would like to use opportunity to thank Professor Trond Randøy for the help and professional comments, which were very helpful during all the process of writing this thesis. I would also like to thank my family for support and additional motivation for reaching my goals.

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² Master degree in Economics, thesis topic "Evaluation of Country's Attractiveness for Foreign Direct Investment".

Abstract

It is more important to analyze foreign direct investments (FDI) than ever before, due to its growth effects and importance to the country's economy. During the last century it could be noticed huge changes in world's economy, where very important role is given to various forms of capital movement across different countries. One of the most important tasks for a countries' economic policy has become to attract FDI. Thus, for this and many other reasons FDI plays a significant role in the development of international trade and establishment of direct, stable and usually long-lasting links between different economies. In addition to this, the whole world FDI inflows are highly influenced by world economy conditions – when overall economy grows, then FDI inflows grows and this is reversed when the economy is in decline. In the theory section I show that the most important FDI determinants are economical conditions and stability, transportation costs, government politics, patents, property rights, market imperfection, lower risk and favorable competition, market size, labor force and production costs. My analysis showed that these determinants have strong influence for attracting FDI. The most significant relation is between FDI inflows and tax wedge on labor costs, number of granted patents, all and active population, expenditures on R&D. Moreover, in Finland, political and business environment have largest impact on inwards FDI, in Sweden – demographical and business environment, and in Norway – economical environment. Economical, political and business environment has strongest positive influence for attracting FDI in Estonia, while demographical determinants play most significant role in Latvia and Lithuania.

Content

Abstract	3
Introduction	5
1. Problem Analysis. Foreign Direct Investments in World Economy	7
1.1. FDI in World Economy	7
1.2. Nordic and Baltic Countries' FDI Role in the World Economy	10
2. Theories Analysis. Foreign Direct Investments and Their Determinants	15
2.1. Foreign Direct Investment Concept and Basic Forms	15
2.2. FDI Effect to Country's Economy	18
2.3. FDI Determinants Theory Analysis	21
2.3.1. Early Studies of Determinants of FDI	21
2.3.2. Determinants of FDI according to the Neoclassical Trade Theory	22
2.3.3. FDI Determinants according to Product Life Cycle Theory	24
2.3.4. Internationalization Theory	27
2.3.5. Determinants of FDI according to the Horizontal FDI, Vertical FDI and Knowledge-Capital Models	29
2.3.6. Determinants of FDI in the OLI Framework	30
2.4. Methodology of Foreign Direct Investments Analysis	32
3. Results and Discussion. Complex Analysis of Foreign Direct Investments in Nordic and Baltic Countries	41
3.1. Relationship between FDI Determinants and FDI Inflows in Nordic and Baltic Countries Analysis Results	41
3.1.1. FDI Inflows in Nordic and Baltic Countries	41
3.1.2. Ordinary Least-Squares Regression Analysis Results	49
3.2. Composite Estimation of Nordic and Baltic Countries Attractiveness to FDI Results	52
3.2.1. Index of Economic Environment	52
3.2.2. Index of Political Environment	55
3.2.3. Index of Demographical Conditions	58
3.2.4. Index of Business Environment	60
3.2.5. Countries' Attractiveness to FDI Composite Index	62
Findings and Recommendations	65
Literature	67
Appendices	72

Introduction

During the last centuries there have been a lot of changes in the world economy, where the capital movements across countries took an important role. Attracting foreign capital and investments have become an important task for many countries' governments. Foreign direct investments are one of the most important investments in order to establish, obtain and develop stable and long term relations between different economies.

For countries' economical development, foreign capital plays very important role, because foreign countries investments are known as one of the main factors, which have a big influence for technological and other type of knowledge transfer to country's economy. If not foreign direct investments, many developing countries would have needed much more time to reach the level of technological development, which they do have today. According to Tvaronaviciene and Grybaite (2007), Ghali (2009), Brenkeviciute (2010), Kitanov (2010) and others, FDI enable to reduce the scarcity of capital and other strategic sources, increase possibility for both companies and countries to experience faster technological development, to establish and develop complex projects, to find new market niches for services and products, overtake new and sophisticated management methods.

Baltic Sea region is the Baltic Sea states council, which consists of countries surrounding the Baltic Sea, together with Norway and Iceland. From the geopolitical point of view it could be emphasized that Baltic countries have strong political, economic, cultural and historical ties, concern for the Baltic Sea. Moreover, Nordic (Noway, Sweden, Finland, Island, Denmark) and Baltic countries have many historical ties as well, for this reason Nordic countries intensively support Baltic countries (Laurinavicius et al., 2005). According to Simanavicius (2010), one of the most important political and military factors for the Nordic countries are the security in Baltic Sea region. For this reason Nordic countries are trying to create stable security area, patronage and strengthen Baltic Countries in many different ways. Therefore, Nordic and Baltic states are partners in many international and regional forums, such as European Union and European Free Trade Association, including the Northern Dimension, NATO, the Council of Baltic Sea States and Helsinki Commission. It is quite clear that these two regions have many important interests, economical and political relations, for this reason, Nordic countries, such as Finland, Sweden and Norway; and Baltic countries, such as Estonia, Latvia and Lithuania were chosen to be analyzed in this thesis. However, these six countries from economical point of view have very different economical development level, thus it was decided to analyze these countries separately and then to compare them among each other.

Significance of choice of thesis topic. It is very clear that nowadays world economy experiences economical recession. With the reference to the knowledge that FDI help to enhance country's economical and technological development, to implement various reforms and projects in countries foreign policy it becomes very important to analyze country's attractiveness to FDI. It could be noticed that both foreign direct investments flows and attention to factors (determinants), influencing the attractiveness to FDI, during the last centuries have significantly increased. Countries attractiveness to FDI has been analyzed by using different methods as well as different countries groups. Gricic and Babic (2003) have evaluated transition countries attractiveness to foreign investments by analyzing and interpreting different FDI attractiveness enhancing factors. This research have analyzed fifteen transition economies countries and among them, Estonia, was in the fifth position, according to its attractiveness to FDI, Latvia – seventh and Lithuania – eleventh (Finland, Sweden and Norway are referred to developed economies countries and were not included in mentioned analysis). Groh and Wich (2009) conducted composite evaluation of 127 world countries attractiveness to FDI. Among analyzed 127 countries from all the world in Nordic and Baltic regions most attractive was Finland, 5th in the rating, and least attractive was Latvia, 31st in the rating (Sweden – 7th, Estonia – 9th, Norway – 20th and Lithuania – 28th from 127 analyzed countries). Moreover, different type of indices are also calculated and presented by different organizations, which describes different countries' inward FDI performance. Thus, in order to have more stable economy it is very important to analyze different incentives and to know most important factors which enhance foreign capital attraction to the country, at the same time enhancing country's economy and its development.

Thesis' object – foreign direct investments inflows and foreign direct investments determinants.

Thesis' goal – to answer two following research questions: *do FDI determinants affect FDI inflows to the host country?* And *which determinants have the biggest influence for countries attractiveness to FDI?*

In order to answer these two research questions this thesis covers FDI in world economy, FDI concept, FDI effect to country's economy and basic FDI determinants theories analysis. It is also analyzed relationship between FDI inflows and FDI determinants, and attractiveness to FDI in selected Baltic and Nordic countries. From the package of information and findings the recommendation are made at the last part of thesis.

1. Problem Analysis. Foreign Direct Investments in World Economy

In this section it is showed how foreign direct investment might be important for the domestic economy. During the last years the globalization of various economical process change foreign trade to the capital movement across different countries, which at last periods has a huge influence for international goods, services and technology flows changes and structure. Nevertheless the biggest attention is paid to the biggest, most developed and richest world countries, regions and economies, but the attention should be also paid to the smallest ones. There is done in this part of thesis the importance of FDI in the world economy as well FDI importance analysis in selected Nordic and Baltic countries.

1.1. FDI in World Economy

There are many articles (Tvaronaviciene and Grybaite (2007), Ghali (2009), Brenkeviciute (2010), Kitanov (2010) et al.), which analyze FDI influence to countries economy. According to Laskiene (2010), FDI enable country to reduce the scarcity of capital and other strategic sources, increase possibility for both companies and countries to develop various technologies much faster, to develop and implement various projects, to find new market niches for products and services as well as to take over the most recent methods of management and work organization.

In this part of work it is analyzed all the world foreign direct investments' amount as well as their fluctuation and significance. Thus it could be seen from the Figure 1 that during the period of eleven year (from 2000 to 2010) foreign direct investment have had a tendency for strong fluctuation.

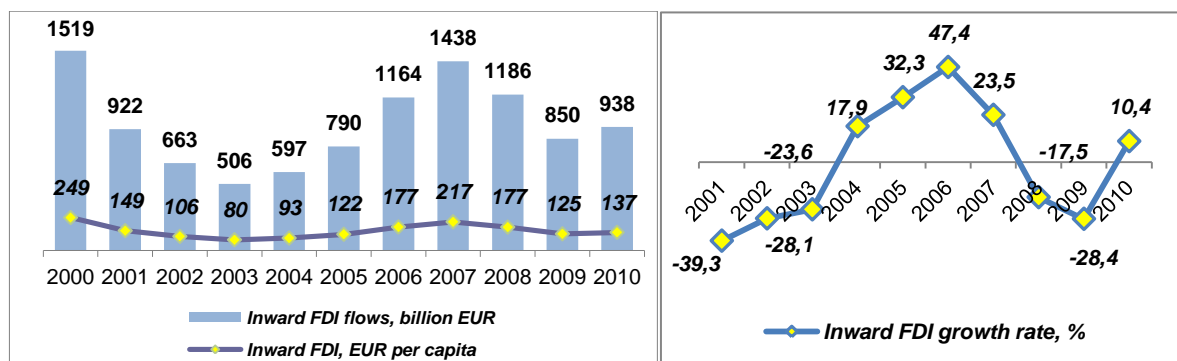


Figure 1. Inward FDI in the World, 2000-2010

Source: made by author, according UNCTAD

During the analyzing period, from 2000 to 2010 the highest inward FDI was in 2000 – 1519 billion euro and the lowest level is found in 2003 – 506 billion euro. The biggest decrease during the analyzed period was from 2000 to 2001 when inward FDI in world has decreased almost 40 percent. Nevertheless from 2003 to 2007 FDI had tendency to grow up and from 2003 to 2007 increased 932 billions of euro. During this five years (2003-2007) period the highest increase was from 2005 to 2006 – more than 40 percent. According to the Economist (2011), this huge increase was due to fast growing mergers and acquisitions (M&A) number between different countries. This investment increase was especially big in developed countries, where FDI increased during one year period more than 50 percent, at the same time in emerging markets this increase was just 20 percent (the Economist, 2011). After this sharp increase, from 2007 inward FDI in all the world have started to decrease and as the reason for this the Economist (2011) names decrease of M&A number in all the world as well as financing requirements, which became more stricter due to world economical recession. Thus world inward FDI have decreased from 2006 to 2009 around 27 percent and the reason for this decrease was the sharp FDI sources – M&A number, increased interest rates in all the countries, increased fluctuations and uncertainty in world financial markets (Economist, 2011). Nevertheless from 2009 to 2010 it could be seen increase in inward FDI more than 10 percent. According to World Investment Report 2011 (2012) it is expected that FDI will recover to its pre-crisis level in 2011 and approach its 2007 peak in 2013 (WIR, 2011).

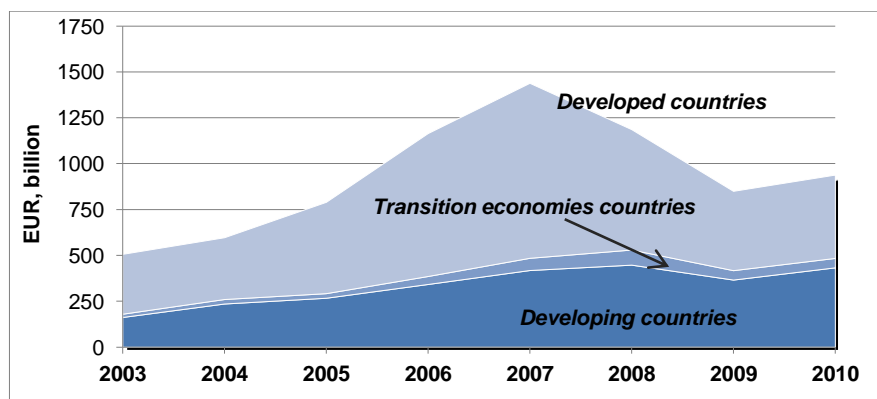
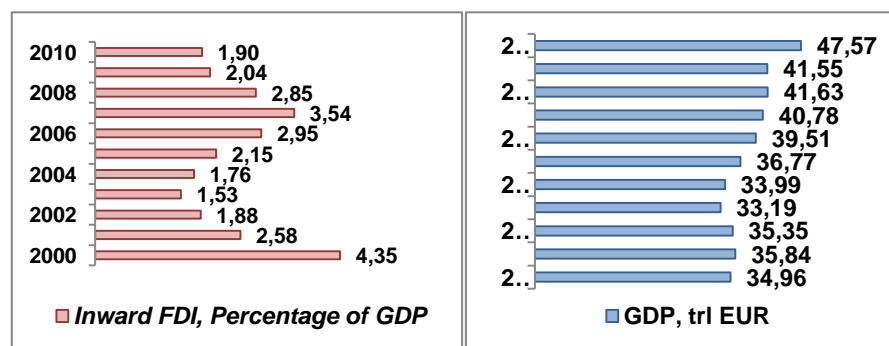


Figure 2. Inward FDI according to the Biggest Country Groups
Source: made by author, according UNCTAD

In the Figure above it is presented FDI inflows according to the main country groups. From 2003 to 2009 FDI inflows in developed countries were more than 50 percent higher than in transition and developing countries together. In 2010, for the first time (according to WIR 2011) developing and transition economies together attracted more than half of global FDI flows. Among the developed countries most FDI attracted USA (more than 100 million US dollars), Belgium, Germany, United Kingdom. USA and Germany had a more robust economic recovery, resulting in

strong growth of reinvested earnings, which increased more than threefold compared with the 2009 level in both economies (WIR 2011). According to provided data, in 2010 developing countries have attracted 433 billion euros what is 67 billions more than in 2009. According to UNCTAD data, transition economies have attracted the same amount in 2010 as in 2009 – 51 billion euros.

According to Rupliene (2009), Brenkeviciute (2010), The Economist (2011), foreign direct investment are known as one of the most important countries macroeconomic indicators. This type of investments are more important to the country’s economy than portfolio investments, because in the case of foreign direct investment investors are willing to invest to the country in the long ran. Also it was noticed that it is much more difficult to step back from the country for foreign direct investments than for other type of investments. Moreover, it was proved by empirical researches that foreign direct investments has a huge positive impact for gross domestic product, investments in production as well as for unemployment level in country (Rupliene, 2009). FDI in the world gross domestic product (GDP) as well as world GDP from 2000 to 2010 are presented in the Figure bellow.



*Figure 3. World FDI Inflows Part in World GDP and World GDP Data
Source: made by author, according to UNCTAD*

According to the Figure 3, during the eleven years period FDI in the world GDP had the biggest part in 2000 - more than four percent, when world GDP was almost 35 trillion euros. From 2000 until 2003 FDI percentage in world GDP decreased to 1,53 and was the lowest percentage during all analyzed period. Added to this it could be said that world GDP in 2003 was the lowest during analyzed period. Until 2007 it has increased both FDI percentage in GDP as well as world GDP amount. World GDP in 2008 have continued to grow, in 2009 decreased, but in 2010 increased again by more than six trillion euro comparing with 2009. It also should be mentioned that FDI part in the world GDP have continued to decrease from 2007 to 2010. This FDI decrease in the world economy was due to world economy recession. Because of this economy recession in most countries have become more difficult to get various types of credits, during these years most companies also got much lower profits (many companies bankrupted or had a loss). Moreover in recession period consumption dramatically decreased, because many companies reduced production

what influenced increased unemployment rate, decreased capital expenditures and all these named factors had an influence for both FDI and GDP amounts in the world economy.

To sum up foreign direct investment in the world economy analysis, it could be said that foreign direct investment depends on all world economy, that means that when economy grows FDI amounts grow as well, and vice versa – if world economy decrease FDI amounts in developed, transition economies and developing countries decrease as well. During world FDI analysis it was also found that most part of FDI inflows attract developed countries.

1.2. Nordic and Baltic Countries' FDI Role in the World Economy

Before analyzing north and east Baltic Sea regions foreign direct investments in world economy it is necessary first to describe the concept of mentioned regions and reason why these two regions must be analyzed separately. Thus, in the context of political and historical changes Baltic sea region definition have changed a lot and for this reason there are many different explanations and understandings. Baltic region, is the Baltic Sea states council, which consists of countries surrounding the Baltic Sea, together with Norway, Iceland. From the geopolitical point of view it could be emphasized that Baltic countries have strong political, economic, cultural and historical ties, concern for the Baltic Sea. Moreover Nordic (Norway, Sweden, Finland, Island, Denmark) and Baltic countries have many historical ties as well, for this reason Nordic countries intensively support Baltic countries (Laurinavicius et al., 2005). According to Simanavicius (2010), one of the most important factors for the Nordic countries are the security in Baltic sea region, for this reason Nordic countries are trying to create stable security area, patronage and strengthen Baltic Countries in many different ways. Therefore, Nordic and Baltic states are partners in many international and regional forums, such as European Union and European Free Trade Association, including the Northern Dimension, NATO, the Council of Baltic Sea States and Helsinki Commission. It is quite clear that these two regions have many important interests, economical and political relations, for this reason it will be analyzed chosen Nordic countries: Finland, Sweden and Norway and Baltic States - Estonia, Latvia and Lithuania. Nevertheless many economical, political and other relations these six countries have very different economical development level (see Figure 4).

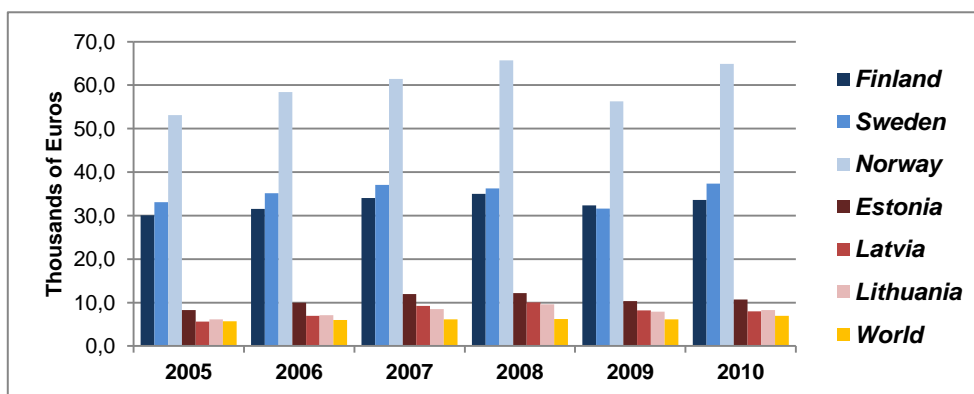


Figure 4. Nordic and Baltic States GDP per capita

Source: made by author, according to UNCTAD

Gross domestic product per capita shows relative performance of the countries as well as each individual's wealth in the analyzed countries. It is clear from the Figure 4, that GDP per capita is much higher in Nordic countries: Finland, Sweden and Norway (the number of people in these countries is also much higher than in Baltic States). Estonia, Latvia and Lithuania have significantly lower GDP per capita than Nordic countries. Nevertheless all Baltic countries have higher GDP per capita than world GDP per capita. During all analyzed six years period from 2005 to 2010 the highest GDP per capita was in Norway and in last analyzed 2010 years was almost 65 thousands of euro.

In order to evaluate Nordic and Baltic countries input to whole world economy it is provided in the Figure 5 Nordic and Baltic States' FDI inflows percentage in all world FDI inflows.

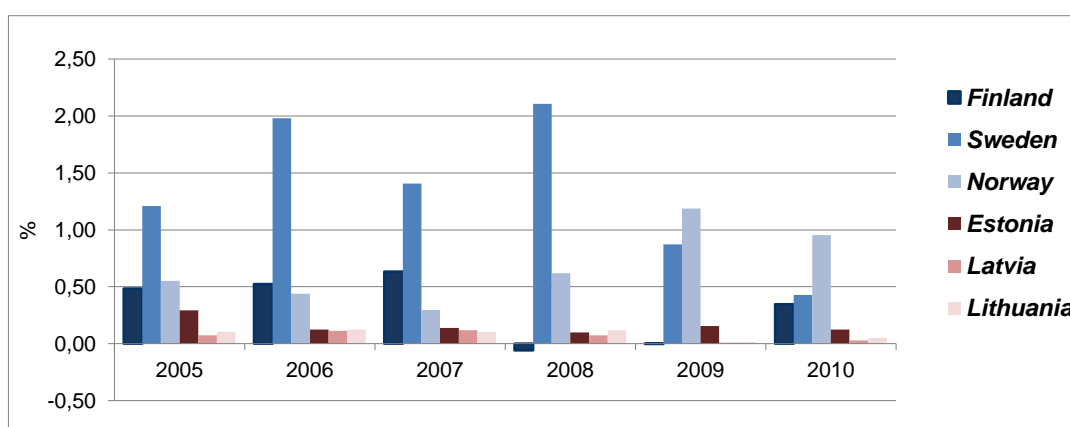


Figure 5. Nordic and Baltic Countries' FDI Inflows Part in World FDI Inflows

Source: made by authors, according UNCTAD

According to the Figure 5, all analyzed countries during presented six years period had very small input to world FDI inflows – the percentage of countries inward FDI in world FDI inflows was lower than two percent. Nevertheless, most FDI to their economy have attracted Nordic countries and among them – Sweden. Baltic countries' inward FDI in world economy were much

lower than Nordic countries. Finland in 2008 had negative percentage which was influenced by negative FDI inflows to the country (Negative values of FDI inflows for a particular year show that the value of disinvestment by foreign investors was more than the value of capital newly invested in the reporting economy (UNCTAD, 2012)).

In order to have more detailed analysis of Nordic and Baltic states in world economy it was also chosen to analyze Inward FDI Performance and Potential indices. Noticeable that, according to the newest World Investments Report (2011) data, Inward FDI Performance Index is provided for 2010, but Inward FDI Potential for 2009. Thus, according to UNCTAD (2012), *Inward FDI Performance Index* ranks countries by the FDI they receive relative to their economic size. It is the ratio of a country's share in global FDI inflows to its share in global GDP. The value greater than one indicates that country receives more FDI than its relative economic size is, and has higher rank among 141 countries (see results in Table 1).

Table 1. Inward FDI Performance and Potential Indices in Nordic and Baltic Countries

INWARD FDI PERFORMANCE INDEX (2010)		INWARD FDI POTENTIAL INDEX (2009)	
Nordic Countries	Rank	Nordic Countries	Rank
Norway	58	Norway	9
Finland	85	Sweden	13
Sweden	109	Finland	17
Baltic States	Rank	Baltic States	Rank
Estonia	23	Estonia	31
Lithuania	90	Lithuania	40
Latvia	100	Latvia	59

Source: made by author, according to World Investment Report (2012)

According to the Table 1, among analyzed Nordic countries the highest Inward FDI Performance index in 2010 had Norway (58) and among Baltic countries – Estonia (23). Thus, it could be claimed that these countries are attractive for FDI according analyzed index, and this could mean that Norway and Estonia have relatively favorable legal framework, well-managed macroeconomic tools, or/and have an efficient and characterized by low cost business environment, skilled workers, good research opportunities, modern infrastructure, efficient financial support. Also it could be mentioned that according this index the lowest rank in 2010 had Sweden – 109 among 141 UNCTAD analyzed countries. *Inward FDI Potential Index* captures several factors (apart from market size) expected to affect an economy's attractiveness to foreign investors. It is an average of the values (normalized to yield a score between zero, for the lowest scoring country, to one, for the highest – the higher score the higher rank among 141 UNCTAD analyzed countries) of twelve variables. Among all six analyzed countries in 2009 Norway, Sweden and Finland

economies were most attractive for foreign investors. Among Baltic States, most attractive in 2009 was Estonia, least – Latvia.

Conducted analysis of Nordic and Baltic countries' inward FDI part in world FDI inflows as well Inward FDI Performance and Potential Indices analysis let us make assumption that these two regions from economical point of view are far away from each other or in other words – have very different level of economical development.

To sum up foreign direct investments' importance in world economy analysis it was found:

- World FDI inflows in the period of 2000-2010 have strongly changed. During mentioned period the highest level of FDI inflows in world economy was in 2005 – 1,5 trillion euros, in 2003 have decreased dramatically (compared with 2000) to 0,5 trillion euro, in 2007 reached 1,4 trillion but after these years experienced strong collapse again in 2009, but from 2010 it could be noticed slight recovery.
- Developed and developing countries have attracted most part of world FDI inflows from 2000 – to 2010. The highest level of FDI in world GDP were in 2000 and 2009 – around four percent, in 2010 FDI inflows in world economy were much lower – less than two percent.
- Mentioned FDI decrease in the world economy was due to world economy recession, when it was significant decrease in number of major sources of FDI flows - mergers and acquisitions between foreign countries as well as strongly increased the interest rates in all countries, volatility and uncertainty in global financial markets.
- For the further analysis it was chosen six Nordic and Baltic countries, where from Nordic region it was chosen Finland, Sweden and Norway and from Baltic region – Estonia, Latvia and Lithuania.
- During GDP per capita and FDI part in whole world FDI inflows analysis it was found that the level of economical development is very different in Nordic and Baltic reagions, thus for this reason it is more appropriate to analyze Nordic countries (Finland, Sweden, Norway) and Baltic states (Estonia, Latvia, Lithuania) separately, in order to obtain more accurate analysis.

It was also found, that foreign direct investments are known as one of the most important country's macro economical indicators (Rupliene 2009, Brenkeviciute 2010, The Economist 2011). Moreover it was improved by empirical researches (Rupliene, 2009) that foreign direct investments' entrance to the country gives positive affect to GDP growth, investments to production and unemployment decrease. There are many authors who have analyzed FDI affect to country's economy as well as different FDI determinants (Grybaite, 2007; Ghali, 2009; Kitanov, 2010; et al.), but it was not found any researches or other academic works which analyzes Nordic

and Baltic countries' FDI with complex methods. For this reason it was decided to conduct FDI determinants analysis first, then to find relation between FDI determinants and FDI inflows and last to evaluate FDI determinants' influence for FDI attractiveness in selected country. To establish this, first it is necessary to study carefully literature and then to develop research model that to answer to research questions, and this is done in the following part of thesis.

2. Theories Analysis. Foreign Direct Investments and Their Determinants

This part of thesis represents basic foreign direct investments theoretical aspects, which includes foreign direct investment concept, basic forms, effect for country's economy, FDI determinants theories analysis as well as methodology of these determinants valuation.

2.1. Foreign Direct Investment Concept and Basic Forms

Analyzing *foreign direct investment concept* it was found that different sources provide different types of FDI definition. Different authors and sources definitions are provided in the Table below.

Table 2. Foreign Direct Investments Definitions

SOURCES	FOREIGN DIRECT INVESTMENTS DEFINITIONS
Pilinkiene V., <i>International Economical Relations</i>, 2008	Foreign direct investments – it is long-term capital injections in the form of ownership to a foreign company controlled by investor.
Ginevicius R., Rakauskiene O., Romualdas P., Tvaronaviciene M., Kalasinskaite K., Lisauskaite V., <i>Export and Investments Expansion in Lithuanian Economy</i>, 2005	Foreign direct investments – a foreign takeover of the company or the company itself in a foreign state, which establish a subsidiary company.
Langviniene N., Vengrauskas P., Žitkiene R., <i>International Business</i>, 2004	Foreign direct investment is a foreign capital to production and nonproduction objects, which forms the basis for long-term relationships and interests between foreign investors and companies making an investment.
Navickas V., <i>European Union Markets</i>, 2008	Foreign direct investment - it is such an investment, which forms the basis for long-term economic relations and interests between the direct investor and direct investment enterprises
Organization of Economical Cooperation and Development, http://www.oecd.org	Foreign direct investments defined as an investment, which forms the basis for a foreign direct investor and direct investment company long-term relationships and mutual interests

Sources: made by author, according to sources provided in the table

In addition to table above, Dunning FDI definition claims, that FDI is company's long term investment process in foreign country (Margardt, 2009). According to the International Monetary Fund methodic, European Union Statistical Committee and Organization of Economical Cooperation and Development methodical guidance *foreign direct investments* are such an investment, which forms the basis for long-term economic relations and interests between foreign direct investors and direct investment enterprises (OECD, 2012). In other words, this is a long-term loans or capital injections in the form of ownership to a foreign company controlled by investor. Ten percent or more of ordinary shares or voting rights is generally considered a lower limit under which a foreign direct investor has the opportunity to participate in the management of direct investment enterprise.

It is also should be noted that foreign direct investment is not only the initial capital investment, but also all subsequent transactions between a foreign investor and the investment company. Organization of Economical Cooperation and Development provides FDI calculation model provided bellow in Figure 6.

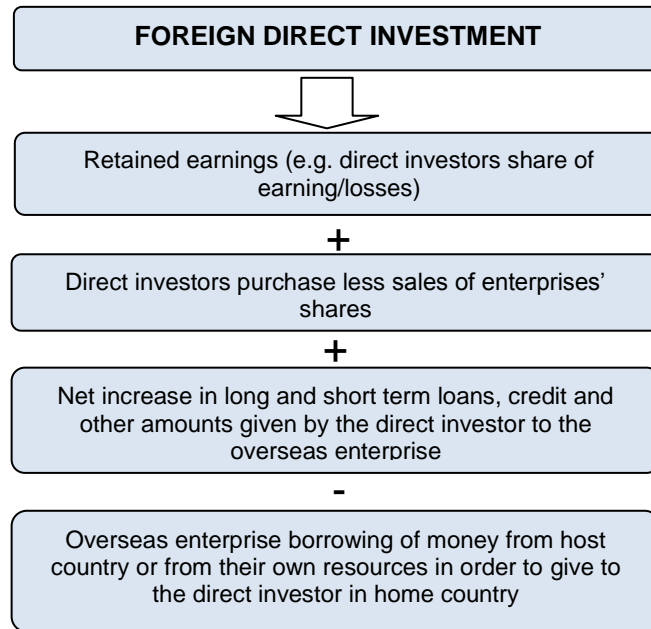


Figure 6. Procedure for Calculating FDI Flows
Sources: OECD

In many definitions provided above it could be noticed many similarities, but one of the most noticeable similarity is that different authors and different organizations describes FDI as a long-term investment relations between two interest groups, where one of them is necessary a foreign entity. All provided definitions are quite clear and complement each other, nevertheless in this thesis it will be used OECD provided FDI definition, which includes all main facts from all provided definitions, which were found during analysis. This definition claims that FDI is such kind of investment, which forms the basis for a foreign direct investor and direct investment company long-term relationships and mutual interests (OECD Benchmark Definition of Foreign Direct Investment, 1999). It is also worth to mention that every country defines and calculate FDI flows different, thus in order to maximize the reliability of FDI flows for all analyzed countries will be used one OECD database, which collects and provide data according to the methodology provided in the Figure 6.

Foreign direct investment forms – it is foreign countries’, international organizations’, foreign individuals’ and legal persons’ way in which they invest their capital in another country (OECD, 2012). It could be met different FDI forms’ distributions in different sources, but in Figure 7 is presented Navickas (2008) suggested FDI forms’ distribution.

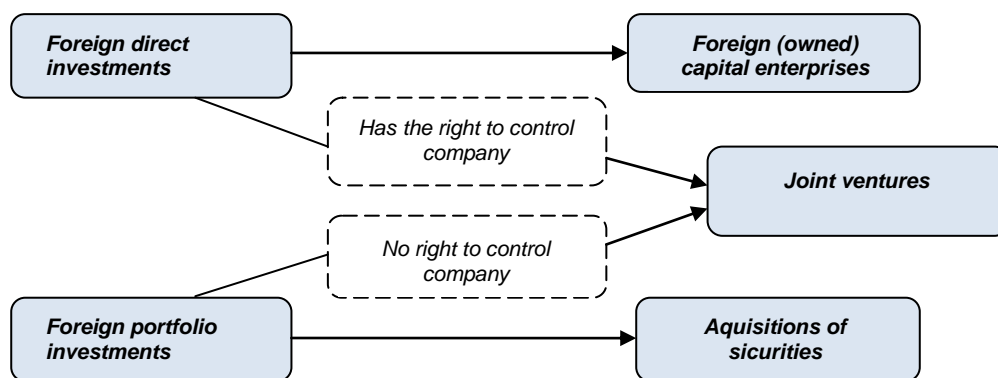


Figure 7. Foreign Direct Investments Forms

Sources: made by author, according to Navickas (2008)

According to the Figure 7, main FDI forms are foreign capital companies, joint ventures and portfolio investments – acquisitions of securities and joint ventures (the difference between FDI and portfolio investments is that in portfolio investments the owner does not get the right to control the company) (Navickas, 2008).

According to UNCTAD (2011), FDI forms could be different according to investments direction: *inward* and *outward*; according to investor goal: *greenfield investments*, *mergers* and/or *acquisitions*, *horizontal FDI*, *vertical FDI*; and according to investor motivation (which usually is silent): *strategic asset*, *sources*, *market* and/or *productivity seeking FDI* (Gao and McNicol, 2008). Last three forms of FDI according to the different literature could be described as follow: *market seeking investments* are highly important to those companies, which seek to entrench in the large foreign market; *productivity (effectiveness) seeking FDI* – the form of foreign investments, which is chosen because of lower labor and/or production costs; *sources seeking FDI* – are trying to get competitive advantage by using host country’s recourses (Rajan et al., 2008). But according to Pilinkiene (2008), most often in the literature could be met following forms of FDI: greenfield investments, purchase of foreign companies or branches, joint ventures, foreign capital companies. The main advantages and disadvantages of these four FDI forms are presented in Table 3.

Table 3. Advantages and Disadvantages of Different Forms of FDI

FDI Form	Advantages	Disadvantages
Greenfield investments	<ul style="list-style-type: none"> ✓ No need to search for business partners; ✓ Much easier to create new strategy and politic for new company ; ✓ Establishment of new work places. 	<ul style="list-style-type: none"> ✓ Difficult to enter the market; ✓ Scare information about market’s micro- and macro environments; ✓ Needed more time from investment to profit; ✓ Cultural differences.
Purchase of foreign companies or branches	<ul style="list-style-type: none"> ✓ Fast takeover of purchased company’s structure, asset and control; ✓ Company already has personal (workforce), patents, licenses or other documents needed for operation 	<ul style="list-style-type: none"> ✓ Lack of information about host country’s micro-macro environments; ✓ Need for huge investments; ✓ Huge efforts for finding suitable company; ✓ Possible conflicts with companies personnel.
Joint ventures, M&A	<ul style="list-style-type: none"> ✓ Possible financing sources from host company capital; ✓ Partner from host company are able to provide much information about branch, market ect. 	<ul style="list-style-type: none"> ✓ Difficult to find relevant partner; ✓ Possible conflict between partners due to organizational, marketing, financial or other issues.

Source: made by author, according to Pilinkiene (2008)

Foreign direct investments forms provided in Table 3, enable companies to keep the control in host companies and at the same time to increase their profit margins. Nevertheless foreign direct investments are much more risky and complicated form of investments than other internalization forms. By choosing FDI companies much often have higher political and economical risk as well as possible huge losses in case of currency fluctuations (Pilinkiene, 2008). Thus FDI effect to country's economy is presented in the next section of thesis.

2.2. FDI Effect to Country's Economy

Foreign investments are often known as a key factor for economic growth in both small and large countries as well as developed and developing countries. While analyzing FDI it is also important to know what kind of effect FDI could have to the country's economy. Host and home countries relations often could be very different. On one hand host country accepts and appreciates foreign investments, but on the other hand they are also afraid that foreign countries will start to dominate in their country. During these days it could be met more and more doubts for positive FDI effect to host country's economy (Kitanov, 2010), due to this it is very important to discuss about both positive and negative FDI effect to the host country economy (see Figure 8).

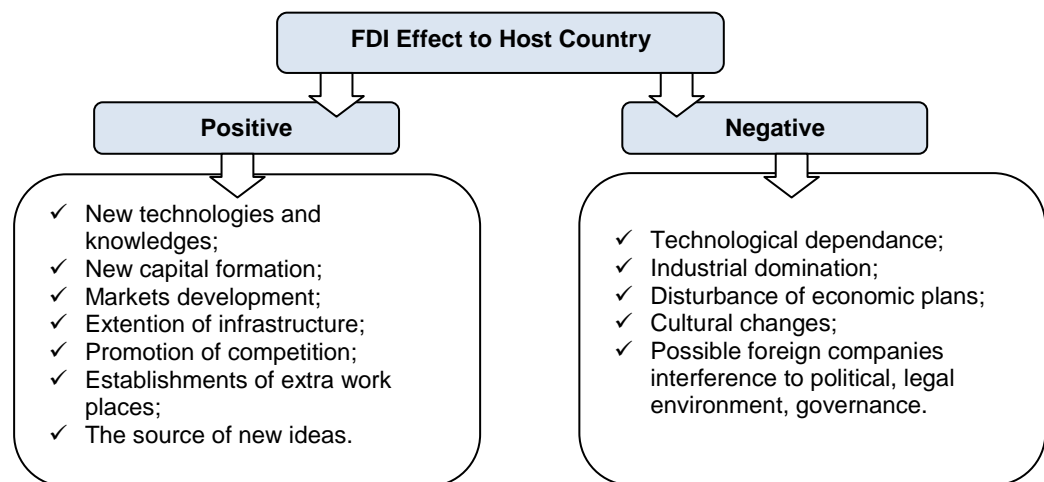


Figure 8. Foreign Direct Investments Effect to Country Economy
 Source: made by author, according to Pilinkiene (2008) and McGRATH, (1999)

To discuss more precise the **positive effect** to the country economy it could be said that host country together with FDI also gets ***new technologies and knowledge***. According to Pilinkiene (2008), it was pointed out by different researches that with the help of foreign direct investment companies get modern technologies as well, what enable not profitable companies to get profits and to develop their business. ***New capital sources*** - advanced companies are investing capital more efficiently, trying to use their funds for the other most progressive companies. One more positive

effect provided in Figure 8 is *markets development*, which is influenced by foreign direct investments. Foreign capital companies are more interested and orientated to exports of goods and services, by using their international network and experience as well as global thinking. These mentioned factors have a huge influence to export development what has strong and positive effect to both company and host country's market development (Pilinkiene, 2008; McGRATH, 1999).

Extension of infrastructure is added to the positive effect from FDI, because FDI together with foreign capital also bring to the company and country business relations with the foreign banks and international financing institutions. All these factors enable host country to improve balance of current account and at the same time improve country's position in the foreign markets. Successful investments also increase taxes income to the country budget (McGRATH, 1999).

Promotion of competition – according to Pilinkiene (2008), FDI in company level increases competition, productivity and decreases price level. It is included in more intensive competition new technologies, products and services as well as new ideas. Higher productivity in the company mostly means that private company starts to provide better services for the lower prices, what also encourage for already existing companies to improve their services and goods, to reduce prices in order to keep their clients and increases competition in country level as well.

New work places – is one of the most important factors for foreign direct investments in country. It was improved by researches, that even in these countries, where after entering FDI reduces work places in the long run foreign companies introduce more new work places. It is quite often that in international companies salaries are higher than in home based companies, also there are more possibilities for qualification improvements what also improves labor productivity and quality as well. The last positive FDI effect named in Figure 8 is that FDI is a source of *new ideas*. New ideas, according to McGRATH (1999) is especially helpful in these sectors which are known as strategic and has a huge experience but not much innovation in their business.

Authors Faras and Ghali (2009) also claims that FDI encourages sustainable growth of certain economical sectors, by targeting investments to the less attractive economical activities and diversify the existing economic base, which ensures the future growth of productive capital.

On the other hand FDI could have a *negative effect* at both company and country level as well. According to the Figure 8 – technological dependence, industrial domination, disturbance of economic plans, cultural changes and possible foreign companies interference to political, legal environment, governance. According to Pilinkiene (2008), it is quite often case that host company (country) become *technological dependent* from the foreign company or country. At the same time foreign companies by doing scientific researches use host country's people's knowledge, ideas, increase "brain drain" and negatively effects country's culture.

Brenkevičiute (2010), presents as one of the possible negative effects to the country from FDI – possible foreign companies or/and countries *interruption to the host country governance* and *dependence* on foreign investments. Also same author notices that there is a possibility that host country's citizens could not feel the benefit of FDI, because they “sank” in the government or foreign company. Added to this, foreign direct investments could also lead to disagreements with wages, commodity prices and foreign investors' involvement in government activities. Glass and Saggi (1999) also claim that FDI could *displace local producers* from the market by replacing them with the foreign producers and suppliers. Foreign capital companies can also reinvest in the same or related industries to broaden their already existing market share (sometimes to monopolize market). Drabek and Griffith-Jones (1998) notice one more negative FDI aspect – country's currency supply and consumption increase, which could be influenced by foreign capital flows. According to the authors, mentioned factors influence import growth and *increase inflation* as well as increase *country's foreign debt* and *negative country's production balance*.

Theory analysis of FDI effect to the host country economy showed that foreign capital transfer from one country to another can have different influence to economical development: in one sectors or industries FDI can help for economical development and growth, to improve activity and productivity of local companies, but in the other sectors FDI could decrease these positive changes. Nevertheless it is needed to stress out that countries which have scarce financing abilities do not pay attention to the negative sides of FDI and promote them in different ways. By development of their economic policies countries often fail to see that FDI entrance into the country's economy is determined by many different factors. Brenkevičiute (2010) claims, that there is no one opinion, what effect FDI has for the host countries economical growth and development. These argues mostly are due to the fact that this effect is calculated and evaluated by using different processes, methods and assumptions.

To sum up it could be said that FDI plays an important role in enhancing competition, developing a national economy, improving business conditions and raising the quality of labor and infrastructure. These factors might also have influence on education, science systems in the host country and for these changes might also have an influence not just on marketing and culture, but also on individual industries productivity, contribution to GDP. Foreign investments also has a huge influence to local demand structure, because these investors usually have much higher quality requirements for their business partners and force them to the faster improvements. Thus it could be said that FDI usually tend to have a big influence for country's economy and are widely analyzed all over the world. In the next part of thesis it is done different FDI theories analysis in order to know basic determinants which influence foreign direct investments attraction to the country.

2.3. FDI Determinants Theory Analysis

2.3.1. Early Studies of Determinants of FDI

One of the first studies, who discussed about foreign direct investments' determinants mostly were based on various questionnaires, where different companies were asked to name main reasons why they have chosen exactly one or another country to invest in.

One of the first authors, who have analyzed determinants of FDI, was H.J. Robinson (Feath, 2009). This author in his book published in 1961 introduced research results, analyzing 205 companies. In this research H.J. Robinson have tried to find what are the main determinants which have influence on decision to invest abroad and what are the most attractive foreign environment, which encourage invest abroad (Robinson H.J., 1961). Moreover, most early studies of determinants of FDI were done in USA. Later were analyzed USA investments in foreign countries (Australia, New Zealand, Great Britain and Ireland). Moreover, mostly studies looked at a variety of factors, which includes marketing and costs factors, trade barriers and investment climate (Feath, 2009). This author also says that not only marketing factors, in particular market size, market growth and maintaining market share, but also dissatisfaction in various existing market conditions also were one of the main determinants of FDI. Nevertheless, costs factors usually related to the availability of labor and raw materials, lower production costs, financial support by the local governments, were seen as equally important (Feath, 2009). According to Basi (1966), political stability was one of the most important determinants for foreign investments as well as stable currency and positive attitude to foreign investments. Wilkins (1970) studies showed that local competitiveness and lower costs were the main determinants, which influenced US manufacturing companies invest in foreign countries (Faeth, 2009). Also according Cegyte and Miecinskiene (2009), one of the first FDI determinants studies were made by S.H. Hymer in 1960. During these studies was found that local companies have more advantages than foreign companies in local markets due to better knowledge about local market. For this reason foreign companies must have competitive advantage in the areas in case to get profit in foreign market (Cegyte and Miecinskiene, 2009).

According to Manolopoulos (2010), first FDI studies mostly have analyzed companies' ownership advantages, which have influence for companies ability to enter a new market and ability to reduce production or other kind of costs. Thus Manolopoulos (2010) states that the first studies on FDI determinant mostly were based on various companies' internal factors. However Dodge (2006) states that first studies of determinants, which influence FDI were forced by rapidly changing world economical situation (external determinants). Theses determinants, according to the

author, were constantly changing world various goods and services demand, currency fluctuations, habits of manufacturing and consumption as well as foreign trade.

Summing up it could be said that first FDI studies mostly were about USA foreign investments in foreign countries. Different authors have analyzed both microeconomics and macroeconomics determinants, which encourage to invest in foreign countries. Among macroeconomic determinants were companies' marketing campaigns, manufacturing and other operating costs. Microeconomics factors mostly were named as followed: investment climate in target country, market size, accessibility to scarce resources, financial subsidies from governments, political situation in country, competitiveness and currency stability.

2.3.2. Determinants of FDI according to the Neoclassical Trade Theory

Having in mind the early theoretical models, one of the first attempts to explain FDI was based on the Heckscher-Ohlin model of the neoclassical trade theory where FDI mostly were understood as a part of foreign trade (import and export)³. According to Feath (2009), Heckscher-Ohlin theory was based on 2x2x2 equilibrium model with two countries (home and foreign), two factors of production (usually labor and capital), and two goods. There were made assumptions that exists perfect competitive goods and labor/capital markets in this theory as well as no transportation costs. There were also made stress in this theory that countries differ between each other according to the ability to produce goods or to provide services – what reflects on products and services prices. In other words it could be said that countries, which have more capital sources will produce and export capital-intensive goods. In case of lack of goods in foreign countries, country-producer export capital abroad, where return on capital is much higher, on labor – lower, and this situation will continue until prices in both countries will become equal (Feath, 2009).

According to Pilinkiene (2008), the main Heckscher-Ohlin model principal is that country has comparative production advantage in that goods production, where it uses comparative abundant country's sources. It is provided in Figure 9 five main assumptions, according which is based Heckscher-Ohlin model.

³ *Heckscher-Ohlin model principles were formed by two swedish economists: Eli Heckscher (1899-1979) and Bertil Ohlin (1879-1952)*

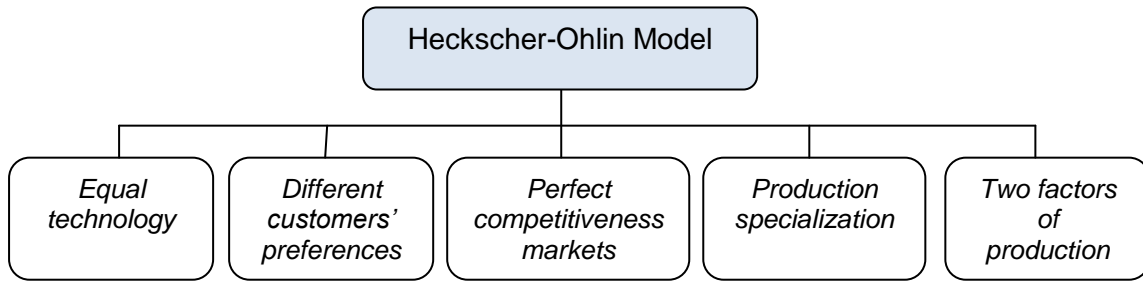


Figure 9. Basic Heckscher-Ohlin Model Assumptions
 Sources: made by author, according Pilinkiene (2008)

According to the Figure 9, first assumption claims that for all producers it is available *same (equal) technology*. When all the companies have the same technology then it becomes easier to eliminate costs advantages, which usually has company with the newer more developed technology. Second assumption tells that *different customers needs* there is not taken into account. According to Pilinkiene (2008), it was though at that time that trade relationships having countries mostly have very similar histories, economies, development level, living conditions as well as customers` needs also are very similar. Third assumption tells that there is *perfect competitiveness* in markets. Competitive market is often associated with the concept of perfect competition model. According to this model, each participant in this marker accept goods or services` prices and none of this market participants could not make any influence to the prices – the price could be determent just by all participants together. Nevertheless, it is claimed that is almost impossible to exist for such kind of market. In other words, competitive market is such market where neither manufacturer nor customer could not have any influence to the products or services` price, thus for monopoly or oligopoly market this analyzed model is not suitable (Pilinkiene, 2008). According to the forth assumption, goods` for export alternative costs used to grow because of *production specialization*. Finally, according to Pilinkiene (2008), last fifth assumption claims that company for production uses just *two factors* – *work and capital*, what is very restrictive assumption.

Heckscher-Ohlin model is often met in economical literature as well as in many empirical researches. Well known Russian economist Wassily Leontief (long time lived and did researches in USA) analyzed USA foreign trade links in 20th century`s sixth decade. He concluded his research that USA is relatively capital rich country. Then according to the Heckscher-Ohlin model USA should produce and export capital abundant goods and import work abundant goods. W.Leontief found that during certain historical periods there was opposite situation in USA – this country has exported work abundant products and has imported capital abundant products (Pilinkiene, 2008).

MacDougall model, which is also assigned to neoclassical FDI theories is based by Hibson (1914), Jasay (1960), MacDougall (1960) and Kemp (1964) theoretical models, where assumption

is made that exists full market employment, perfect competition, constant return to scale, but one product and two factors of production (Feith, 2009). There were believed in this model that capital used to move to that country where is possible to get higher capital return. However, countries are able to manipulate capital returns and flows by imposing different kind of taxes on transportable capital and at the same time to increase local people welfare (Feith, 2009). Aliber (1970) have expanded model by stating that capital is moving due to different capital return in different countries and at the same time claimed that these differences appears because of difference in capital endowments and currency risks. According to Feith (2009), companies which are in the richer countries and have stronger currency (also this currency used to have lower fluctuation) used to borrow money from countries with “softer” currency, because usually in this type of country, companies have lower interest rate due to their lower risk structure. Because of the mentioned reason companies are more willing to invest in such foreign countries where they could have higher profit margins (Feith, 2009). Moreover it is also worth to mention, that Hymer (1976) and Kindleberger (1969) were one of the first authors, which have criticized neoclassical theory because this theory was not able to explain FDI flows. Mentioned authors, claimed that assumption that says that there exist perfect completion in market could not explain FDI, because FDI requires imperfect competition in market (Feith, 2009).

To sum up this theory it could be said that Heckscher-Ohlin and MacDougall models were significantly important for neoclassical theory of trade and foreign investment. Thus, according to neoclassical theory, the biggest influence for FDI attractiveness has expected capital return, necessary capital inputs (willing to invest in foreign country), currency risk and existing market imperfections.

2.3.3. FDI Determinants according to Product Life Cycle Theory

This theory explains international production and investment – opposite to neoclassical theory, which has not explained mentioned factors. International product life cycle theory⁴ claims that innovations mostly appears in not fulfilled markets, where people have high buying power and where exists suitable conditions for research and development (because of lower costs). According to Demirel (2005), there are much more developed communication among producers and consumers in such markets. Thus markets, where is comparative more possibilities to get information from customers and consumers about new product or service specifications, which are

⁴ *International Product Life Cycle author is Vernon Raymond (USA, 1966).*

more likely important to know for product or service standardization process, are known as primarily place of production. When company starts production of product in mentioned market, product or service demand grows and this product or service used to be standardized. Increased standardization usually also increases degree of specialization. There are provided in the Figure 10 international product life cycle.

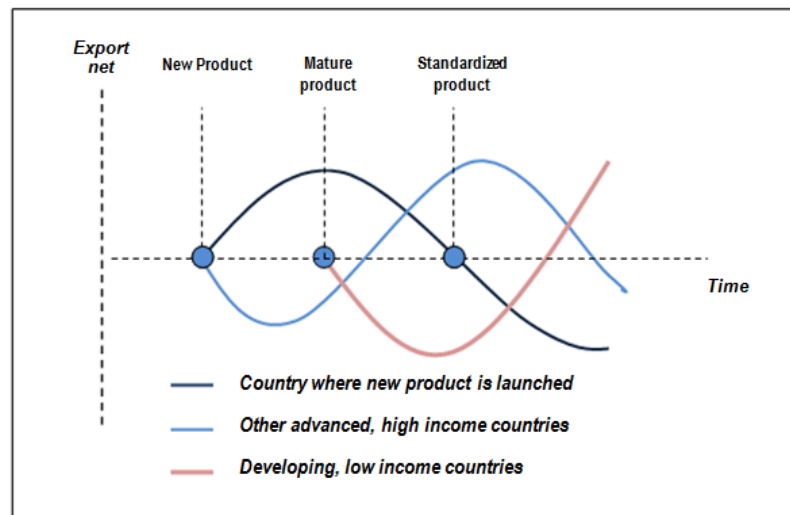


Figure 10. International Product Life Cycle
 Source: made by author, according to ProveModels (2012)

International product *life cycle starts* when company decides to expand its operation and to offer for the market completely *new product*. Such kind of activity mostly starts at developed market, because high tech and developed products usually are able to get developed countries' customers, which have higher income (ProveModels, 2012). Wint and Williams (2002), who talked about FDI effectiveness which is effected by product life cycle, claims that companies which enter market first have more possibilities for recognition both in home and foreign markets and for such companies product standardization usually takes less time and effort. It is also worth to mention that export appears just at the end of product life cycle, what enables companies to get extra capital for various product improvements (product life cycle starts to go up). Moreover, other countries can have customers with very similar demand, what also leads to the export of investments to these countries (ProveModels, 2012).

In maturity stage products' export used to keep growing and in this stage usually appears need for production abroad due to some countries' government or economical restrictions. Products design and production process in this stage becomes very steady in other words product is not developed its production standardizes. FDI to production companies usually reduces product unit costs due to work and transportation costs decrease. FDI investment in this stage appears that to replace existing export, nevertheless production used to require in maturity stage qualified and well

educated workers. Companies, in maturity stage, have to compete not just with home producers but also with producers who drive their business abroad. In this stage it also appears demand from lower income countries (ProveModels, 2012).

During the standardized product phase the principal markets becomes saturated markets. Companies in this stage used to pay more attention to the costs reduction than to the product innovation, what used to keep loyal and to attract new customers. Thus, because of desire to reduce costs, product production becomes standardized, what enables further economies of scale as well as increases mobility of manufacturing operations. In addition to this, labor can be easily replace by capital (because of economies of scale appears biggest differences between two countries due to cheaper labor). In case to fight with the price completion, sales barriers or willing to fulfill home market demand production is transferred to the lower income countries (ProveModels, 2012).

According to Vengrauskas et al. (2003) and Pilinkiene (2008), international product life cycle theory mostly was used from 1950 to 1960, but its popularity declined because of several restrictions:

- During mentioned decades new products innovations has become so fast that product life cycle has become too short to produce in foreign countries;
- Companies, which operates in not so developed countries are able to produce cheaper than competitors in more developed countries, however low developed countries' producers usually are not able effectively transport, sale and distribute its products;
- Nowadays there are many examples how production of some products or services are transferred to the developing from low developed countries because of lower production costs;
- Developed countries' companies nowadays are also able to produce in less developed countries with help of license or franchise.

In addition to information presented above it is also necessary to mention that product life cycle are not able to forecast product survival in the market opportunities, it is also very difficult to predict what influence could have to the stage duration marketing actions.

To sum up international product life cycle theory, it could be said that for new products/services development it is necessary to have high qualified labor and huge investments, which usually tend to be in developed and rich countries. When products reach maturity stage this product from developed country are transferred to developing country and companies are able to get price advantages because of cheaper labor and economies of scale. Moreover, international product life cycle is able to explain international investments. According to product life cycle stage

it is possible to predict when product should be produced in mother company and when it could be transferred its production to foreign market (Pilinkiene, 2008).

2.3.4. Internationalization Theory

According to Pilinkiene (2008), internationalization concept is explained as company’s expansion, penetration to the new markets at the same time passing to the new product life cycle stages. Optimal decision for FDI should be taken after evaluation of the stage of product life cycle, company’s competitive advantages and alternative projects costs.

According to the “Uppsala” model, which is one of the main, explaining internationalization theories, company’s internationalization could be explained as a process when company consistently increases its internationalization involvement. This process appears as knowledge about international markets changes, operation in them as well as increasing commitment to these foreign markets resources (see Figure 11) (Forsgren, 2002).

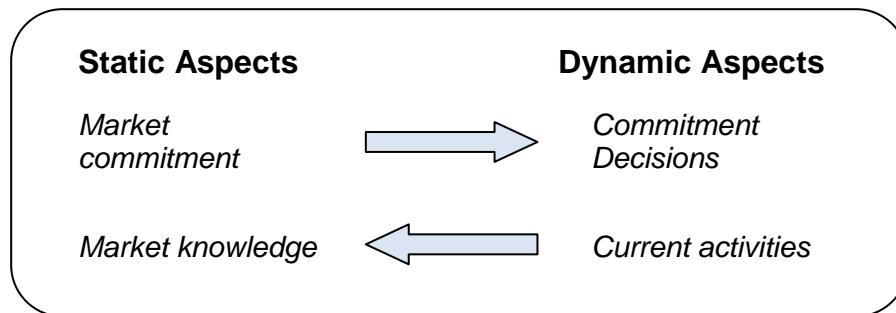


Figure 11. Company's Internationalization Process
Sources: create by author, according to Vabinskaite (2009)

Moreover, according to Vabinskaite (2009), for decision increase commitments to the foreign market and operation model, it mostly have influence knowledge about market and existing commitments to the market and contrariwise – company gain new knowledge operating current activities and then make decision to increase current commitments. According to Rupliene et al. (2008), Uppsala theory also describes stages for entering foreign markets, but it does not explain why it does so. According to this theory, companies, which have decided to go abroad very rarely make at once huge investments in foreign markets, more often company enter foreign markets through few stages, which are presented in Figure 12.

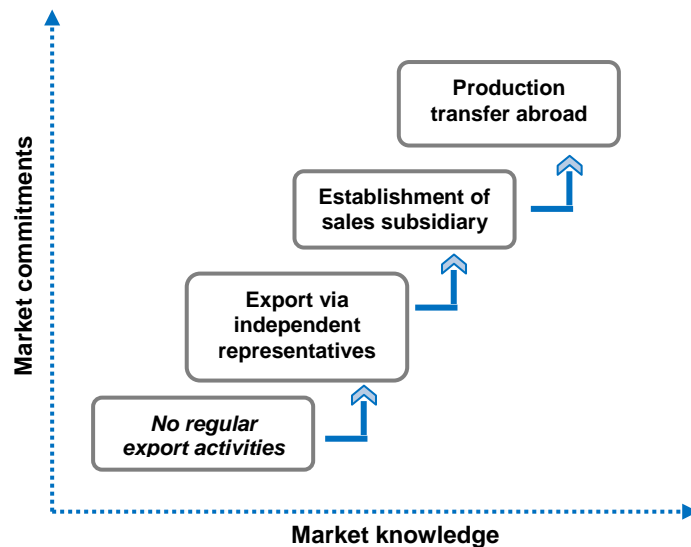


Figure 12. Stages of Penetration to Foreign Markets, according to Uppsala Internationalization Theory
 Sources: made by author, according to ProveModels (2012) and Vabinskaite (2009)

According to the Figure provided above, companies at first starts to export products or services to foreign markets through independent representatives. Further, companies start to establish sales subsidiaries in these markets where they have exported their products before. And finally - when these two stages are fulfilled just then companies transfer their production to foreign markets (Rupliene et al., 2008).

Morgan (1997) states, that internationalization theory basic idea is that companies are trying to develop these markets where they are operating and where transactions could be done with lower costs. Thus internationalization also includes and vertical integration forms, which usually enable companies to carry out new operations or activities, which before were carry out with the help of intermediaries.

Rugman (1985) internalization theory explains as basic theory, which explains FDI and according which it becomes easier to explain the existence of international companies. This author states, that FDI theory consist of two first Dunning Eclective theory's factors – location and ownership advantages. Rugman (1985) in his articles also pays big attention to FDI origin, which was mostly influenced by licensing, export and cots of transportation. Markets' imperfections (transaction costs, government barriers for international trade), stimulate companies to have relationships or trade products not between markets, but between companies, in other words with establishment or purchase other companies in the markets where this company are willing to conduct its operations.

To sum up internationalization theory it could be said that this theory is based on agreements costs, which appears when these agreements are made – negotiations, control and signing this agreement costs. Foreign direct investments, according this theory, are also influenced

by licensing, export and transportation costs. FDI comparing with other alternatives are mostly selective because of agreements (licensees, privileges, logistics, ect.) formation and execution costs are too high (Pilinkiene, 2008). Because of mentioned reason it exists a bigger risk for companies' operation in foreign markets than having and conducting its own daughter companies with the help of foreign direct investment.

2.3.5. Determinants of FDI according to the Horizontal FDI, Vertical FDI and Knowledge-Capital Models

Determinants, which influence FDI, integration to horizontal and vertical models was made by Markusen (2001), who combined these two models together and named *Capital-Knowledge* model. According to Blonigen, Davies and Head (2002) horizontal incentive for foreign direct investment is desire to produce products next (near) to the customer and at the same time to reduce trade costs between different countries, vertical – desire to transfer not-qualified labor abundant production especially to these countries where this type (not qualified) of labor is dominated. Nevertheless, these authors criticize Markusen Capital-Knowledge theory and point out that horizontal model, which now is known as Capital-Knowledge model, is not able to separate knowledge-generating activities from production and therefore generates different policy implications and this means that partly deny itself.

According to the Capital-Knowledge model's authors, their research was done under three very important assumptions (Carr, Markusen, Maskus, 2001). These assumptions are following:

- 1) Different kind of services of knowledge-generating and knowledge-based activities (i.g. R&D) can be geographically separated from production and at the same time could be supplied to production facilities at low cost.
- 2) These knowledge-intensive (mentioned in the first assumption) activities are skilled-labor-intensive relative to production.
- 3) Knowledge-intensive activities could be at the same time conducted in the different places.

Two first assumptions create a motive for vertical integration – company can have research and development centers in such countries where high qualified labor are comparative cheaper (comparing with high developed countries) and produce its products in such countries, where non-qualified labor is cheaper (authors made assumption that production does not require high-qualified labor). Markusen and others (2001) claimed that in this model it also appears the factor of market size, which influence place of production, especially if company has scale of production. The third

assumption creates company-level scale of economies and at the same time motivates horizontal investments that usually replicate the same products or services in different locations (countries).

To sum up, Carr, Markusen and Maskus (2001) state, that their widely analyzed Capital-Knowledge model better explain FDI than other FDI theories. As it was mentioned before, this model has influenced many discussions – whether support horizontal FDI model, vertical FDI model or just presented rather new Capital-Knowledge model. According to Feath (2009), while there was rather strong support for the idea that country (market) size and transportation costs determined FDI, the other idea that factor endowment were significant determinants (which could substantiate the vertical FDI model) still remains under discussion.

2.3.6. Determinants of FDI in the OLI Framework

Internalization theory explains why companies select foreign direct investments to enter foreign market, but this theory are not able to explain why production must be produced and sold in foreign market (Pilinkiene, 2008). This problem was evaluated by Dunning Eclectic theory, which connects both monopoly and internationalization advantages for new foreign direct investment theory. This theory is useful because it helps to make a decision for FDI, not just according prices or factors of demand, but also according to market size, risk, location and other very important factors.

Foreign direct investments in this theory are explained based on the following three factors: ownership, location and internalization advantages⁵ (Brouthe et al., 1999). These advantages are presented in Table 4.

Table 4. FDI Advantages according Eclectic Theory

Ownership Advantages	Location Advantages	Internalization Advantages
<ul style="list-style-type: none"> • Tangible or intangible ownership rights • Innovative capabilities • Accumulated experience • Exclusive access to the necessary factors of production 	<ul style="list-style-type: none"> • Factors of production prices • Quality and productivity • Transportation costs • Infrastructure • Legislation 	<ul style="list-style-type: none"> • Market management • Internationalization degree of business environment • Avoidance of government imposed restrictions to foreign investments

Sources: made by author, according Dunning and Lundan (2008)

According to the Table 4 and Brouthe et al. (1999), *ownership advantages* could be various patents, specific trade models, brands, human capital, specific methods of company management and the image of quality. Rupliene et al. (2008) states that, before mentioned tangible and intangible asset advantages and existing power in the market outweigh production in foreign market

⁵ According these three advantages – Ownership (O), Location (L) and Internalization (I) – was given the name for this theory – OLI.

costs, what influence foreign investments benefits. *Location advantages* – consist of various factors, which influence decision to invest in foreign country – such as access to the secured domestic markets, favorable taxation policies, lower production and transportation costs, lower risk and favorable competition, higher productivity and others. *Internalization advantages* – known as advantages because usually it is better for investing company to be “local” player that act with the help of export, licensing or/and cooperation agreements with independent foreign partners (Rupliene et., 2008). Moreover, when company operates as domestic it can reduce transportation costs and gain positive perception for domestic customers (Feath, 2009) as well as avoid various government restrictions for foreign companies.

According to Dunning (1988) advantages in OLI theory could differ due to the development level of analyzed country, also to the size of market (big or small), industrialization level, technology level, also it should be taken into account if analyzed countries are innovative or mature, competitive or monopolistic, big and small, new or old, leader or follower, innovative or tracer. Similar to Dunning, Caves (2007) states that international prevalence is closely related to the level of research and development, marketing expenditures, the number of researchers and technological employees, product innovation and complexity and product differentiation. Dunning theory enables to describe determinants which influence international company operation, according to basic factors which are taken into account when company making decision to invest in foreign country. In other words, which advantages company can use best for operation in foreign countries – ownership, location, internalization or properly selected form of FDI. Moreover, it is also necessary to mention that selected FDI form also has influence on sequence of FDI – permanent or one time investment. According to Dunning (1996), companies seeking to capture the market by using natural and human sources (location and internalization advantages) mostly make short term investments, but companies which are willing to get production effectiveness (i.g. production rationalization or specialization) and strategic investments to some kind of assets mostly are orientated to the long term, constant investments. In case to test OLI theory, its author Dunning checked two hypothesis (Feath, 2009):

1 hypothesis: international competitiveness (competitive advantage is gain according to the share of export and domestic production and what is competitive advantage is gain from these two factors from the point of domestic view);

2 hypothesis: location advantages (whether the form of involvement, measured as the ratio of export over local production, was dependent on these ownership and location advantages).

Dunning has analyzed export and local production data of United States manufacturing companies in a group of seven countries. His research showed that checking first hypothesis market size (location advantage) had significantly negative effect and skilled employees (ownership advantages) significantly positive effect. Testing second hypothesis, it was discovered that export-import ratio was negatively related to the export-production ratio, but on the other hand positively related to the net income to sales ratio (Feath, 2009).

To sum up this theory, it could be said that OLI theory researches showed that FDI depends on various ownership advantages, market size and specification, production costs, transportation costs, level of protectionism and other government restrictions, infrastructure, property rights and instability, industry disputes and other factors various combination.

There are presented in the next part of thesis methodology of complex evaluation of selected countries' attractiveness to FDI first by defining relation between all found FDI determinants and FDI inflows, and then to conduct composite evaluation for countries attractiveness to FDI.

2.4. Methodology of Foreign Direct Investments Analysis

Foreign direct investments are very important for attracting capital, market stimulation, and establishment of new work places, new ideas and knowledge sources. Thus it becomes more and more important to analyze factors-determinants, which increase investments attractiveness to the certain country. According to theories of FDI determinants analysis, it is made a table where is presented and compared all FDI theories presented in previous thesis parts.

Table 5. Summary of FDI Theories (presented in Part 2.3)

THEORY NAME	FACTORS EFFECTING FDI (FDI determinants)
Early Studies of Determinants of FDI	Marketing, trade restrictions, costs, investment climate, market size and its growth rate, labor, available recourses, lower production costs, government financial subsidies, political stability, threat of domestic competition, exchange rate stability
Neoclassical Trade Theory	Return on capital, contributions of capital and risk of exchange rate, market imperfections
Product Life Cycle Theory	Export, labor and production costs, labor force
Internationalization Theory	Knowledge about market, licensing, export and transportation costs
Determinants of FDI according to the Horizontal FDI, Vertical FDI and Knowledge-Capital Models (Markusen)	R&D, labor force, production and supply costs, market size and transportation costs
OLI Eclectic Theory	Ownership advantages (patents, specific production models, brands, human capital); Location advantages (favorable taxation, lower production and transportation costs, lower risk and favorable competition); Internationalization advantages (transportation costs, customers perception); Market size and specifications, production costs, level of protectionism and other governmental restrictions, infrastructure, property rights, economical stability

Sources: made by author, according to part 2.3

In Table 5 it could be found summary of all theories, which were described in part 2.3. Seeking to conduct complex evaluation of countries FDI flows and determinants it is very important to find these relevant determinants for the further study. Thus not all theories provided in the Table 5 present country level FDI determinants, which could be taken into consideration in this research. It is widely described in the various literatures that Dunning OLI Eclective theory is as summery of many FDI theories, because this theory analyses many different and very important determinants, which have influence for country's ability to attract FDI. Moreover, it could be noticed that determinants of FDI, according to the Horizontal FDI, Vertical FDI and Knowledge-Capital models (Markusen theory), analysis also describe country level determinants and some of them are not included in OLI theory. Rest four theories describe determinants of FDI as well, but many of them (as it was mentioned before) could also be met in OLI and Markusen theories, thus it is not relevant to include these theories in further research.

In order to answer this thesis research questions: *do FDI determinants affect FDI inflows to the host country?* And *which determinants have the biggest influence for countries attractiveness to FDI?* To answer these two questions research model will consist of two stages (see Figure 13).

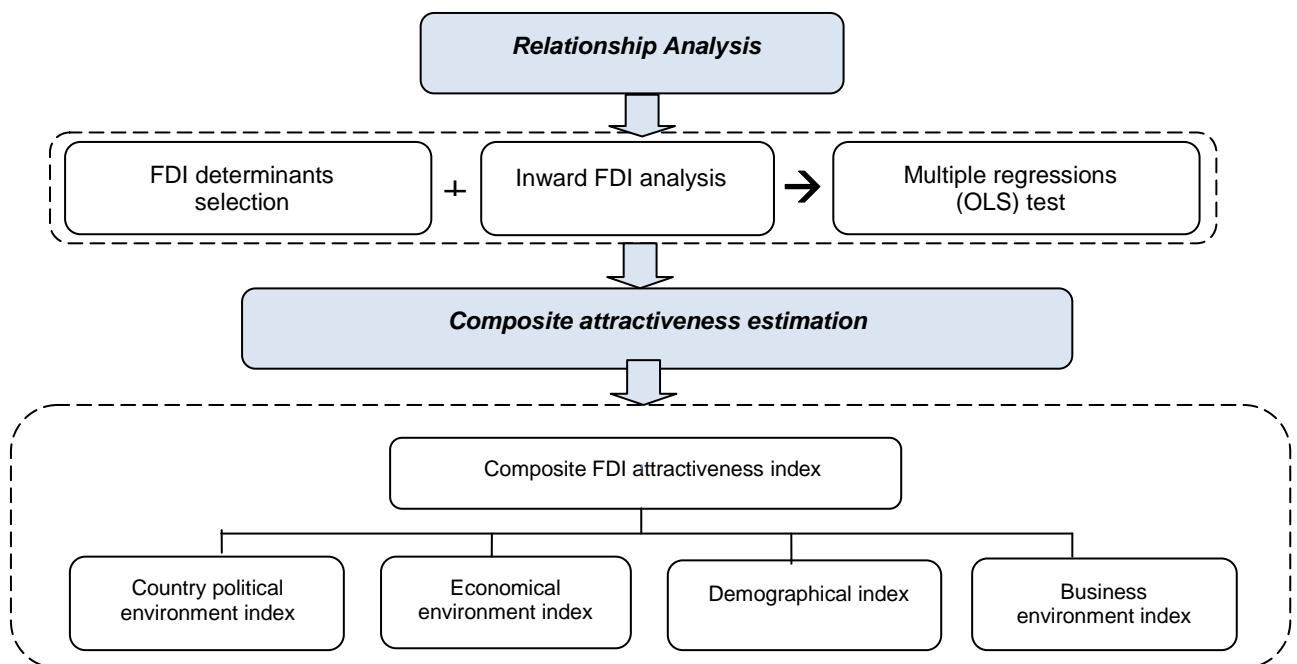


Figure 13. Model of FDI Flows and Determinants Analysis
 Source: made by author

Relationship analysis will consist of: relevant determinants selection, inward FDI analysis and multiple regression analysis.

Relevant FDI determinants selection. There are presented in Table 5 all theories analyzed in this thesis, but as it was mentioned before, not all of them are relevant and suitable for this study. It was found that most descriptive is OLI theory and another theory which complement OLI is Markusen theory. Thus it will be used in this thesis FDI determinants just from these two theories (see Table 6). In Table 6 it is also provided measurements of each determinant as well as four determinants groups. These groups will be used and discussed later, in stage two for countries attractiveness to FDI composite evaluation. Thus from OLI Eclectic theory were selected following country level FDI determinants, which have influence for FDI attraction to country's economy: economical conditions and stability, transportation costs, government politics, patents, property rights, market imperfection, lower risk and favorable competition, market size, labor force and production costs. From Markusen theory it was chosen: transportation costs, market size, labor force, production costs and expenditures for research and development (R&D).

Table 6. Theories Linkage to the Determinants, Measurements and Their Assignment to the Specific Group

Theory	Determinants	Measurements	Group
OLI Eclectic	Economical conditions	GDP (x_1), monetary units (euro)	Economical environment
OLI Eclectic	Economical stability	Inflation rate (x_2), percentage	
OLI Eclectic/ Markusen	Transportation costs ⁶	Export (x_3), monetary units (euro)	
OLI Eclectic	Competition	Competition (x_4), index	
OLI Eclectic	Government politic	Tax burden (x_5), percentage	Political environment
OLI Eclectic	Patents, property rights	Number of patents granted (x_6), units	
OLI Eclectic	Market imperfection, lower risk and favorable competition	Economical freedom index (x_7), index	
OLI Eclectic/ Markusen	Market size	Market size (x_8), units	Demographic
OLI Eclectic/ Markusen	Labor force	Work force (x_9), units	
OLI Eclectic/ Markusen	Production costs	Labor costs (x_{10}), monetary units (euro)	Business environment
Markusen	Expenditures for R&D	Expenditures for R&D (x_{11}), monetary units (euro)	

Source: made by author

From Table 6 above, it is assigned to every determinant units of measurements, according to standard expressions established by economical literature (Groh and Wich, 2009). It is also necessary to mention, that FDI theories very often present very abstract determinants for FDI, for example currency risk, governmental politic or market imperfections. These determinants can be described using many indicators, thus for such determinants it was selected most descriptive ones.

⁶ *Transportation costs in this study was interpreted as costs which should be taken into consideration if company want to invest in foreign country: with the investments in foreign country it reduces export at the same time transportation costs for bringing goods.*

In order to run regression test it is necessary first to analyze FDI inflows to selected economies. Thus *inward FDI analysis* will be conducted using time series analysis (Keller, 2012) to get familiar with basic FDI inflows fluctuations and to compare selected countries (regions) between each other according attracted amount of FDI to their economy. This analysis will show FDI inflows fluctuations during last five available years: from 2005 to 2010. For the *relationship analysis* it will be used *ordinary least squares (OLS) model*. This model is widely used for FDI analysis (Blomstrom et al., 1997, Jensen, 2003, Habib 2002, ect.) because it helps to find relationship between many analyzed independent variables (FDI determinants) and depended variable (FDI inflow). According to the literature study (part 2.3) it was found that eleven determinants has influence for attracting FDI to the host country or in other words, FDI are dependent on these eleven FDI determinants, hence the relationship model could be written:

$$\text{FDI} = f(x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}) \quad (1)$$

And the statistical form of the model is (according Hair J.F., JR et al., 1998):

$$\text{FDI} = \alpha_0 + \alpha_1 x_{1,t} + \alpha_2 x_{2,t} + \dots + \alpha_{11} x_{11,t} + \varepsilon_i \quad (2)$$

Where:

- α_0 – constant FDI flows independent of any FDI determinants ($x_1 - x_{11}$);
- α_1 – change in FDI flows associated with unit change in GDP, x_1 – gross domestic product (euro);
- α_2 – change in FDI flows associated with unit change in inflation rate, x_2 – inflation rate (percentage);
- α_3 – change in FDI flows associated with unit change in export, x_3 – export (euro);
- α_4 – change in FDI flows associated with unit change in competition, x_4 – competition index (index);
- α_5 – change in FDI flows associated with unit change in tax burden, x_5 – tax burden (percentage);
- α_6 – change in FDI flows associated with unit change in granted patents, x_6 – number of granted patents (units);
- α_7 – change in FDI flows associated with unit change in economic freedom, x_7 – index of economic freedom (index);
- α_8 – change in FDI flows associated with unit change in market size, x_8 – number of people (units);
- α_9 – change in FDI flows associated with unit change in work force, x_9 – number of active people in country (units);
- α_{10} – change in FDI flows associated with unit change in labor costs, x_{10} – labor costs (euro);
- α_{11} – change in FDI flows associated with unit change in expenditures for R&D, x_{11} – expenditures for R&D (euro);
- ε_i – error in predicting (calculating) sample data.

It also must be pointed out that α can get positive and negative values. Positive α means that testing independent variable has positive effect to the dependent variable, and vice versa – negative meanings refer to negative independent variable affect to dependent variable.

To test model significance it will be used *coefficient of determination (R^2)* and *p-values* coefficients (Hair J.F. et al., 1998). *Coefficient of determination (R^2)* – is a tool to measure the proportion of the variance of the dependent variable (in this thesis – FDI in analyzed countries)

about its mean which is explained with the independent variables (in this thesis – eleven FDI determinants). This coefficient can gain value from 0 to 1 – the regression model is applied and estimated properly if R^2 is close to 1 or the higher R^2 value, the greater explanatory power of the regression equation (Hair J.F. et al., 1998). This coefficient is calculated (Hair J.F. et al., 1998, 155p.):

$$R^2 = \frac{\sum_{i=1}^n (\hat{y}_i - \bar{y})^2}{\sum_{i=1}^n (y_i - \bar{y})^2} \quad (3)$$

Where: \bar{y} – average of all observations; y_i – value of individual observation i ; \hat{y}_i – predicted value of observation i (Hair J.F. et al., 1998).

P-values. The *p-value* is the probability of observing a test statistic at least as extreme as the one computed given that the checking hypothesis is true (Keller, 2012). *P-value* helps to measure testing model significance at certain level of confidence, which usually are 95 percent. Thus using 95 percent level of confident *p-value* could gain different meanings (also see figure 14):

- If the *p-value* is less than 0,01, it could be said that there is overwhelming evidence to infer that the alternative hypothesis is true – test *highly significant*;
- If the *p-value* is between 0,01 and 0,05, there is a strong evidence to infer that the alternative hypothesis is true – the result is deemed *to be significant*.
- If the *p-value* is between 0,05 and 0,1 it could be said that there is weak evidence to indicate that the alternative hypothesis is true. Thus the greater *p-value* than 5 percent says that the result *is not statistically significant* and when *p-value* is greater than 0,1 then it could be said that there is little evidence to infer that the alternative hypothesis is true. (Keller G., 2012).

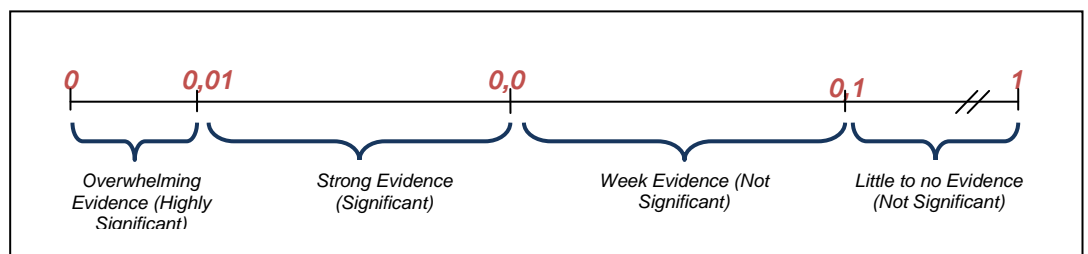


Figure 14. Statistics Test and Possible *p-Values*
Source: made by author, according Keller (2012)

For the observation it was chosen three Nordic countries – Finland, Sweden and Norway and three Baltic Countries – Estonia, Latvia and Lithuania. FDI inflows data were collected from UNCTAD statistical database. GDP, inflation rate, exports volumes, tax wedge on labor costs,

market size, work force and R&D expenditures were collected from Eurostat statistical database. Global Competitiveness Index – from CESifo Group databases⁷. The number of patents grants was collected from World Intellectual Property Organization (WIPO) Statistics Database, index of economic freedom – from Heritage Foundation database and unit labor costs data – from Organization of Economical Cooperation and Development (OECD) Statistical database.

After relationship analysis it will be conducted ***composite attractiveness evaluation***, in order to know which of *eleven FDI determinants* have the biggest influence for country's attractiveness to FDI. Complex valuation in empirical literature is mostly used for country's macroeconomic environment influence to country's business (Zvirblys, 2007) and company's competitive environment analysis, where basic determinants also are macroeconomical indicators (Zvirblys, Macerinskiene, Buracas, 2008). For analyzing countries attractiveness to FDI it could be used Analytical Hierarchy Process (Gricic, Babic, 2003; Saaty, 2008), but in this research it is not relevant to use this particular model, because Analytical Hierarchy Process model is based on experts valuation principle – opinion of formed experts group.

Moreover, seeking to evaluate many and different indicators' influence to analyzed object, first of all it is necessary to conduct theoretical analysis, which would help to know these indicators (determinants). Further, these determinants must be grouped, assigned to certain indicators, normalized (getting preliminary index), weighted and after these actions integrated to one index (i.g. composite index) (Zvirblys, 2007).

Thus, for country attractiveness to FDI analysis it will be used many authors recommended ***complex (composite) index***. Composite indicators are usually used to summarize a number of individual indicators or variables, which also have quantitative or qualitative measures (Groh and Wich, 2009). According to Bruneckiene (2010) analysis with index is good to use, because:

- Index are able to cover many indicators, which describes determinants;
- Enable with one number to evaluate multicriterial problem;
- Enable to evaluate many indicators from time point of view;
- Enable to compare many regions between each other.

According to reasons mentioned above, it was chosen complex index to evaluate country's attractiveness to FDI. Country's attractiveness complex index construction will consist of four stages (Groh and Wich, 2009), which are presented in Figure 15.

⁷ Consists of the Center for Economic Studies (CES), the Ifo Institute and the CESifo GmbH (Munich Society for the Promotion of Economic Research) and is a unique research group in Europe in the research area of economics.

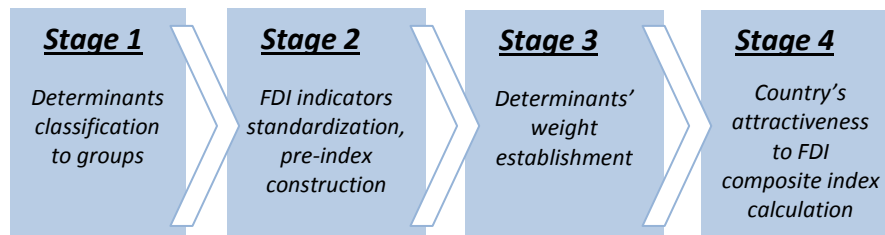


Figure 15. Country Attractiveness to FDI Complex Index Construction Methodology
Source: made by author

Stage 1: Determinants classification to groups. All selected FDI determinants (see Table 6) in this stage are classified (grouped) according *factorial analysis* method. According to scientific literature, factorial analysis enables wide data range to describe in such way that it would be possible to lose just the minimum part of important information (Kedaitis and Vaskeviciute, 2007). General factors understood as causes of the phenomenon (FDI determinants), and the observed phenomenon (inward FDI) - a consequence (Kedaitis and Vaskeviciute, 2007). The main idea of factor analysis can be described as follows: in the light of the correlations (there were analyzed different theories, which present different determinants), observed variables are divided into groups (classified). In this thesis, taking into account literature review and above mentioned authors, who analyzed the results of complex assessments, the factors presented in Table 6, are grouped into four groups - economical environment, political environment, demographic and business environment (also see Table 6).

Stage 2: FDI indicators' standardization, pre-index construction. All determinants presented in Table 6 are measured with different measurement units, thus it is necessary to standardize these indicators in case we would be able to compare these indicators and to construct composite index. There are found many standardization (normalization) methods in scientific literature, but most popular (Cicinskaite, Bruneckiene, 2009) are *standard deviation from the mean*, calculated as the ratio of the difference between the raw indicator value and the average divided by the standard deviation, *distance from the mean*, calculated as the ration of raw indicator and region indicators average, *the distance between the minimum and maximum values*, when the lowest indicators are replaced to zeros and highest meanings to one and recalculated according to some specific formula (Dzemyda et al, 2008), and *z-scores method*. This method is considered to be as one of the most important for complex index construction and valuation (Nardo, Saisan, 2005) and for countries attractiveness to FDI analysis (Groh, Wich, 2009), thus in these thesis for indicators standardization it will be used *z-scores standardization method*:

$$EI_t = \frac{x_{e,t} - x_{t,e.avg}}{\sigma_{e,t}} ; PI_t = \frac{x_{p,t} - x_{t,p.avg}}{\sigma_{p,t}} ; DI_t = \frac{x_{d,t} - x_{t,d.avg}}{\sigma_{d,t}} ; BI_t = \frac{x_{b,t} - x_{t,b.avg}}{\sigma_{b,t}} \quad (4)$$

Where:

EI_t – economical environment, during period t , standardized indicator (index);

$x_{e,t}$ – economical environment determinants (according Table 6: x_1, x_2, x_3 and x_4); $x_{e.avg.}$ – average of economical environment indicators; σ_e – economical environment standard deviation;

PI_t – political environment, during period t , standardized indicator (index);

$x_{p,t}$ – political environment determinants (according Table 6: x_5, x_6 and x_7); $x_{p,vid.}$ – average of political environment indicators; σ_p – political environment standard deviation;

DI_t – demographic, during period t , standardized indicator (index);

$x_{d,t}$ – demographic environment determinants (according Table 6: x_8 and x_9); $x_{d,vid.}$ – average of demographic environment indicators; σ_d – demographic environment standard deviation;

BI_t – business environment, during period t , standardized indicator (index);

$x_{b,t}$ – business environment determinants (according Table 6: x_{10} and x_{11}); $x_{b,vid.}$ – average of business environment indicators; σ_v – business environment standard deviation;

Using z-scores standardization method, there are subtracted from country's indicator region average and this difference is divided by the standard deviation of the region (there were analyzed two regions: Nordic (Finland, Sweden, Norway) and Baltic (Estonia, Latvia, Lithuania)). Standardized indicators of appropriate index (EI_t, PI_t, DI_t or BI_t) are added and so we get pre-index during analyzed period:

$$EI = \sum EI_t ; PI = \sum PI_t ; DI = \sum DI_t ; BI = \sum BI_t$$

Where EI is economical environment index, PI – political environment index, DI – demographic index and BI – business environment index.

Stage 3: Determinants' weight establishment. In order to have more precise countries attractiveness to FDI evaluation it is needed to weight every group of indicators or in other words pre-indices, what will be done during third composite index construction stage. According to Kardelis (2005) and Nardo et al. (2005), the weight of indicators is possible to determine with the help of scientific papers, economical researches, the group of experts opinion (findings), various strategic plans or with the statistical calculations. It is also necessary to mention that from this weighting depends the meaning of composite index. In this thesis weighting of indices will be established using scientific literature, experts' opinion. Groh and Wich (2009) have made research about countries attractiveness to FDI, where these authors have tested few methods of weighting establishment. There were used methods, according which 1) every indicator got the same weight and 2) different weights by using factorial analysis. These authors also have analyzed the confident of establishment of different (using factor analysis) and equal weight for sub-indices, and their study showed that confidence was almost the same whatever method would be selected. Thus according to mentioned authors (Groh and Wich (2009), Nardo (2005)) researches and these

researches results weights w_1 , w_2 , w_3 and w_4 will be respectively equal to 0.257, 0.268, 0.220 and 0.255, where $0.257+0.268+0.220+ 0.255=1$.

Stage 4: Country's attractiveness to FDI composite index calculation. In the last fifth stage it will be calculated country's attractiveness to FDI composite index, which depends on previously mentioned indicators grouping, standardization (normalization) as well as weighting. For country's attractiveness to FDI composite index calculation it will be used linear aggregation formula (Nardo, 2005) provided below.

$$CI_i = w_1EI_i + w_2PI_i + w_3DI_i + w_4BI_i \quad (5)$$

Where:

i – analyzed country;

CI - composite attractiveness to FDI index;

EI - economical environment index in country i ;

PI - political environment index in country i ;

DI - demographical environment index in country i ;

BI - business environment index in country i ;

w_1, w_2, w_3, w_4 - respectively economical, political, demographical and business environments' weight coefficients, where $w_1 + w_2 + w_3 + w_4 =1$

Calculation of country's attractiveness to FDI index enables to evaluate which determinants have the biggest influence for selected countries' attractiveness to foreign direct investments and to compare these countries among each other. There are presented in the next part of thesis selected Nordic and Baltic countries' FDI inflows analysis, which includes relationship test and attractiveness to FDI analysis.

3. Results and Discussion. Complex Analysis of Foreign Direct Investments in Nordic and Baltic Countries

This part of thesis presents research results for Nordic and Baltic countries according to research model constructed in the 2.4 part of this thesis. First it was conducted relationship analysis between selected FDI determinants and FDI inflows and after it – composite valuation of the same selected FDI determinants influence to Nordic and Baltic countries attractiveness to foreign direct investment.

3.1. Relationship between FDI Determinants and FDI Inflows in Nordic and Baltic Countries Analysis Results

In this part of thesis are presented FDI inflows analysis results in selected economies and after this Ordinary Least-Squares regression analysis results.

3.1.1. FDI Inflows in Nordic and Baltic Countries

Inward FDI flows – are foreign countries investments in host country⁸. First of all it is presented and discussed foreign direct investments to Nordic countries and after that to Baltic countries.

There are presented in Figure 16 Nordic countries’ absolute and relative (per capita) FDI flows during the last five years – from 2005 to 2010.

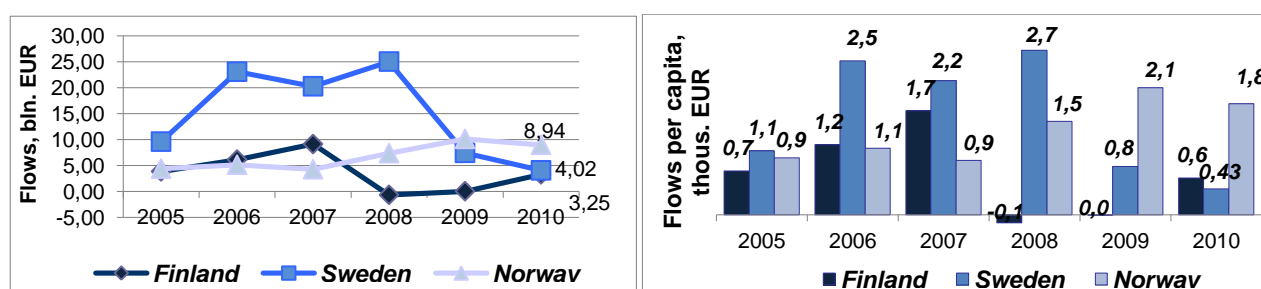


Figure 16. Inward FDI Flows to Nordic Countries
Source: made by author, according UNCTAD Statistics (2012)

⁸ UNCTAD (2012): “Data on FDI flows are on a net basis (capital transactions’ credits less debits between direct investors and their foreign affiliates). Net decreases in assets (FDI outward) or net increases in liabilities (FDI inward) are recorded as credits (recorded with a positive sign in the balance of payments), while net increases in assets or net decreases in liabilities are recorded as debits (recorded with a negative sign in the balance of payments). Hence, FDI flows with a negative sign indicate that at least one of the three components of FDI (equity capital, reinvested earnings or intra-company loans) is negative and not offset by positive amounts of the remaining components. These are instances of reverse investment or disinvestment.”

From the Figure 16 it could be seen that from 2005 to 2008 the biggest amount of FDI attracted Sweden, but from 2009 to 2010 – Norway. It also could be noticed that FDI flows in Sweden have fluctuated most, comparing with other two Nordic countries, the biggest movement was from 2008 to 2009 when inward FDI flows in Sweden decreased more than 70 percent and from 2009 to 2010 – almost 46 percent and in 2010 was 4,02 billion euro. The lowest absolute amounts of inward FDI during the last three analyzed years have attracted Finland. Also it must be mentioned that during five years analyzed period (2005-2010) Norway had the most constant FDI inflows comparing with other two Nordic countries. Talking about FDI inflows amount per capita from the Figure 16 it also could be seen that from 2005 to 2008 the highest FDI inflows per capita were in Sweden, but in 2009 and 2010 in Norway. Same fluctuation tendencies was found in FDI inflows in gross domestic product analysis – see Figure 17.

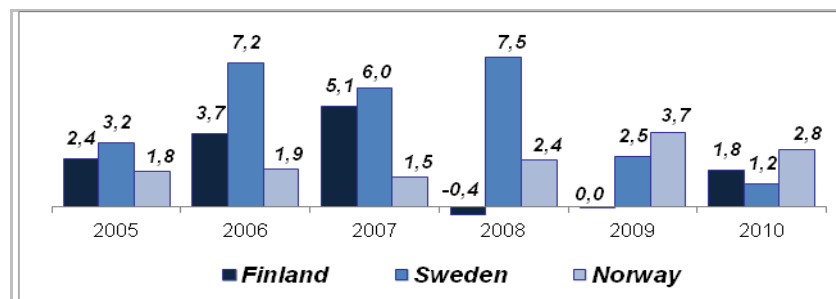


Figure 17. Nordic Countries' FDI Inflows in GDP, %
 Source: made by author, according to UNCTAD and EuroStat

During the analyzed period FDI inflows were most important to Sweden's economy (had the biggest part in GDP) from 2005 to 2008 and in 2009 and 2010 for Norway's economy. During the analyzed period highest FDI flows in GDP in Finland were in 2007 – more than five percent, and the lowest-negative in 2008. It is noticeable that this negative percentage was influenced by disinvestment in Finland (negative FDI inflows) during 2008. In Sweden the highest FDI inflows were in 2008 – more than seven percent and the lowest in the last analyzed 2010 – just 1,2 percent of GDP. It could be noticed that FDI inflows in Norway's economy and at the same time GDP were most stable. The highest FDI inflows in Norway's GDP were in 2009 – 3,7 percent, and the lowest in 2007 – 1,9 percent.

In order to have more precise FDI inflows analysis it is also presented results of inward FDI analysis in Finland, Sweden and Norway according countries investors and industries separately.

Finland. According to International Trade Centre (2012), in 2010 foreign investors in Finland most invested in chemicals and chemical products, finance, wholesale and retail trade, unspecified tertiary, various business activities, metal and metal products. According to Finland National Bank (2012), in 2010 Finland most investments got from Germany – more than 48

percent, Luxemburg – around 29 percent and Sweden – more that 26 percent of inward FDI in country. There are also presented in Table 7, Finland’s basic foreign investments according country, from which it was invested, number of employees, created by certain country’s companies as well as number of affiliates and turnover in 2009 and 2010.

Table 7. Basic FDI Countries-Investors in Finland and Their Information

Country	2009			2010		
	Number of affiliates	Employees (units)	Turnover (million euro)	Number of affiliates	Employees (units)	Turnover (million euro)
Sweden	771	75792	14560	792	73633	16007
United States	457	27247	8965	441	24371	9209
Germany	304	17144	7691	294	15174	7520
United Kingdom	268	18358	5255	252	16768	7256
Denmark	165	10217	2870	174	10342	2906
France	145	14200	3451	141	13940	3764

Source: made by author, according Finland Statistics Office (2012)

Sweden and United States in 2009 and 2010 had most affiliates in Finland. Swedish capital companies in 2010 had more than 160 billion euro turnover, United States capital companies – more than 92 billion euro. It could be also noticed that in Sweden and United States established companies also work most employees (comparing with other provided countries’ companies in the same table).

Sweden. According to International Trade Centre (2012), in 2010 foreign investors in Sweden most invested in various types of manufacturing, electricity, gas and water, transport, storage and communications as well as chemical and chemical products, finance. According to the Sweden Investments analysis agency (2011), in 2010 Sweden most investments got from Netherlands – more than 33 million euro and employed more than 42 thousands Sweden employees and Luxemburg – investments to assets in 2010 in Sweden were 32,1 million euro.

Table 8. Breakdown of Foreign Companies in Sweden (by country of domicile), 2009

Country	Assets (bln. EUR)	Number of employees
US	15,4	99074
UK	29,7	78693
Finland	21,3	62487
Denmark	17,1	58090
Norway	14,2	56049

Source: made by author, according Invest on Sweden, Investments Review 2010

In Table 8 there are presented key countries investors in Sweden according number of employed people. Thus, in 2010 comparing all foreign capital companies, most Swedish employees

worked in USA established companies in Sweden (99 thousands), in United Kingdom established companies – more than 78 thousands and in Finish assets companies – more than 62 thousands.

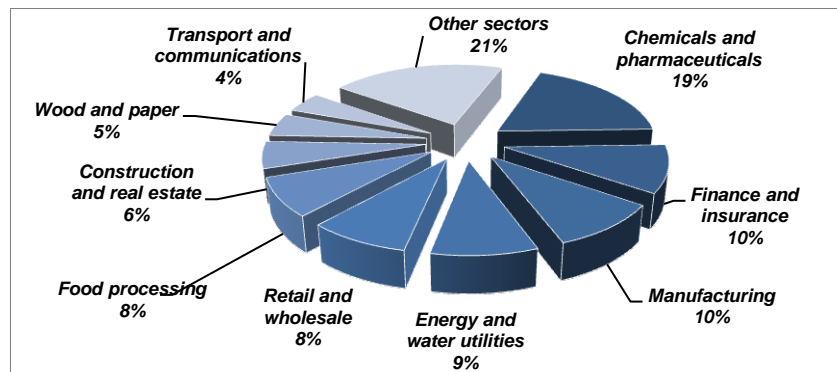


Figure 18. Breakdown of Foreign Assets in Sweden According Industry, 2009
 Source: made by author, according Invest on Sweden, Investments Review 2010

According to Sweden’s Investments Report (2010), most attractive industries in Sweden for foreign investors were chemicals and pharmaceuticals, there were invested in this sector more than 19 percent of all foreign investments in Sweden. Second most popular industry’s groups in 2010 were finance and insurance as well as various manufacturing, where were invested approximately equal – 10 percent of all foreign investments in analyzed country.

Norway. According to International Trade Centre (2012), in 2009 foreign investors in Norway most invested in mining and quarrying, various business activities, finance, wholesale and retail trade, transport, storage and communications, electricity, gas and water. According to Norwegian Statistical Bureau (2012), most foreign direct investments in 2010 were made by Sweden, EU countries and United States companies all together – around 37 percent (see Figure 19).

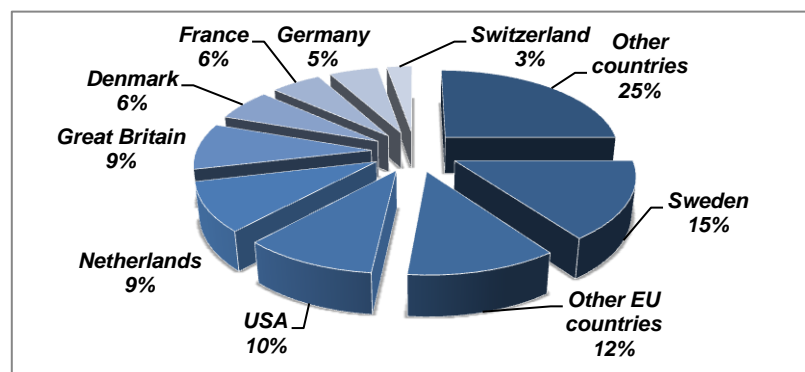


Figure 19. FDI in Norway, according countries 2010
 Source: made by author, according Norwegian Statistics Bureau (2011)

According to Norwegian Statistical Bureau (2011), Sweden capital companies in Norway in 2010 have controlled up to 15 percent companies, EU countries have invested 12 percent, United

States – 10 percent, Netherlands and Great Britain – each 9 percent. Talking about most important activities to which invest foreign investors in Norway for several years remains oil business, where share of total inward investments is around 29 percent (Norwegian Statistical Bureau, 2011).

Baltic States FDI inflows were much lower than in Nordic country and this could be seen from the Figures provided below.

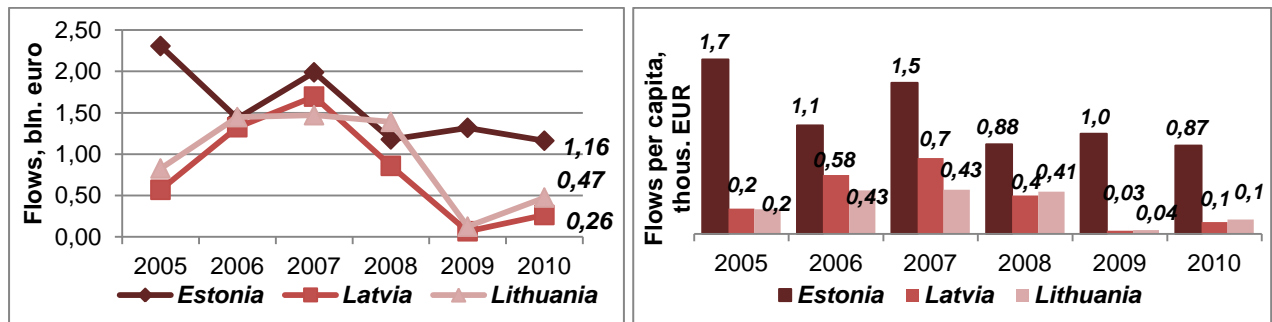


Figure 20. Inward FDI Flows to Baltic Countries
 Source: made by author, according UNCTAD Statistics (2012)

From the Figures above it could be seen that both absolute FDI inflows and inflows per capita, during analyzed period were highest in Estonia. The highest amount of FDI inflows Estonia had in 2005 – 2,3 billion euro and 1,7 thousands per capita. The smallest FDI inflows in Estonia during analyzed five years period were in 2010 – 1,2 billion euro and 0,87 thousands euro per capita. Talking about Latvia and Lithuania it could be noticed that these countries had very similar FDI inflows fluctuations tendencies – from 2005 to 2007 on both countries FDI inflows grew, but from 2007 to 2009 have dramatically decreased. From 2005 to 2009 in Latvia FDI inflows decreased from 1,69 billion to 70 million euro and in Lithuania from 1,47 billion to 0,12 billion euro. In Latvia the highest FDI inflows per capita during analyzed five years period were in 2007 – 0,7 thousands euro and lowest in 2009 – 0,03 thousands euro. In Lithuania FDI inflows per capita also were highest in 2006 and 2007 – around 430 euro per capita and lowest in 2009 – 40 euro per capita. It was also analyzed FDI inflows in Baltic countries gross domestic product and results of this analysis are presented in Figure 21.

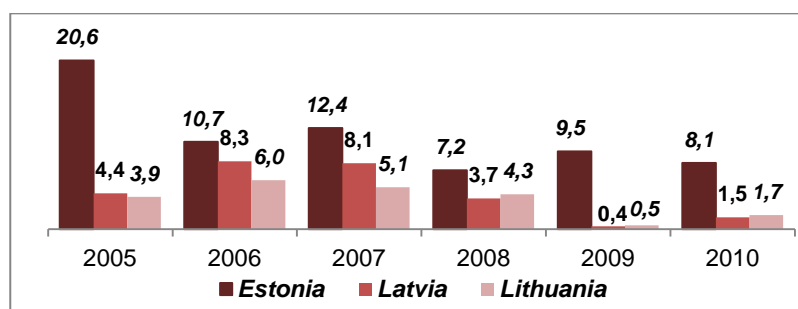


Figure 21. Baltic Countries' FDI Inflows in GDP, %
 Source: made by author, according to UNCTAD and EuroStat

From the Figure 21 it could be seen that the highest influence for gross domestic product FDI inflows, during the analyzed five years period, had in Estonia, where in 2005 FDI inflows in Estonia's GDP were more than 20 percent. And during all period FDI inflows in GDP in this country were counted not less than seven percent – and this tells that FDI inflows for Estonia economy are significantly important. In Latvia the highest percentage of FDI inflows to this country GDP were in 2006 – more than eight percent and lowest in 2009 – 0,4 percent. In Lithuania FDI inflows in GDP were highest during the same year as in Latvia – in 2006 and were six percent and the lowest also in 2009 – 0,5 percent.

In order to have more precise FDI inflows analyze it also was conducted and are presented results of inward FDI analysis in Estonia, Latvia and Lithuania separately according countries investors and industries.

Estonia. According to International Trade Centre (2012), in 2010 foreign investors in Estonia most invested in mining and quarrying, various business activities, finance, wholesale and retail trade, transport, storage and communications, hotels and restaurants. According to Estonia Bank (2012), in 2010 most foreign direct investments in Estonia were made by two Scandinavian countries – Sweden and Finland (see Figure 22).

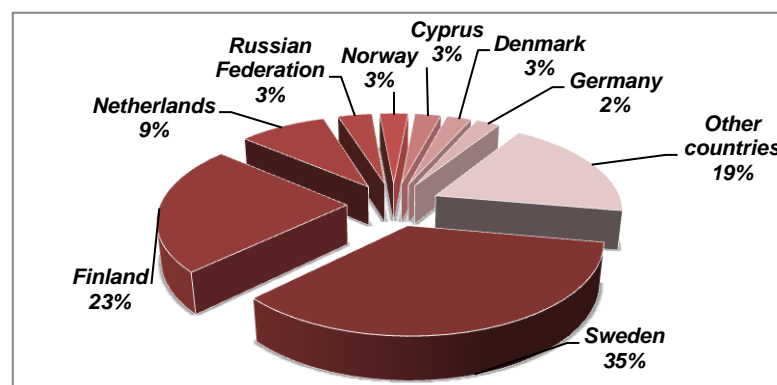


Figure 22. Estonia Inward FDI by Country, 2010
 Source: made by author, according Estonia Bank (2012)

From Figure 22 it could be seen that in 2010 Estonia attracted most FDI from Sweden – 35 percent of all investments and 23 percent from Finland. Thus these two Scandinavian countries together in 2010 had more than half foreign investments in Estonia. According to UNCTAD (2011), in 2010 in Estonia most invested Swedbank, which is Sweden capital company and what have influenced such high Sweden FDI inflows to Estonia. Looking at the same Figure it could be noticed that in 2010 after Sweden and Finland in the third position according foreign investments in Estonia were Netherlands – with 9 percent. Other presented countries had three or less than three percentage of all FDI inflows share in Estonia. According to Estonia Bank (2012), most attractive

industry in Estonia for foreign investors in 2010 were finance and insurance activities as well as manufacturing (see Figure 23).

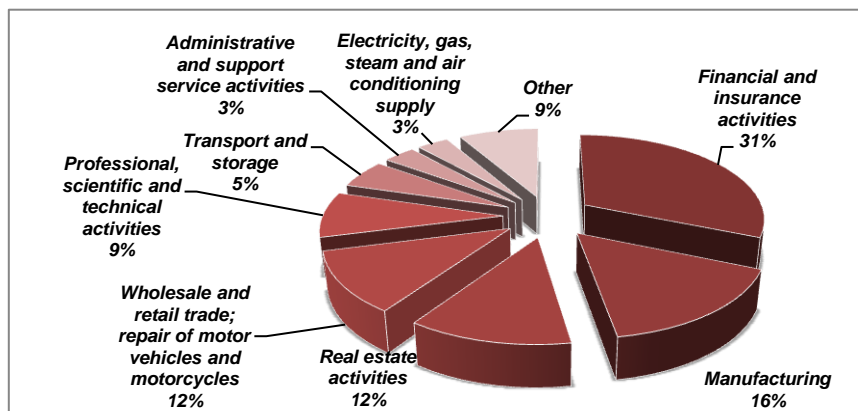


Figure 23. Estonia's Inward FDI by Field of Activity, 2010
Source: made by author, according Estonia Bank (2012)

From the Figure 23, it could be seen that in 2010 foreign investors in Estonia have invested 31 percent in financial and insurance activities (Swedbank investments), 16 percent in manufacturing. Real estate activities and wholesale and retail trade in 2010 were also attractive for foreign investors, each attracting 12 percent of foreign investments.

Latvia. According to International Trade Centre (2012), in 2010 foreign investors in Latvia most invested in various business activities, agriculture and hunting, electricity, gas and water, forestry and fishing, hotels and restaurants. According to Latvia Bank (2012), in 2010 in Latvia most invested European countries: Sweden (97,5 million euro), United Kingdom (75,2 million euro), Switzerland (67,9 million euro), Luxembourg (66,2 million euro) and Netherlands (56,1). Nevertheless in 2010 in Latvia the biggest foreign investors (companies) were from Sweden and Finland (see Table 9).

Table 9. Foreign Companies' Investments in Latvia

Company	Country	Sales, million EUR		Employees		Industry
		Total	Affiliates in Latvia	Total	Affiliates in Latvia	
Kesko Oyj, FIN	Finland	14273,4	123,3	14362	211	Wholesale and retail trade
Tele2 AB, SWE	Sweden	1799,5	22,9	2943	42	Transport, storage and communication
Tieto Oyj, FIN	Sweden	568,3	18,6	1880	36	Business activities
Investment AB Kinnevik, SWE	Sweden	2824,1	12,9	4719	25	Wood and wood products

Source: made by author, according International Trade Centre (2012)

According to Table 9, Finnish company Kesko Oyj, in 2010 had one of the highest sales – more than 123 million euro and was employed 211 Latvian employees. Tele2 and Tieto sales in Latvia in 2010 were respectively equal to 22,9 and 18,6 million euros and these companies were employed respectively 42 and 36 Latvian employees. Tele2 has invested in transport, storage and

communication, while Tieto Oyj has invested in various business activities. Nevertheless, according to the same International Trade Centre information, in Latvia in 2010 most sales had Swedish capital company Albert Bonnier AB (wholesale and retail trade).

Lithuania. According to International Trade Centre (2012), in 2010 foreign investors in Latvia most invested in wholesale and retail trade, business activities, transport, storage and communication, finance, electrical and electronic equipment. According to Lithuania Bank (2012), in 2010 in Lithuania have invested Poland (227,1 million euro), Russia Federation (155,5 million euro), Germany (116,2 million euro), Finland (87,3 million euro) and Thailand (65,3 million euro). Nevertheless, according International Trade Center (2012) data, in 2010 in Lithuania most sales generated companies from Finland and Sweden (see Table 10).

Table 10. Foreign Companies' Investments in Lithuania

Company	Country	Sales, million EUR		Employees		Industry
		Total	Affiliates in Lithuania	Total	Affiliates in Lithuania	
Kesko Oyj , FIN	Finland	34288,8	13,6	7353	73	Wholesale and retail trade
Hertz Global Holdings, Inc., USA	Sweden	387,4	3,6	7047	17	Business activities
Tele2 AB , SWE	Sweden	2093,8	3,6	4286	19	Transport, storage and communication
Skandinaviska Enskilda Banken AB , SWE	Sweden	1031,3	4,3	5705	13	Finance
AXA, FRA	France	403,0	1,4	4662	10	Electrical and electronic equipment

Source: made by author, according International Trade Centre (2012)

According to Table 10, Finish company's Kesko Oyj in 2010 sales in Lithuania were more than 13 million euro and this company was employed 73 Lithuanians in wholesale and retail trade activities. Swedish companies Hertz Global Holdings, Inc. and Tele2 have generated respectively 3,6 million euro sales and were employed respectively 17 and 19 Lithuanian employees. Swedish company Hertz Global Holdings, Inc. in 2010 has invested in various business activities and Tele2 – in transport, storage and communication. Nevertheless, according to ITC information in 2010 in Lithuania most sales have generated Swedish finance company Eskilda Banken AB (ITC, 2012).

To sum up FDI inflows to Nordic and Baltic countries analysis results, could be said that Nordic countries have attracted much more FDI to their economy than Baltic countries. In both regions (Nordic and Baltic countries), the highest FDI inflows from 2005 to 2010 were in Sweden and Norway (in 2009 and 2010), and the lowest FDI inflows during the same analyzed period were in Latvia. Inward FDI flows in GDP biggest share in 2005-2010 were in Estonia and the lowest in Norway and Lithuania (in 2009 and 2010). In 2010 Finland was most attractive for Germany's investors, Sweden – for United States and Norway – for Sweden and other EU countries. In the same 2010 Estonia and Latvia were most attractive for Sweden's companies, Lithuania – for

Poland's and Russian's companies. In Nordic countries foreign investors most invested in various business activities, wholesale and retail trade as well as finance activities. In Baltic countries foreign investors were most interested also in finance and various business activities as well as wholesale and retail trade industries.

After FDI inflows analysis results there are presented in the next part of thesis relationship between FDI inflows and selected (according theory analysis and research method) eleven FDI determinants analysis results.

3.1.2. Ordinary Least-Squares Regression Analysis Results

In this part of thesis it is presented FDI inflows in Nordic and Baltic countries relationship with eleven FDI determinants analysis results. Thus in relationship analysis using multiple regression OLS model dependent variables (y) were FDI inflows in six countries from 2000 to 2010 (Finland, Sweden, Norway, Estonia, Latvia and Lithuania) and independent variables were (values from 2000 to 2010): gross domestic product (x_1), inflation rate (x_2), countries export amounts (x_3), global competitiveness index (x_4), tax wedge on labor costs (x_5), number of patents granted (x_6), index of economic freedom (x_7), market size (all population) (x_8), active population (15-64 years old) (x_9), unit labor costs (x_{10}) and expenditures on research and development (x_{11}). Relationship analysis was conducted from 66 observations (all results are presented in Appendix 1).

First, model significant was evaluated according to *determination (R^2)* and *p-value* coefficients. **Coefficient of determination (R^2)** is a tool to measure the proportion of the variance of the dependent variable (in this thesis – FDI in analyzed countries) about its mean which is explained with the independent variables (in this thesis – eleven FDI determinants). This coefficient can gain value from 0 to 1 – the regression model is applied and estimated properly if R^2 is close to 1 or the higher R^2 value, the greater explanatory power of the regression equation. In the Table 11 it could be seen that determination coefficient (R Square) is equal to 0,68 that means that FDI inflows in Nordic and Baltic countries 68% are influenced by eleven FDI determinants and just 32% by other not evaluated in this model factors.

Table 11. Regression Statistics Results

Regression Statistics	
Multiple R	0,83
R Square	0,68
Adjusted R Square	0,62
Standard Error	444,5
Significance F	0,000000000596
Observations	66

Source: made by author

F Significance (from Table 11) shows that overall model is significant (less than 0,05). Moreover, *P-value* helps to measure testing model significance at certain level of confidence, which was chosen - 95 percent. Thus using 95 percent level of confident p-value could gain different meanings from 0 to 1. Testing at 95% confident level the model is significant if it gets meaning less than 0,05. Analysis results (see Table 12) show that overall model could be called significant – five of eleven FDI determinants gained *p-value* less than 0,05: tax wedge on labor costs (0,001), number of granted patents (0,000), market size (0,007), active population (0,009) and expenditures on R&D (0,000) (see Table 12).

Table 12. OLS Regression Analysis Results

FDI determinant	-	GDP	HICP	Exports of goods and services	Global Competitiveness Index	Tax wedge on labour costs	Number of granted patents	Index of Economic Freedom	Market Size	Activ population	Unit Labour Costs	Expenditures on R&D
<i>Independent variable</i>	<i>Intercept</i>	<i>x1</i>	<i>x2</i>	<i>x3</i>	<i>x4</i>	<i>x5</i>	<i>x6</i>	<i>x7</i>	<i>x8</i>	<i>x9</i>	<i>x10</i>	<i>x11</i>
<i>P-value</i>	0,040	0,918	0,457	0,297	0,514	0,001	0,000	0,952	0,007	0,009	0,108	0,000
<i>Coefficients</i>	-5513,1	5,6	17,0	71,0	-5,7	144,5	-4,5	-1,4	-3609,1	5397,7	-115,4	5,0

Source: made by author

Also according to OLS regression results using values of α coefficients the relationship formula between FDI inflows (Y) in Nordic and Baltic countries and eleven FDI determinants (x_i) could be written as follows:

$$Y = -5513,1 + 5,6x_1 + 17x_2 + 71x_3 - 5,7x_4 + 144,5x_5 - 4,5x_6 - 1,4x_7 - 3609x_8 + 5398x_9 - 115,4x_{10} + 5x_{11}$$

Negative α indicates that unit change for analyzed determinant would decrease FDI inflows to country with α value. From analyzed eleven FDI determinants negative α values have gained five of them:

- 1) x_4 – Global Competitiveness Index (one unit change in GCI would influence FDI decrease by 5,7 units);
- 2) x_6 – number of granted patents (one unit change in number of granted patents would influence FDI decrease 4,5 units);
- 3) x_7 – Index of Economic Freedom (one unit change in Index of Economic Freedom would influence FDI decrease by 1,4 units)

- 4) x_8 – Market size (one unit change in market size (population) would influence FDI decrease by 3609,1 units);
- 5) x_{10} – unit labor costs (one unit change in unit labor costs would influence FDI decrease by 115,4 units).

Positive α indicates that unit change for analyzed determinant would increase FDI inflows to country with α value. Thus, rest six FDI determinants have gained positive α coefficient values:

- 6) x_1 – GDP (one unit change in GDP would influence FDI increase by 5,6 units),
- 7) x_2 – inflation rate (one unit change in inflation rate would influence FDI increase by 17,0 units);
- 8) x_3 – export of goods and services (one unit change in export would influence FDI increase by 71,0 units);
- 9) x_5 – tax wedge on labor costs (one unit change in tax wedge on labor costs would influence FDI increase by 144,5 units);
- 10) x_9 – active population (one unit change in active population would influence FDI increase by 5397,7 units);
- 11) x_{10} – expenditures on R&D (one unit change in expenditures on R&D would influence FDI increase by 5,0 units).

To sum up FDI inflows and eleven FDI determinants relationship analysis results could be said that overall model is significant at F Significant level equal to 0,000 and relationship between FDI inflows in Nordic and Baltic countries and eleven FDI determinants also in these countries exists. Moreover FDI inflows to Nordic and Baltic countries 68 percent are influenced by eleven FDI determinants and just 32 percent by other not evaluated, external factors. OLS multiple regression analysis also showed that unit increase in Global Competitiveness Index, number of granted patents, Index of Economic Freedom, market size and unit labor costs would influence decrease in FDI inflows in analyzed countries. And vice versa unit increase in GDP, inflation rate, export of goods and services, tax wedge on labor costs, active population and expenditures on R&D would also influence increase in FDI inflows to Nordic and Baltic countries.

Since it was found that relationship between FDI inflows and eleven FDI determinants exists (answer to research question no.1) in the next part of thesis is presented composite evaluation of Nordic and Baltic countries attractiveness to FDI.

3.2. Composite Estimation of Nordic and Baltic Countries Attractiveness to FDI Results

In this part of thesis it is present results of attractiveness to FDI composite index results, which was constructed and calculated according to methodology provided in the 2.4 part of this thesis (Composite FDI index was also calculated by Groh and Wich in 2009). Composite country's attractiveness to FDI index is constructed of four pre-indices: economical environment, political environment, demographical and business environment indices. Each of mentioned four indices construction and analysis results are presented in the next parts of thesis. It also must be mentioned that before describing each index it is discussed every FDI determinants, which are included in specific index, fluctuations during five year period: from 2005-2010 (for indices calculation was used ten years period: 2000-2010). After each pre-index analysis at the end it is presented and discussed composite FDI attractiveness index results in Nordic and Baltic countries.

3.2.1. Index of Economic Environment

Index of Economic environment consist of four variables (FDI determinants): gross domestic product, inflation rate, export of goods and services, and Global Competitiveness Index. *Gross domestic product* is one of the most important and most often mention factors which influence FDI inflows in analyzed country. Constructing index of economic environment it was used GDP per capita in order to eliminate the difference of country size. Nordic and Baltic countries' GDP per capita are presented in the Figure 24.

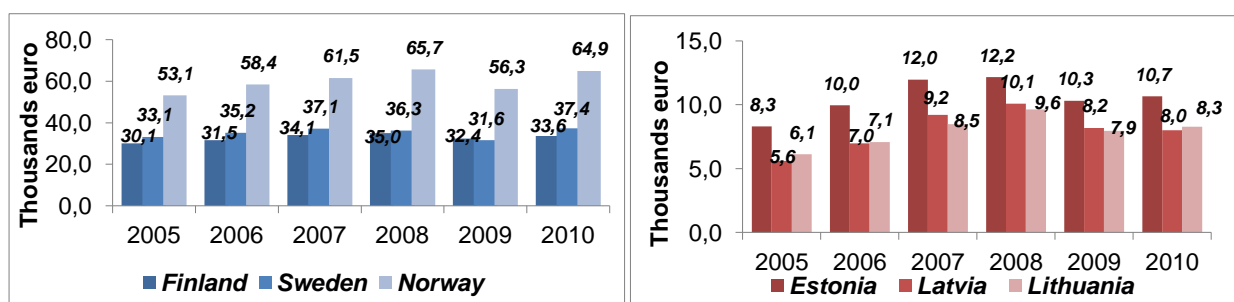


Figure 24. GDP per Capita in Nordic and Baltic Countries

Source: made by author, according to Eurostat (2012)

In Nordic countries the highest level of GDP per capita during all analyzed five years period was in Norway, lowest – in Finland. Among Baltic countries during 2005-2010 years period highest GDP per capita was in Estonia and lowest in 2005-2006 and in 2010 in Latvia, and in 2007-2009 – in Lithuania. During all analyzed period GDP per capita in both Nordic and Baltic regions from

2005 to 2008 increased, but in 2009 decreased. In 2010 in all six countries could be noticed recover of GDP per capita amount after 2009 decrease.

The second economical environment index variable is *inflation rate* or harmonized index of consumer price (HICP). According to European central Bank (2011), inflation in the country appears when increase not separate products prices, but when increase all products and services price level and with increased inflation consumers are able to buy less goods and services for the same amount of money than before increase of inflation.

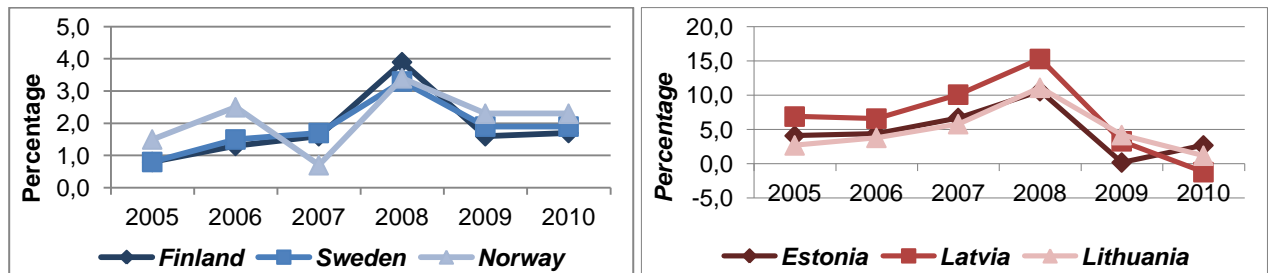


Figure 25. Inflation Rate in Nordic and Baltic Countries
Source: made by author, according Eurostat

Average inflation rate in Nordic countries during analyzed period was lower than in Baltic countries. In Nordic and Baltic countries inflation rate have fluctuated quite similar – from 2005 to 2008 have tendency to increase and from 2008 decreased. In Nordic countries in 2008 highest inflation rate was in Finland, in Sweden and Norway almost the same. In 2009 and 2010 in all Nordic countries inflation rate has decreased and the highest rate was in Norway, lowest – in Finland. Among Baltic countries in 2008 highest inflation rate was in Latvia. In Estonia and Lithuania inflation rate was almost the same. In 2009 in all Baltic countries inflation rate decreased and the highest rate was in Latvia and Lithuania, lowest – Estonia. In the last analyzed 2010 year inflation rate in Estonia increased and has become highest in the region. In Latvia and Lithuania analyzing rate has decreased comparing with previous 2009 years level.

The third variable of index of economic environment is *export of goods and services*. Export of goods and services, was evaluated by calculating exports flows per capita in order to eliminate the difference of countries size.

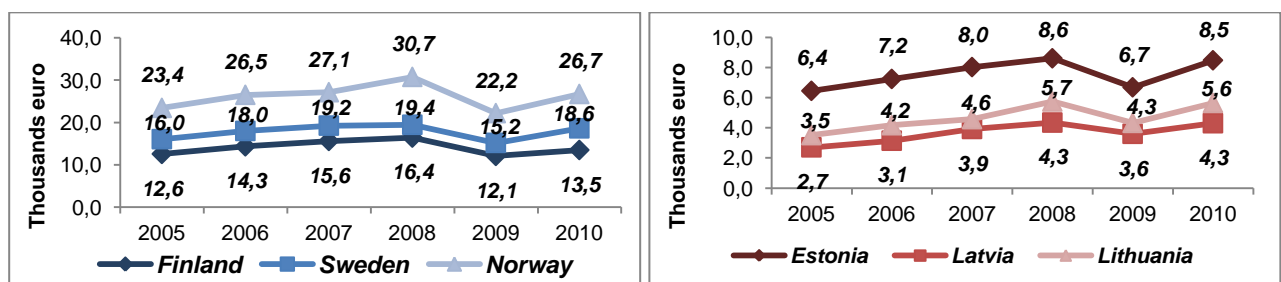


Figure 26. Nordic and Baltic Countries' Exports per Capita of Goods and Services
Source: made by author, according Eurostat

Nordic countries during analyzed 2005-2010 years period have exported relatively more than Baltic countries. The highest export per capita in Nordic regions was in Norway, the lowest – in Finland. Estonia among all Baltic countries has exported most goods and services in 2005-2010 and Latvia – least. Moreover, in all six analyzed countries could be noticed the same tendencies of export fluctuations – from 2005 to 2008 in all countries export per capita increased, from 2008 to 2009 – decreased and during the last analyzed 2010 year it could be noticed slight recovery of export per capita in all countries.

The last fourth variable of index of economic environment is *Global Competitiveness Index*. Global Competitiveness Index is calculated and presented every year by World Economic Forum. This index consists of twelve competitiveness pillars: institutional, infrastructural and macroeconomic environments, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication and innovations (World Economic Forum, 2012). Lower value of Global Competitiveness Index indicates higher competitiveness in analyzed country taking into account all twelve, mentioned earlier, competitiveness pillars.

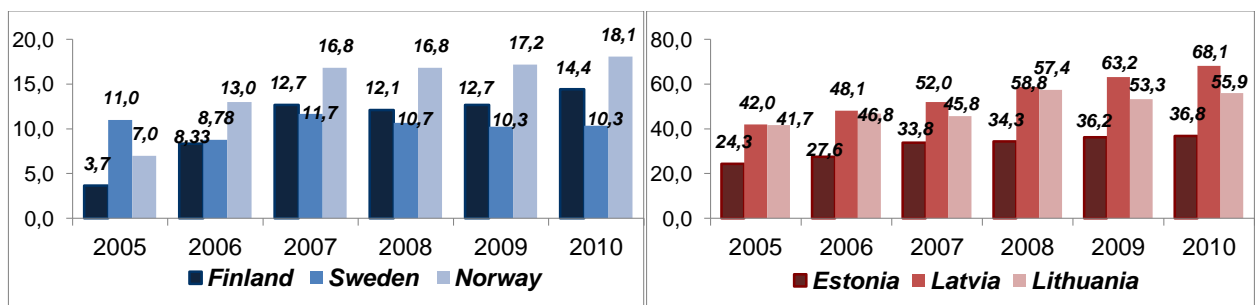


Figure 27. Global Competitiveness Index in Nordic and Baltic Countries

Source: made by author, according to CESifo Group database (2012)(World Economic Forum)

During analyzed period Nordic countries had lower value of competitiveness index comparing with Baltic countries. In 2005-2006 among Nordic countries most competitive was Finland and from 2007 to 2010 – Sweden. Least competitive, according to Global Competitiveness Index, in 2005 was Sweden, but from 2006 to 2010 – Norway. Further, in Baltic region the most competitive, according analyzed index, was Estonia, least competitive – Latvia.

All four presented and discussed above variables of index of economic environment were standardized, in order it would be possible to compare them between each other, by using z-score standardization method. Standardized values off all variables (see Appendix 2) for each year (2000-2010) were added up together to get country's economic environment index.

Table 13. The Total Value of Standardized Indicators and Economic Environment Index

Standardized Indicator	Nordic Countries			Baltic Countries		
	Finland	Sweden	Norway	Estonia	Latvia	Lithuania
GDP per capita	-7,7	-4,9	12,6	12,6	-6,7	-5,9
HICP ⁹	3,3	1,0	-1,9	-1,2	-5,5	6,7
Export per capita	-9,5	-2,5	12,0	12,4	-8,4	-3,9
Global Competitiveness Index (GCI) ¹⁰	6,3	-0,2	-6,1	11,2	-7,3	-3,9
Economical Environment Index (EI)	-7,6	-6,6	16,6	34,9	-27,9	-6,9

Source: made by author

According to economical index analysis results, presented in Table 13, it could be seen that among Nordic countries the highest economic environment index is Norway, the lowest in Finland. The highest economical environment index in Norway have influenced high value of GDP per capita comparing with Finland and Sweden as well as high export value per capita, which was much higher than region average. Among Baltic countries the highest economical environment index is in Estonia, lowest – in Latvia. The highest index value in Estonia have influenced much higher GDP and export per capita values as well as much higher competitiveness comparing with region (all Baltic countries) average.

3.2.2. Index of Political Environment

Index of political environment consists of three variables (FDI determinants): tax wedge on labor costs, number of granted patents and index of economic freedom. *Tax wedge on labor costs* is calculated and provided by Eurostat. These labor costs (tax wedge on labor costs), according to Eurostat (2012), covers such costs as wages and salaries, bonuses, payments in kind related to labor services (i.g. food, fuel, housing), severance and termination pay and employers' contributions to pension schemes, casualty and life insurance as well as workers compensations. Tax wedge on labor costs in Nordic and Baltic countries are presented in Figure 28.

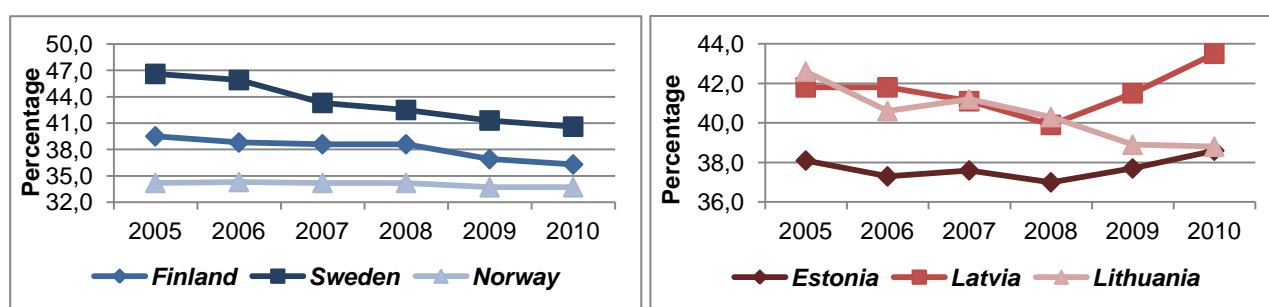


Figure 28. Tax Wedge on Labor Costs in Nordic and Baltic Countries

Source: made by author, according to Eurostat

^{9 8} Calculating FDI Attractiveness index it was also evaluated what influence – positive or negative analyzed determinants have for attracting FDI. It is supposed that high inflation rate or low country's competitiveness reduce country's attractiveness for FDI, thus for this reason, marked pre-indices were multiplied by (-1).

Tax wedge on labor costs among Nordic countries during all period were highest in Sweden and lowest in Norway. It could be also noticed that in all Nordic countries tax wedged on labor costs had same fluctuations tendencies – these costs have tendency to decrease each year from 2005 to 2010. The different situation was found in Baltic countries – tax wedge on labor costs fluctuated very different, but during all period were lowest in Estonia. In 2005, 2007 and 2008 the highest tax wedge on labor costs was in Lithuania and in 2006, 2009-2010 – in Latvia. Analyzed costs during all period have decreased in Lithuania, in Latvia and Estonia they decreased - from 2005 to 2008, but from 2009 to 2010 – increased.

Second index of political environment variable (FDI determinant) is *number of granted patents*. The statistic of granted patents are collected and presented by *Intellectual Property Organization*. The number of granted patents (for one million citizens) to foreign entities by country of origin is presented the Figure 29.

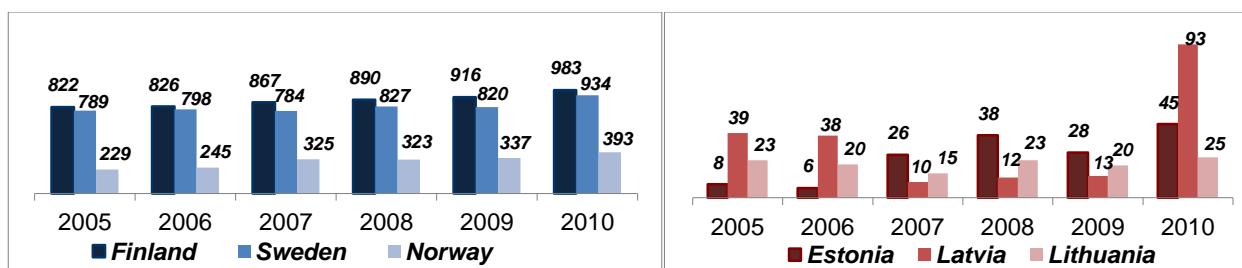


Figure 29. Number of Patents Granted in Nordic and Baltic Countries for 1mln Citizens
 Source: made by author, according to WIPO Statistics (2012)

Between Nordic countries most patents during all analyzed period from 2005 to 2010 were granted in Finland, least – in Norway. The highest number of granted patents calculated per one million citizens in all countries - Finland, Sweden and Norway - was during the last analyzed 2010: in Finland – 983 patents per one million citizens, in Sweden – 934 and in Norway – 393 patents per one million citizens. Moreover, in Nordic countries number of granted patents per one million citizens in 2005-2010 was much higher than in Baltic countries. From 2005 to 2006 and in 2010 most patents in Baltic countries were granted in Latvia and from 2007 to 2009 – in Estonia. During the last analyzed 2010 years in Estonia were granted 45 patents per one million citizens, in Latvia (most during all analyzed period and most between all Baltic states) – 93 and in Lithuania – 25 patents per one million citizens.

Third index of political environment variable (FDI determinant) is *Index of Economic Freedom*. Index of economic freedom is often described as one of the most important factors influencing countries attractiveness to FDI. This index is every year calculated and presented by “Wall Street Journal” and USA organization-research institute “Heritage Foundation”. This index is

constructed through analysis of ten specific components of economic freedom: property rights, freedom from corruption, fiscal freedom, government spending, business freedom, labor freedom, monetary freedom, trade freedom, investments freedom and financial freedom. Higher value of index indicates higher economical and political freedom in analyzed country. This index results in Nordic and Baltic countries are presented in Figure 30.

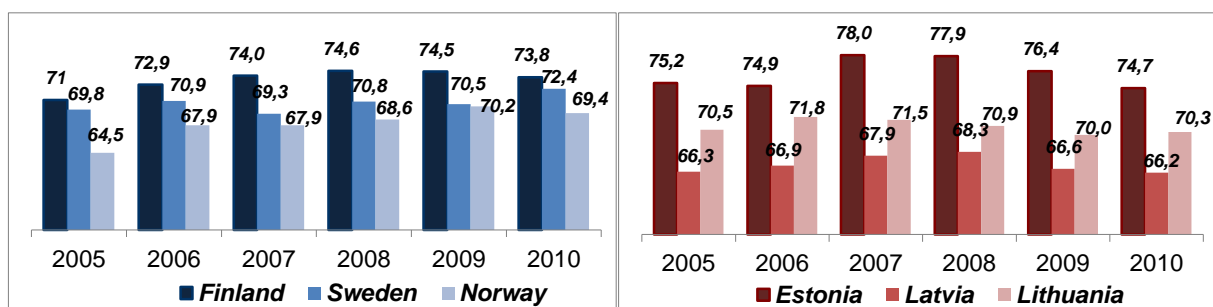


Figure 30. Index of Economic Freedom in Nordic and Baltic Countries
 Source: made by author, according Heritage Foundation Statistics (2012)

Between all analyzed Nordic countries in 2005-2010 the highest Index of Economic Freedom was in Finland, the lowest – in Norway. In Finland the highest value of index was in 2008 – 74,6, in Sweden in 2010 – 72,4 and in Norway in 2009 – 70,2. Between Baltic countries the highest index value during all analyzed period was in Estonia and the lowest in Latvia. In Estonia the highest index value was in 2007 – 78, in Latvia in 2008 – 68,3 and Lithuania in 2006 – 71,8.

All three presented and discussed above variables of political environment index were standardized, in order to compare them between each other, by using z-score standardization method. Standardized values off all variables (see Appendix 3) for each year (2000-2010) were added up together to get country's political environment index.

Table 14. The Total Value of Standardized Indicators and Politic Environment Index

Standardized Indicator	Nordic Countries			Baltic Countries		
	Finland	Sweden	Norway	Estonia	Latvia	Lithuania
Tax wedge on labor costs ¹¹	0,7	-11,3	10,6	11,1	-7,2	-3,9
Granted patents for 1mln. citizens	5,8	6,7	-12,5	-3,1	5,8	-2,7
Index of Economic Freedom	9,3	-1,4	-7,9	11,8	-9,0	-2,7
Political Environment Index (PI)	15,8	-6,0	-9,8	19,7	-10,4	-9,3

Source: made by author

From the Table above it could be seen that the highest political environment index between three analyzed Nordic countries is in Finland (15,8), the lowest – in Norway (-9,8). The highest value for political environment index in Finland has influenced high number of granted patents per

¹¹ Calculating FDI Attractiveness index it was also evaluated what influence – positive or negative analyzed determinants have for attracting FDI. It is supposed that high tax wedge on labor costs reduce country's attractiveness for FDI, thus for this reason, marked pre-indices' values were multiplied by (-1).

one million citizens as well as high value on Index of Economic Freedom. Between three Baltic countries the highest political environment index is in Estonia and the lowest in Latvia. High index value in Estonia has influenced comparing low tax wedge on labor costs as well as high Index of Economic Freedom (comparing with region average). Latvia has the lowest political environment index because of highest taxes on labor wedge and lowest Index of economic Freedom during analyzed period (comparing with three Baltic countries average).

3.2.3. Index of Demographical Conditions

Index of demographical conditions consists of two variables (FDI determinants): market size and active population, which includes population from 15 to 64 years old. *Market size* – is the number of people in country. Many authors in literature review have described market size as positive factor for attracting foreign investments to the country. Market size statistics in Nordic and Baltic countries from 2005 to 2010 are presented in Figure 31.

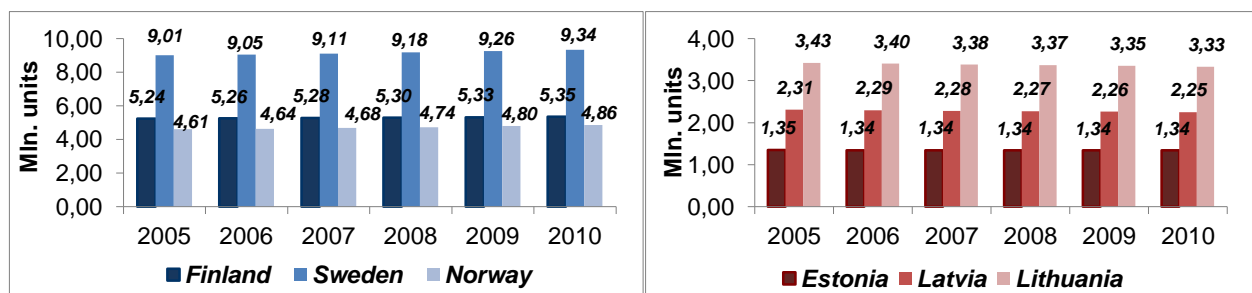


Figure 31. Marker Size in Nordic and Baltic Countries
Source: made by author, according Eurostat

The biggest population during 2005-2010 between three Nordic countries had Sweden and the lowest – Norway. It could be seen that in all Nordic countries from 2005 to 2010 population have increased and during the last analyzed 2010 year in Finland was 5,35 million, in Sweden – 9,34 and in Norway – 4,86 million. Every Nordic country during all period had bigger population than Estonia, Latvia or Lithuania. Nevertheless, in Baltic countries the biggest population had Lithuania, lowest – Estonia. During the last analyzed 2010 in Estonia lived – 1,34 citizens, Latvia- 2,25 and in Lithuania – 3,33.

The second index of demographical conditions variable (FDI determinant) is *active population*. Active population – is population from 15 to 64 years old. There is made assumption in statistical literature that this age group is known as mostly active in labor market. Statistic of active population in Nordic and Baltic countries from 2005 to 2010 is presented in Figure 32.

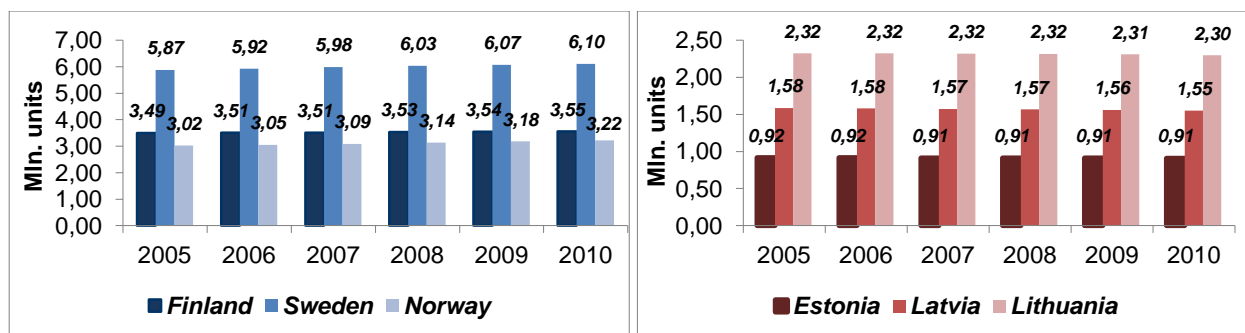


Figure 32. Active Population in Nordic and Baltic Countries
 Source: made by author, according to Eurostat

From the Figure 32, in Nordic countries during all presented period active population was more than in Baltic countries. In Nordic countries biggest active population had Sweden, lowest – Norway. In Baltic countries the highest number of active population was in Lithuania and the lowest – in Estonia. In all Nordic countries during all analyzed period number of active population increased, but in Baltic countries decreased.

Both presented and discussed above variables of demographical conditions index were standardized, in order to compare them between each other, by using z-score standardization method. Standardized values off both variables (see Appendix 4) for each year (2000-2010) were added up together to get country’s demographical conditions index.

Table 15. The Total Value of Standardized Indicators and Demographical Conditions Index

Standardized Indicator	Nordic Countries			Baltic Countries		
	Finland	Sweden	Norway	Estonia	Latvia	Lithuania
Market size	-4,9	12,6	-7,7	-10,7	-0,5	11,3
Labor force	-4,6	12,6	-7,9	-10,8	-0,4	11,2
Demographical Index (DI)	-9,5	25,1	-15,7	-21,5	-0,9	22,4

Source: made by author

According to the presented standardized values results, it could be seen that highest demographical index in Nordic countries is in Sweden, lowest – in Norway. Sweden has the highest demographical index because during analyzed ten years period in this country lived much more both all and active population than in other two Nordic countries. In Baltic countries the highest demographical index is in Lithuania, the lowest – in Estonia. In Lithuania index of demographical conditions has the highest value because in this country during all analyzed period was much bigger all population as well as active population than in Estonia or Latvia.

3.2.4. Index of Business Environment

Index of business environment consists of two variables (FDI determinants): unit labor costs and country's expenditures for research and developments (R&D). *Unit labor costs* show the average cost of labor per unit of output. These costs are calculated as the ratio of total labor costs to real output or in other word as the ratio of average labor costs per hour to labor productivity – for this reason, a unit labor costs represents a link between productivity and the cost of labor in producing output (OECD, 2012). In this thesis were used total annual unit labor costs per capita, in order to eliminate the difference of countries' size (see Figure 33).

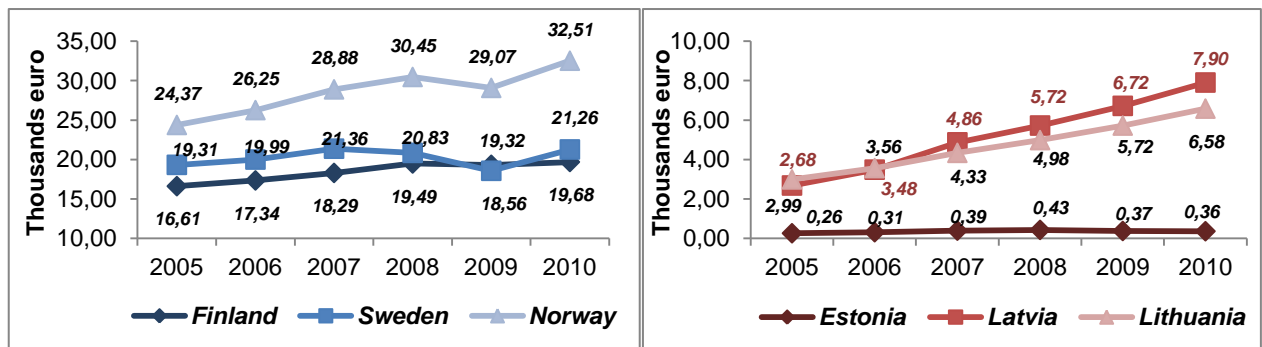


Figure 33. Annual Labor Costs per Capita in Nordic and Baltic Countries
Source: made by author, according to OECD Statistics

According to the Figure 33, the highest annual unit labor costs per capita during all presented period was in Norway and lowest from 2005 to 2008 and in 2010 – in Finland and in 2009 – in Sweden. In Nordic countries during all analyzed and presented period unit labor costs were higher than in Baltic countries. However, the highest unit labor costs among mentioned countries were in Latvia and the lowest – Estonia. In Latvia and Lithuania unit labor costs during presented period had tendency increase and in Estonia were almost stable (from 2005 to 2008 with slight increase and from 2009 with slight decrease).

The second index of business environment variable (FDI determinant) is *expenditures for R&D*. R&D comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications (Eurostat, 2012). R&D expenditures include all expenditures for R&D performed within the business enterprise sector on the national territory during one year, regardless of the source of funds. For index analysis in this thesis it was used R&D expenditures per capita in order to eliminate the differences of countries' size.

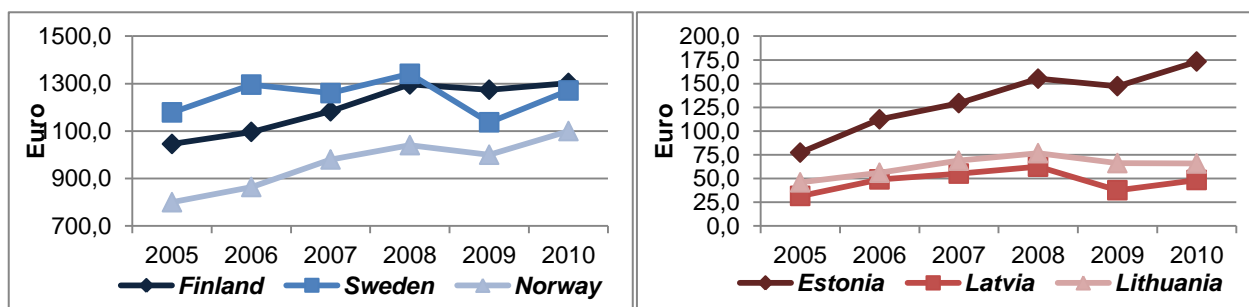


Figure 34. Expenditures on R&D per Capita in Nordic and Baltic Countries

Source: made by author, according to Eurostat

In Nordic countries, from Figure 34, during presented five years period highest expenditures on R&D had Finland and Sweden and the lowest – Norway. In Norway during all presented period expenditures on R&D have increased and in Finland and Sweden from 2005 to 2008 increased, but in 2009 have slightly decreased. It could be also noticed that during all presented period expenditures for R&D per capita in Nordic countries were much higher than in Baltic countries. However, the highest expenditures for R&D per capita in Baltic countries had Estonia and the lowest – Latvia. In all Baltic countries expenditures for R&D from 2005 to 2008 increased, in 2009 decreased and in last analyzes 2010 slightly increased.

Both presented and discussed above variables of index of business environment were standardized, in order to compare them between each other, by using z-score standardization method. Standardized values off both variables (see Appendix 5) for each year (2000-2010) were added up together to get country's business environment index.

Table 16. The Total Value of Standardized Indicators and Business Environment Index

Standardized Indicator	Nordic Countries			Baltic Countries		
	Finland	Sweden	Norway	Estonia	Latvia	Lithuania
Unit labor costs ¹²	9,4	2,3	-11,7	12,6	-6,3	-6,3
Expenditures for R&D	1,9	9,0	-10,9	11,9	-9,4	-2,4
Business Environment Index (BI)	11,31	11,28	-22,6	24,5	-15,8	-8,7

Source: made by author

Among Nordic countries the highest business environment index is in Finland, also very similar to Sweden's index, but in Norway it is negative and the lowest. Negative and the lowest index value in Norway have influenced much higher unit labor costs during all period and lowest expenditures for R&D comparing with Finland and Sweden. Among Baltic countries the highest business environment index is in Estonia and lowest – in Latvia. The highest index value in Estonia

¹² Calculating FDI Attractiveness index it was also evaluated what influence – positive or negative analyzed determinants have for attracting FDI. It is supposed that high unit labor costs reduce country's attractiveness for FDI, thus for this reason, marked pre-indices' values were multiplied by (-1).

has influenced lowest unit labor costs as well as highest expenditures for R&D during all ten years (2000-2010) analyzed period comparing with all region (three Baltic countries) average.

3.2.5. Countries' Attractiveness to FDI Composite Index

Countries attractiveness to FDI index depend on both above analyzed four pre-indices values as well as weight coefficients. Countries attractiveness to FDI was calculated by using linear aggregation formula (Nardo, 2005) according to method and aggregation (5) presented in 2.4 part of this thesis. According to Groh and Wich (2009), Nardo (2005) analysis and their results, economical environment index weight coefficient is equal to 0.257, political environment index – to 0.268, demographical – to 0.220 and business environment – to 0.255. Dynamic of Nordic countries attractiveness to FDI composite index is presented in Figure 35.

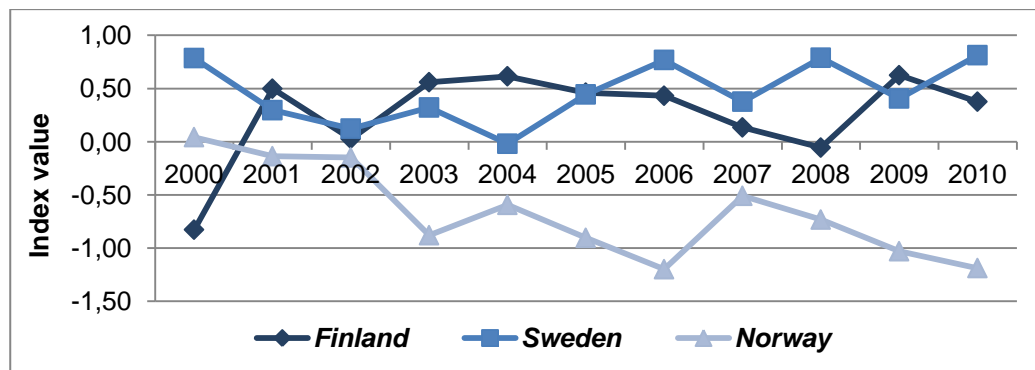


Figure 35. Nordic Countries' Attractiveness to FDI Composite Index
Source: made by author

From Nordic countries composite attractiveness index results it could be seen that Norway during analyzed ten years period had negative attractiveness to FDI index, which was also lowest comparing with Finland and Sweden, from 2001 to 2010. In 2000 the lowest composite index had Finland and at the same year the highest value of analyzed index was in Sweden. Moreover, Sweden during ten years period had highest index value (comparing with all three Nordic countries) five of ten years – in 2000, 2002, 2006-2007 and in 2010. During other years the highest index value was in Finland or almost equal to Sweden (2005).

In Baltic countries the index of countries' attractiveness to FDI (see Figure 36), comparing with Nordic countries, was much more stable. Moreover, the index of country's attractiveness to FDI in Baltic countries during all analyzed ten years period the highest was in Estonia and the lowest in Latvia. The lowest and negative value of index in Latvia has influenced all pre-indices, which were much lower (comparing with Estonia and Lithuania) and also negative during all analyzed period.

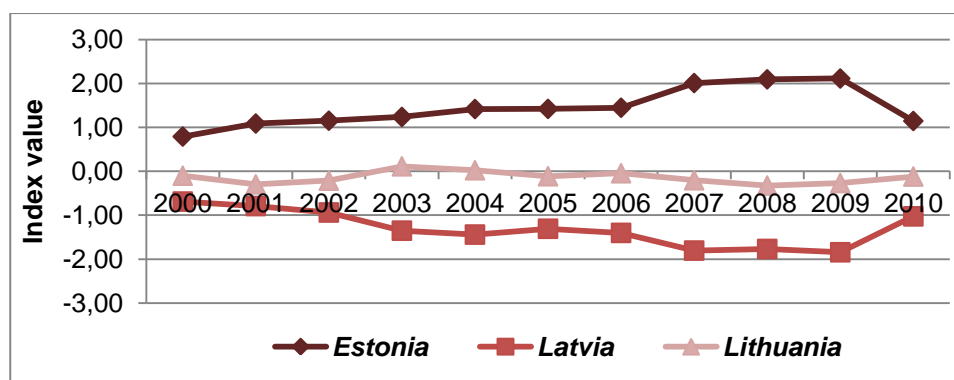


Figure 36. Nordic Countries' Attractiveness to FDI Composite Index
Source: made by author

According to Table 17 and Figure 37, the highest FDI attractiveness index among three analyzed Nordic countries is in Sweden – 5,10. The highest value of index comparing with other two Nordic countries in Sweden have influenced relatively high market size (population) as well as more favorable business environment comparing with Finland and Norway. The lowest attractiveness to FDI index is in Norway. The lowest index value in this country have influenced low number of granted patents, low index of economic freedom, the lowest population, high unit labor costs as well as low expenditures for R&D – comparing with Finland and Sweden.

Table 17. Nordic and Baltic Countries Composite Attractiveness to FDI Index, 2000-2010

Region	Country	Economical Environment	Political Environment	Demographical	Business Environment	Index value
Nordic Countries	Finland	-7,6	15,8	-9,5	11,3	2,84
	Sweden	-6,6	-6,0	25,1	11,3	5,10
	Norway	16,6	-9,8	-15,7	-22,6	-7,28
Baltic States	Estonia	34,9	19,7	-21,5	24,5	15,92
	Latvia	-27,9	-10,4	-0,9	-15,8	-14,37
	Lithuania	-6,9	-9,3	22,4	-8,7	-1,54
Weight coefficient ($W_1+W_2+W_3+W_4=1$)		0,268	0,257	0,22	0,255	

Source: made by author

The highest attractiveness to FDI index among Baltic countries is in Estonia – 15,92. The highest index value in Estonia has influenced much higher economical and business environments indicators comparing with region average (all three Baltic countries). Such indicators as high GDP and export value per capita, low tax wedge on labor costs as well as low unit labor costs and high expenditures for R&D have influenced this country's highest attractiveness to FDI. The lowest attractiveness to FDI index is in Latvia. The lowest index value in Latvia has influenced almost all analyzed indicators, which were lower than Baltic region average (three analyzed Baltic countries).

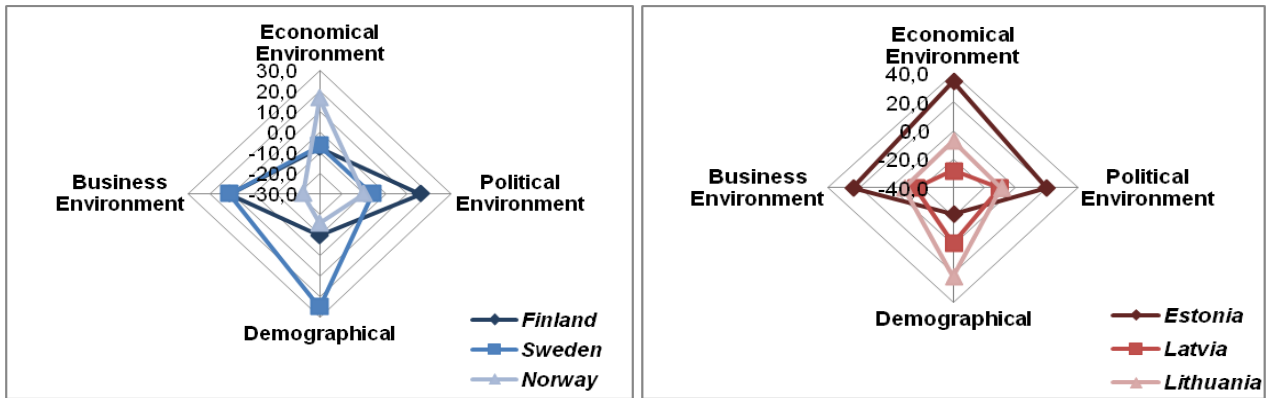


Figure 37. Composite Countries' Attractiveness to FDI Index (Nordic and Baltic Countries)
Source: made by author

To sum up countries attractiveness to FDI index analysis it could be said that among Nordic countries most attractive to FDI is Sweden. Norway was identified as least attractive for FDI. Norway's attractiveness to FDI was negatively affected by the highest labor costs in the region. It is also recommended to consider increasing expenditures for R&D to attract more foreign investments to country. Among Baltic countries, the most attractive for FDI is Estonia, least attractive – Latvia. In order to increase Latvia's attractiveness to FDI, this country should try to increase export amounts, reduce inflation in country, increase competitiveness level as well expenditures to research and development and try to reduce unit labor costs.

Findings and Recommendations

My analysis indicates that foreign direct investments are one of the most important country's macro economical indicators and also has positive effect to GDP growth, investments to production and unemployment decrease. Moreover FDI importance in world economy showed:

- That the whole world's FDI inflows are highly influenced by world economy conditions – when economy grows FDI inflows grows as well and when it experience decline FDI inflows also decrease;
- Developed and developing countries have attracted most part of world FDI inflows from 2000 to 2010;
- The highest level of FDI in world GDP were in 2000 and 2009 – around four percent, in last analyzed 2010 was less than two percent (due to world economy recession, decrease in number of major sources of FDI flows - mergers and acquisitions between foreign countries, increased interest rates in all countries, volatility and uncertainty in global financial markets).

During FDI inflows to Nordic and Baltic countries analysis it was found that:

- Nordic countries have attracted much more FDI per capita to their economy than Baltic countries;
- In Nordic and Baltic countries, the highest FDI inflows per capita (2000-2010) were in Sweden and Norway, and the lowest FDI inflows per capita, during the same analyzed period, were in Latvia;
- In 2010 Finland was most attractive for Germany's investors, Sweden – for United States' investors and Norway – for Sweden and other EU countries' investors;
- In the same 2010 Estonia and Latvia were most attractive for Sweden's companies, Lithuania – for Poland and Russian's companies;
- In Nordic countries foreign investors invested most in various business activities, then in wholesale and retail trade as well as finance activities;
- In Baltic countries foreign investors were most interested in finance and then in various business activities as well as wholesale and retail trade industries.

For analysis, from OLI Eclectic theory were selected following country level FDI determinants, which have influence for FDI attraction to country's economy: economical conditions and stability, government politics, patents, property rights, market imperfection, lower risk and favorable competition. From Markusen theory it was chosen expenditures for research and

development. And from both mentioned theories: transportation costs, market size, labor force and production costs.

Relationship analysis showed that overall model is significant and relationship between FDI inflows and eleven FDI determinants exists. The most significant relation was found between FDI inflows and tax wedge on labor costs, number of granted patents, all and active population, expenditures on R&D. Moreover OLS regression analysis results showed that FDI inflows to Nordic and Baltic countries 68 percent are influenced by eleven FDI determinants and just 32 percent by other not evaluated, external factors. OLS multiple regression analysis also showed that unit increase in Global Competitiveness Index, number of granted patents, Index of Economic Freedom, market size and unit labor costs would influence decrease in FDI inflows in analyzed countries (negative correlation). And vice versa unit increase in GDP, inflation rate, export of goods and services, tax wedge on labor costs, active population and expenditures on R&D would also influence increase in FDI inflows (positive correlation) to Nordic and Baltic countries.

The attractiveness analysis showed that political and business environment have highest effect on FDI inflows in Finland, while in Sweden - demographical and business environment, in Norway – economical environment FDI determinants. In Estonia – economical, political and business environment determinants, in Latvia and Lithuania - mostly demographical FDI determinants.

Moreover, the highest FDI attractiveness index shows that most attractive to FDI in Nordic countries was Sweden, because of relatively larger market size and R&D expenditures per capita. Norway was identified as least attractive for FDI. Norway's attractiveness to FDI was negatively affected by the highest labor costs in the region. It is also recommended to consider increasing expenditures for R&D to attract more foreign investments to country. Comparably, Groh and Wich (2009) conducted composite evaluation of 127 world countries' attractiveness to FDI, and concluded that Finland was most attractive amongst Nordic countries.

Among Baltic countries, the most attractive to FDI was Estonia, because of relatively higher GDP, export and R&D expenditures per capita, relatively lower tax wedge on labor costs. On the other hand, Latvia was least attractive for FDI. Relatively higher tax wedge on labor costs, relatively lower export and R&D expenditures per capita negatively affected Latvia's attractiveness to FDI. Improving the latter determinants is recommended and this could result an increase in Latvia's attractiveness to FDI. These findings corresponded with the work of Groh and Wich (2009), who also concluded that Latvia was least attractive to FDI among Baltic and Nordic countries.

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Appendices

Appendix 1.1. Data of OLS Regression Analysis

		FDI (inward), EUR per capita	GDP, thousands EUR per capita (at prices of the previous year)	HICP, Annual average rate of change, %	Exports of goods and services, thous EUR per capita	Global Competitiveness Index (GCI)	Tax rate on low wage earners: Tax wedge on labour costs	Patent grants by country of origin and patent office, units for 1 mln. Citizens	Index of Economic Freedom	Market Size, mln	Population, from 15 to 64 age, mln	Unit Labour Costs, ths of EUR per capita	Research and development expenditure, EUR per capita
Country	Year	Y	$x1$	$x2$	$x3$	$x4$	$x5$	$x6$	$x7$	$x8$	$x9$	$x10$	$x11$
Finland	2000	1849,6	25,6	2,9	11,14	7,9	43,0	591	64,3	5,17	3,5	13,74	855,2
	2001	804,2	26,9	2,7	11,16	4,7	41,4	666	69,7	5,18	3,5	14,54	891,5
	2002	1637,9	27,7	2,0	11,21	6,0	40,9	732	73,6	5,19	3,5	14,89	929,8
	2003	563,6	28,0	1,3	10,82	2,0	40,0	848	73,7	5,21	3,5	15,27	961,3
	2004	435,3	29,2	0,1	11,63	3,0	39,4	877	73,4	5,22	3,5	15,85	1006,5
	2005	729,1	30,1	0,8	12,55	3,7	39,5	822	71	5,24	3,5	16,61	1045,3
	2006	1159,5	31,5	1,3	14,35	8,3	38,8	826	72,9	5,26	3,5	17,34	1096,2
	2007	1721,6	34,1	1,6	15,61	12,7	38,6	867	74,0	5,28	3,5	18,29	1183,0
	2008	-132,8	35,0	3,9	16,41	12,1	38,6	890	74,6	5,30	3,5	19,49	1296,3
	2009	-0,6	32,4	1,6	12,08	12,7	36,9	916	74,5	5,33	3,5	19,32	1274,1
2010	608,1	33,6	1,7	13,47	14,4	36,3	983	73,8	5,35	3,6	19,68	1302,7	
Sweden	2000	2862,7	30,3	1,3	14,08	11,0	48,6	736	65,1	8,86	5,7	17,91	1255,2
	2001	1371,9	28,6	2,7	13,23	14,0	47,8	827	66,6	8,88	5,7	17,34	1179,8
	2002	1456,8	29,9	1,9	13,28	17,7	46,8	788	70,8	8,91	5,8	17,99	1256,6
	2003	491,9	31,2	2,3	13,58	6,3	47,0	1.002	70	8,94	5,8	18,51	1186,3
	2004	1085,7	32,5	1,0	14,93	9,0	47,2	957	70,1	8,98	5,8	19,04	1161,6
	2005	1061,1	33,1	0,8	16,03	11,0	46,6	789	69,8	9,01	5,9	19,31	1178,4
	2006	2547,6	35,2	1,5	17,97	8,8	45,9	798	70,9	9,05	5,9	19,99	1295,5
	2007	2220,8	37,1	1,7	19,23	11,7	43,3	784	69,3	9,11	6,0	21,36	1259,8
	2008	2722,5	36,3	3,3	19,43	10,7	42,5	827	70,8	9,18	6,0	20,83	1341,0
	2009	799,5	31,6	1,9	15,15	10,3	41,3	820	70,5	9,26	6,1	18,56	1136,6
2010	430,3	37,4	1,9	18,59	10,3	40,6	934	72,4	9,34	6,1	21,26	1270,8	
Norway	2000	1714,2	40,8	3,0	18,97	12,5	35,1	283	70,1	4,48	2,9	19,54	903,5
	2001	526,3	42,4	2,7	19,41	9,3	35,2	293	67,1	4,50	2,9	20,79	674,4
	2002	184,9	45,1	0,8	18,55	9,7	35,2	193	67,4	4,52	2,9	23,22	748,9
	2003	674,0	43,7	2,0	17,63	11,0	34,9	248	67,2	4,55	3,0	22,28	747,0
	2004	446,8	45,8	0,6	19,12	5,7	35,0	229	66,2	4,58	3,0	22,18	718,6
	2005	944,5	53,1	1,5	23,41	7,0	34,2	229	64,5	4,61	3,0	24,37	799,6
	2006	1101,0	58,4	2,5	26,50	13,0	34,3	245	67,9	4,64	3,1	26,25	863,8
	2007	904,1	61,5	0,7	27,12	16,8	34,2	325	67,9	4,68	3,1	28,88	979,9
	2008	1547,3	65,7	3,4	30,73	16,8	34,2	323	68,6	4,74	3,1	30,45	1040,3
	2009	2102,5	56,3	2,3	22,18	17,2	33,7	337	70,2	4,80	3,2	29,07	999,9
2010	1841,0	64,9	2,3	26,70	18,1	33,7	393	69,4	4,86	3,2	32,51	1099,8	

Appendix 1.2. Data of OLS Regression Analysis

		FDI (inward), EUR per capita	GDP, thousands EUR per capita (at prices of the previous year)	HICP, Annual average rate of change, %	Exports of goods and services, thous EUR per capita	Global Competitiveness Index (GCI)	Tax rate on low wage earners: Tax wedge on labour costs	Patent grants by country of origin and patent office, units for 1 mln. Citizens	Index of Economic Freedom	Market Size, mln	Population, from 15 to 64 age, mln	Unit Labour Costs, ths of EUR per capita	Research and development expenditure, EUR per capita
Country	Year	Y	x1	x2	x3	x4	x5	x6	x7	x8	x9	x10	x11
Estonia	2000	309,0	4,5	3,9	3,80	29,7	39,8	1	69,9	1,37	0,9	0,15	27,0
	2001	440,7	5,1	5,6	4,07	26,7	39,3	10	76,1	1,37	0,9	0,16	35,7
	2002	224,5	5,7	3,6	4,05	29,3	40,6	9	77,6	1,36	0,9	0,18	40,9
	2003	605,3	6,4	1,4	4,45	24,0	40,9	17	77,7	1,36	0,9	0,20	49,3
	2004	569,8	7,2	3,0	5,24	23,7	39,6	11	77,4	1,35	0,9	0,23	61,2
	2005	1711,3	8,3	4,1	6,45	24,3	38,1	8	75,2	1,35	0,9	0,26	77,2
	2006	1064,5	10,0	4,4	7,24	27,6	37,3	6	74,9	1,34	0,9	0,31	112,3
	2007	1481,0	12,0	6,7	8,03	33,8	37,6	26	78,0	1,34	0,9	0,39	129,4
	2008	877,7	12,2	10,6	8,61	34,3	37,0	38	77,9	1,34	0,9	0,43	155,1
	2009	983,1	10,3	0,2	6,69	36,2	37,7	28	76,4	1,34	0,9	0,37	147,3
	2010	866,5	10,7	2,7	8,48	36,8	38,6	45	74,7	1,34	0,9	0,36	173,3
Latvia	2000	187,8	3,5	2,6	1,49	50,2	42,2	39	63,4	2,38	1,6	1,73	15,8
	2001	62,1	3,9	2,5	1,64	47,0	42,0	41	66,4	2,36	1,6	1,84	16,0
	2002	114,2	4,2	2,0	1,73	45,3	42,2	50	65,0	2,35	1,6	1,89	17,7
	2003	115,4	4,3	2,9	1,80	35,7	41,4	51	66,0	2,33	1,6	1,95	16,2
	2004	220,7	4,8	6,2	2,12	41,7	41,9	39	67,4	2,32	1,6	2,19	20,1
	2005	246,3	5,6	6,9	2,70	42,0	41,8	39	66,3	2,31	1,6	2,68	31,5
	2006	577,4	7,0	6,6	3,14	48,1	41,8	38	66,9	2,29	1,6	3,48	49,0
	2007	742,8	9,2	10,1	3,92	52,0	41,1	10	67,9	2,28	1,6	4,86	55,1
	2008	377,7	10,1	15,3	4,34	58,8	39,9	12	68,3	2,27	1,6	5,72	62,4
	2009	29,8	8,2	3,3	3,60	63,2	41,5	13	66,6	2,26	1,6	6,72	37,5
	2010	117,3	8,0	-1,2	4,30	68,1	43,5	93	66,2	2,25	1,5	7,90	48,3
Lithuania	2000	116,8	3,5	1,1	1,58	46,0	42,9	24	61,9	3,51	2,3	1,73	20,8
	2001	142,8	3,9	1,6	1,94	43,7	42,9	21	65,5	3,49	2,3	1,85	26,2
	2002	220,6	4,4	0,3	2,28	40,3	43,1	15	66,1	3,48	2,3	2,08	28,7
	2003	46,1	4,8	-1,1	2,44	39,3	40,9	20	69,7	3,46	2,3	2,31	31,9
	2004	180,5	5,3	1,2	2,75	36,3	41,6	18	72,4	3,45	2,3	2,59	39,7
	2005	241,3	6,1	2,7	3,51	41,7	42,6	23	70,5	3,43	2,3	2,99	45,8
	2006	425,2	7,1	3,8	4,17	46,8	40,6	20	71,8	3,40	2,3	3,56	56,0
	2007	434,4	8,5	5,8	4,57	45,8	41,2	15	71,5	3,38	2,3	4,33	68,7
	2008	412,9	9,6	11,1	5,74	57,4	40,3	23	70,9	3,37	2,3	4,98	76,6
	2009	36,8	7,9	4,2	4,32	53,3	38,9	20	70,0	3,35	2,3	5,72	66,1
	2010	142,6	8,3	1,2	5,65	55,9	38,8	25	70,3	3,33	2,3	6,58	65,7

Appendix 1.3. Data of OLS Regression Analysis

Regression Statistics	
Multiple R	0,83
R Square	0,68
Adjusted R Square	0,62
Standard Error	444,5
Observations	66

ANOVA

	df	SS	MS	F	Significance F
Regression	11	22837864,9	2076169,5	10,51	0,000000000596
Residual	54	10669395,1	197581,4		
Total	65	33507260,0			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-5513,1	2616,65	-2,11	0,040	-10759,19	-267,05	-10759,19	-267,05
x1	5,6	54,62	0,10	0,918	-103,87	115,13	-103,87	115,13
x2	17,0	22,75	0,75	0,457	-28,58	62,65	-28,58	62,65
x3	71,0	67,46	1,05	0,297	-64,22	206,28	-64,22	206,28
x4	-5,7	8,73	-0,66	0,514	-23,23	11,77	-23,23	11,77
x5	144,5	40,11	3,60	0,001	64,06	224,90	64,06	224,90
x6	-4,5	1,00	-4,48	0,000	-6,45	-2,46	-6,45	-2,46
x7	-1,4	22,85	-0,06	0,952	-47,18	44,44	-47,18	44,44
x8	-3609,1	1293,33	-2,79	0,007	-6202,08	-1016,15	-6202,08	-1016,15
x9	5397,7	1997,89	2,70	0,009	1392,20	9403,26	1392,20	9403,26
x10	-115,4	70,66	-1,63	0,108	-257,04	26,31	-257,04	26,31
x11	5,0	1,03	4,86	0,000	2,94	7,05	2,94	7,05

Appendix 2. Standardized Values of Index of Economic Environment Variables

GDP Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,85	-0,67	-0,69	-0,76	-0,76	-0,69	-0,70	-0,67	-0,61	-0,55	-0,69
Sweden	-0,25	-0,48	-0,45	-0,37	-0,38	-0,45	-0,45	-0,47	-0,54	-0,61	-0,46
Norway	1,10	1,15	1,15	1,13	1,13	1,15	1,15	1,15	1,15	1,15	1,15
Estonia	1,15	1,15	1,15	1,12	1,13	1,14	1,15	1,13	1,14	1,15	1,15
Latvia	-0,58	-0,59	-0,68	-0,79	-0,76	-0,75	-0,61	-0,37	-0,41	-0,48	-0,67
Lithuania	-0,57	-0,57	-0,47	-0,33	-0,37	-0,39	-0,54	-0,76	-0,73	-0,67	-0,48

HICP Standardized values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,52	0,82	-0,65	1,10	1,03	0,58	0,73	-0,48	-1,14	0,95	0,87
Sweden	1,15	0,82	-0,50	-0,84	-0,96	0,58	0,41	-0,67	0,73	0,09	0,22
Norway	-0,63	0,82	1,15	-0,26	-0,07	-1,15	-1,14	1,15	0,41	-1,04	-1,09
Estonia	-0,98	-1,13	-0,99	-0,16	0,18	0,22	0,36	0,37	0,67	1,13	-0,91
Latvia	-0,05	0,35	-0,02	-0,91	-1,08	-1,09	-1,13	-1,13	-1,15	-0,35	1,07
Lithuania	1,02	0,78	1,01	1,07	0,90	0,87	0,77	0,76	0,48	-0,78	-0,15

Exports of Goods and Services, Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,9	-0,8	-0,8	-0,9	-1,0	-0,9	-0,8	-0,9	-0,8	-0,8	-0,9
Sweden	-0,2	-0,3	-0,3	-0,1	-0,1	-0,2	-0,3	-0,2	-0,4	-0,3	-0,1
Norway	1,1	1,1	1,1	1,1	1,0	1,1	1,1	1,1	1,1	1,1	1,1
Estonia	1,15	1,15	1,12	1,12	1,13	1,13	1,12	1,14	1,09	1,13	1,10
Latvia	-0,61	-0,69	-0,79	-0,79	-0,76	-0,77	-0,80	-0,72	-0,87	-0,79	-0,86
Lithuania	-0,54	-0,46	-0,33	-0,33	-0,38	-0,36	-0,32	-0,42	-0,23	-0,34	-0,23

Global Competitiveness Index (GCI) Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-	1,00	0,86	0,99	0,96	0,97	0,66	0,39	0,34	0,20	-0,04
Sweden	-	-1,00	-1,10	0,02	-1,03	-1,03	0,49	0,75	0,78	0,89	1,02
Norway	-	0,00	0,24	-1,01	0,07	0,06	-1,15	-1,14	-1,13	-1,08	-0,98
Estonia	-	1,14	1,10	1,12	1,11	1,15	1,15	1,09	1,15	1,08	1,07
Latvia	-	-0,72	-0,86	-0,33	-0,84	-0,59	-0,63	-0,88	-0,63	-0,90	-0,92
Lithuania	-	-0,42	-0,24	-0,79	-0,26	-0,56	-0,52	-0,20	-0,53	-0,17	-0,15

Appendix 3. Standardized Values of Index of Political Environment Variables

Tax Rate on Labor Costs, Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,11	0,01	0,01	0,10	0,18	0,10	0,15	0,02	-0,04	0,10	0,16
Sweden	-0,94	-1,01	-1,01	-1,05	-1,08	-1,04	-1,07	-1,01	-0,98	-1,05	-1,07
Norway	1,05	0,99	0,99	0,94	0,90	0,95	0,92	0,99	1,02	0,94	0,91
Estonia	1,13	1,12	1,08	0,58	1,15	1,14	1,12	1,15	1,15	0,86	0,61
Latvia	-0,35	-0,32	-0,18	-1,15	-0,69	-0,40	-0,82	-0,55	-0,46	-1,10	-1,15
Lithuania	-0,78	-0,80	-0,90	0,58	-0,45	-0,74	-0,30	-0,60	-0,68	0,24	0,54

Number of Granted Patent, Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	0,24	0,26	0,49	0,37	0,48	0,63	0,62	0,71	0,68	0,72	0,65
Sweden	0,86	0,85	0,66	0,76	0,67	0,53	0,53	0,43	0,47	0,42	0,50
Norway	-1,10	-1,10	-1,15	-1,13	-1,15	-1,15	-1,15	-1,14	-1,15	-1,14	-1,15
Estonia	-1,06	-0,89	-0,70	-0,66	-0,80	-0,98	-0,96	1,10	1,05	1,03	-0,27
Latvia	0,93	1,08	1,14	1,15	1,12	1,02	1,03	-0,85	-0,94	-0,96	1,11
Lithuania	0,13	-0,19	-0,44	-0,49	-0,32	-0,04	-0,07	-0,24	-0,12	-0,07	-0,84

Index of Economic Freedom, Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,70	1,14	0,97	1,04	0,97	0,74	0,93	1,13	1,08	1,15	0,86
Sweden	-0,45	-0,72	0,06	-0,09	0,06	0,40	0,13	-0,34	-0,18	-0,51	0,24
Norway	1,15	-0,42	-1,03	-0,95	-1,03	-1,14	-1,06	-0,78	-0,90	-0,64	-1,10
Estonia	1,14	1,15	1,15	1,10	1,00	1,02	0,92	1,08	1,11	1,09	1,01
Latvia	-0,39	-0,50	-0,65	-0,86	-1,00	-0,98	-1,07	-0,89	-0,82	-0,88	-0,99
Lithuania	-0,74	-0,65	-0,50	-0,24	0,00	-0,04	0,15	-0,19	-0,30	-0,20	-0,02

Appendix 4. Standardized Values of Index of Demographical Conditions Variables

Market Size, Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,42	-0,43	-0,43	-0,43	-0,44	-0,44	-0,44	-0,45	-0,46	-0,47	-0,47
Sweden	1,14	1,14	1,14	1,14	1,14	1,14	1,15	1,15	1,15	1,15	1,15
Norway	-0,72	-0,72	-0,71	-0,71	-0,71	-0,70	-0,70	-0,70	-0,69	-0,68	-0,67
Estonia	-0,98	-0,98	-0,98	-0,97	-0,97	-0,97	-0,97	-0,97	-0,97	-0,97	-0,97
Latvia	-0,04	-0,04	-0,05	-0,05	-0,05	-0,05	-0,05	-0,05	-0,05	-0,06	-0,06
Lithuania	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,03	1,03	1,03	1,03

Active Population (from 15 to 64 years old), Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,38	-0,38	-0,39	-0,40	-0,41	-0,42	-0,42	-0,44	-0,45	-0,46	-0,47
Sweden	1,13	1,14	1,14	1,14	1,14	1,14	1,14	1,14	1,15	1,15	1,15
Norway	-0,76	-0,75	-0,75	-0,74	-0,73	-0,72	-0,72	-0,71	-0,70	-0,69	-0,68
Estonia	-0,99	-0,99	-0,99	-0,99	-0,99	-0,98	-0,98	-0,98	-0,98	-0,98	-0,97
Latvia	-0,02	-0,02	-0,02	-0,03	-0,03	-0,03	-0,04	-0,04	-0,04	-0,05	-0,05
Lithuania	1,01	1,01	1,01	1,01	1,01	1,02	1,02	1,02	1,02	1,02	1,02

Appendix 5. Standardized Values of Index of Business Environment Variables

Unit Labor Costs, Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	1,11	0,96	0,91	0,97	1,00	0,89	0,84	0,84	0,69	0,51	0,69
Sweden	-0,28	0,07	0,17	0,05	0,00	0,20	0,26	0,27	0,46	0,64	0,46
Norway	-0,83	-1,03	-1,07	-1,02	-1,00	-1,08	-1,11	-1,11	-1,15	-1,15	-1,15
Estonia	1,15	1,15	1,15	1,14	1,14	1,15	1,15	1,15	1,15	1,14	1,14
Latvia	-0,58	-0,58	-0,49	-0,41	-0,41	-0,47	-0,56	-0,68	-0,70	-0,72	-0,73
Lithuania	-0,57	-0,58	-0,66	-0,73	-0,73	-0,68	-0,60	-0,47	-0,44	-0,43	-0,41

R&D Expenditure's, Standardized Values

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Finland	-0,68	-0,09	-0,19	-0,02	0,20	0,20	0,05	0,29	0,43	1,00	0,72
Sweden	1,15	1,04	1,08	1,01	0,89	0,89	0,97	0,82	0,71	0,00	0,42
Norway	-0,46	-0,95	-0,89	-0,99	-1,08	-1,08	-1,02	-1,11	-1,14	-1,00	-1,14
Estonia	1,03	0,99	1,02	1,02	1,02	1,10	1,15	1,14	1,14	1,12	1,15
Latvia	-0,96	-1,01	-0,98	-0,98	-0,98	-0,86	-0,68	-0,74	-0,71	-0,81	-0,70
Lithuania	-0,07	0,02	-0,04	-0,03	-0,03	-0,24	-0,47	-0,40	-0,43	-0,31	-0,44