Determinants of South Korean FDI in Central Eastern Europe

By

Klemens Piotr Slodyczka

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
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ABSTRACT

DETERMINANTS OF SOUTH KOREAN FDI IN CENTRAL EASTERN EUROPE

By

Klemens Piotr Slodyczka

This study tries to determine the most important factors behind the locational decisions of South Korean Foreign Direct Investments in Central Eastern European countries. The paper aims to prove that both endowments as well as institutional factors play an important role at attracting South Korean FDI. The author conducts an empirical test in order to find the most influential determinants behind the locational decisions of South Korean firms investing in the region of Central Eastern Europe. The quantitative data comprises of observations from nine countries including: the Czech Republic, Hungary, Lithuania, Latvia, Poland, Slovenia, Slovakia, Bulgaria and Romania between the years of 2005 and 2010. The results show that the size of a country's market as well as the buying power of its citizens are the most important endowment factors at attracting Korean FDI. Finally, the paper proves that institutional factors such as the labor freedom and the openness to trade are influential for Korean investments.

Dedicated to Krystyna Slodyczka

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I would like to dedicate my special thanks to my supervisor Professor Kim Duol for his support and valuable guidance from the first idea of this project till its final draft. In spite of his very busy schedule, Professor Kim has been giving my work close and thoughtful attention.

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Thank You

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List of Abbreviations

CEECs	Central Eastern European countries
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GDP	Gross Domestic Product
KOREU FTA	Korea – the European Union Free Trade Agreement
MNCs	Multinational Corporations
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Square
The EU	the European Union

Chapter 1 – Introduction

The importance of Foreign Direct Investments (FDI) in a country's development has been emphasized many times in recent studies. This type of capital inflow tends to be one of the most valuable contributors to development and growth, especially in developing economies. According to the data from the recent World Investment Report, Global Foreign Direct Investment reached $1.24 trillion in 2010 (UNTCAD, 2011). Although the recent financial crisis has hindered the increase of FDI, the estimates for the future are very promising. More importantly, in 2010, the developing countries began to play an increasingly important role as the major recipients of FDI, absorbing more than 50% of Global FDI for the first time in history (UNTCAD, 2011).

As a part of the developing world, Central Eastern European Countries (CEECs) have been gaining attractiveness as recipients of FDI since the collapse of the Iron Curtain in 1989. Additionally, successful accession of many of those countries into the European Union in 2004 and 2007 allowed them to strengthen their economies and improve their institutions, which attracted even more FDI (Hwang, 2008). Although most of the incoming FDI in CEECs has come from Western Europe and the United States (UNTCAD, 2003) South Korea has been rapidly increasing its investments in the region since the early 1990s, especially in the manufacturing sector (Import Export Bank of Korea, 2011).

South Korean outward FDI for the last two decades has been concentrated in North America, East Asia and Western Europe (Hong and Kim, 2003, p.92). However, since the early 1990s, South Korean manufacturing companies started investing in countries such as Poland, Hungary and the Czech Republic. Although there have been

many researches concerning the outward FDI of South Korea and its determinants, most of those focused on North America and Western Europe. In addition, the Central Eastern European inward FDIs' determinants have been studied mostly without specification of the source of these investments. This research therefore, intends to fill these gaps by analyzing the main determinants of Korean FDI in the CEECs.

The question why certain companies tend to invest more in a given region has been raised many times in previous researches. There are many important determinants that drive the inflow of FDI to a particular country or region. In fact, these determinants differ between companies that want to invest. It is worth noting that in case of investing abroad, Cohen (2007) mentioned that "no single formula exists because specific strengths and weaknesses of a country or region might receive high priority by one team of corporate evaluators and be ignored by another…," (p.155) and more importantly, "calculating trade-offs between positive and negative country characteristics is an art, not a science." (p.155). The very broad and general factors that influence the decisions of FDI are: the size of a recipient country's market including its population, GDP per capita, quality of human resources, cost of labor force, infrastructure, and bureaucracy (Economy Watch, 2010).

In the case of outward investments from South Korea, previous researchers have observed specific determinants that have driven Korean FDI in European countries. However, these findings focused on Western Europe without much attention to the booming markets in the CEECs. Similarly, most of the existing literature analyzing determinants of inward FDI in Eastern Europe mostly focuses on investments coming from the United States and/or Western European countries. More importantly, those findings in many cases focused mostly on endowment factors without strong enough emphasis on institutional factors that have largely improved in CEECs since 2004

when many of them met rigorous criteria for joining the European Union (Hwang, 2008). For example, Poland having a four-time larger population than the Czech Republic tends to receive comparatively the same value of FDI from South Korea (Import Export Bank of Korea). Some key institutional factors must play an important role in this situation. Therefore, taking the role of both endowments and institutions into account, the purpose of this paper is to analyze the main determinants that influence the outward FDI of South Korean manufacturing companies in CEECs including the Czech Republic, Hungary, Lithuania, Latvia, Poland, Slovenia, Slovakia, Bulgaria and Romania after 2004.

Based on the empirical analysis of South Korean outward FDI in CEECs this paper intends to answer the following questions:

1. What main factors are the most influential in locational decisions of South Korean companies' investments?
2. Do endowment factors play an equally important role in case of South Korean FDI in CEECs as the previous researches have claimed based on different examples?
3. Are there any institutional factors that influence decisions of South Korean companies where to invest in CEECs? If so, which of these factors are most important in case of Korean FDI?

Based on the questions raised above, the main goals of this paper are:

1. To describe patterns of South Korean investments in CEECs.
2. To identify the most significant factors that influenced Korean FDI in CEECs after 2004.

3. To determine the most important institutional factors that influence locational decisions of South Korean companies where to invest in CEECs.
4. Finally, the last goal of this paper is to create a background for future studies regarding locational determinants of FDI based on the case of South Korean investment in CEECs.

Chapter 2 - Literature Review

This section of the paper focuses on analyzing the existing literature concerning the topic. The first part of this chapter reviews the literature concerning the theory of the main determinants influencing the choice of location of FDI. In simple words it presents the existing literature explaining why some countries tend to invest more in a given region or another country and the driving factors behind those decisions. The next section of this review focuses on the literature concerning the South Korean outward FDI. More specifically, it takes a closer look at the papers that explain why Korean MNCs invest abroad and what characteristics or given conditions of a potential recipient country are the most important for the Korean companies in choosing their location. Moreover, the third section of this chapter analyzes the existing papers examining the institution building in CEECs. More specifically, it focuses on literature that presents the institutional factors in CEECs and explains why some countries in the region tend to receive more investment than others. Later on, the paper examines the relation between Free Trade Agreements and FDI and determines how the recent KOREU FTA might affect the future of Korean investments in CEECs. Finally, the last section of this chapter presents the general overview of Korean FDI in CEECs up to 2010.

2.1. The Theory of the Determinants of FDI

In order to explain the motivations of MNCs for investing abroad, it is worthwhile to examine the theory of the main types of foreign production distinguished by Dunning (1992). In his book, the author lists four types of foreign

investors: the resource seekers, the market seekers, the efficiency seekers, and the strategic asset seekers.

The resource seeking enterprises involved in FDI invest in countries in order to acquire cheaper resources than those available in domestic markets, making them more competitive. In addition, these types of MNCs tend to use those resources for production of goods that later on are exported to developed, industrialized markets. Some of the MNCs involved in resource-seeking try to secure their access to a stable supply of resources. Others tend to invest in order to acquire relatively cheaper unskilled/semi-skilled labor. Finally, there are resource seeking MNCs investing in developed countries in order to acquire certain skills in fields of marketing, technology and/or management (Dunning, 1992, p.56) - for example the case of early investments of South Korean companies in Europe and the U.S. (Kim and Rhe, 2009).

Another type of foreign investors is the market seekers (Dunning, 1992, p.58). MNCs involved in this type of production tend to invest in countries or regions in order to take advantage of the recipient country and/or its neighboring countries' markets by selling the goods locally produced. It is worth noting that sometimes MNCs' large exports cause the recipient country to impose trade barriers and one of the ways to overcome those is market-seeking FDI. The main reasons for this type of foreign production are: entering new markets, better adaptation of the products to local tastes, limiting distance of serving adjacent countries.

The third type of foreign production consists of the efficiency seekers (Dunning, 1992, p.59-60). MNCs involved in efficiency seeking tend to concentrate their production in one place that will allow them to supply multiple surrounding markets efficiently. This type of foreign production tends to be popular among

powerful MNCs that focus their investments in regionally integrated markets such as the European Union.

The last distinguished type of MNCs is the strategic asset seekers. These enterprises involve themselves in cooperation with other advanced companies in order to acquire their advantages and technology or to take advantage of joint capabilities through cooperation. This type of foreign production according to Dunning (1992) mainly serves MNCs acquiring "long term strategic objectives."(p. 60)

Perhaps, the most influential theory explaining the factors determining the patterns of MNCs engaging in foreign production is the Eclectic Paradigm (Dunning, 1992, p.76). In his theory, the author explains three factors under which MNCs are more likely to get involved in foreign investment. These factors are ownership advantages, locational advantages, and internalization advantages.

The ownership advantages are certain assets possessed by a company which distinguish it from its competitors and puts the company in a more favorable position. These advantages according to Dunning (1992) include tangible assets such as "natural endowments, manpower and capital" (p.77), but also "intangible assets or capabilities such as technology and information, managerial, marketing and entrepreneurial skills, organizational systems and access to intermediate or final goods markets" (p.77). The more a company possesses such assets, the more likely it gets involved in foreign production.

Another important factor determining the MNCs' pattern of investments abroad is Internalization advantage (Dunning, 1992, p.79). Given that a company is in a possession of a specific advantage over its competitors, it might be more beneficial to internalize that advantage through direct involvement in FDI rather than production

through partnership or licensing. The better the advantage, the more likely a company gets involved in FDI by establishment of subsidiaries in a recipient country.

The third factor determining the patterns of MNCs' investments in foreign countries are locational advantages. Basically, these are endowments such as size of the recipient country's market, population, and also given institutional conditions such as taxes, inexpensive labor, political and institutional arrangements, government legislation and policies (Dunning, 1992, p.77). The better the locational advantages in a given country or region, the more appealing it is for MNCs to invest in that environment.

The Eclectic Paradigm created by Dunning (1992) gives a theoretical framework for what determines the choices of MNCs to invest abroad. If a company possesses a unique ownership advantage, it internalizes it through vertical or horizontal integration when establishing a subsidiary in a foreign country and exploits its locational advantages. Therefore, these three factors are necessary conditions for FDI to occur. Nevertheless, this paper focuses on the third part of the Eclectic Paradigm – the locational advantages and the purpose of this research is to examine the main locational determinants of South Korean investments in the CEECs.

2.2. The Determinants of South Korean outward FDI

Before trying to explain the key driving factors behind Korean FDI in CEECs, the main determinants of Korean investments in general should be analyzed. In their paper Kim and Rhe (2009) are trying to explain what drives the Korean outward investments and what are the most important factors that Korean MNCs pay the most attention to when choosing where to invest.

Kim and Rhe (2009) conducted "the first empirical test to identify and analyze the driving force behind South Korean outward FDI" (p.127) in both developed and developing countries from 1994 to 2005. First of all, it is worth mentioning that the authors' research is based on an assumption that the behavior of Korean MNCs is different from those coming from developed countries as it is still on the development path. What is more, this unique behavior of Korean companies partially opposes the traditional theories of FDI. One of the examples of such unique behavior is shown by Korean investments in the early 1990s. At that time many of the Korean firms invested in California Silicon Valley without having any significant ownership advantage with comparison to the domestic American companies. Although this strategic move helped Korean multinationals to gain important technology and management skills, the traditional FDI theory says that companies invest in such markets only when they already possess a significant ownership advantage. Therefore in theory, this type of behavior should not have occurred in the first place.

In their research, Kim and Rhe (2009) form and test three hypotheses explaining the main determinants of Korean FDI. The first hypothesis states that the amount of Korean FDI is positively correlated with the host country's market size. The second hypothesis claims that the association between Korean outward FDI and the host country's labor cost is negative. Finally, the third hypothesis states that the rate of patenting present in the recipient country is positively correlated with the amount of Korean outward FDI.

Based on the empirical analyses of data from 37 countries (both developed and developing) the authors conclude that the important determinant was the market size of a host country, which implies that Korean MNCs are market-seeking investors. What is more, another significant characteristic of Korean companies was strategic-

asset seeking in both developed and developing countries. These outcomes suggest that Korean companies tried to gain additional competitive advantages apart from using their already possessed ownership advantages. Finally, the efficiency-seeking hypothesis that implied exploitation of low labor cost was found to be significant in developing countries.

Another research emphasizing the determinants of Korean outward FDI was conducted by Fung, Garcia-Herrero and Siu (2009). Although the main focus of the paper is on China, the authors give valuable empirical evidence explaining the main factors that have driven Korean outward FDI from 1980 to 2007.

The authors present data that explain that before 1993 the most important motivation behind Korean FDI was to secure and develop natural resources in host countries. What is more, after 1993 up to 1997, Korean companies' main motivation was changed and the companies started to exploit the host and adjacent countries' markets. It was after 1997 that Korean FDI was motivated by strategic asset-seeking in order to advance in technology and managerial knowledge. In addition, Fung, Garcia-Herrero and Siu (2009) stress that Korean outward FDI has been mostly concentrated in Asian countries with US $60.6 billion value of investment in 2006 and only US $21.4 billion in North America and Europe (p. 9).

Similarly, based on empirical analysis, the paper concludes that the main determinant of Korean FDI has been market-seeking. What is more, the authors found that the distance and the host countries' degree of openness to new investors have been significant factors behind Korean investment thus larger value of investment in Asia than Europe. Surprisingly, some evidence was presented that there is minor

significance of natural-resource seeking as one of the motives behind the Korean outward FDI.

Before analyzing what are the locational determinants of Korean outward FDI in CEECs, the patterns present in Western European countries should be examined more closely. Hong and Kim (2003) present the key driving factors behind Korean outward FDI in Western European countries from 1986 till 1997. In their research, the authors emphasize that although the value of Korean outward FDI in the EU falls behind North America and Asia, it is still one of the most important markets for Korean firms.

Therefore, in their empirical analysis, Hong and Kim (2003) found out that Korean outward FDI in the EU from 1986 till 1997 was mainly driven by the market size of the host country. This result complies with the fact that during that time, "76% of all Korean plants were located in the U.K., France, and Germany" (p.100) – the largest countries of the EU. In addition, the results also showed that Korean firms preferred markets with relatively low labor costs as most of the plants required labor-intensive production in assembling various electrical components.

Another important variable influencing the decisions of Korean MNCs' investment location was the level of overall FDI that the host country received. The bigger the amount of FDI that a country has accumulated, the better the manufacturing agglomeration, which leads to economies of scale that might lower the prices of inputs and parts for electrical device production.

Hong and Kim's (2003) empirical analysis also shows that Korean outward FDI tends to be bigger in the EU countries that have previously achieved a high level of imports from Korea. This result implies that some of the direct investments were

carried out in order to avoid anti-dumping suits, which were common in the late 1980s and the early 1990s. Similarly, the United Kingdom, France and Germany were already large importers of Korean manufactured products during that period.

The last significant determinant presented in the paper was related to interest rates. Lower interest rates attracted more investments. This implies that Korean MNCs were relying more on the financial support of the local financial markets rather than "parental" assistance.

The research conducted by Hong and Kim (2003) presents main patterns of Korean outward FDI in the EU from 1986 till 1997. The results show that Korean MNCs were interested to invest in European countries that have big markets, high value of inward FDI and imports of Korean goods, relatively inexpensive labor and low interest rates.

2.3. Institution building in Central Eastern European countries.

In order to understand the importance of institutional infrastructure and its influence on FDI this paper reviews existing literature on institution-building and its strong relation with attracting investments. In his paper Hwang (2008) tests both empirically and theoretically the impact of institutional factors in transition economies of CEECs on their inflow of FDI. The author's findings "suggest that only some major countries such as Hungary, Poland, Slovakia and the Czech Republic have been able to build an effective (market-economy based) institutional environment to encourage FDI" (p. 98).

Although, it is known that well prospering institutional arrangements in a country play a crucial role at attracting FDI, there is still an ongoing debate regarding which

of the institutional factors are the most influential for this type of investment. Nevertheless, Hwang (2008) presents five factors that surely play a major role in enhancing a CEEC's attractiveness for FDI. These factors include: "the degree of privatization, quality of market and trade systems, the quality of financial institutions, the quality of infrastructure, and the degree of political stability"(p. 104).

Table 1 Economic institution development indicator scores in CEECs for 2004

Countries	Privatization					Market & Trade system			Financial institutions		Infrastructure		Total
CEECs	Private sector share of GDP (%)	Large scale privatization	Small scale privatization	Enterprise restructuring	Price liberalization	Trade& foreign exchange system	Competition policy	Banking reform	Non bank financial institution	Electric power	Roads & Railways	Telecommunications	
Hungary	80	10	11	8	11	11	7	10	9	10	8	10	9.6
Czech Rep	80	11	11	8	11	11	7	9	8	8	7	10	9.2
Poland	75	8	11	8	11	11	7	8	9	8	10	10	9.2
Slovakia	80	10	11	7	11	11	7	9	7	10	7	8	9.0
Latvia	70	9	11	7	11	11	7	9	7	8	6	7	8.5
Lithuania	75	9	11	7	11	11	7	7	7	8	5	8	8.3
Slovenia	65	7	11	7	10	11	6	8	6	7	7	7	8.0
Bulgaria	75	10	9	6	11	11	5	9	5	9	5	8	8.0
Romania	70	9	9	4	11	11	5	7	4	8	8	7	7.5

Source: Hwang (2008)
Note: The table presents only the countries discussed in this paper. For more details refer to the source.

As Table 1 depicts, the leading positions in institutional advancement are occupied by four CEECs including Poland, Hungary, Slovakia, and Czech Republic. These four countries have managed to improve in terms of Privatization, Market and Trade Systems, Financial Institutions as well as Infrastructure during their transition period. These advancements mainly came from these countries' preparation for joining the EU. The political, economic and institutional requirements and criteria that countries have to meet to be eligible for joining the EU are demanding. Therefore, Hwang (2008) states that indeed the EU has played a role of some sort of a 'catalyst' that enhanced the institutional, political and social environment of new member countries. However, as it was discussed above, only the four leading countries have

achieved the major improvements, which surely have affected their inflow of FDI. Indeed, according to Hwang (2008) between 1998 and 2005 "the total cumulative FDI across all of Central Eastern Europe was US $140 billion" and only "the major four CEECs – that possess a better quality of (both economic and political) institutional framework – took up to 80% of all the total investment across the whole of Central and Eastern European region" (p. 109).

This regional dominance of attracting FDI of the leading four countries surely proves that a proper institutional environment largely influences investors' decisions. Although, Hwang (2008) focused on the transition period of CEECs, this paper shows that the situation has not changed significantly after all of the countries' successful admission to the EU. In fact, the four leading economies: Poland, Hungary, Slovakia, and the Czech Republic still remain in the leading positions attracting most of the inflow of South Korean FDI.

2.4. Impact of Free Trade Agreement on Foreign Direct Investment

One of the reasons for Korean FDI in Europe in the late 1980s and the early 1990s was to avoid the anti-dumping suits imposed by the EU (Hong and Kim, 2003). Increased imports of Korean goods experienced by France, the United Kingdom and Germany have forced these countries to impose trade barriers on Korean inflow of products. This situation, however, will change significantly due to the recent Korea-EU Free Trade Agreement.

The negotiations for the FTA between South Korea and the EU were launched in May 2007. It took eight rounds of negotiations between the two sides to finally reach

a consensus and sign the agreement on 6 October 2010. The FTA has entered into force recently, on 1 July 2011 (European Commission, 2011).

Due to the new agreement, many trends in various economic activities between the EU and South Korea are expected to change, including the patterns of FDI. Therefore, this paper evaluates what might be the possible outcomes of the recent KOREU FTA regarding FDI between the two sides.

In his paper, Moon (2009) tests empirically how a FTA affects FDI based on analysis of countries that were involved in investment activities before and after entering into Free Trade Agreement. First of all, Moon distinguishes between horizontal and vertical types of FDI. The former "occurs when a multinational firm produces in multiple countries in order to sell directly to the local market" and "it is often seen as a substitute to trade and is undertaken to avoid trade barriers" (p. 1). Therefore, the expected impact of FTA on FDI in case of horizontal investment is negative. In contrast, as Moon states "vertical FDI occurs when a multinational firm engages in different stages of production in multiple countries, using different processes of production that exploit the comparative advantage of the trade partner" (p. 1). Therefore, FTA shall have a positive impact on this type of investment because removing tariffs and barriers to trade reduces costs of transport and production and thus increases the comparative advantage of the FDI recipient country even further.

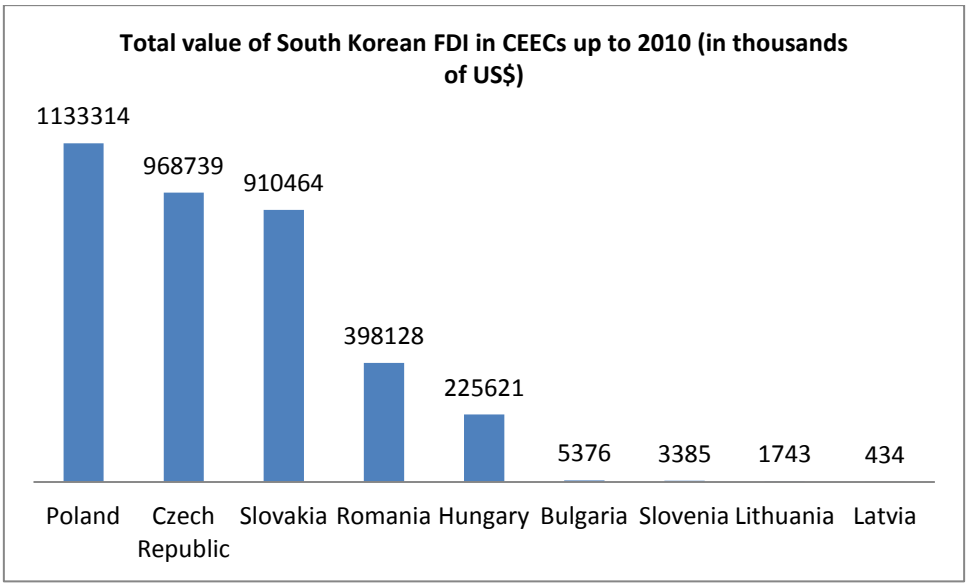
Although, due to the KOREU FTA some inflow of FDI from South Korea into European countries may decrease, some of it will certainly grow even more. Western Europe may enjoy less inflow of FDI from Korean multinationals as most of the subsidiaries of Korean companies established in countries such as France, the United Kingdom and Germany were established in order to avoid the anti-dumping suits and

avoid trade barriers. However, by putting the case of South Korean FDI in CEECs into the above mentioned theoretical framework it can be safely assumed that investments of Korean MNCs will increase as the major comparative advantage of CEECs remains the inexpensive labor when compared to the Western Europe.

2.5.Overview of South Korean FDI in Central Eastern European countries

As mentioned before, Korean companies started to invest in European countries as early as 1982, "when Samsung Electronics built a TV factory in Portugal" (Hong and Kim, 2003, p.92). However, after the collapse of the Iron Curtain, South Korean multinationals started to pay more attention to the booming markets of Central Eastern Europe. From the early 1990s their FDI inflow into CEECs was gradually increasing. Nevertheless, not all of the countries enjoyed the same amount of investment coming from the East Asian investor.

Figure 1 Korean Investments in CEECs from 1990 to 2010

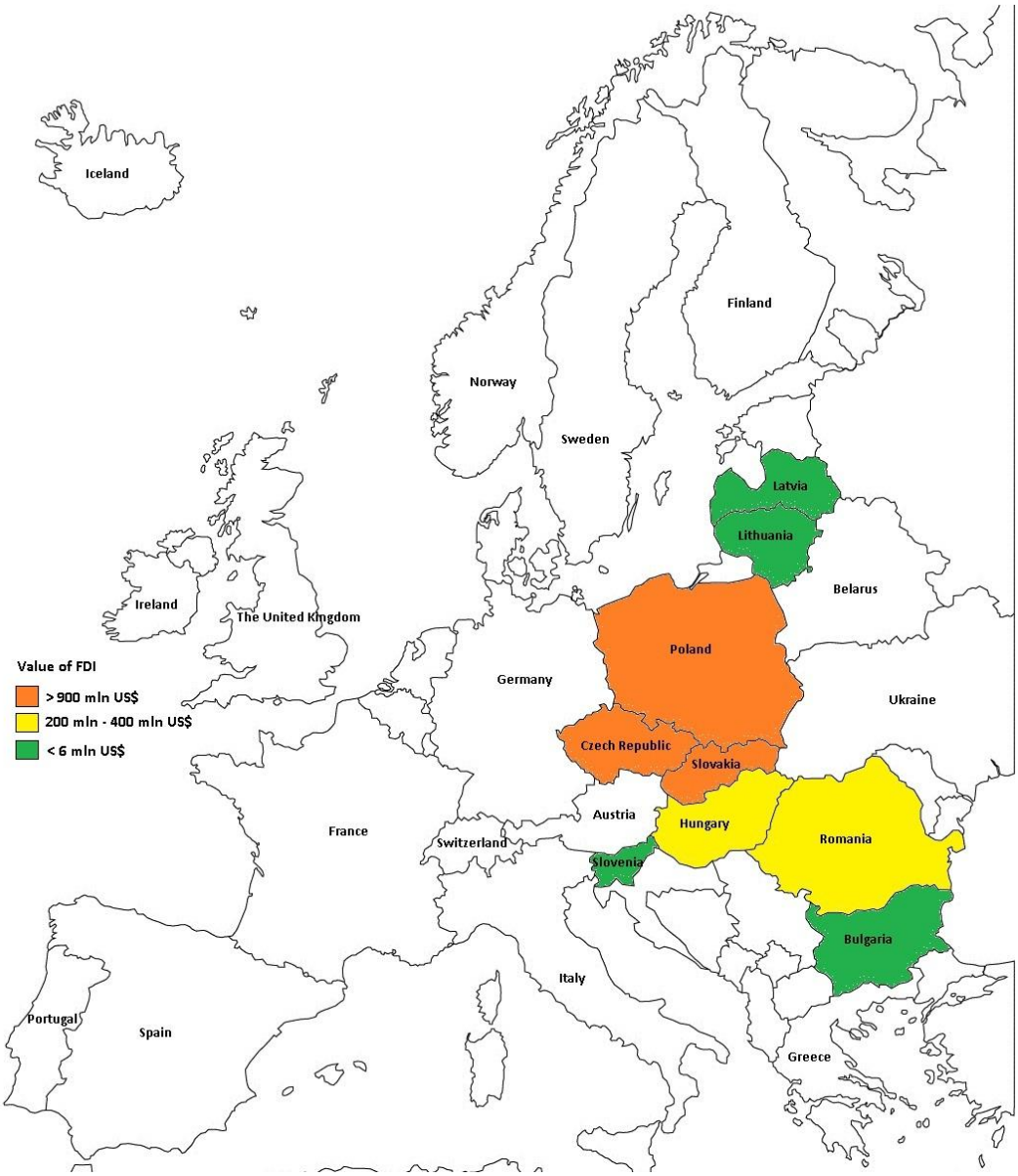


Source: Import Export Bank of Korea

Figure 1 presents the total value of Korean investments that flowed into CEECs from the early 1990s to 2010. It is clearly visible that the leading position in the total value of FDI received belongs to Poland and the Czech Republic – the two biggest economies of Central Eastern Europe. On the contrary, the Baltic countries, Bulgaria, and Slovenia have received the least amount of FDI from Korean companies so far. In addition, situation of Romania changed positively since the 1998-2005 period discussed previously based on Hwang's (2008) institutional analysis. Romania surely started to increase its attractiveness for investment from Korea after its transition period. Therefore, Figure 1 shows that Korean investments predominantly remain concentrated in the four CEECs including Poland, Czech Republic, Slovakia and Hungary; however, Romania has managed to join the 'club'.

Additionally, Figure 2 presents geographical distribution of Korean FDI in CEECs. From the early 1990s to 2010, mostly Korean companies invested in Poland, the Czech Republic and Slovakia, followed by Hungary and Romania. Although, these countries are well endowed compared with the rest, the concentration of FDI inflow in these countries also suggests that they have made substantial improvements in their institutional framework as mentioned before.

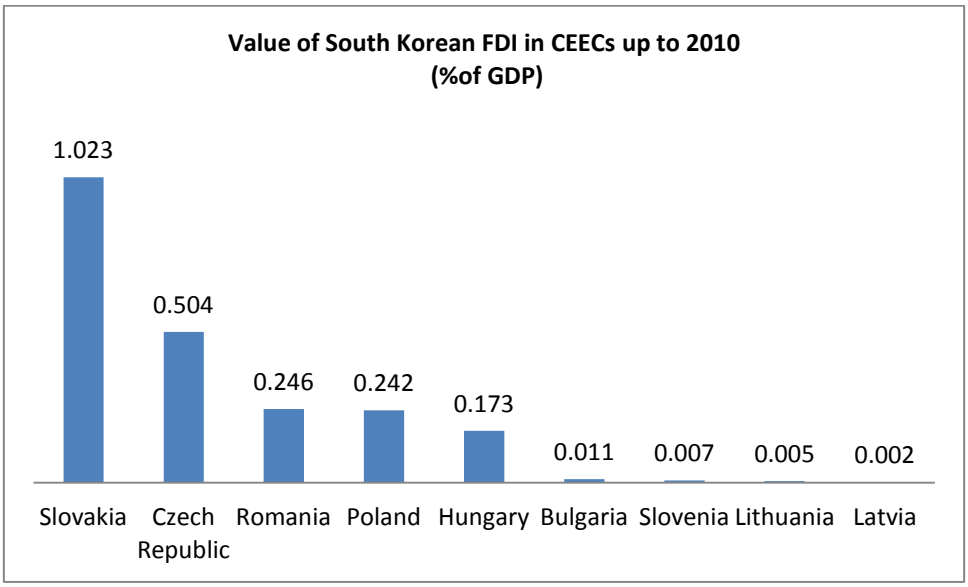
Figure 2 Geographical distribution of South Korean FDI in CEECS up to 2010



Source: Author's work based on Bruce Jones Design Inc. 2009 map.

Figure 1 clearly suggests that Korean companies are mostly influenced by endowment factors of a given CEEC in which they tend to invest. Therefore, the investment inflow should be examined on more relative terms.

Figure 3 Value of Korean FDI in CEECs as % of a country's GDP



Source: Import Export Bank of Korea

Figure 3 presents data for Korean FDI in CEECs as percentage of a recipient country's GDP. Surprisingly in this comparison, Slovakia takes the leading position. From early 1990s to 2010 Korean multinationals invested in Slovakia more than 1% of its GDP (current US$ 2010). What is more, the Czech Republic remains in the second position followed by Romania, which again shows that the country has made large improvements compared with the period of 1998-2005. Nevertheless, Poland is the leader in terms of total value of received FDI; the country's relative comparison shows that size does not play the most important role in attracting Korean FDI. Similar to the previous comparison, the Baltic countries, Bulgaria and Slovenia have received the least amount of FDI in both total and relative terms.

The above analysis shows that endowments do not necessarily play the most important role when it comes to locational decisions of South Korean FDI. The smaller countries such as Slovakia tend to be doing much better than the largest economies of Central Eastern Europe like Poland. Therefore, it can be safely assumed

that some institutional factors are equally important as endowments for Korean multinational decisions where to invest in CEECs.

Chapter 3 – Empirical analysis

3.1. Research hypotheses

In order to evaluate the driving factors behind the outward FDI of South Korea in CEE countries this study includes empirical analysis to estimate the most significant endowment and institutional factors that determine the inflow of Korean FDI into CEECs. The empirical test includes various data from 9 countries of CEE: the Czech Republic, Hungary, Lithuania, Latvia, Poland, the Slovak Republic, and Slovenia that joined the European Union in 2004 as well as Bulgaria and Romania, which joined in 2007. FDI is a long-term engagement and requires careful planning before making decisions where and how much to invest. Each country is different; however, there might be some similar characteristics in certain regions among groups of countries. Korean FDI in CEECs is a good case study to determine whether institutional factors play an important role at attracting investments. In addition, based on the results of the analysis, the paper shows on what important factors CEECs should focus the most in order to attract more outward FDI from South Korea. In order to find out what determines FDI from Korea in CEECs and what factors play important roles in these investments, the following hypotheses shall be tested:

Hypothesis 1: South Korean FDI in CEECs is encouraged by large domestic markets.

As it was discussed above, endowments played the main role in the most cases of locational determinants of Korean FDI. Previous researches done by Hong and Kim (2003), Kim and Rhe (2009), and Fung, Garcia-Herrero and Siu (2009), found that the main locational determinants of Korean FDI has been the size of a country's domestic market. It is reasonable for Korean companies to behave in a market-seeking

manner as recipient countries with large markets ensure a stable demand for manufactured products. Stable demand can be crucial in the very first stages of investment process as it helps to mitigate business failures and initial costs connected with setting up new plants. Therefore, it is crucial to first analyze if endowments are equally important in CEECs as in previously discussed cases.

Hypothesis 2: South Korean FDI in CEECs is encouraged by inexpensive labor in the manufacturing sector.

As it was discussed above, Korean companies in many cases tend to be efficiency-seeking. This implies that one of the major locational determinants in their decisions where to invest involves labor costs. Many of Korean investments consist of plants with labor intensive assembly lines, which require large supply of inexpensive semi-skilled employees. Similarly, Hong and Kim (2003) as well as Kim and Rhe (2009) mentioned in their work that Korean manufacturing companies choose countries with relatively large supply of low cost labor. Therefore, the paper conducts an empirical test if these finding comply with Korean FDI in CEECs.

Hypothesis 3: South Korean FDI in CEECs is encouraged by a higher degree of labor freedom.

It is known that in countries characterized by a larger degree of labor freedom, the legal and regulatory framework regarding labor is more favorable towards foreign investors. In the case of Korean companies, this factor shall be very significant as their assembly plants require large numbers of semi-skilled employees. What is more, as it was discussed above, Korean companies prefer countries with a large supply of such labor and would prefer to have more freedom and flexibility in choosing their

desired type of workers through unrestrained hiring as well as the ease of firing redundant workers.

Hypothesis 4: South Korean FDI in CEECs is encouraged by higher degree of openness to trade.

It is assumed that the more open to trading a country is the more FDI it shall attract. A higher degree of openness creates an environment where transaction costs for international business are lower. In addition, the more a country is involved in trading across borders, the more simplified bureaucracy regarding doing business internationally it has. Locational decisions of efficiency-seeking companies are influenced by a country's degree of openness to trade. These types of investments tend to be located in integrated regional markets in order to supply other countries of the region (Dunning, 1992). This matches with Korean FDI as the manufacturing companies from South Korea tend to build their plants in CEECs and additionally to supplying the local market they also export their assembled products to the other markets of the EU.

3.2. Methodology

3.2.1. Estimation method

In order to evaluate the hypotheses and estimate the main locational determinants of Korean outward FDI in Central Eastern Europe this paper contains constructed panel data analysis with observations from nine CEECs including: the Czech Republic, Hungary, Lithuania, Latvia, Poland, Slovakia, Slovenia, Bulgaria and Romania between the years of 2005 and 2010. The regression analysis is based

on a pooled ordinary least squares (OLS) model with fixed-effect time series cross-sectional data.

3.2.2. Specification of the variables

Based on the previous studies it is assumed that the endowment factors are the most influential locational determinants of investments for Korean companies in CEECs. Therefore, there are two crucial endowment variables in this study. However, as it was noted above, institutional factors do play an important role in attracting FDI and this study intends to test which of these factors plays the most crucial role for Korean companies investing in Central Eastern Europe. Therefore, this empirical analysis includes three additional institutional factors that are considered to be the most influential for Korean outward FDI. The following section presents description of those factors.

Value of FDI: This is the dependant variable that represents the amount of Foreign Direct Investment that came from South Korea and was received by a country *i* in a given year *t*. The data comes from nine CEECs and includes variables from 2005 till 2010. In order to avoid industry bias only data from manufacturing industries is used. The value of FDI is given in US$ and the source is Import Export Bank of Korea.

GDP/capita: This independent variable represents total current Gross Domestic Product per capita of a country *i* in US$ in a given year *t*. This is by far the most influential endowment factor in this analysis and represents the income of a country's citizen.

Population: This variable represents total population of a country *i* in a given year *t.* Population size is the second endowment factor in this analysis and represents the size of a country's market.

Labor Cost/h: This variable represents an average hourly wage in manufacturing sector of a country *i* in a given year t.

Labor Freedom: This institutional factor represents the freedom of labor environment of a given country *i* in a given year *t*, meaning that the higher the labor freedom, the more flexibility companies have in hiring additional workers as well as firing redundant ones.

Trade Openness: This is a constructed variable using a sum of a country's *i* imports and exports in a given year *t* as percentage of Gross Domestic Product. Openness to trade is the result of a country's policy; therefore it is regarded as the institutional factor in this analysis.

3.3. Empirical test

Korean companies started investing in CEECs in the early 1990s. However, this empirical analysis includes annual investment values for years 2005 till 2010. The main reason for this choice is that the most of the countries analyzed joined the European Union in 2004. As it was noted before, the EU has played a crucial role for these countries as an institutional catalyst. Thanks to the EU's rigorous criteria many institutional factors have improved; therefore this most likely played an important role at attracting more FDI overall, including investment from South Korea.

Table 2 Summary of independent variables

Independent Variables	Explanation	Expected sign	Data source
GDP/capita	Gross Domestic Product per capita (current US$)	+	World Bank
Population	Total population	+	World Bank
Labor Cost/h	Average hourly wage in manufacturing (current US$)	-	OECD/Eurostat
Labor Freedom	Index of freedom of labor from 0 to 100 (100=perfectly free)	+	Index of Economic Freedom
Trade Openness	Openness to trade (imports plus exports as % of total GDP)	+	World Bank

Table 2 presents an overview of the independent variables used in the regression analysis. All of the variables except *Labor Cost/h* are expected to have a positive correlation with the dependant variable – *Value of FDI*. In addition, the endowment variables (*GDP/capita* and *Population*) and *Trade Openness* come from the World Bank database, whereas data for *Labor Freedom* variable was collected from the Index of Economic Freedom. Finally, the *Labor Cost/h* variable comes from OECD and Eurostat databases.

Table 3 Correlation of independent variables

	GDP/capita	Population	Labor Cost/h	Labor Freedom	Trade Openness
GDP/capita	1				
Population	-0.3553	1			
Labor Cost/h	0.6274	0.0403	1		
Labor Freedom	-0.4374	0.2554	0.0256	1	
Trade Openness	0.4661	-0.4734	0.3553	0.2481	1

Table 3 represents correlation matrix of the independent variables. Most of the explanatory variables' correlation does not exceed 0.50. Although, some variables such as *GDP/capita* and *Labor Cost/h* have relatively high correlation coefficients, they can be included simultaneously in the model as there should be no problem with multicolinearity.

Table 4 Regression analysis

	ln(Value of FDI)				
	(1)	(2)	(3)	(4)	(5)
ln(GDP/capita)	4.112***	2.263	6.002***	2.406**	4.441***
	(1.086)	(1.458)	(0.892)	(0.923)	(1.496)
ln(Population)	4.585***	4.207***	4.294***	5.488***	4.878***
	(0.537)	(0.561)	(0.412)	(0.458)	(0.491)
ln(Labor cost/h)		1.655*			0.058
		(0.899)			(0.746)
ln(Labor Freedom)			12.254***		8.225***
			(2.181)		(2.995)
ln(Trade Openness)				8.323***	4.449**
				(1.600)	(1.983)
Constant	-104.439***	-84.250***	-168.041***	-142.445***	-167.343***
	(15.330)	(18.511)	(16.253)	(14.128)	(21.160)
N	45	45	45	44	44
R^2	0.637	0.665	0.795	0.784	0.824
adj. R^2	0.620	0.640	0.780	0.768	0.801

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4 represents the regression analysis, the core of this study. In five regressions the hypotheses are tested. All five models include endowment variables *GDP/capita* and *Population* in order to control them and test the role of the institutional factors impacting the annual inflow of Korean FDI into CEECs.

Model (1) tests the importance of typical endowments and their influence on locational decisions of South Korean companies investing in Central Eastern Europe.

From the first model it can be observed that indeed, the country's income (*GDP/capita*) and the market's size (*Population*) are important determinants of Korean FDI, which is consistent with the first hypothesis as well as the previous studies mentioned in this paper.

Model (2) tests both endowment factors as well as the institutional factor *Labor Cost/h*. The regression shows that the institutional variable is significant at 10%, however its sign is positive, which means that the cost of labor is not important for South Korean companies that invest in CEECs. It also means that South Korean manufacturers prefer CEECs with higher labor cost most likely because of other factors that are more important to them. This model is not consistent with the second hypothesis.

Model (3) controls endowments and tests the importance of *Labor Freedom*. On the contrary to the previous variable, *Labor Freedom* is an important factor largely influencing the inflow of Korean FDI into CEECs. This result is consistent with the fourth hypothesis.

Model (4) tests the last institutional factor – *Trade Openness*. The regression shows that the result holds with the fifth hypothesis, meaning that Korean companies prefer to invest in countries that already have well established international cooperation in terms of trade.

The last model (5) tests all variables simultaneously. The results prove that from all of the institutional factors, *Labor Freedom* and *Trade Openness* hold its significance at 1% meaning these are the most influential factors largely affecting the locational decisions of South Korean companies' investments in CEECs.

Conclusion

This paper employed an empirical analysis of the main determinants of South Korean FDI in Central Eastern European countries between 2005 and 2010. The results from the empirical analysis strongly suggest that Korean multinationals' locational decisions for FDI are influenced by both endowment and institutional factors in the nine CEECs including: the Czech Republic, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Romania and Bulgaria,

In terms of endowment factors, South Korean companies are mostly concerned with size of the recipient country's market and its citizen's income. When it comes to institutional factors, level of labor freedom as well as the degree of openness to trade had a significant impact on locational decisions of Korean FDI in CEECs. However, after controlling endowment factors and regressing all institutional variables simultaneously, the results show that the level of labor freedom out of all institutional factors is the most influential determinant of Korean investments in CEECs. This paper, therefore, proves that well established institutional framework of a given country is positively and significantly correlated with inflow of FDI. Nevertheless, endowment is considered as an important factor for attracting FDI, in order to attract more investment, additionally a country should focus on improving its institutional environment.

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