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Geographic Factors as Determinants of Foreign Direct Investment in Eastern Europe's Transitioning Economies

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Geographic Factors as Determinants of Foreign Direct Investment in Eastern Europe's Transitioning Economies

Senior Honors Thesis

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Abstract

The removal of the “Iron Curtain” epitomized the shed of Eastern Europe’s central planning and the region’s adoption of the Western market system. To establish a comparative advantage in today’s markets, the transitioning nations need financial assistance through Foreign Direct Investment (FDI). While most research focuses on economic and political factors as determinants of FDI this paper additionally examines the regions geography. Results indicate that urban concentration, road networks and proximity to surrounding markets significantly attract foreign investors. The implications of capital inflows are geographically altering as the urban and rural landscapes are modified to reflect the new market system.

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Chapter I

Introduction to Eastern Europe’s Transitioning Economies

The removal of the “Iron Curtain” in the 1990s epitomized the desire of economically and politically distressed Eastern European nations to shed their central planning and adopt the Western free market system. Prior to decentralization these nations boasted some of the richest agricultural regions and heavy manufacturing plants. The U.S.S.R., with its formulized production plans and long-term goals, was setting the example as “no other nation of comparable size has ever experienced such a rapid pace of industrialization” (Alexander, 1963; 446). The years of centralized governance, however, left deep scars on the countries’ landscapes. The painful ‘cry’ of the environment - even though heard by some - remained suppressed through strict government “censorship of information, about environmental quality, unresponsiveness to local environmental hazards and restrictions on formation of independent environmental groups” (DeBardeleben and Hannigan, 1995). This degree of negligence and expurgation was also practiced on issues concerning industry, education, and political relations. As a result, Eastern Europe was in dire need of a political and economic reform.

Today, these economies look at the incorporation of an efficient market system as the ticket for entry into the European Union, and ultimately to an improvement in the living standards of the local population. Though the notion of decentralization is viewed positively, the costs of undertaking the necessary reforms have been

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1 The removal of the “Iron Curtain” symbolizes government and economic decentralization of Eastern European block.
2 French (1990) mentions a publication by a government official, Boris Komarov, titled The Destruction of Nature in the Soviet Union. As a result of this publication Boris Komarov had to leave the country.
underestimated by a number of nations. The years of absence of meaningful market pricing and the existence of considerable government subsidies created little incentive for centrally planned industries to conserve and adopt profit maximizing production schemes. The workforce in the heavy manufacturing industries felt the biggest impacts of the reforms, since “labor-hoarding had been encouraged under socialism…and had been estimated in Poland, for example, to make up almost 25 per cent of the industrial workforce” (Hamilton, 1999;136). Labor-hoarding refers to the over-employment in the number of workers required to efficiently operate of an industry. While this system ensured low levels of regional unemployment it caused a decline in the marginal productivity of labor. In other words having more workers than necessary to operate a production system may cause lower output levels since the workers are hindering, rather than aiding, each other in the production process. Consequently the de-industrialization of these industries left hundreds unemployed, causing production declines and shortages. Accordingly, the governments were faced with the extreme burdens of budget deficits, hyperinflation, and lack of exposure to the competitive world markets. To climb out of the choking debt pressures and to establish a comparative advantage in today’s markets, Eastern European nations are in need of financial assistance through Foreign Direct Investment (FDI).

Foreign Direct Investment (FDI) entails the acquisition of the home country’s assets for the purpose of control. Ownership can take a number of forms. Investment can come in as greenfield investment, where the foreign firm provides the necessary capital to establish a new asset, such as an industrial plant. Foreign investment can come in is as merger and/or acquisition of the home firm. This is a popular form of

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3 For future reference the foreign country refers to the country providing the FDI while the home country is the country acquiring FDI.
investment in countries undergoing privatization of previous publicly held entities.

Joint ventures, on the other hand, constitute a partnership between foreign and home companies for reciprocal benefits. Subcontracting and licenses are additional measures foreign firms can use to invest capital into the home country. In all cases, the home country obtains the financial resources that act as “an engine of development, a vehicle of economic modernization and a driving force of productivity development” (Pavlinek, 2004; 1).

While western economists and multinational institutions advocate “that successful transition from centrally planned economy to a market-based system could only be achieved with large inflows of foreign direct investment” (Pavlinek, 2004; 3), they mostly focus on economic and political factors as determinants of FDI flows. Concentration of FDI literature on the above stated incentives has created a theoretical framework of foreign investment called Factor Endowments-Based trade theory.

Granted that low wages, tax redemptions and retained earnings are significant aspects in determining FDI, there are calls for other factors to be taken into consideration. Campos and Kinoshita (2003) encourage future research to follow their steps in establishing a new trade FDI model. The economists incorporate institutions in their predictive multivariable models, but acknowledge the importance and lack of inclusion of countries’ physical factors. Coughlin and Segev (1997) inspect some of China’s geographic features in attracting FDI, but call for future research to examine the effects of transportation and proximity of the economies to other world markets in determining FDI flows. This paper takes up these calls by stating the following question: do geographic factors have a significant effect in determining FDI flows into Eastern
Europe’s transitioning economies, and can transportation act as an aid to attract future FDI?

Map 1.

The paper will address the question by using panel data for fifteen Eastern European nations, illustrated in the map above, for the years 1995 through 2000. Most of the data has been extracted and aggregated from the World Development Indicators Online (WDI), a data source of the World Bank. Furthermore, the definitions of the variables used in the study are in line with the WDI data definitions, used to construct the explanatory variables. In some instances these definitions were limited and unclear. The limitations will be addressed further in Chapter VI. Additional data sources are outlined in Chapter V.
Furthermore, the study recognizes that that proxies used to conduct the analysis are not ideal representatives of foreign investment determinants. Their shortcomings will be tackled in Chapter VI where future research proposals will be outlined.

As indicated by the map above, the study sample excludes certain Eastern European nations. The paper recognizes Russia as a transitioning economy in Eastern Europe, however, the division of Russia into Europe and Asia, as well as the land size of Russia, classifies the country as an outlier in the sample. Russia, therefore, is not included in the statistical analysis, and the sample does not represent a fully random sample. It should be noted that even with the elimination of Russia from the study there are still significant differences in land areas of the countries examined. These differences are therefore expected to affect the final results. Furthermore, ex-Yugoslav countries, with the exception of Croatia and Slovenia, are excluded from the study due to lack of data consistency and availability.

As previously stated, the region has been chosen as the focus of study due to the recent economic and political transition. The following section of the paper will provide a theoretical framework of FDI flows and the advantages of FDI. Previous literature is outlined in section three in order to provide the reader with better insight into the theory, effects, and factors that influence FDI inflows in today's world. The methodology of the research will be presented in section four of the paper. The conceptual model and the difficulties in obtaining accurate data will be outlined in section five, while section six will examine and discuss the obtained results. In section seven, the advantages and disadvantages of foreign investment on the home countries' population will be addressed. Most importantly, the paper will analyze the effects of

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4 The 15 nations chosen are the following: Albania, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Republic of Moldova, Poland, Romania, Slovakia, Slovenia and Ukraine.
FDI on urban versus rural settings in the studied region. In the end, the study hopes to extrapolate the extent to which transportation factors can attract foreign firms to invest in home economies. The conclusion will touch upon the degree to which FDI can alleviate some of the difficulties these nations face, in their transition to the market system.
Chapter II

The Theory behind Foreign Direct Investment

Throughout the last century Eastern European nations have witnessed various economic and political instabilities. In particular, this stemmed from numerous encounters between three major religions, the rise and fall of monarchies, two World Wars, and various dictatorships.\(^5\) To escape from the consequences of these hardships, the nations were advised by major financial institutions to “liberalize the economy, decentralize decision making, and allow economic agents to assume responsibility for their actions” (Camdessus, 1994)\(^6\). The advice was taken, and in the year 1989 the destruction of the Berlin wall marked the end of centrally planned governance in the Eastern European bloc.

Even though decentralization began during the same time frame for all nations, the transition has not been homogenous for the countries in question. The difficulty in the shift from planned to market economy has been attributed to “lack of theoretical guides to decentralize”.\(^7\) As a solution, intervention from developed market economies through FDI can aid the transition process for decentralizing nations by providing a theoretical guideline.

The theoretical framework behind foreign direct investment, as presented by Pavlinek (2004), suggests that FDI typically results in rapid and profound restructuring, including “organizational restructuring, technology transfer, worker training, transfer of Western management structures and practices, and new production strategies and

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\(^5\) By three main religions the author is referring to Christian Orthodoxy, Catholicism and Islam.

\(^6\) Michel Camdessus was the Managing Director of the International Monetary Fund.

\(^7\) For further information on difficulties faced by transition economies see: Farlex Dictionary. Available on line: http://encyclopedia.thefreedictionary.com/central%20planning
organization" (Pavlinek, 2004; 47). In other words, accompanying capital, FDI flows provide the resources necessary to improve the productivity and efficiency of the home country's primary, secondary, and tertiary industries.

Foreign capital flows and restructuring can save existing jobs as well as aid the creation of new ones in each industrial sector. It is expected that wages of the local labor force - operating under foreign employers - would witness an increase in their hourly wages. This increase in wages would serve as an instrument to boost the productivity of the workers as well as establishing a form of trust between the employer and the employee. The increase in wages can further contribute to the growth of the country's real income and living standard of the home country's population.

Setting up new industries and enterprises allows the local governments to increase their tax base and reduce some of their outstanding budget deficits. The boost in production of a greater variety of goods would expand the home country's export share in the world markets. More importantly, there would be transfer of knowledge and skills as firms from developed nations train the local population to conduct day-to-day operations more dynamically and skillfully. In the long run, the transfer of knowledge and expertise, through foreign training, would create a spill-over effect to the local and regional economy, as privately-owned industries take up more efficacious means of production.

Advocates of foreign direct investment also make claims that investment of this form contributes more to the economic development of the nation than bank loans. Bank loans to national governments are often utilized solely for consumption purposes rather than for the investment into local firms. At the same time, "if foreign firms make a bad decision regarding direct investment expenditure, the loss is sustained by the
foreign firm. If the domestic government uses bank loans inefficiently, the country still faces a repayment obligation to the banks” (Melvin, 2004; 122). Lastly, there would be increased opportunities for local companies to supply newly-established, foreign-owned firms with necessary goods and services to conduct their daily operations. Additionally, “domestic firms that are competitive enough to supply multinationals are also the most likely to break into global markets on their own”.8

On the other hand, foreign-owned firms have a number of incentives to direct their capital to newly emerging market economies in Eastern Europe. The unique site and situation characteristics, and close proximity to Middle Eastern, Central Asian and Western European markets, give the transition economies an attractive niche for foreign capital inflows. The abundance of primary resources, relatively low labor costs, communication networks and attractive amenities further increase the appeal of these nations. These variables provide an attractive investment to foreign firms that are restricted from pursuing cost effective methods of production in their own nations due to strict industrial regulations, resource depletion, worker unions and highly competitive markets.

Now that the advantages of FDI inflows into transition economies have been outlined for all participants, the question arises how a region or country is selected for investment by the investor. To answer this question, the paper refers the reader to Ullman’s 1956 modification of the Gravity Model.

In his model, Ullman proposed that movement of labor, goods and services is stimulated through the demand and supply forces occurring in space. Ullman came up

8 For further information on benefits of domestic firms from FDI flow see: http://www.worldbank.org/transitionnewsletter/so99/pgs5-7.htm
with three bases that encourage interaction in space (Dicken & Lloyd, 1990). Firstly, for interaction to occur between sites the characteristics of the two sites must be complimentary to each other. In other words, for interaction to occur between countries A and B, country A must hold a specific good and be willing to supply the good to country B that demands the good. Eastern Europe’s transition economies, unlike Western developed nations, have lower labor costs, lack severe pollution restrictions and promote themselves by issuing lower corporate taxes. On the other hand, Western economies hold higher levels of technology and infrastructure that, at times, can be relatively more expensive to implement in Western nations. These factors act as complements, consequently explaining the willingness of foreign firms to travel long distances to minimize their production costs.

Furthermore, if we examine Löschian’s expansion on Christaller’s central place hierarchy, we can see its relevance and application to Ullman’s Gravity Model. The central place hierarchy is “based on concepts of range and threshold” (Yeates, 1998; 166). In the central place hierarchy, central places are ranked based on populations’ willingness to travel in order to obtain higher order services (range), and through demand required to support a business type (threshold). According to Löschian’s central place hierarchy, lower ordered places may offer specific goods that higher order places may lack (Dicken and Lloyd, 1990). An important point is that interaction amongst places may not necessarily occur only amongst those ranked within the same order of the hierarchy. Löschian’s more flexible central place hierarchy addresses the interaction between lower and higher ordered countries.

Second base of the Gravity Model investigates the possibility of intervening opportunities. In perfectly competitive world markets, countries that are in close
proximity to each other will be more likely to interact with each other. Imperfections that result in lower prices of goods may end the trade agreements amongst the countries previously interacting. Thus, proximity of markets and market size have direct effects on the allocation of investment amongst countries.

The last base of the Gravity Model assumes that if there are perfect complimentary goods and services amongst places with no intervening opportunities, interaction amongst countries may be terminated if costs of movement are extreme. Moreover, the frictional effects of transferring goods need to be taken into consideration together with distance, since “some products are more sensitive to distance than others such as agricultural goods” (Dicken & Lloyd, 1990; 75).

Transportation, therefore, plays a crucial role, as “central places must be highly accessible … and if this accessibility changes in some way, through rail closures or road improvements, there will be a concomitant impact on the number and range of central functions found in central places” (Yeates, 1998; 166). In other words, secure and efficient methods of transportation are essential. The industries in the transitioning nations need to be accessible to provide foreign firms with a reliable and continuous flow of resources. At the same time, reliable transportation is required to distribute final products to the surrounding markets.

Thus, reliable and cost effective forms of transportation are essential in assisting the development of all industrial sectors, either directly or indirectly, through FDI. To what extent, however, is transportation important in attracting FDI into transition economies?
Before addressing the thesis statement, it is necessary to delineate the findings of previous studies regarding the main factors that attract FDI inflows and the role of transportation infrastructure.
Chapter III

Previous Research and Findings

It is difficult to strictly delineate the main determinants of foreign direct investment since there is no homogeneity in the countries’ provision of resources. The World Bank states that the art of attracting FDI inflow lies with “low-cost qualified labor, long term market potential and access to rich natural resources”.\(^9\) While low labor costs are an attractive incentive for foreign firms to move their operations to eastern territories, the World Bank directs attention to “long-term fears about the ‘brain drain’ of technical professionals and the strong upward trend of real wages for skilled workers”.\(^10\) The demographics of the population also play a significant role for future FDI flows. The dependency ratio is a vital human geographic determinant of foreign investment. The dependency ratio is an estimate of the economic burden of the working population in supporting the non-working population. It is measured by dividing the number of people who are dependent (ages under 19 and over 64) by the number of people that are of the working age (between 19 and 64).\(^11\) If the dependency ratio is expected to rise over the years, this will place an escalating burden on the foreign firms. The cost of labor will increase due to higher payroll taxes initiated by the aging population and higher pension bills.

If we look at Figure 1, we observe that the dependency ratio in Eastern Europe has been in decline over the last three decades. While the aging population is increasing

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\(^9\) For further information on the World Banks determinants on FDI see: http://www.worldbank.org/transitionnewsletter/so99/pgs5-7.htm

\(^10\) For further information see: http://www.worldbank.org/transitionnewsletter/so99/pgs5-7.htm

\(^11\) For further information on dependency ratios see Southern Forest Resource Assessment. Available on line: http://www.srs.fs.usda.gov/sustain/data/authors/glossary.htm
the birth rate has been falling at a faster pace. The ‘brain drain’, at the same time, has not resulted in a substantial decrease of the working population and consequently an increasing dependency ratio. At present, these ratio patterns represent an attraction to foreign firms since they contrast with the dependency ratio patterns of the Western world. Change in birth rates and migration will change the dependency ratios in the future, as Eastern Europe slowly develops to match the economies of the West.

Figure 1.

![Dependency Ratio Graph](image)

Source: World Development Indicators Online, World Bank.

Expanding on the World Bank’s demographic determinants of FDI flows, Dunning (2002) illustrates that demographics are particularly vital to the market determinants of FDI. The demographics of the home country’s population are important to the foreign firm if the goods the firm is producing are targeted to a specific age group. The demand patterns stemming from younger population tend to differ significantly from those of elderly. Moreover, younger age groups tend to spend higher proportions of their disposable income on goods and services while older age groups
tend to be savers. Demographics can also provide us with the information on future availability of the labor force in the area of study.

Expanding on home country’s market size, Campos and Kinoshita (2003) introduce the importance of institutions in attracting foreign investment. The economists take into consideration the quality of education, trade dependence and create an index to illustrate the degree of law and order in the country. In order to examine the gap in communication the number of telephone lines per 1,000 people is used as a variable to attract foreign capital inflow. The variable is found to insignificantly contribute to attracting investment. While introducing some new variables to the standard FDI determinants, the researchers make a call for future inclusion of home country’s physical geographic aspects. The call stems from the belief that telephone lines are not the best indicator of a country’s connectivity to the surrounding markets.

Accompanying above outlined market characteristics, there are resource, efficiency and asset seeking FDI motives. Each of the outlined motives has a fundamental geographic component according to Dunning (2002). Transportation, in particular, plays an essential role in the efficiency and asset seeking motives. To elaborate, efficiency-seeking motives encompass production costs. The aim of firms is profit maximization through revenue increases and input cost reduction. One of the main input costs is transportation and communication to, from, and within the host economy. Asset seeking motives consider physical infrastructure including ports, rail, airports and roads as well as human assets such as educated and skilled population. Dunning (2002), therefore, calls for researchers to take transportation variables into consideration when determining FDI flows. Coughlin and Segev (1997) take up
Dunnig’s (2002) call and empirically test the importance of transportation in the location decisions of foreign firms. The first case conducted by the researchers is in their homeland, the United States of America.

In the 1970s, the U.S. witnessed a shift in its main industry from manufacturing to service. The consequence of the shift was a rise in blue-collar unemployment. Despite the “decline in manufacturing employment since 1979, manufacturing employment in foreign owned firms [in the U.S.] more than doubled between 1979 and 1995” (Coughlin and Segev, 1997; 1). The increase in manufacturing employment was experienced only in a number of states. The researchers, as a result, set out to determine an “economically sound, statistical model to explain the pattern of new foreign plant location” (Coughlin and Segev, 1997; 3). Using county data, the authors take into consideration unemployment, education, labor unions, population density and most importantly transportation. Running three multivariate regression models, the paper illustrates 1% level of statistical significance for the highway variable concluding that “transportation infrastructure affects [foreign] industrial location at the county level” (Coughlin and Segev, 1997; 11).

Expanding their study to the rest of the world, Coughlin and Segev (1999) scrutinize the importance of geographic FDI determinants in China. After decades of isolation “China began to remove some of the barriers to inflow of foreign direct investment” (Coughlin and Segev, 1999; 1) in the 1970s. Presently, China is the largest recipient of foreign direct investment among developing nations. Applying variables similar to those in their 1997 U.S. study, the authors find that economic size, productivity of labor, and coastal location draw foreign investment into China. The case study, furthermore, takes into account two transportation variables. Kilometers of
highway remain the main transportation determinant, while air staff is the second variable taken into consideration. Due to increases in air traffic and isolation of some of the study’s provinces, the authors believe that air staff number is a good proxy for changes in China’s air traffic. While both transportation variables hold positive coefficient signs they are “not found to have a statistically significant relationship with the level of FDI inflows across provinces [in China]” (Coughlin and Segev, 1999; 1).13

Unlike the rest, Gwartney, Skipton and Lawson (2001) examine factors that influence trade openness. In particular the authors concentrate on geographic determinants to illustrate the importance of proximity and market purchasing power for trade to take place between nations. Using the principals of Ullman’s Gravity Model, Gwartney et. al create a Distance Adjusted Demand Scalar (DADS). Instead of comparing the populations amongst the countries, the authors look at the GDP purchasing power parity (ppp) as a proxy of market power between countries. The variable is then used to establish the importance of a country’s distance from the world’s main purchasing powers. Accordingly, Fiji, Australia and New Zealand are not favorably located while Luxembourg, Belgium and the Netherlands are favorably located to the strongest demand nodes.

Accompanying the DADS variable Gwartney et. al examine the population of the country and the geographic size advocating that “countries that are more populous and cover a larger geographic area are likely to have less international trade as a share of their economy” (Gwartney et. al, 2001; 72). In other words, countries of greater geographic size tend to have a greater variety of natural resources. This variety and

12 Air staff is the number of total staff and workers in state-owned units of airway transportation in a province in China divided by the population of the province (Coughlin and Segev, 1999; 15).
13 A positive coefficient sign indicates that as there is an increase in kilometers of highway and air staff, we should witness an increase in FDI flows. In this case the study finds no significant causation between the independent variables and FDI.
abundance of resources may enable the nations to be more self-sufficient. The self-sufficiency, in turn, may detract foreign investors since the home nations may not have strong ties of trade established with the markets of surrounding economies. Thus geographic size of the country should be taken into consideration by investors when determining where to allocate their funds.

The literature illustrates varying determinants of FDI flows. Even though the studies are conducted in differing countries, regions and spatial scales the authors unanimously agree that geographic factors, in particular transportation, deserve greater attention in future empirical investigations. This paper is an outgrowth of the above outlined research, as it attempts to determine the role of geographic aspects in attracting foreign investment in Eastern European transition economies. The following section of the paper delineates the methodology used to tackle the thesis statement.
Chapter IV

Methodology

One of the main attractions of Eastern Europe’s transition economies is the location of these countries and their proximity to the Middle Eastern, Central Asian and Western European markets. While foreign firms are interested in exploiting the lower costs of production, they are also interested in the ease of importing production inputs as well as exporting the finished goods. For trade to take place factors other than trade regulations will sway the home country’s trade sector. For instance countries that have a lengthy coast line could have “lower transportation costs that will enhance their volume of international trade” (Gwartney et. al, 2001; 72). As previously mentioned, Gwartney et. al establish a Distance Adjusted Demand Scalar (DADS) by which they take into consideration the country’s location in relation to the purchasing power of other countries’ markets.

While the measurement of purchasing powers of surrounding markets is a vital determinant of FDI we must not forget the vitality of transportation modes. Modern and reliable transportation infrastructure is essential in order to distribute finished goods from the area of production to the area of consumption.

To measure the significance of transportation in determining FDI flows into Eastern European transition economies, the paper will use panel data for 15 nations, years 1995 through 2000. The years chosen are primarily due to the availability in consistency of data. It could be argued that six years is too short of a time span to identify significant changes in transportation infrastructure. If we examine the raw data,
however, we perceive noteworthy variations in transportation modes amongst the countries and within the countries for the studied time frame (Figure 2).

Figure 2.

![Kilometers of Highway](chart)

Source: World Development Indicators Online, World Bank

Figure 2 clearly illustrates changes in highway kilometers for six of the fifteen countries researched. In this study highway kilometers encompass the entire road network including motorways, highways, main as well as regional roads and all other roads in the country. Albania, in this case, shows no change in highway construction over the studied period while the Czech Republic illustrates a 148% increase. Poland, on the other hand, due to its central location in Eastern Europe, holds the highest

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14 Only 6 countries are graphed since 15 would cause too much crowding on the chart and hinder rather than aid the argument. Similar patterns, however, are perceived for the remaining 9 nations.
The graph, therefore, depicts that for the region there is variation in road infrastructure both within the countries and between the countries, for the studied time frame.

It is vital to note that during the years 1995 through 2000, a number of the studied nations experienced slight economic growth. Improvements in economic performance, consequently, facilitated construction of transportation infrastructure. The economic improvement can partially explain the road kilometer jump witnessed for some of the nations in the years 1997 and 1998. Were the changes in highway construction a significant factor in attracting foreign investment?

To address the thesis question the paper creates a number of models that take into consideration variables used by previous research. The models are then examined through multivariate regressions in order to determine the significance and the extent to which each variable attracts or repels foreign investment. The size of the coefficient illustrates the strength of the variables in explaining the flow of foreign investment while a p-value of less than 10% confirms that there is significant causation.

By using the models, the paper attempts to depict to what extent we can explain the flow of foreign investment into transition economies. Coughlin and Segev (1997) use kilometers of highway to proxy the availability of transportation infrastructure in U.S. counties. Their methodology is expanded in the 1999 paper, with the inclusion of air staff changes as a proxy to air transportation. This paper expands on the number of variables used to proxy transportation. The research will hold highway kilometers - that in this case incorporate the entire road network of the nation - as a one of the

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15 The decline in highway kilometers in Poland over the studied time frame is unknown. One can, however, speculate that certain roads were closed down for reconstruction or were simply in a poor condition for use.
transportation proxies and will add railroad kilometers and aircraft departures as the two new variables.

It is important to direct our attention to air transportation since “air transportation is a direct contributor to a dynamic economy and is a leading trade facilitator”\(^{16}\). While air transportation is not a main form of transportation for bulk manufactured goods, it is one of the main facilitators in the service industry. Developed nations, as previously mentioned, have been shifting their industry importance from manufacturing to tertiary. While Eastern European countries are not as advanced in this shift, there remains potential for service growth and vitality of air transit. The continual rise in the importance of air transportation is verified by Figure 3. Countries such as the Czech Republic and Poland have witnessed rapid increases in air transportation since 1998 while countries such as Belarus have seen dramatic declines in the number of air departures over the studied time frame.

The dramatic decline in air traffic for Belarus is mostly blamed on political factors. In 1994 the first Byelorussian president, Alexander Lukashenko, was elected. The president took numerous steps to improve the economic, political and military ties with Russia. This move was not supported by the U.S. that viewed the new referendum as a worsening of human rights problem and lack of significant market reforms\(^{17}\). On these bases, the U.S. decided to remove its funding to Belarus thus sending a negative signal to other nations investing in Belarus. These moves set a negative spiral to the Byelorussian economy, in consequence affecting inversely air transportation. As a result we see a dramatic decline in Byelorussian air transportation for the year 1996.

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\(^{16}\) For more information on air transportation see: Transportation Canada. *Available on line*: http://www.tc.gc.ca/pol/en/AirPolicy/doc/AirLiberalization.htm

\(^{17}\) For further information on Belarus economic and political policies in the mid 1990s see: Belarus: Economic and Trade Overview. *Available on line*: http://www.bisnis.doc.gov/bisnis/country/belcon.htm
Evidently, variations in air transportation, just like highways, are taking place both within the countries and amongst the countries as indicated by the graph below.

**Figure 3.**

**Number of Registered International and Domestic Aircraft Departures**

Years 1995 to 2000

Railroads, on the other hand, have been a static form of transportation in Eastern Europe. While the railway lines and refrigerated cars may be one of the most important modes of transportation for agricultural goods, there has been little investment in expanding them over the years. It is therefore predicted that rail will have a significantly weak causal relationship with FDI.

In summary, kilometers of highway (the entire road network), number of registered yearly aircraft departures and kilometers of railway will be used as three explanatory transportation variables. The following section outlines the conceptual model, data sources and expected results.
Chapter V

Model Outline, Data Sources and Expected Relationships

Conceptually the empirical models will not digress considerably from the models applied in the previously outlined literature. The study at first examines all of the main variables outlined in the above literature focusing most of the attention on the geographic determinants rather than economic and political. Below is the Foreign Direct Investment Model.

Equation 1


The dependent variable in the model is the yearly US dollar per capita inflow of FDI into the examined countries. The control variables have been obtained solely from the literature reviewed in Chapter III. The controls are political and economic stability, human capital, tax regulations, labor availability and presence of working population. The geographic variables in this case are transportation, proximity to surrounding markets and their sizes, urban population, geographic size of the country and population density.

It is important to note that the variables in Equation 1 are not ideal variables and will not account for all the variation in foreign investment. Ideally, the data would hold no errors in measurement, extraction and aggregation. DeBardeleben and Hanning (1995) emphasize the lack of continuous data availability due to previously strict government censorship of information. The lack of historical data, therefore, makes it
difficult to form comparisons of changes in population and transportation infrastructure over longer time frames. Further specific shortcomings of the variables will be addressed in section six with evaluation of the results.

Up to this point, the paper argued for the theoretical importance of geographic factors in determining FDI flows. According to Ullman’s gravity model and Löschian’s central place hierarchy, efficient modes of transportation are necessary to aid the range and threshold phenomena. While transportation, together with market size and distance, remain the main explanatory variables, the control variables outlined in the conceptual model are solely obtained from previous research. The paper further analyzes the inadequacy of the data and the limitations of the time frame. At this point the paper will turn to its empirical evaluation by stating the regression model and the data sources.

The following regression equation is used to represent the conceptual model outlined earlier.

\[ Y = \beta_0 + \beta_1(\text{Transportation}) + \beta_2(\text{DADS}) + \beta_3(\text{Urban Population}) + \beta_4(\text{Country Area}) + \beta_5(\text{Population Density}) + \beta_6(\text{GDP per capita}) + \beta_7(\text{Educational Attainment}) + \beta_8(\text{Tax Regulations}) + \beta_9(\text{Unemployment Rate}) + \beta_{10}(\text{Percentage of Labor Force}) + \mu_i \]
<table>
<thead>
<tr>
<th>Variable</th>
<th>Proxy</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Direct Investment</td>
<td>Foreign Direct Investment inflows in millions US $s per capita by year</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td>Transportation</td>
<td>Highway (km)</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td></td>
<td>Railroad (km)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yearly Number of Aircraft Domestic and International Departures</td>
<td></td>
</tr>
<tr>
<td>Surrounding Market Sizes and Distances away from the Market</td>
<td>Distance Adjusted Demand Scalar (DADS)</td>
<td>United Nations Economic Commission for Europe (UNECE) &amp; (WDI) &amp; ESRI</td>
</tr>
<tr>
<td>Urban Population</td>
<td>Percentage of total population that lives in cities with 50,000 people or more</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td>Geographic Size of the Country</td>
<td>Surface Area of Country in kilometers</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td>Population Density</td>
<td>Population Density Figures = No. of People/ Surface Area of Country in Kilometers</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td>Economic and Political Stability</td>
<td>GDP per capita in US $s adjusted for inflation year (2000)</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td>Educational Attainment</td>
<td>Percentage of the population enrolled in tertiary education</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td>Tax Regulations</td>
<td>Taxes in millions of US $s per capita PPPs (US) Year 2000 as a percentage of country’s GDP per capita PPP Year 2000</td>
<td>United Nations Economic Commission for Europe (UNECE) &amp; IMF</td>
</tr>
<tr>
<td>Labor Availability</td>
<td>Unemployment Rate</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
<tr>
<td>Working Population</td>
<td>Ratio of Working Age Population to total Population of the Country</td>
<td>World Development Indicators Online (WDI)</td>
</tr>
</tbody>
</table>
The data were collected for all the previously outlined countries and years. It is expected that all of the mentioned transportation modes will have positive coefficient signs indicating that as transportation infrastructure increases we would expect to obtain higher levels of FDI. This is due to the fact that transportation, as previously argued, would be used by foreign operated firms, in home countries, to both bring resources to the point of production as well as distribute the final products to the differing markets. Efficient transportation modes are seen as bridging the communication gaps amongst nations and within nations. With efficient modes of transportation foreign owned firms will be able to obtain information on the market demand of their products in a well-organized and reliable manner.

To calculate the market power of surrounding nations the distance adjusted demand scalar (DADS) is applied. The demand scalar is used as a proxy for Ullman’s gravitational model theory. To measure the attraction between hypothetical countries A and B, Ullman multiplies the populations of two countries and divides the product by the distance of the two countries. Gwartney et. al (2001) expand on this theoretical model to determine the attraction amongst nations due to their market powers. By multiplying the GDP ppp of nations making up 99% of the world’s total GDP, and dividing the product by the distance between nations the authors find that countries located in central Europe are more favorable in attracting foreign investment than the more isolated nations, even though the isolated nations might be more economically developed.

Expanding on the theory and the applicability of the model in previous research, this paper calculates the gravity model in a slightly different manner. The general equation is outlined below.
In this case the GDP ppp for each of the 15 nations is found for each of the years 1995 through 2000. To compare the market power attraction of the 15 nations to the world markets, 100 countries with the highest GDP ppp are found for each studied year. The product of GDPs for each of the 15 studied nations and each nation from the 100 list is found. The product is then divided by the distance squared between the two nation’s capital cities. I square the distance in order to account for the frictional transportation factors. The distance between the capitals was calculated using the equi-distant Azimuthal map projection. The diagram below illustrates the above outlined technique I used to create the gravity variable.

In the case of Hungary the calculation was repeated for the remaining 98 countries and the previous 5 years. The summations of the indices were then entered as panel data.
It should be noted that the summed values entered into the data set are indices portraying the relative attractions of the national markets. Lastly, the proximity of the Eastern European nations to the Western markets is portrayed using the gravity variable. As Hamilton (1999) states “geographic proximity, higher accessibility and lower costs of transport to and from areas adjacent to the EU stimulate higher motivation of market-oriented behavior amongst new firms” (66). These issues are encompassed in the gravity variable. Thus a positive coefficient sign is expected as it would indicate that the higher the attraction of the markets the more foreign investment will flow into the home country.

Urban population, on the other hand, signals the availability of services in the country of study. Foreign firms locating in new countries need financial, educational and market services to carry out their daily operations. As a result, the higher the urban population, the greater the availability of services and the greater the expected inflow of foreign capital.

Population density as urban population is expected to hold a positive coefficient sign. Population density can be used as an indicator of two variables. Increases in population density imply a bigger domestic market and a higher labor supply. Population density, however, can also signal the cost of land. If there is high population density, the cost of land inevitably increases, which would detract profit maximizing firms from investing in Eastern Europe.

The last geographic variable in the study is the geographic size of the country. As stated in Chapter III countries that cover a greater geographic area are more likely to be self-sufficient. It is hypothesized that a greater geographic area is associated with a greater diversity and availability of resources. Thus larger countries are less likely to
engage in trade with other countries. The lower levels of trade openness may deter foreign investment. If a country is not a big importer then it is likely that the surrounding nations would reciprocate by not importing that country's exports. Thus foreign firms may be less inclined to invest in economies that tend to be self-sufficient as this would lower the foreign firm's chances to invade the surrounding markets with its goods. It is therefore expected that the coefficient sign for the country's geographic size would be negative.

Economic and political stability is expected to have a positive relationship with FDI, in this case measured by GDP per capita in U.S. $s. Improvements in the economic and political stability of the country signal that the country is experiencing both economic as well as political restructuring. It should be noted, however, that too high of a GDP per capita may be a disincentive for foreign firms. If the GDP per capita is too high it would mean that wages and salaries of the labor are - in relative terms - higher. Higher labor costs could lower the efficiency motive and detract foreign firms.

Educational attainment is also expected to have a positive sign, since the more skilled and educated the population is the more productive they are and the lower the reeducation costs. If the level of education, however, is too high it would imply highly skilled and knowledgeable population that would demand higher compensations for their work. This, in turn, can create a disincentive for a foreign firm to set up its operations in the home country.

Tax regulations are expected to have a negative correlation with FDI. Tax regulations are a cost incentive for the firm. The lower the relative taxes, the lower the costs and the more attractive the home country would be to the foreign firms. The unemployment rate is expected to have a positive coefficient sign. An increased
unemployment rate indicates an increase in labor availability. At the same time a higher unemployment rate means that the population would be willing to work for a lower wage. This factor will further attract foreign investment.

Lastly the working population is an indicator of the dependency ratio. The working population is calculated as a percentage of the population between the ages of 15 to 64. The greater the working population, the lower the dependency ratio and the more likely the foreign firm is to invest in the country since its costs of supporting the elderly population through taxes and pension plans are lower. Hence the coefficient sign for the working population is expected to be positive.

Whether the above outlined expectations are met, and do geographic factors contribute significantly to attracting foreign investment into Eastern Europe’s transition economies, is addressed in the following section.
Chapter VI

Analysis of the Obtained Results

The results of the estimated model in Chapter V are outlined in the table below, Table 2.

Table 2. Geographic Factors as Determinants of Foreign Direct Investment in Eastern European Transition Economies

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Model 1 (HIGHWAY)</th>
<th>Model 2 (AIRLINES)</th>
<th>Model 3 (RAILROADS)</th>
<th>Model 4 (ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1169.57</td>
<td>-754.765</td>
<td>-730.052</td>
<td>-1405.46</td>
</tr>
<tr>
<td></td>
<td>(0.0397)**</td>
<td>(0.1266)</td>
<td>(0.1591)</td>
<td>(0.0232)**</td>
</tr>
<tr>
<td>Highway (road network, Km)</td>
<td>0.00043</td>
<td>--</td>
<td>--</td>
<td>0.0006</td>
</tr>
<tr>
<td></td>
<td>(0.0022)*</td>
<td></td>
<td></td>
<td>(0.0908)*****</td>
</tr>
<tr>
<td>Air Transport</td>
<td>--</td>
<td>0.0046</td>
<td>--</td>
<td>0.0041</td>
</tr>
<tr>
<td></td>
<td>(0.0006)*</td>
<td></td>
<td></td>
<td>(0.0216)**</td>
</tr>
<tr>
<td>Railroads (Km)</td>
<td>--</td>
<td>--</td>
<td>0.0112</td>
<td>-0.0148</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.0074)*</td>
<td></td>
</tr>
<tr>
<td>Transportation Index</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>DADS</td>
<td>0.3847</td>
<td>0.2527</td>
<td>0.1856</td>
<td>0.5340</td>
</tr>
<tr>
<td></td>
<td>(0.0138)**</td>
<td>(0.0771)**</td>
<td>(0.2050)</td>
<td>(0.0188)**</td>
</tr>
<tr>
<td>Geographic Size of Country</td>
<td>-0.0007</td>
<td>-0.0007</td>
<td>-0.0009</td>
<td>-0.0005</td>
</tr>
<tr>
<td></td>
<td>(0.0013)*</td>
<td>(0.0012)*</td>
<td>(0.0010)*</td>
<td>(0.1312)</td>
</tr>
<tr>
<td>Urban Population</td>
<td>6.2027</td>
<td>4.4176</td>
<td>5.4448</td>
<td>5.6140</td>
</tr>
<tr>
<td></td>
<td>(0.0000)*</td>
<td>(0.0014)*</td>
<td>(0.0001)*</td>
<td>(0.0003)*</td>
</tr>
<tr>
<td>GDP Per capita</td>
<td>0.0074</td>
<td>0.0061</td>
<td>0.0073</td>
<td>0.0061</td>
</tr>
<tr>
<td></td>
<td>(0.0899)**</td>
<td>(0.1628)</td>
<td>(0.1164)</td>
<td>(0.1810)</td>
</tr>
<tr>
<td>Educational Attainment</td>
<td>-2.166</td>
<td>-0.2779</td>
<td>-1.0219</td>
<td>-2.8890</td>
</tr>
<tr>
<td></td>
<td>(0.0245)**</td>
<td>(-0.287)</td>
<td>(0.3020)</td>
<td>(0.0402)**</td>
</tr>
<tr>
<td>Tax</td>
<td>4.146</td>
<td>1.1835</td>
<td>4.3184</td>
<td>1.2793</td>
</tr>
<tr>
<td></td>
<td>(0.2799)</td>
<td>(0.7564)</td>
<td>(0.2683)</td>
<td>(0.7449)</td>
</tr>
<tr>
<td>Regulations</td>
<td>0.7115</td>
<td>2.2651</td>
<td>1.8242</td>
<td>0.6118</td>
</tr>
<tr>
<td></td>
<td>(0.7572)</td>
<td>(0.3163)</td>
<td>(0.4314)</td>
<td>(0.8012)</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>13.515</td>
<td>8.4577</td>
<td>6.8516</td>
<td>18.222</td>
</tr>
<tr>
<td></td>
<td>(0.1219)</td>
<td>(0.2738)</td>
<td>(0.3923)</td>
<td>(0.0560)**</td>
</tr>
</tbody>
</table>

Notes to Table 2: C represents the constant term. The coefficient of the variable is shown first followed by the p-value in the parentheses the star marked next to the t-statistic indicate the level of significance: * = 1% level of significance, ** = 5% level of significance, *** = 10% level of significance. The t-statistics unmarked by a star are not statistically significant at any of the abovementioned levels. The n represents the number of observations.
It should be noted that the variable *Population Density* proved to have a high degree of correlation with the unemployment rates and working population. The variable was, therefore, not fully independent of the remaining explanatory variables and could not be used in the multivariate regression.

The study used four models to determine the best set of variables that would explain the variation in FDI flows into transition economies. The models differ amongst each other as they look at different modes of transportation. Models 1, 2 and 3 look at each of the transportation variables separately. On the other hand Model 4 takes into account all three forms of transportation (highways, railroads and air transportation).

The coefficient signs in the models are as expected with the exception of Tax Regulation and Educational Attainment in all of the models and Railroad kilometers in Model 4. Tax regulation shows to have a positive coefficient sign indicating that the higher the taxes as a percentage of GDP ppp in a country the greater the inflow of foreign investment. This finding is counterintuitive to the theory. Theoretically one of the main attractions of foreign investment into transitioning economies is the lower governmental costs in comparison to the developed western nations. This theory does not hold true in this study as the variable proves to insignificantly contribute to attracting foreign investment into the studied transitioning nations.

The models prove that educational attainment has a negative causation with foreign investment. In other words, foreign firms are not looking for highly educated labor force that would require greater compensation in forms of higher wages. Consequently, a 1% increase in the number of individuals enrolled in tertiary institutions will lead to an approximate $2.08 decrease in foreign investment per capita.
according to models 1 and 4 but a smaller decrease if we examine models 2 and 3. It is suggested, by these findings, that when it comes to air transportation and railroads, a more skilled population is required to operate these more complex forms of transportation. If the foreign firms are most likely to require air transportation then education will deter foreign investment by only $0.28 per capita. It should be noted, however, that education proves to be an insignificant variable when examining individual modes of transportation.

While railroads on their own (Model 3) contribute significantly and positively to foreign investment flows, they are show as substitutes rather than compliments in Model 4. The finding it surprising and further investigation is necessary. It should be noted, however, that railroads tend to “bundle transportation on a few corridors and large terminals where they can yield economies of scale” (Rudel, 2001; 13). While bundling of transportation can be desirable for transporting primary resources, it is not a desirable form of transportation for light manufactured goods. Unlike railroads, “trucks offer a flexible door-to-door service” (Rudel, 2001; 7). The flexibility of transporting finished products directly to the market makes highways a more desirable mode of transportation.

At the same time, Europe’s railway freight system has faced “failing standards in service quality, lack of inter-modal information systems, development of adapted and standardized load units, [in this way] contributed to the success of road transportation” (Rudel, 2001; 6). According to the above information, in order for Europe to attract investment through rail transport, the countries will need to restructure the rail freight system. Rudel (2001) suggests the introduction of Cargospinters to

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18 For further information on rail transport in Europe see: http://www.strc.ch/rudel.pdf

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increase the flexibility and efficiency of rail transit. The flexibility of this system is within the small number of car sets that come together for long line haul journeys and can be broken up into smaller units for local delivery. At this point, however, rail transit does not appear to be the most viable form of transportation to attract foreign investment.

Highways (road networks) and air transportation hold the expected signs and are significant in attracting FDI in all the studied models. These results support the fact that most of the foreign capital that flows into Eastern European transition economies is for manufacturing purposes and services such as tourism or banking. Importing raw materials and exporting bulk goods requires cost-effective means of transportation, and highways are more cost effective in this respect. On the other hand, tourism requires a more efficient and comfortable means of transportation and in this case air transport is in greater demand and more effective. In its individual model a 1 kilometer increase in highways increases FDI by $0.00043 per capita. In the combined transportation model, model 4, the attractive force of highways is strengthened to $0.0006 per capita. These results indicate that highways act as compliments to air transportation and railroads rather than substitutes. Air transportation, in all counts attracts more foreign investment as 1 increase in departures of flights per year would lead to $0.0046 increase in investment per capita.

The striking statistic to note in the above models, however, is the high influence of urban population on attracting foreign investment. In all the models with the exception of model 4, urban population not only proves to be statistically significant at a 1% level of significance but it also holds the highest coefficient value. According to the models, a 1% increase in urban population would result up to a $6.20 increase in
foreign capital inflow per person. The result is expected since the greater the urban population, the greater the local threshold (demand) and the more complimentary services are available for foreign firms. Also, more developed of the studied nations, inevitably, will have strong urban, financial cores with the services foreign investors require. The interesting factor to note is that urbanization has been rapid in certain Eastern Europe nations. This is causing a discrepancy amongst national regions, since nationwide government and foreign firms are neglecting the rural areas. These issues will be addressed in greater detail in the following chapter.

The gravity variable, distance adjusted demand scalar, proves to significantly contribute to attracting foreign investment in all the models with the exception of model 3. These results show us that the proximity of nations to the top GDP ppp world markets is a vital factor in attracting foreign investment. Affordability incentive – lower production costs - is strong for locating production units in a transitioning Eastern European country. Moreover, the nations’ location - in relation to the strong western and central European markets - makes these places even more advantageous sites.

Unlike urban population, proximity to surrounding markets and transportation modes, the geographic size of the country tends to detract foreign direct investment. Though the coefficient value is low indicating that a 1km squared area increase leads to an average $0.0007 decrease in foreign investment, the result remains significant in most of the studied models.

The remaining economic and political indicators, GDP per capita, unemployment rates and working population, hold the expected coefficient signs indicating that an increase in all three variables should lead to an increasing inflow of foreign capital. In other words, political and economic stability should be an incentive
for foreign firms to invest in Eastern Europe. An increase of 1% in unemployment rates should, on average, increase FDI by $1.50 per capita while a 1% reduction in the dependency ratio, or 1% increase in the working population, should lead to the greatest increase in investment by approximately $10.00 per capita. The variables, however, attest to be insignificant in attracting international capital inflow, with the exception of GDP per capita in model 1 and working population in model 4 that is significant at a 5% level of significance.

It is vital to note that amongst the models holding the independent transportation variables, model 4 explains the greatest variation in foreign direct investment. The Adjusted $R^2$ of 0.556, indicates that the included variables explain 55.6% of foreign investment variation in transitioning economies. This result in turn signifies the importance of maintaining and improving the transportation modes in order to attract foreign capital. Furthermore, supporting urbanization of the countries would attract foreign investment but, as will be addressed in the following section, supporting urbanization comes at a high price of neglecting rural locations.

The importance of the above analysis is the strong dependence on geographic factors when allocating foreign investment in Eastern Europe. Previous research concentrated mostly on addressing economic and political factors in finding the main determinants of international capital venture. The study does not refute the belief that economic factors are vital draws of FDI but it does show that geographic factors play an important role.

As evident from the table above for all the models the F-Statistic is significant proving that the models are statistically viable. Moreover, geographic variables significantly contribute in attracting foreign investment. The chosen economic and
political indicators, on the other hand, were rarely statistically significant. It is recognized that perhaps the economic and political variables applied in the study are not the true attractors of foreign capital. The variables were, as indicated in the Chapter III, solely extracted from previous literature. In short the analysis proves that geography is a vital component of foreign investment in Eastern European transitioning economies.

The study further recognizes that the variables chosen to represent the geography of the region are not ideal. Highways represent the entire road network of the nations. There is no distinction as to what percentage consists of efficient highways that can support the transportation of freight goods and what percentage consists of one-way, narrow town streets. Condition of the roads is also not addressed. In Poland "of 18,000 national roads...one-third requires immediate attention...while the highway system constitutes of 394 kilometers of roughly scattered and unconnected roads". An increase in highway kilometers may be a desirable factor, but if the quality of roads remains poor there will be no contribution made to efficient flow of traffic.

In the case of air- transportation it is assumed that the registered departures are those of only civilian carriers. This may not be the case. The counted departures might also be army based that may not directly contribute to attracting foreign investment. The DADS variable also holds numerous assumptions. On measuring the distance between the nations it is assumed that the main market force is located in the capital city. Thus the distances are measured between capital cities neglecting, to some extent, the potential distance barriers of the remaining urban centers.

19 For further information on the road network in Poland see Central & Eastern Europe Commercial Update (March 2003). Available on line: http://www.mac.doc.gov/ceebic/Pub/CUPDATE/mar03.pdf
Lastly, there is ambiguity with the unemployment rates truly reflecting the percentage of people without work. There is no indication whether the unemployment rate encompasses hidden unemployment. If the variable is measured as solely the percentage of population registered as unemployed and receives unemployment benefits, then the variable may not be capturing the true percentage of population without work. Secondly, there is no information regarding whether the legal working age of the population defer amongst the studied nations. There could be a presence, as a result, of an underestimation in unemployment rates.

While regression analysis is a useful way to examine the extent to which certain factors determine foreign investment, the reader should take into consideration the faults of the outlined models. At first is it important to note that there is multicollinearity present amongst the transportation variables. The study, however, still finds model 4 the best model since previous research, Coughlin and Segev (1999), also used numerous transportation variables in a single model. Model 4 also holds the expected coefficient signs. Qualitative variables are imperative when examining the effects of FDI on the local population. Multivariate regressions neglect the qualitative factors in the analysis.

As previously stated, regression analysis is an applicable research tool that places weights and determines the significance of variables that attract foreign capital. The analysis, however, does not examine the long term implications of foreign investment. In particular, the manifestation of foreign investment on the rural and urban landscape is not scrutinized. The next section of the paper will address several repercussions foreign investment may have on the home country's landscape, population and economy.
Chapter VII

The Effects of Foreign Investment on Urban and Rural Landscapes

Previous sections introduced the fundamental benefits of foreign investment to Eastern Europe's transitioning economies. It is argued that foreign investment is a more effective form of aiding the transition of Eastern Europe's nations to market economies as oppose to international loans. While economic and political factors are essential in attracting foreign investment, studies have neglect the uniqueness and importance of the regions' geography. Ullman's modification of the gravity model is used as the theoretical base. The explanatory variables are extracted from previous research and additional transportation variables (air flight departures and railway kilometers) are incorporated. The study finds geographic factors to significantly contribute in attracting foreign investment. In particular, percentage of urban population, transportation modes, geographic size of the nation as well as size and distance from the surrounding potential markets influence the allocation of foreign capital.

What the statistical analysis fails to encompass are the characteristics of the urban and rural settings of these locations, how they benefit the foreign investors and how they might change with economic, social and political restructuring. This section of the paper will address, in particular, the changes foreign investment may generate to rural and urban landscapes. At first it is important to introduce the reader to the structure of urban and agricultural sites of planned economies in the studied region.

The central system of planning economies commanded a unique structure of urban settings making these cities identifiable nodes in the European landscape. Unlike the urban cores of free market nations, these cities were shaped to promote a
composition of “neighborhood equality and self sufficiency” (Fellmann et. al, 2001; 432). In other words, market demands for residential, economic and industrial use were overlooked and land was allocated according to legislative plans. The pure governmental control of land created cities with centers designated for public use named Central Cultural Districts (Fellaman et. al, 2001). The Red Square in Moscow is used as the exceptional example of public space utilized by the Soviets for people to gather and celebrate state events such as the May parade.20

The urban population mostly lived in microdistricts “assemblages of uniform apartment blocks housing perhaps 10,000 to 15,000 persons, surrounded by broad boulevards, and containing centrally sited nursery and grade schools, similar neighborhood necessities and amenities” (Fellaman et. al, 2001; 433) (see Appendix 1 for an image of a microdistrict). The need to journey, in order to obtain everyday household goods, was minimized through provision of first order goods and services within the residential areas, frequently found on base floors of the high rises. The cities were planned to be compact, dense and highly dependent on public transportation. Moreover, the administration regulated the housing supply creating a limitation on housing consumption -one housing unit per family- and on the size and development of major cities by regulating the inflow of population and industry growth (Tosics, 2004). The above mentioned characteristics of urban landscapes, in planned economies, created an urban population density curve widely differing from the Western nations.

Theoretically the urban population density curve of Western nations should be skewed positively, or away from the central business district as indicated by Figure 4 below. Competition between residential and commercial activities - for limited space in

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20 It should be noted that the Red Square was in place prior to the communist regime.
the central business district - drives up the prices of land resulting in people residing in either high density luxury apartments or poorer inner city neighborhoods. In Western nations moving up the economic ladder is followed by a move out of the city into easily accessible suburban areas. It should be noted that recent developments in transportation and the emergence of suburban business districts have flattened the population density graph causing the urban population distribution to become more uniform. Planned economies, as previously mentioned, do not hold the same population density distribution pattern in urban areas. The city centers were primarily designed for public and administrative use.

Figure 4.

As one moves away from the city center, in planned economies, the population densities tend to increase. Microdistricts were easier to construct in open spaces that were usually found in the outskirts of the city. Moreover, the purpose of the districts was to keep the working population close to the factory jobs that were located at the
fringes of the city. In short, the uniqueness of East Europe’s planned cities lies with the structures that do not reflect the demands of the economy but are pulled together “in accordance to the socialist ideology and planning principles” (Brunn et. al, 2003; 233).

Away from the dominating urban centers, numerous towns in transition economies were governed by specific industries. While in some cities the industry was developed due to the availability of natural resources, in others “cultural forces outweigh[ed] the natural handicaps for industry” (Alexander, 1963; 447). These developments of industries, at locations that lacked the necessary inputs for the industry to operate efficiently, were common in Eastern Europe. To regulate these cities and the allocation of resources, oblasts were formed.

The oblasts allowed for concentration of industrial investment to be spread across the country thus restricting the growth of the major cities (Brunn et. al, 2003). In doing this the central government aimed to provide the population with work - even if it meant inefficient methods of production and distribution - and to spread economic growth to all the regions not solely the most urbanized areas. In the case of Russia the “Industrial Center” stretching from Smolensk to Gorki - a region 450 miles long and 200 miles wide - that had no strong physical base for manufacturing. Yet the region developed into an industrial one due to the fact that it is a populous part of Russia.

Under the centralized planning system, the over-employment of these industries led to unprofitable production. Once the transition set in, a number of these industries were hit the hardest and the towns with them, leaving numerous families with no supportive income since the closing down of the plants resulted in both parents losing their jobs. The loss of jobs pushed some families to leave their homes in pursuit of work in the major cities.
If we look at the rural areas of the command system economy we find that similar patterns of ownership were occurring. Collective and state farms were a common phenomenon in the rural landscape taking over thousands of small individually owned farms. The state farms were managed by state employees that were obtaining a fixed salary for their work. This system altered the countryside of Eastern Europe dramatically. In case of the U.S.S.R. “state farms transformed the Soviet countryside from millions of small peasant holdings to a consolidated pattern of fewer than 50,000 centrally controlled operating units” (Fellman et. al, 2001; 289). It should be noted that personal plots were allowed and these plots were known to produce a significant proportion of the gross agricultural output. Personal plots made up a diminutive 5% of the total farmland but contributed 25% to the overall agricultural output in Russia (Alexander, 1963). This indicates that the lack of motivation, inefficiency and outdated capital were leading to outputs below the potential of the farmland, causing shortages in food supplies.

Now that the structures of urban and rural areas in central planning systems have been outlined, the paper will examine the transformation foreign capital has brought to these regions, addressing both the short and the long term consequences.
Section 7.1

Changes in the Urban Landscape

The initial stages of privatization in Eastern Europe were mostly associated with smaller service industries rather than large-scale privatization of transportation, utilities and telecommunications. The fast pace transformation of consumer goods into privately owned institutions and the lag in privatization of large-scale industries has created a mosaic like landscape in urban areas (Hamilton, 1999). Modern shopping centers are emerging next to run down and neglected public institutions creating an aesthetically non-uniform landscape. The distinction between state owned, partially privatized and fully privatized institutions is becoming more and more apparent. As evident, the urban cores and the housing markets are facing the biggest visual alteration as a cause of decentralization.

The transition into the market system created modifications in the location of economic activity within the city. With the collapse of central government planning the land-use needed to be reallocated so that it would reflect the demands of the market. Previously government owned stores and spaces were turned into private retail stores. One of the first cities to experience this conversion was Budapest. Series of new developments struck the capital city of Hungary starting with the central business district that “was allowed to be converted into an area of international hotels, extended with the first pedestrian street” (Tosics, 2004; 3). Shopping centers, new office buildings and international retail stores were opening in the downtown. Rundown administrative buildings were taken by private investors, renovated and restored to serve as an aesthetic trademark for the city as well as meet the needs of the population.
In terms of the housing units, the reform allowed the elite to move out of the microdistricts and purchase private dwellings closer to the center of the city or in areas with high amenities previously unattainable to the local population. While the elite benefited, in this regard through increasing their private assets and wealth, the lower income classes were at a disadvantage. The microdistricts, previously maintained by the state, were now left in the hands of its residents. With the move of the elite from the rayons (microdistricts), the availability of income to preserve the buildings was significantly reduced forcing the projects to slowly deteriorate. For the first time the cities of socialist governance were witnessing socio-spatial disparities such as those present in the capitalist Western world.

The above occurrences have lead to a number of conflicts amongst the differing residential classes in urban areas. The population of the transition economies has gone through decades of living in an economy that was governed by national authorities. Consequently significant portions of the population “never experienced a market economy, had been subjugated into state and party dependency, and subjected to sustained anti-capitalistic propaganda under a command economy run by a totalitarian regime” (Hamilton, 1999; 139). The adaptation to the market system was not only met with increasing discrepancies in income and competition within the labor market, but also with decrease in government expenditure on public goods and divergence in land allocation. As stated previously, the elite were now free to move to other areas of the city formerly prohibited from private ownership. In the case of Zuglo (Hungary) - a high-prestige green-belt area - there was densification taking place with the move of the elite to the region (Hamilton, 1999). This densification is the result of the free market exploited by the local developers that set forth to profit from constructing single
family units (Hamilton, 1999). The consequences of this newly emerging development with little planning were increased traffic congestions, clearance of public parks and lack of parking space.

The restructuring of the urban landscape in Hungary, however, is unique. Hungary was one of the nations that adapted to the market economy fastest and at the lowest cost. This is mostly due to Hungary’s slow introduction to the market economy from the late 1970s. Hungary, even as a centralized economy, was slowly allowing for local prices to inflate to the world levels. This move of world price adaptability allowed Hungary to smoothly transition into a market economy in the 1990s with lower costs in comparison to its eastward neighbors. Furthermore, the location and the country’s history aided it in its transition phase due to “the Germanic enterprise culture being more deeply embedded in areas such as west-central Poland, the Czech lands and Slovenia than in areas further east.” (Hamilton, 1999; 142). In other words, the cultural association of Hungary, Czech Republic and Slovenia to the Germanic lifestyle has led to greater proportions of FDI, stemming from the Western world, to be directed to these countries. This pattern of foreign investment inflow is evident from the map below indicating that in 1995 foreign direct investment, in dollars, per capita was the highest amongst countries closer to the Western European economies with the exception of Estonia and Latvia.
The ramifications of these uneven capital inflows have caused the urban areas in the studied nations to change rapidly creating, what Hamilton describes as a "mosaic" landscape.

This mosaic pattern was further enhanced by the relaxation of the administrative regulations on the housing supply and development of cities. With the closing of inefficient industries a number of oblasts were left without an economic base to support the local population. The freedom to enter the cities and lack of opportunity in the oblasts, created an inflow of rural immigrants to the main cities that generated a shortage of affordable housing. The microdistricts were becoming over crowded with the inflow of these new immigrants causing state owned commercial spaces to be converted into housing units for the incoming rural families. The urban reform,
therefore, added to the social polarization and spatial segregation of the population (Gu and Shen, 2002).

The spatial segregation was further enhanced by the creation of the housing market. Previously families obtained housing units through the state. The housing allocation was based on the family size and years household heads were active in the labor force. With privatization the housing was left to the market mechanism with minimal allowance for government intervention. While the developers grasped at this opportunity, the housing units they were providing to the public were those affordable to the upper classes such as the ones in the greenbelt area of Zuglo in Hungary. The availability of housing units to lower income classes remain very limited resulting in over crowding of apartment units and educational institutions, thus impacting adversely the human capital of lower income groups.

The above factors are mostly being stemmed by the lack of coherence in market and institutional reform. While the housing market has established itself swiftly it is not being followed by a swift reform of financial institutions. For the housing market to reflect the true demands of the local population financial institutions need to restructure themselves and develop a mortgage financial system. The lack of long term loans, a mortgage system and financial incentives (such as tax redemptions) means that the housing market is serving only those that are able to afford the housing units on an immediate basis, thus there is a shortage of affordable housing.

The lack of affordable housing has, to some extent, prohibited the potential inflow of immigrants into the urban cores. Deichmann and Henderson find low levels of urbanization taking place in Poland in recent years. The argument the authors make is that the lack of affordable housing, for the middle class working population, is
deterring the rural population from coming to urban cores to take up the employment positions provided by foreign investors. The occurrence of slowly increasing levels of urbanization is indicated in the map below. The reader should, however, examine both of the maps since the levels of urban population differ significantly amongst nations.

Map 3.
Map 4.

It is important to examine both maps to determine the change in urbanization over the studied period. While the Percentage Change in Urban Population map indicates that Albania witnessed the greatest increase in urban population, Albania had the lowest urban population in 1995 (only 39% of the population resided in urban cores). On the other hand the Czech Republic witnessed a decrease in urban population over the last 5 years, though its urban population constituted 75% of the nation's total population in 1995. In relative terms these differences are not extreme but they are worthy to note.

It is interesting to see that the nations whose transition into the market system was smoother for the most part are experiencing lower increase in urban population if
not even a decrease. Estonia, Latvia and the Czech Republic were the nations praised for the swift adaptation to the market economy, yet the adaptation did not seem to comply with the housing market reform. At the same time, the lower increases in urbanization in these nations may also be due to the dispersion of foreign investment into the rural areas in search of natural resources or heavy manufacturing that is not found in urban centers. It appears that the local population is encouraged to stay, if not also move, to the rural areas. Thus there might not be as much pressure to move to the cities.

The less developed nations such as Albania and Belarus, on the other hand, are seeing increases in urban population immigration. This occurrence may be due to the harsh economic circumstances in rural areas forcing the population to move even at the expense of not being able to find affordable housing.

It is apparent from this section that transitioning economies are not only experiencing transformations in their economic and political systems but also in their urban landscape. Foreign investment, even though it is providing opportunities to the local population, is mostly aimed at the urban locations, as proven in Chapter VI. While the investment has positive effects of restoring the urban architecture and meeting the demands of the local population, it is creating an aesthetically uneven landscape. New shopping malls are not in line with the old public administrative buildings. New houses attainable by the higher income groups are emerging in previously publicly held lands, while the affordable housing market is neglected. These forces are impacting the movements of the local population that are not only having repercussions on the cities but on the rural areas as the following section will portray.
Section 7.2

Changes in the Rural Landscape

It has been proven that foreign investment is directed, for the most part, towards urban cores neglecting the rural areas of transitioning economies in Eastern Europe. The dependence of oblasts on a limited number of industries has resulted in a high level of emigration from these regions with the closing of factories. The emigration, however, has been limited due to the lack of availability of affordable housing, as mentioned in the previous section.

When discussing the rural landscape in Eastern Europe, the main feature to consider is the agricultural industry. These transitioning nations boasted some of the richest soils. The abundance of the fertile black soil -- chernozem in Ukraine -- has given the nation the title of “Europe’s breadbasket”, wheat being its main crop.21 Despite the abundance of fruitful soils, the nations were averaging relatively low outputs, such as in the 1980s when “Soviet farmers averaged about 10 percent of the output of their counterparts in the United States”.22 The main reason for the low levels of agricultural production is the policies associated with central government planning.

Under central governance, agriculture was socialized through collectivization. This means that any land, machinery and livestock was confiscated and redistributed to communal farms. The workforce jointly produced the crops, and was not motivated by self-profit, but by reaching the annually targeted output levels. Under this plan, discrimination levels between the agricultural and the manufacturing labor force were

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21 For further information on Ukraine’s agribusiness see: AgriMarket. Available on line: http://www.agrimarket.info/wonderland.php
22 For further information on Soviet agricultural production see: Country Studies. Available on line: http://www.country-studies.com/russia/agriculture.html
to be reduced. Consequently, “the work force of the state farm received wages and social benefits comparable to those enjoyed by the industrial workers”.

The advantages of collective farming were mostly administrative as opposed to economic. The regulations were uniform and were used “to address externality related agricultural operations by forcing landowners to use less fertilizer, spray less toxic chemicals, keep a certain proportion of their land in trees, produce free-range meat and poultry products, and so on, thus saving the treasury money” (Suchanek et. al, 2001; 5).

Therefore, enforcement of policy changes and new laws, as well as regulation of agricultural labor force, was more manageable under the central system.

The weaknesses of the system, however, outweighed the advantages. There was a perpetual lack of incentives amongst the agricultural labor force. With the guarantee of fixed wages and social security, it was in the interest of workers to contribute the daily minimum of their labor. There was no need to strive for higher yields since there was no form of monetary compensations. The system also lacked flexibility; once the specific production techniques were set for a particular crop, the system would be subject to little change. There was also a lack of diversity. Certain areas and labor were designated to the production of a specific crop. The limited selection created a narrow assortment of agricultural produce in the local market. Lastly, centralized government planning did not encourage experimentation in agricultural production. The labor was expected to take orders and to carry out its daily routine as set by the administration. This lack of creativity and experimentation limited progress in production schemes from taking place. Furthermore, by prohibiting experimentation the labor force was directly prevented from developing expertise in its line of work. These negative factors

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on agricultural production were further exacerbated by “administrators who were unaware of the needs and capabilities of the individual farms [who] decided input allocation and output levels”.

In an attempt to remedy agricultural production schemes, a number of countries tried to slowly reform this vital sector of their economies. One of the better known set of reforms was that of President Gorbachev, who “sought to increase agricultural productivity by forming contract brigades of ten to thirty farm workers who managed a piece of land leased from a state or collective farm.” The ten- to thirty-member groups were responsible for the crop yields that directly influenced the group’s monetary compensation. The idea of the system was to encourage teamwork, rather than self profit, and at the same time increase the incentive of the workers to be more efficient and productive.

By 1987, family brigades were legalized as well as long-term land leasing. By allowing for long-term family land leasing the government was directly “removing the restriction of the size of the private agricultural plots and cutting into state’s holdings of arable land.” The reform was met with output increases, but the lack of market freedom still hindered the true production capabilities of Russia’s arable lands. As in the rest of Eastern Europe, farmers still lacked interest to improve the production methods since prices of produce and capital investment allocation remained in direct control of the government.

On the other hand, in the Western regions of Europe, there was a reconstruction of agricultural methods of production since the 1950s. In France, “[the] government

made great efforts to develop production and productivity; agricultural machinery and fertilizers were among the priority sectors in the first modernization plan" (Vial, 2001; 1). Unlike Russia, which faced consistent shortages of food supplies, France saw constant surpluses. In order to meet the agricultural production standards of Western nations – and to make a bigger claim in the world markets - the transition also needed to encompass the rural agricultural sector.

The transition to the market system was met with greater hardship in the rural areas than in the urban cores. Rather than increasing production, privatization caused “fragmentation and low efficiency of agricultural production, which in unstable market conditions [can lead to] essential agricultural land abandonment” (Busmanis et. al, 2001; 1). As in the urban cores, the rural areas were also faced with an unsystematic transition of institutions. Ukraine’s lack of coherence amongst financial and political institutions has drawn the attention of academia.

Ukraine, Eastern Europe’s main producer of wheat, has leaned towards privatization of its agricultural lands since the early 90s. The country, however, is not making strong steps towards improving the legal system that would allow for enforcement of binding contracts and property rights. As with the rest of the studied nations, “officials in Ukraine are poorly paid and take advantage of their positions in a way that entrepreneurs have to make ‘unofficial payment’ for getting an official permit to receive a loan in a bank or to register an enterprise.” (Nijnik, 2001; 10). The degree of corruption amongst the employees in the administrative sector is directly hindering the transition process and the establishment of free markets that would reflect the demands and needs of the local population. The existence of this asymmetric
information between the legal institutions and potential property owners is inversely affecting the marketization of agricultural land.

The lack of binding contracts and property rights is considered to be one of the main factors hindering the flow of foreign investment into the agricultural regions. "Insufficient development of infrastructure and banking systems in rural areas, aging of the rural population and inadequate social security" (Nijnik, 2001; 11) are further ailments in attracting foreign capital.

The main consequence of communism was the undervaluation of natural resources. This lack of true land value, in the case of Ukraine, resulted in over 2 million acres of land being abandoned (Nijnik, 2001). Instead of the transition transforming those 2 million acres back into productive land, lack of property rights that would allow firms to invest in the land’s improvement is prohibiting the advancement of agricultural production. Consequently the production of staples, such as sugar, has decreased in Ukraine from 6.8 million tons to 1.2 million tons over the last decade (Nijnik, 2001). The reform did not seem to bring the expected results of success and prosperity. With the opening of the countries to the world markets, the agricultural industry was faced with the need to update its outdated machinery in order to keep up with modern production schemes.

Trust was declining amongst the workers, and corruption was on the rise amongst private investors. This resulted in unfair land allocation. After decades of dependence on the state, farmers were now left to adapt to the new market conditions on their own. For some this was the first time that they had to personally take up the risks associated with a failing crop. Unfortunately, “many of them have lost managerial skills and entrepreneurial abilities and are not able to work independently and to
compete with each other” (Nijnik, 2001; 7). With limited education and insufficient monitoring and guidance, numerous farmers were left unemployed. In Ukraine the “rural unemployment... today exceeds 16 million people...[there is] outflow of labor from rural areas and degradation of villages (about 8,000)” (Nijnik, 2001; 3). The once vibrant villages and oblasts of Eastern Europe are slowly losing their vigor as the young move to the urban cores in pursuit of work.

For those who remained on farms, the lack of guidance has resulted in their primary concern being revenue maximization with little consideration of the strains outdated machinery is having on the soil and its future quality. The slow destruction of soil quality, while not in the immediate interest of the local farmers, is a repelling factor for foreign investors. If foreign firms see a rapid depletion of resources due to careless management, they may lose interest in setting up long-term rural projects since there is greater risk in them incurring a future loss.

To aid the rural communities, the main focus appears to be on establishing institutions that would guide the labor force through the marketization process. It is argued that “institutions must protect farmers against the political whims of unstable government while enabling full participation in domestic and international markets” (Suchanek et. al, 2001; 4). The naissance property rights need to be backed by legal institutions that protect contractual agreements and are not subject to staff corruption. Once this barrier is broken, foreign firms would be in greater ease to invest their funds in rural areas.

Furthermore, it is inevitable that adaptation to the new world markets will result in an increase in unemployment, since technological advances in agriculture are demanding less manual labor. Since the housing market in the urban cores cannot
provide for the inflow of rural immigrants, it is advised that foreign investment should be indirectly geared towards rural communities rather than being solely focused in the urban cores.

It was proven in Chapter 6 that transportation is a vital factor in attracting foreign investment. Instead of focusing the expansion of roads on least cost to build motive - where the roads are expanded on the path of least resistance - the government can instead construct routes that lead through rural population nodes.

The oblasts would be able to increase their service revenues as well as local government revenue through tolls. This action can liven up the neglected rural cities of Eastern Europe, aiding in the prevention of further depopulation. The lengthening of transportation routes would allow for dispersion of FDI throughout the nation rather than concentrating the capital in a selected number of urban centers. The negative effect of the lengthening of transportation routes is higher construction costs and a longer timeframe for completion of the roads. The most economical way to improve highway transportation networks is through undeveloped land. Construction of roads through agricultural land and rural nodes would lead to short term costs such as reallocation of the local population and changes in zoning regulations. Therefore, connecting many towns and villages may not achieve the best net benefits unless the future long term benefits - measured by change in the level of economic activity - outweighed the high short term costs.
Chapter VIII

Conclusion

Through the last decade, the studied fifteen nations of Eastern Europe have been adapting their economies to the market system. High budget deficits forced the nations to attract capital from foreign investors instead of basing their reconstruction solely on bank and international government loans. Foreign investment, unlike loans, directs capital to the local firms. Through foreign investment firms can be modernized organizationally and technologically (Pavlinek, 2004). These factors contribute to making production methods more efficient, as well as making the finished products marketable to surrounding nations. There are, however, disadvantages associated with foreign investment.

As previously mentioned, foreign firms investing in Eastern Europe are seeking to minimize their costs and maximize their profits. The minimization of costs may entail a decrease in worker safety, lack of insurance premiums and relatively poor worker conditions. The expansion of the manufacturing industries and lack of pollution regulations may contribute to local environmental degradation that in turn can affect the health of the local population.

While inflow of foreign capital may stimulate home country’s industries it may also increase the dependency of the industry on foreign governance and investment. The firms may exploit the available natural resources of the nation to the point of full depletion. Once the resources are no longer available the firms may abandon the industry, cutting the inflow of foreign capital to the home nation.
Foreign firms locating in home economies tend to attract skilled and semi-skilled labor from the local companies. This, in turn, reduces the market competition and increases the relative labor quality of foreign owned firms in the home country. There is a potential threat of regional specialization in low skilled labor intensive production methods. In these cases, once the foreign firm loses interest in the region, it will both cut the flow of capital into the region and leave the working population specialized in a particular skill that they might find hard to reapply in other industries.

As evident from the multivariate regressions, foreign capital is highly attracted to urbanized regions of the home country. This factor leads to an uneven flow of investment into urbanized areas of the home country, neglecting the primary industry and the rural population. The lack of foreign investment into agricultural regions has resulted in a migration of the local population from rural to urban areas placing housing and employment pressure on the local cities.

The knowledge of the negative side effects associated with foreign investment, has not deterred the studied nations from focusing on factors that would attract international capital. While economic and political factors are vital determinants of foreign capital this study additionally confirms the importance of geographic variables. The variables examined are concentration of urban population, geographical size of the country, the market power and distance of surrounding top GDP ppp nations and transportation infrastructure. By using multivariate regressions the study finds all of the variables to contribute significantly to attracting foreign investment with the exception of country’s geographic size. It is argued that the larger the country is the more likely it will be self-sufficient and may not engage in as an extensive trade as a smaller nation would. Foreign firms, as a result, may be less inclined to invest in economies that tend
to be self-sufficient as this would lower the foreign firm's chances to invade the surrounding markets with its goods.

In case of transportation all three modes prove to be statistically significant in their separate models. According to these results, home country's government that wishes for foreign capital to play a greater role in the marketization of the home economy should focus on expanding transportation modes. A modern and efficient road network can aid foreign firms in two ways. It provides a safe and fast transport of production input materials as well as a secure and efficient distribution of the final products to the local and surrounding international markets. Thus governments should focus on expanding the road network whilst improving the quality of the existing one as well as taking carefully into consideration the regions the network will cover. As discussed in Chapter VII, Section 7.2, a network that passes through previously highly industrial and rural regions may contribute to reviving the oblasts. Through road tolls as well as formation of services along the roads, the economic standing of the local population may improve. This in turn will contract the level of rural depopulation as well as reduce pressure on larger cities from providing housing and employment opportunities to immigrants from rural regions.

Urban population proved to have the strongest effect in attracting FDI. The coefficient value averaged 6 meaning that a 1% increase in urban population should result in a $6 per capita increase in foreign investment. High levels of urban population indicate a developed nation that can provide complimentary services to the foreign investors. Increasing the urban population in order to attract international capital, however, is a difficult task as covered in Chapter VII. The non-homogenous transition is reflected in the lagging legal and banking institutions. Contractual agreements are
still lacking, property rights are still vague, and mortgages are not available to aid the local population in purchasing a house. Thus there is corruption and over crowding taking place in urban regions.

This non-homogenous transition is clearly reflected in nations’ landscapes. Cities are becoming “mosaic” structures of old, socialist, administrative buildings and new private investment. There is overcrowding with the construction of upper income housing units and distribution of previously publicly held lands to private investors. The lack of planning is clearly visible in traffic congestions and insufficient parking space. Agricultural regions, on the other hand, are facing abandonment and negligence from both government and international investors. There is depopulation, especially amongst the younger generations as they leave their lands and move to cities in search of employment.

Macroeconomic performance and cost reducing policies are necessary in attracting foreign investment. The study, however, substantiates that macroeconomic factors may not be sufficient in solely attracting FDI. The paper concludes that urban population, transportation, distance and market power of surrounding nations as well as geographic size, all play a significant role in attracting foreign capital. The variables, however, are not ideal. The shortcomings of the study were outline in Chapter V and the paper calls for future research to recognize the limitations of this study and expand on it.

In particular future research should analyze the conditions of the road network and the proportions of the network that belong to motorways, highways, main and side roads. Future research should also examine the distribution of the road networks and where they lead. This will provide greater insight to local governments as to what
sections of the network are in greater need of immediate attention. Moreover, future studies can expand on the transportation variables used. Danube, Dnieper and Vistual are the three major rivers flowing through the studied region. Water is one of the most economical modes of transportation. By expanding the study to encompass water transportation the government can obtain some insight on the condition of local ports.

The changes in the urban and rural landscapes should continue to be monitored. Through time it is expected that these landscapes will be transformed even further as legal institutions transition to reflect those of the Western world.

Years of central governance have left deep scars on Eastern Europe's landscapes, economies and political institutions. At this point the fifteen examined nations are seeking individual paths to recovery. As a part of their recovery they are turning to international institutions and governments for capital and investment. The competition for limited foreign funds, however, has been continually increasing between Eastern European and East Asian nations. While foreign investment has its advantages it also has its costs. I end this paper with the hope that the nations seeking foreign investment will use it in future development and long-term benefit of the local population.
Banjica

Belgrade, Serbia

This microdistrict was constructed in the 1950s to house World War II veterans.

Source:
http://www.constanta.co.yu/engB anjica.htm
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