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Location-Specific Determinants of FDI

The case of the Middle East and North Africa countries

Bachelor's Thesis Within Economics

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Abstract

The thesis examines the foreign direct investment (FDI) inflows in the Middle East and North Africa (MENA) region and, in order to achieve a better understanding of how MENA economies may attract FDI, attempts to identify their possible location-specific determinants. The analysis is based on the results of the cross-section OLS regression method. The examined empirical model is based on the eclectic theory developed by John Dunning and the previous empirical studies. To test the relevant location-specific determinants of FDI inflows into MENA region, eighteen countries are sampled for the period 1996-2006. The results of the regression analysis show that physical infrastructure and trade openness are significant determinants of FDI in the MENA countries.

Keywords: FDI, location-specific determinants, OLI paradigm, Middle East and North Africa region.

List of abbreviations

ECSWA	Economic and social commission for Western Asia
FDI	Foreign direct investment
FTA	Free trade agreement
GDP	Gross domestic product
IDB	Islamic Development Bank
IMF	International Monetary Fund
MENA	Middle East and North Africa
MNE	Multinational Enterprises
OLI	Ownership, Location and Internalization advantages
R&D	Research and development
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
WIR	World investment report
WTO	World Trade Organization

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1 Introduction

Foreign direct investment (FDI) is one of the most effective ways for developing countries to become integrated into the global economy and intensify their economic development. FDI provides capital, technology, management know-how to the host countries which are important prerequisites for the development of their economies. The evidence of the positive correlation between FDI inflows and economic growth is strongly supported in the economic theory. Thus, FDI is still crucial for the developing economies and the understanding of the factors driving the FDI inflows into the host countries is of a high importance. Among all of the factors influencing the location decisions of the foreign direct investments the country-specific or location-specific determinants need specific investigation, since it can help the host governments to attract and increase FDI inflows through the policy making.

The trend of impetuous increase of the world FDI inflows to developing countries was witnessed in the 1990s. According to UNCTAD (2005) the share of FDI inflows to developing countries has increased to its highest level since 1997. These inflows can contribute to greater international economic integration and improve the prerequisites for growth such as technology transfer, export development, job and skill creation, and the upgrading of management know-how. Therefore, the challenge faced by these countries today is to identify the right location-specific determinants that can help them compete for these investment flows.

Unfortunately, despite its size with approximately 6 percent of the world population (430 million), and 2 percent of the global income (\$1,198 billion) (World Bank, 2005), Middle East and North Africa (MENA) region seems to have difficulties in attracting foreign investors. MENA region has been struggling with insufficient development, although several countries in the region have taken important steps to reach economic development and stability. The Inward FDI Performance Index for the period from 2001 to 2003 prepared by UNCTAD, shows that the MENA region is far behind the other developing regions in receiving FDI inflows, despite of the fact, that the MENA countries are constantly updating and improving their investment laws, establishing a reliable legal and regulatory environment and opening up to international trade.

Thus, there is a need to identify the most important factors driving FDI to the region so as to allow for MENA countries to focus more on using the following factors to achieve economic development and growth, create more job opportunities, improve their trade and balance of payments deficits, transfer technologies and improve management know-how and skills.

Many studies have been conducted to determine the main factors that help in promoting FDI flows to different developing regions, such as Latin America, East Asia, South Asia, and Sub-Sahara Africa. However, there are very few studies dealing with the FDI in the Middle East and North Africa region.

Hence, the choice of this region for our thesis was motivated mostly by this lack in the previous studies. The following countries were included in our study: Algeria, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates (UAE) and Yemen. Although, the MENA region includes few more countries namely: Comoros, Djibouti, Eritrea, Somalia, Mauritania, we decided to exclude them based on unavailability of the statistical data or its low reliability and extremely small size of their economies. Despite its geographical location, Israel is

also excluded from our study since it is considered to be economically developed country. The last two countries, Palestinian Territories (the West Bank and Gaza Strip) and Iraq were excluded from our study also because much of the necessary statistical information is missing.

1.1 Purpose

The purpose of this thesis is to study the location-specific determinants affecting foreign direct investment decisions in the case of the 18 selected countries of the MENA region during the time period 1996-2006. We will try to identify how significant is the contribution of these determinants to the FDI inflows into the region.

1.2 Disposition

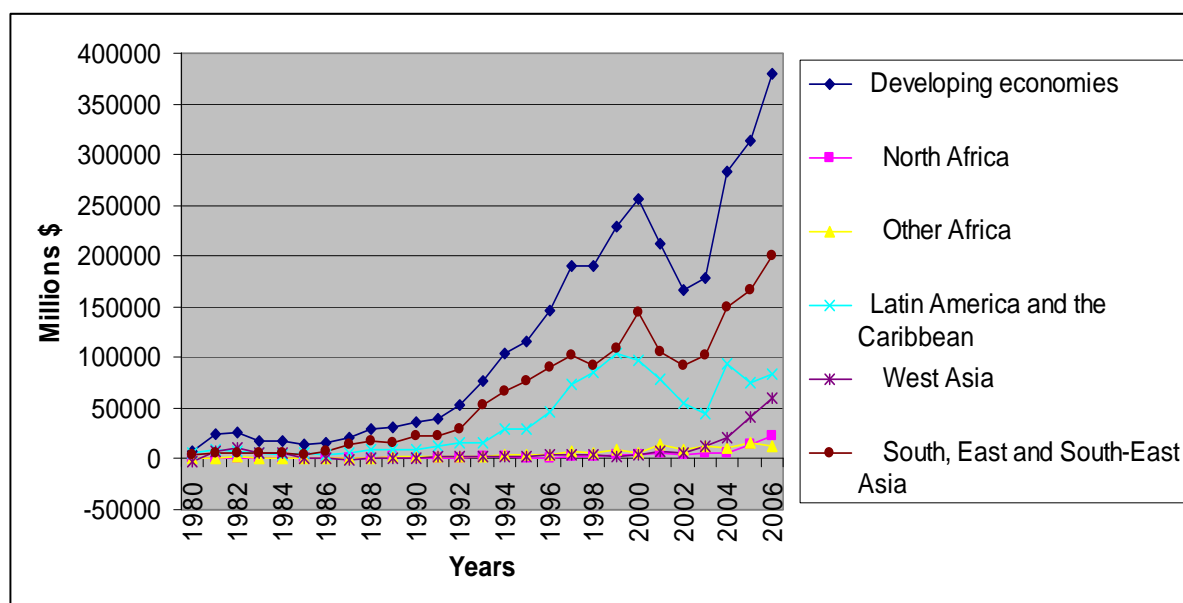
This thesis is organized as follows. In section 2 the trends of FDI flows into MENA are described. Section 3 presents the theoretical framework explaining the determinants of FDI and in particular the eclectic theory of John Dunning. Section 4, provides the review of the previous empirical studies on the determinants of FDI. In section 5, the specification of variables and the details on data collection is presented. Section 6 shows the results of the empirical analysis and the section 7 is contributed to the discussion of the empirical findings. The last section 8, is devoted to the concluding remarks and the suggestions for further studies.

2 FDI inflows in the MENA region

This section is included with the intention to describe the previous inward FDI patterns throughout the chosen time period into different world regions. Further, it explains the inward FDI flows into the Middle East and North Africa region and the reasons behind the sudden increase in FDI for the last few years.

The global Foreign Direct Investment (FDI) flows have been rapidly increasing starting from the 1990s. The major part of the outward and inward FDI flows goes between the developed countries. However, a significant share of FDI inflows is directed to the developing regions of the world and mostly to Latin America, the Caribbean, South-East Asia and China and this tendency is rapidly growing. In year 1997, the trend of continuously increased FDI reversed direction because of the Asian crisis. In year 2000, global FDI flows has been in the rise again to developing countries, recording nearly \$ 246 057 millions across border FDI flows, but during years 2001-2002 the volume of flows nearly halved, followed by the global economic slump in beginning of 2001.¹ The negative trend slowed down in 2003, and the global FDI flows regained the positive momentum in 2004. Unfortunately, the FDI inflows to the Middle East and North Africa (MENA) region have not been characterized as part of a positive trend for the developing economies. In the past two decades, most of the MENA inflows were originally invested in the rich Gulf States and in oil-related projects. Figure 2.1 shows the FDI inflows into developing countries for the different regions of the world during the period time of 1980-2006.

Figure 2.1. FDI inflows into developing countries in million of US dollars.

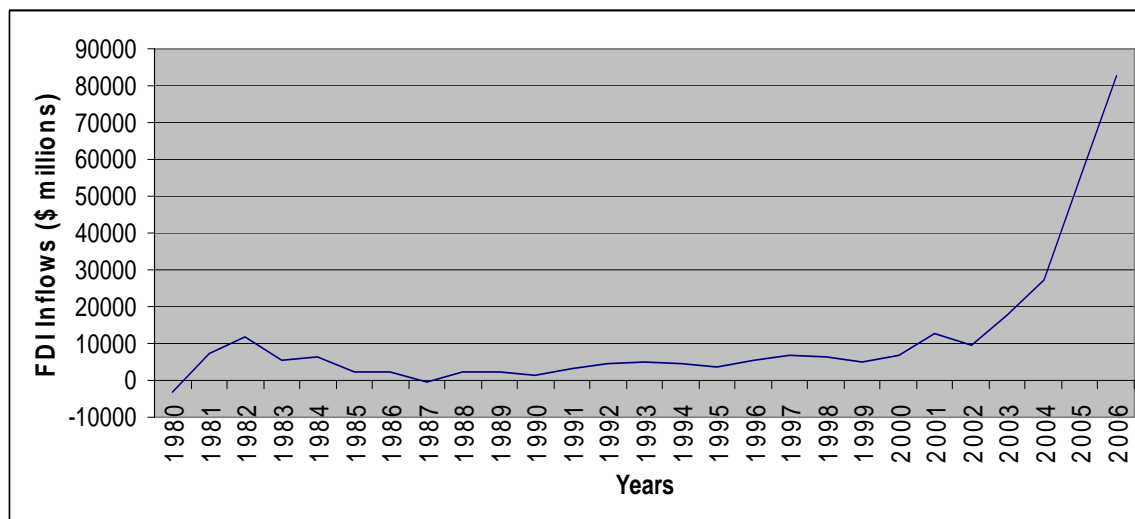


Source: UNCTAD 2007.

¹ Source: UNCTAD, World Investment Report (WIR), various years.

For the last four decades, the MENA region² seems not to be competing at the same level with the other regions of the world. As can be seen in Figure 2.2, during the period between 1980 and 2002, the inward FDI flows (in millions of USD) of the MENA countries has been very low.

Figure 2.2. Inward FDI flows to MENA region in millions of US dollars.



Source: UNCTAD 2007.

The situation of the regions FDI inflows has been significantly changing since the 2000s. For instance, the inward FDI to the MENA region increased substantially from \$1571,05 in 1990 to \$4662,91 million in 1992 and to \$27106,25 in 2004. In 2006, the final FDI inflows more than doubled and the region reached up to \$82916 millions.

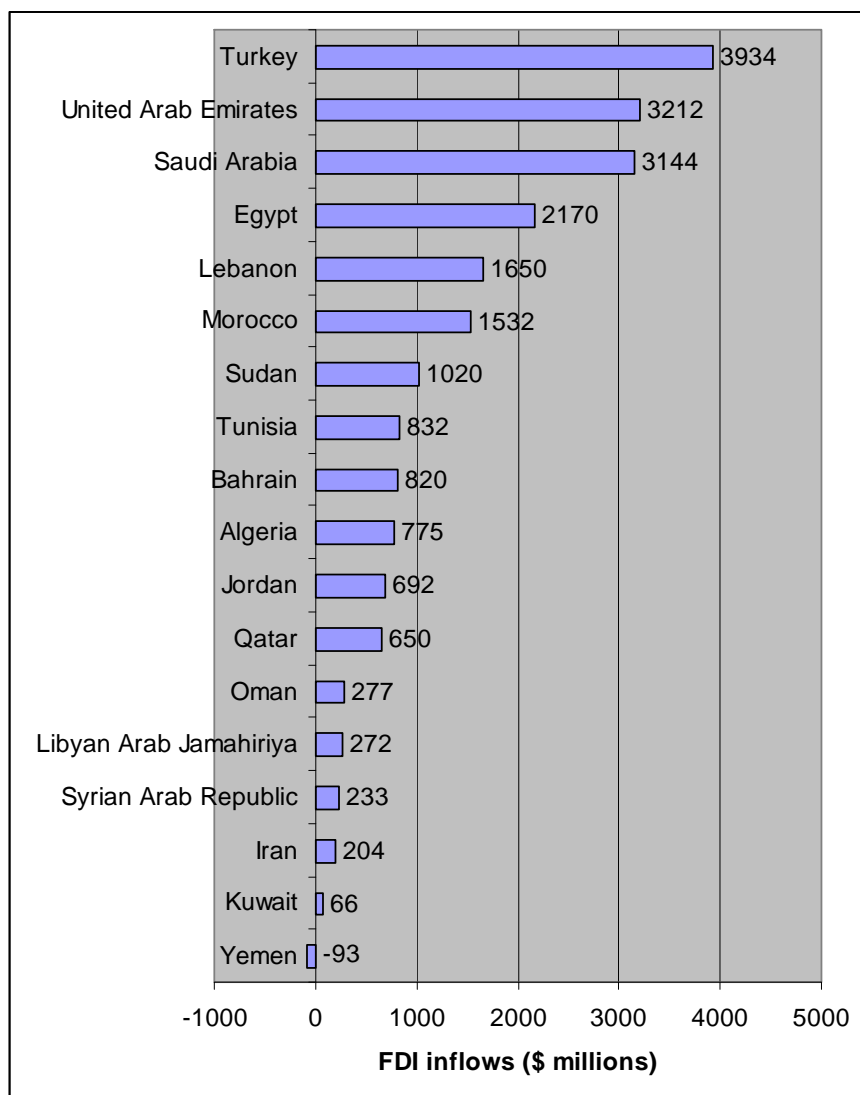
The UNCTAD inward FDI performance index shows that the MENA is far behind any other developing region (UNCTAD, 2004). The most interesting part in the figure 2.2 is that there has been an increase in FDI inflows somewhere in the beginning of 2003. The sudden increase seems quite interesting to analyse. By looking at the year period from 2003 to 2006, FDI inflows more than tripled. According to the World Investment Report (UNCTAD)³ among the key factors for the sharp increase of FDI inflows were the improvement in infrastructure, particularly telecommunications and electricity, liberalization of the FDI regulatory regimes and improvement of privatization programmes by many countries in the region. Moreover, several of the countries concluded in negotiations on free trade agreements (FTAs). In North Africa, the FDI in natural resources was particularly strong in 2004 and 2005, reflecting the high prices of minerals and oil and the interpretation of signing new bilateral agreements related to investment. While inward FDI to the Middle East increased even more in year 2004 compared to 2003, given the high oil prices and consequently strong GDP growth were among the main factors that drove this increase. In the year of 2006, the FDI inflows into MENA region were more than twice their 2004 level. The reasons behind this increase were again the region's strong economic

² According to our study, the following countries included as the MENA region are: Algeria, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates (UAE) and Yemen.

³ Source: UNCTAD, World Investment Report (WIR), various years.

growth and high oil prices which have been attracting FDI in oil and gas. In the Middle East, Turkey was the largest recipient of FDI inflows, while Saudi Arabia was the second largest, followed by the UAE, where the free zones attracted a significant share of its FDI inflows. At the same time, the inward FDI into North Africa increased due to the high interest in natural resources, improved prospects for corporate profits and a more favourable business climate. Many of the North Africa countries adopted measures to attract FDI as well as to improve the impact of FDI on their development. Overall, the MENA region has had a tremendous increase of FDI inflows during the past few years, thus the region has still not yet reached the levels as some other parts of the world economies. Therefore there is a need to estimate the location-specific determinants of FDI in order to attract more foreign investors.

Figure 2.3. Average annual net FDI inflows to the MENA region, 1996-2006 (in millions USD).



Source: UNCTAD Handbook of Statistics (various years)

In terms of average annual net FDI inflows over the last five years, the same five countries in the MENA region have had the highest FDI. As can be seen in the Figure 2.3, Turkey is the highest recipient, followed by United Arab Emirates, with average FDI inflows of

\$3934 millions and \$3212 millions, respectively. Saudi Arabia is not that far from the top two, given the average of inward FDI of \$3144 millions. On the fourth and fifth place, Egypt and Lebanon reaches FDI inflows of \$2170 millions and \$1650 millions respectively. Overwhelming majority of FDI goes to the natural resources sector. However, some countries like Egypt, Bahrain, Morocco, Tunisia, and Lebanon have called for increasing FDI presence in other type of sectors of the economy, such as real estate, petrochemicals, banking, telecommunications, manufacturing, minerals, industrial cities, tourism etc. (Eid and Paua, 2002).

However, when looking at this figure we have to keep in mind that it shows the net FDI in-flows, but not the total inward FDI. Thus, the low amount of net FDI inflows for the Kuwait can be explained by the fact that this country has high FDI outflows, which in some years even exceed the inward FDI.

The pattern of American influence can also be seen when analysing the Figure 2.3. The countries on the top are those that have a better political relationship with the United States. And the fact that the United States are the major investors into the Middle East and North Africa region, can largely explain why Turkey, UAE, Saudi Arabia have the highest FDI inflows. On the other hand, a country like Iran that has many political disagreements with the United States is very restrictive toward the foreign investors, which in turn can explain the low FDI inflows.

3 Theoretical framework

The following section provides theoretical background of FDI and its determinants. The most attention will be focused on the OLI-paradigm developed by John Dunning.

The first theoretical studies on the determinants of FDI go back in time to Stuart Mill, Adam Smith and Torrens. One of the first to address the issue was Ohlin (1933), who stated that direct foreign investment was mainly motivated by the possibility of achieving high profitability in growing markets, along with the possibility of financing these investments at relatively low rates of interest in the host country.

The theory on industrial organization and international trade was initiated by Hymer in the 1960. The author builds up the idea that the study on companies expanding their production at international level was based on an industrial organization approach (Hymer, 1976). He argues that the domestic firms have an advantage over foreign firms since they are assumed to have better knowledge of the home market, attitudes and legislation.

Soon after that, a spatial product-life-cycle theory was developed by Vernon in order to explain the reasons for international production (Vernon, 1966). If a firm wanted to minimize costs, it would locate its production plants in a low-cost country. Vernon's product-life-cycle theory was divided in four stages. *The first stage* marks the introduction of the new product by the innovating company in its domestic market. *The second stage* relate to the period when the product is exported. In the very beginning of this stage, the firm restricts itself to exporting until it has a good understanding of foreign environment. The product reaches maturity in *the third stage*, when the product is completely standardized and the rise of price competition leads the company to invest in developing countries in order to reduce production costs. In this stage, the inward FDI to developing countries may be very competitive but it all depends on the transaction costs, the external economies of scale and the inputs for the production. Finally, *in the fourth stage* of Vernon's theory, the sales start declining.

Knickerbocker (1973) developed a follow-the leader theory of defensive FDI (Bende-Nabende, 2002). This author stated that when one competitor undertakes FDI in oligopolistic industries, the other competitors follow very quickly with defensive FDI into that market. Knickerbocker assumed that followers were motivated by a desire to deny any competitive advantages, such as benefits of economies of scale, to the leaders. He suggested that investment could take on any of the following three forms; investment to supply the local market, resources based investment and export platform investment.

3.1 The OLI paradigm.

One of the most recent and relevant theories for explaining the determinants of FDI is the eclectic theory or the eclectic paradigm developed by Dunning in 1981, known also as OLI paradigm. The theory suggests that the motives for firm to engage in foreign production depend on the combination of ownership-specific advantage, internalization opportunities and location advantages.

The theory states that initially a firm must have some competitive advantage in its home country (for example: own a technology, know-how, resources or some other form of income generating assets) before it can be transferred abroad. This is referred to as an *ownership-specific advantage*.

Second, in order to start operating abroad a firm must find the best possible location, based on the *location-specific* or in other words country-specific characteristics. This component of eclectic theory tries to explain the reasons why it can be beneficial for a firm to implement its ownership-specific advantage in a foreign country that possess this *location-specific advantage*. These location-specific advantages can take form of the country-specific factors such as: low cost but productive labor force, unique sources of raw materials, large domestic market, low transportation costs, generous investment incentives (provided by government regulations), political stability, sound macro-economic policies etc.

Further, the internalization component of the theory suggests that an important ingredient for maintaining a firm-specific advantage is possession of information and control over human capital that can generate new information. Consequently, the aspiration to possess information (Eiteman, Stonehill, and Moffet, 2004), desire to minimize the risk and/or costs of fluctuating exchange rates and the desire to take advantage of differential interest rates lead to FDI (Bende-Nabende, 2002). Thus, the internalization component of the eclectic theory explains why MNEs chooses FDI rather than other types of entry modes for operating in international markets.

3.2 Determinants of FDI

The eclectic theory is widely used as a general theory framework explaining the international production, and provides the background for exploring the factors influencing the location decision of FDI. The discussion about the location-specific determinants in the host countries can be based mainly on the “location-specific advantages” part of the theory.

FDI is very diverse by its nature, depending on different firms that have various reasons for conducting FDI. According to the Dunning’s theory, FDI can be classified into three main groups that correspond to the three most common motives for MNEs to invest in developing countries as: market-seeking, resource-seeking, efficiency-seeking.

Market-seeking FDI is undertaken to maintain existing markets or to exploit new ones. This type of FDI takes place when a firm, after serving as an exporter in a country, finds it more beneficial to relocate production to that country, since it allows avoiding tariffs and other barriers and, thus, gaining higher profits. The main factors that encourage market-seeking FDI are market size and market growth of the host economy, the access to regional and global market, and the market structure.

Resource-seeking FDI is aiming to get an access to the factors of production that are more efficient than those obtainable in the firm’s home economy of the firm. The location of the investment in this case is determined by: the availability and real costs of extracting and transporting the natural resources, availability of the labour force, physical infrastructure. Compared to market-seeking FDI, this type of FDI is intended to serve not only the local market but also the home and third country markets.

The third type of FDI is the *efficiency-seeking FDI*. It is suggested to occur when either resource or market seeking investments have been realized, with the expectation that it will further increase the profitability of the firm. In other words, this type of FDI occurs when the firm can gain from the common governance of geographically dispersed activities in the presence of economies of scale and scope. The determinants of efficiency-seeking FDI can be: productivity-adjusted labour costs, sufficiently skilled labour, business-related services, trade policy (Bende-Nabende, 2002).

There is also a fourth type of FDI, namely the *strategic assets-seeking FDI*, which takes place when MNEs are aiming to acquire research and development (R&D) capabilities in the host country. However, this type of FDI most often find the location in the developed or transition host countries, since many of the developing countries can offer extremely limited opportunities for the strategic asset-seeking foreign investors.

The determinants related to the different types of FDI, described above, belong to the macroeconomic conditions. However, besides the economic determinants, there are also factors describing overall policy framework and business facilitation in a host country that have a great importance. The elements of the overall policy framework are economic freedom and political stability, as well as regulations controlling the entry and operations of multinational corporations. Business facilitation is represented by the administrative procedures, FDI promotion (e.g. facilitation services) and FDI incentives (subsidies). Some authors may refer to this type of determinants as to institutional factors or investment climate.

The table 3.2.1 summarizes the location-specific determinants of FDI based on classification made by UNCTAD (various issues).

Table 3.2.1. Location-specific determinants of FDI.

<i>Relating to resource-seeking FDI</i>	<i>Overall Policy Framework</i>	<i>Business Facilitation</i>
<ul style="list-style-type: none"> → raw materials → complementary factors of production (labor) → physical infrastructure 	<ul style="list-style-type: none"> → economic and political stability → rules regarding entry and operations of MNEs 	<ul style="list-style-type: none"> → administrative procedures → FDI promotion (e.g. facilitation services)
<i>Relating to market-seeking FDI</i>	<ul style="list-style-type: none"> → bi- and multilateral agreements on FDI → privatization policy 	<ul style="list-style-type: none"> → FDI incentives (subsidies)
<ul style="list-style-type: none"> → market size → market growth → regional integration 		
<i>Relating to efficiency-seeking FDI</i>		
<ul style="list-style-type: none"> → productivity-adjusted labor costs → sufficiently skilled labor → business-related services → trade policy 		

Source: Adapted from UNCTAD (var. issues).

The relative importance of some determinants may vary across different types of FDI and even change over time, e.g. due to ongoing globalization.

In the following section we will present the overview of the previous empirical research on the location-specific determinants in developing countries.

4 Empirical studies on the determinants of FDI

The following section contains a presentation of several studies that have been conducted to determine the main factors that helps in promoting FDI flows to different developing countries and regions, while this question has been less studied for the Middle East and North Africa (MENA) region.

The Islamic Development Bank (IDB, 2001) conducted a study on the 41 IDB member countries over a ten year period (1990-1999). By using correlation analysis, the results found that the market size, as expressed by GDP per capita, does play an important role in attracting investment inflows. The results of the study also found a positive correlation coefficient between the openness of the economy and FDI. The openness within the institutions of the region indicated that liberalization plays an important role in attracting foreign direct investment.

Asiedu (2001) conducted analysis of 71 countries (32 Sub-Saharan Africa, SSA, and 39 non-SSA countries) over a ten year period (1988-1997). She states that the FDI flows to the SSA region are market seeking rather than resource seeking. The author is questioning if the rate of return on investment, infrastructure development and openness of the host economic factors have a positive influence on FDI inflows to non-SSA. Her results indicate that the only essential predictor is country openness.

Pravakar Sahoo (2006) conducts a panel cointegration estimation study on the South Asian region with the main focus on five countries of the South Asian region (India, Pakistan, Bangladesh, Sri Lanka and Nepal). The results of his analysis reveal that FDI and all its potential determinants have a long-run equilibrium relationship. He finds out that the major determinants of FDI in South Asia are market size, labor force growth, infrastructure index and trade openness. The author concludes also that South Asian countries need to maintain growth momentum to improve market size, frame policies to make better use of their abundant labor forces, improve infrastructure facilities and follow more open trade policies for attracting more FDI.

The study of Shaukat Ali and Wei Guo (2005) on China examines the literature on FDI and focuses on likely determinants of FDI in this country. Thereafter, the study analyses responses from 22 firms operating in China on what they see as the important motivations for them to attempt FDI. Their results show that the market size is a major factor for FDI, especially for US firms. For local, export-orientated, Asian firms, low labour costs are the main factor.

Some studies have examined the effect of natural resources on the inward FDI. It was suggested that a rich in natural resources country will attract more inward investments than a country without such abundance even if the last one is at the same level of development (Narula, 1996).

Steve Onyeivu in his article "Analysis of FDI flows to developing countries: Is the MENA Region Different?" concludes that some of the variables that influence FDI flows to developing countries are not important for flows to the MENA region. Among them are rate of return on investment, economic growth, and inflation. However, he found that the trade openness increases FDI flows to MENA countries, while corruption/bureaucratic red tape were found to reduce flows to the region. He also states that trade liberalization and privatization are important preconditions for FDI flows to the region of MENA.

Florence Eid and Fiona Paua, in the article published by World Economic Forum Report "Foreign Direct Investment in the Arab World: The Changing Investment Landscape" (2002), conclude that for the MENA region to successfully attract greater flows of FDI, particularly the export-oriented variety, the policymakers in the region need to focus on three critical areas: improving the quality of public institutions, investing in physical infrastructure and investing in human development. The authors also state that human development is the most important in defining and sustaining a long-term competitive advantage. A country can increase investment flows by improving physical infrastructure and the quality of institutions, but, unless human resource skills are developed and enhanced, it is very difficult for a country to attract FDI engaged in higher value-added activities.

The study of Sekkat and Véganzonès-Varoudakis (2004) is based on the analysis of panel data of 72 countries, which 8 of them are MENA countries. They argue that foreign exchange liberalization and the level of trade are the main reasons for the low level of FDI in the MENA economies if compared to East Asia and Latin America. Their regression results indicated that the trade openness has a significant relation to inward FDI. In the case of infrastructure (proxied by the number of fixed phones per capita), the results show a significant impact on FDI, as well as for the political environment. The result on education had an expected positive sign, but it was not always significant. The authors conclude that education among other factors, like macroeconomic conditions and infrastructure should be considered carefully when implementing the reform agenda of the MENA countries.

Nonnemberg and C. de Mendonça (2004) conducted an analysis on the determinants of foreign direct investment in developing countries. The econometric model was based on panel data analysis for 38 developing economies for the period 1975-2000. The results show that one of the major determinant of FDI is education. This in turn demonstrated that FDI in developing countries has been directed towards activities that are knowledge-intensive. The coefficient of an economy's degree of openness was found to be an important factor in attracting investments, and it proved to be highly significant. Lastly, the authors conducted a causality test between FDI and GDP, which showed that there was evidence of the GDP leading to FDI, but not vice versa.

Over the past few decades Africa has not been successful in attracting FDI. Jacques Morisset (2002) argues that FDI inflows in African countries are in principal determined by their natural resources and the size of their local markets. The estimated results of the regression indicated that trade openness and GDP growth rate have been positively and significantly correlated with the investment climate in Africa. Countries like Namibia, Senegal, Mozambique and Mali were the ones with the most attractive investment environments. The positive result of trade openness confirms the argument that trade liberalization leads to reduction in administrative barriers, implying improvement of the business environment in the host economy.

Two other authors that attempted a study on identifying the possible explanatory variables on FDI into the MENA region are Elfakhani and Matar (2007). Their findings indicate that previous year's FDI, return on investment, country openness, membership of the World Trade Organization (WTO), and being an oil-exporting country were found to be positively related to FDI inflows in the period of 1990-2000. However, these results were discovered to be different and time-dependent, as some variables were significant in the period of 1990-2005, while other variables were significant in the 1996-2000. This was expected since most of the member countries entered WTO during 1995-1996. Another interesting result was the high significance level of the return on investment coefficient, which shows that

higher returns in the region promote FDI. The top four countries that attracted FDI in various sectors, such as telecommunications, tourism, textile and banking were Egypt, Morocco, Lebanon and Tunisia. Moreover, privatisation, which was undertaken by Morocco, Tunisia and Jordan, also played an important role in attracting FDI. The oil production in some of the economies was expected to play an important role in attracting FDI. However, investment flows in the MENA region declined in the 1990s because of the oil crisis leading to the drop in oil prices.

5 Specification of the variables and data collection

This section provides the thorough description of the variables representing location-specific determinants of FDI in MENA countries, which will be used in our empirical analysis, their implication, measurement and the sources of statistical data for each of the variables. When constructing our empirical model we decided to include first of all the variables that were found statistically significant in the previous studies on this subject.

5.1.1 GDP per capita

The size and the growth prospects of a host country market are among the main determinants for the market-seeking FDI. These can be measured by the gross domestic product. The size of the market measured by the per capita income is an indicator of the sophistication and breathe of the domestic market. Annual GDP per capita can represent the welfare of an average person in the economy and the purchasing power of the population, and thus, the size of market. Thus, an economy with a large market size (along with other factors) should attract more FDI. Thus, a large market size provides more opportunities for sales and also profits to foreign firms, and therefore attracts FDI. According to the study made by the Islamic Development Bank (IDB, 2001), the market size as expressed by GDP per capita has a strong positive influence on the FDI inflows. The data on per capita GDP is taken from the UNCTAD statistical database. We expect that this variable has a positive effect on and a high influence for the FDI inflows.

5.1.2 Trade openness

Besides the market potential of the host country multinational corporations often take into consideration export possibilities and access to the other markets in the region. This is especially the case for export-oriented (efficiency-seeking) FDIs. Thus, the trade openness of the host country is an important determinant to analyse. Many empirical studies suggest a hypothesis that a country with a higher degree of trade openness would also be more open to FDI, since this factor gives an estimate for the type of relation that a host country has with the foreign capital (Chakrabarti, 2001 and Morisset, 2000).

The significant influence of trade openness on FDI in developing countries has been recognised by many authors, such as Asiedu (2001), Sahoo (2006) and Onyeiwu (2000).

It is important to note here that trade openness should be distinguished from the openness to capital flows, which refers to the institutional factors, such as government restrictions on FDI inflows. In order to capture the effect of the government restrictions the variable named investment freedom will be introduced later.

Trade openness is measured in percentages as a sum of export and import divided by GDP and multiplied by 100. The data on the exports and imports of goods and services as a percentage of GDP were collected from the World Bank Development Indicators statistical database.

5.1.3 Government restrictions on FDI

Government restrictions on foreign investment and ownership can considerably limit FDI inflows. Almost all selected MENA countries have a special FDI regime that refers to a law or decree dealing specifically with FDI. During the last decade some of these countries conducted different liberalization reforms in order to encourage FDI inflows. The reforms

included tax and custom duty breaks, relaxed foreign ownership restrictions, and implemented privatization and capital market reform programs (Eid and Paua, 2003; UNCTAD, 2004). Thus, the level of institutional restrictions is one of the determinants affecting location decisions of FDIs. The Index of Investment Freedom was chosen to represent this determinant in our analysis.

The Investment Freedom is a part of the Index of Economic Freedom, which was calculated by the research and educational institute Heritage Foundation. The Index of Economic Freedom itself is a simple average of ten individual freedoms that were calculated for 162 countries starting from the year 1995.⁴ However, out of all the other ten freedoms the Investment Freedom is the most relevant one for the subject of our study; thus, we will not consider the entire Index of Economic Freedom. The Heritage Foundation defines the Investment Freedom as “*an assessment of the free flow of capital, especially foreign capital*”. It examines each country’s policies toward foreign investment, as well as its policies toward capital flows internally, in order to make a conclusion about its overall investment climate. Investment Freedom is measured in percentages, where the higher value implies the higher level of the freedom for investments.

5.1.4 Physical infrastructure

The availability of the quality industrial or physical infrastructure, particularly electricity, water, transportation and telecommunications, is an important determinant of FDI. According to Dunning (2002), the better developed the physical infrastructure is in a country the more favorable it is for the efficiency-seeking FDI. Countries with well developed infrastructures are therefore expected to attract more FDI (Morisset, 2000). When developing countries compete for FDI, the country that is best prepared to address infrastructure bottlenecks will secure a greater amount of FDI. The previous literature shows the positive impact of infrastructure facilities on FDI inflows (Asiedu, 2002). Thus, positive relationship with the dependent variable is expected in our analysis.

The variable “fixed line and mobile phone subscribers (per 100 people)” is used as a proxy for the physical infrastructure. The use of this proxy is motivated by the availability of the data and since several over studies were exploiting this variable as a representative for infrastructure (Onyeiwu, 2000), (Sekkat and Véganzonès-Varoudakis, 2004). It is easy to assume that countries with a higher number of telephone lines are more likely to have better roads, modern airports, seaports, Internet access, and water and electricity supply.

The data source is *World Development Indicators* database (WDI) published by the World Bank.

5.1.5 Natural resources

For the resource-seeking FDIs availability of the natural resources in the host country is a determining factor. According to Jenkins and Thomas (2002), a more stable or cheaper supply of inputs, generally raw materials and energy sources can largely explain the location choices of the resource-seeking investor. In case of the developing countries especially, the availability of the natural resources is very significant for the flow of FDI, Morisset (2000). Some of the countries of the MENA region are resource-rich countries, such as Saudi Ara-

⁴ Heritage Foundation www.heritage.org

bia, Algeria, Egypt, Morocco, and Tunisia. This fact may provide an explanation of why a considerable fraction of the FDI inflows to the MENA region goes to these countries.

This determinant is introduced in the model as a dummy variable: oil-exporting 1, non oil-exporting 0. Oil-exporting countries are: Algeria, Bahrain, Iran, Kuwait, Libya, Oman, Qatar, Saudi Arabia, Sudan, Syria, United Arab Emirates (UAE), Yemen, Egypt, Morocco, and Tunisia. Non-oil exporting are: Jordan, Lebanon, and Turkey.

5.1.6 Education

Education can speed up economic growth, facilitate social mobility, and improve income distribution. A population that has a higher education level has the greater ability to perform more complicated tasks on the market. The presence of the educated and trained people that are able to work in modern business organizations has been recognized as a crucial determinant for inward FDI flows. Foreign investors should be concerned by the quality of labour and not only by the cost of labour. In some studies, the level of schooling proved to be an important determinant of FDI in developing economies, being highly significant (Nonnemberg, C. de Mendonca, 2002).

In this thesis, education of the population in the host country is measured by the ratio of gross enrolment in the upper secondary education. It is the number of pupils enrolled in the upper secondary level of education, regardless of age, expressed as a percentage of the population in the theoretical age group for the given education level. The source of data for this variable is UNESCO Institute for Statistics Data Centre.⁵ This indicator is expected to be positively correlated with FDI flows.

The Table 5.1 below summarises the explanatory variables and their assumed effect on the dependent variable.

Table 5.1. Potential explanatory variables.

<i>Variable</i>	<i>Expected Sign</i>
GDP per capita.	+
Trade openness	+
Investment freedom	+
Infrastructure	+
Natural resources	+
Upper-Secondary Education	+

⁵ www.uis.unesco.org

6 Regression analysis

This section is devoted to the specification of the regression model explaining the FDI inflows and the estimation of the parameters by using the OLS method. As we have already stated earlier the time period chosen for our analysis is 1996-2006 and the group of countries consist of the 18 countries of the MENA region. In order to prepare the data set for the cross-sectional analysis, the average values were calculated of the entire period for each separate country.

1) Cross-sectional analysis 1996-2006.

The regression model was constructed based on the theoretical background and the empirical research in this subject. Selection of the variables was also affected by the availability of the data for some of the countries and the years of the chosen time period.

The dependent variable in this model is FDI inflows and the explanatory variables are: GDP per capita, investment freedom, trade openness and infrastructure. The fact that the country is oil- or non oil-exporting is represented by the dummy variable.

$$(1) \quad FDI_i = \alpha_i + \beta_1 (GDPperCap)_i + \beta_2 (InvestmentFreedom)_i + \beta_3 (Infrastructure)_i + \beta_4 (TradeOpenness)_i + \beta_5 D(OilExp)_i + u_i$$

Table 5.2.1. Regression results of the model 1.

Variables	B	t-value	Significance
(Constant)	598.019	0.509	0.620
GDP per capita	-0.083	-1.555	0.146
Investment Freedom	18.548	1.056	0.312
Infrastructure	68.740	2.937	0.012
Trade Openness	27.180	2.368	0.036
Oil-Export	107.551	0.138	0.892
N	18		
R ²	0.534		
R ² adjusted	0.340		
F-value	2.751		
Significance level F-value	0.070		

The results of the regression are shown in the Table 5.2.1.

The found F value = 2.751 is larger than the critical value $F_{5,12} = 2.39$, corresponding to the 10% significance level. Thus, we can reject the null hypothesis that the true partial slope coefficients are equal to zero simultaneously. The p-value of the F-test is 0.070, which implies that the overall model is significant at 10% significance level.

The R^2 value of about 0.534 means that about 53.4% of the variability in FDI inflows is accounted for by the variables in the model. This is a fairly acceptable value considering that the maximum value of R^2 can at most be 1.

The results shows that not all of the variables have the expected signs, although, not all variables are statistically significant. The only two variables, namely infrastructure and trade openness have an acceptable significance level, as their p-values are less than 5%. In order to test the hypothesis about the individual regression coefficients we examine the t-statistics. In case of the variable “infrastructure” our null hypothesis states that, with all the other variables held constant, the infrastructure has no linear influence on FDI. Since the computed t-value 2.937 is larger than the critical one (2.447), we can conclude that this null hypothesis can be rejected at 5% significance level. Thus infrastructure has a significant impact on the FDI inflows. For the trade openness the computed t-value of 2.368 exceeds the critical t-value of 2.365, implying that at 5% significance level we can reject the null hypothesis that trade openness has no effect on FDI. To put the interpretation more precisely, with all the other variables held constant, trade openness has a significant effect on FDI.

2) Cross-section 2000-2006.

Due to the lack of information on the secondary education for the years 1996-1999, it was impossible to include the education in the analysis of averages for the period 1996-2006. However, we decided to run the above regression model again, but excluding the years 1996-1999 from the analysis and adding the secondary education as an additional explanatory variable.

$$(2) \quad FDI_i = \alpha_i + \beta_1 (GDPperCap)_i + \beta_2 (TradeOpenness)_i + \beta_3 (InvestmentFreedom)_i + \beta_4 (Oil-Export)_i + \beta_5 (Infrastructure)_i + \beta_6 (Education)_i + u_i$$

Table 5.2.2. Regression results of the model 2.

Variables	B	t-value	Significance
(Constant)	3160.619	1.243	0.240
GDP per capita	-0.086	-1.282	0.226
Investment Freedom	8.941	0.285	0.781
Infrastructure	83.957	2.839	0.016
Trade Openness	38.205	1.955	0.077
Oil-Export	-489.576	-0.398	0.698
Upper-Secondary Education.	-23.266	-0.957	0.359
N	18		
R ²	0.518		
R ² adjusted	0.255		
F-value	1.968		
Significance level F-value	0.156		

The F value of this regression (Table 5.2.2.) 1.968 is larger than the critical F value $F_{6,11} = 1.55$. This implies that, at the 25% significance level, we can reject the null hypothesis that the true partial slope coefficients of all explanatory variables are zero. The R² is 0.5, meaning that approximately 51.8% of the variability in FDI is explained by the variables in the model. Once again, only two variables, infrastructure and trade openness, have an acceptable significance level. The computed t-value 2.839 for infrastructure is larger than its corresponding critical t-value 2.365 at 5% significance level. Thus, with all the other variables held constant, infrastructure has a significant effect on FDI. The same holds for the trade openness, as its t-value = 1.955 is also larger than the corresponding critical one 1.895, but at the 10% significance level. Hence, we can confirm the conclusion made above, that each of these two variables has a significant impact on FDI.

7 Discussion

The main outcome of our statistical analysis is that the trade openness and physical infrastructure are statistically significant and are influencing FDI inflows into the 18 MENA countries. However, coefficients of some of the other variables are not significant and do not have the expected signs. This type of switch in signs was also observed by other authors (Elfakhani and Matar, 2007). The negative sign of the oil-exporting variable is unexpected, but can probably be explained by the depression in the oil prices occurred during the study period, which made the oil-abundant countries no longer attractive for FDI. All the regression models show quite good R^2 that is larger than 50 percent, which suggest that models are well-fitted.

The **physical infrastructure** (proxies by the number of fixed phones), which is one of the major determinants of FDI in developing countries, also has its positive impact on the FDI inflows into the MENA region. This result accords with the Dunning statement that countries with more improved industrial infrastructure attract higher inflows of efficiency-seeking FDI. It is known that foreign investors prefer economies with a well-developed network of roads, water supply, airports, telephones and Internet access. A poor infrastructure increases the cost of doing business and minimizes the rate of return on investment. *Ceteris paribus*, production costs are typically higher in countries with poor infrastructure, than in countries with the rich one.

Many researchers agree upon the fact that all MENA countries need to make a substantial effort to improve their physical infrastructure endowment. Sudan, Yemen and Egypt rank the lowest in the region with regard to availability of telephone lines. The overall infrastructure quality is very poor in the countries like Egypt and Lebanon, according to Eid and Paua (2002). Major improvements are necessary in the both communication and transportation sectors in the entire MENA region. The study by Sekkat and Veganzones-Varoudakis (2004), which compares MENA with the other developing regions in order to explain the low attractiveness of the former one for FDI, concludes that the gap between East Asia and MENA region in terms of the quality of physical infrastructure can explain significantly the deficit of inward FDI to the last one. The authors claim that if the MENA region would improve its infrastructure during the 1990s to the level of the East Asia, the FDI flows would be higher by 26 percent. Yemen, Algeria, Egypt and Morocco have been characterised by especially low development in physical infrastructure. All these findings suggest that improvements in infrastructure facilities would attract FDI inflows to the MENA countries in the future.

Another determinant, whose influence on attraction FDI to the MENA countries was found to be significant, is **trade openness**. This result is consistent with the conclusion made by over studies on the determinants of FDI in the MENA region: Onyeiwu (2000), Elfakhani and Matar (2007). Furthermore, the studies made on the other developing regions, such as the study on Sub-Saharan Africa by Asiedu (2001) and on the South Asian region by Sahoo (2006) also shows trade openness as a very important determinant. Onyeiwu (2000) concludes that, although trade openness is the most significant factor attracting export-oriented FDI, its influence is quite marginal, which can be explained by the unusually high trade protection that characterizes MENA countries. The trade barriers are the highest in comparison with the other developing regions and are being removed very slowly.

Thus, increases in trade openness, regional trade integration, along with international liberalization could attract larger flows of FDI in the future.

A controversial result of the regression analysis is that the **oil-exporting variable** is statistically insignificant and even negative in the second regression. However, it is commonly known that the abundance in natural resources especially such as oil and gas is an extremely attractive for foreign investors. It is the fact that the bulk of the FDI inflows into the MENA region are directed to the petroleum-related activities. Over 50 percent of the FDI in the region is concentrated in the following resource-rich countries: Saudi Arabia, Egypt, Tunisia, Bahrain, and Morocco (Eid and Paua, 2002). Thus, the magnitude and geographical distribution of these two important energy resources in almost all countries in MENA region does provide enough incentives for natural resource-seeking foreign investors. Hence, we can not conclude that the availability of the oil resources is not important determinant of FDI.

The minus sign revealed in the regression analysis could probably be explained by the fact that the oil-prices dropped during this period, which turned into disadvantage for the resource based economies, since MNEs were discouraged to invest. For instance Saudi Arabia had experienced disinvestment in the period 1996-2000 and UAE witnessed a huge disinvestment in 1999. FDI in Bahrain dropped significantly during 1996-2000.

The analysis of dependence of FDI flows on the oil-abundance in a country could probably be more powerful if the proportion of the oil revenue in the GDP of the country would be taken into account instead of the pure fact that the country is oil- or non oil-exporting. However, this was difficult to implement since the data on oil-revenue is available only for some MENA countries.

According to the World Investment Report (UNCTAD, various years), FDI in the MENA region does not reflect at all the importance of the region as the main supplier of strategic energy sources. Opening up oil and gas reserves for foreign investors is considered to be one of the desirable options for the MENA region to attract a higher level of FDI.

The surprising result is that **investment freedom** variable, implying the freedom from government restrictions on FDI, is statistically insignificant. However, again we can not say that statistical insignificance here means that the variable is unimportant for the FDI inflows to the region.

Until recently, many countries restricted foreign investment to very few sectors, and even then, allowable investment was capped at only 49 percent. This in itself can be a powerful explanation for such a low FDI flows to the region. Another factor for that is the relatively slow pace of privatization, which has encountered delays and opposition in many countries. For example, in Iran foreign investment is restricted in banking, telecommunications, transport and banned in defence, oil, and gas. Uncertainty over international sanctions and political unrest hindering investment further. The parliament can veto projects in which foreign investors have a majority stake. Most payments, transfers, credit operations, and capital transactions are subject to limitations or approval requirements. The situation was almost similar, but is getting better starting from the 2006 in Libya, where despite partially liberalized rules in agriculture, industry, tourism, services, and health sectors, the regulatory and bureaucratic environment remains complex. According to the research made by Heri-

tage Foundation,⁶ the people of the Middle East and North Africa region have the lowest level of overall economic freedom compared to the other five regions. The modernization of national legal and institutional frameworks for investment, through introduction of international norms and standards, would lead to the emergence of an integrated market for foreign investors as suggested by the study of ESCWA UN (2001).⁷

The average **GDP per capita** turned out to be insignificant determinant in our analysis. However, this result is consistent with the study by Asiedu (2002), indicating that there is no significant impact of growth or market size on FDI inflows. The negative GDP effect on inward FDI can depend on the various levels of growth per capita across the MENA region and over time. In order to attract higher levels of investment from abroad and encourage more private investment at home, both of which are crucial for development and trade, the region needs to deepen its reform. Importantly, the region needs to go from public state-dominated to private, market-oriented activities, and develop a greater productivity in trade openness, which will in turn improve the growth, leading to higher levels of FDI into the MENA economies.

In spite of the fact that the results of our analysis do not show the **education** as a significant variable this factor should be considered cautiously because of its importance in explaining the performance of the growth in the MENA region. Many studies on the determinants of FDI in developing countries have found that the level of education is highly significant for FDI (Nonnemberg, C. de Mendonça, 2004). However, the studies on the MENA region have concluded that this variable is insignificant (Onyeiwu, 2000). The small size of our sample may be the explanation of the difficulties in estimating education variable.

Statistical exploration of the determinants of the low FDI flows to the MENA countries empirically is not an easy task. Unavailability or even unreliability of the statistical data is one of the major obstacles. The influence of some of the potentially important variables is sometimes difficult to capture because of the unavailability of the data.

Although, political instability is known to be the one of the important reasons that discourages foreign investments in the Middle East and North Africa, its precise influence is hard to capture in the regression analysis, since the statistical data is very difficult to obtain. However, we are not neglecting the huge importance of the political risk issues on the attracting FDI flows to the group of countries chosen for this thesis. Several of the countries, such as Lebanon, Algeria, Kuwait, Libya and Sudan, have had periods of political instability over the last two decades and that was, probably, the main reason for extremely low FDI inflows to these countries.

⁶ Roberts, J.M. and Kim, A.B. (2008). Economic Freedom in Five Regions. In P. A. Gigot (Ed.), *Index of Economic Freedom*. Heritage Foundation.

⁷ Comparative study of national strategies and policies with regard to foreign direct investment in the ESCWA region. United Nations, New York, 2001.

8 Conclusion

The main goal of this thesis is to identify location-specific determinants that are influencing foreign direct investment flows to the Middle East and North African countries. In particular, the cross-country analytical method is used to identify the most significant determinants of FDI inflows. The specification of the empirical model is based on the eclectic theory framework and the previous empirical studies on this subject. The general conclusion from the results demonstrates that the infrastructure and trade openness are significantly related to FDI in the MENA region.

The trade openness is of main importance to the region since it implies competitiveness with the rest of the world and improves the economic growth. The MENA region has one of the highest levels of trade protection in the world; therefore the region should focus more on removing trade barriers and economic integration to boost up the inward FDI. Thus, given the high levels of trade protection, the region should reduce trade barriers substantially in order to attract higher levels of FDI inflows. To open up more for foreign investors, the region should introduce more trade liberalization and also privatization programmes by reducing the size of the government that in turn will reduce corruption and bureaucratic red-tape.

The same conclusion can be drawn for the physical infrastructure. Even though MENA countries differ considerably among themselves in terms of physical infrastructure, the good progress in the telephone network accounts for the positively significant relation to FDI into the region. However, the quality of infrastructure is still too low compared to the rest of the world. The MENA countries should focus more on this factor if they would want to increase its productivity gains and increase the level of participation in competing at international level.

FDI is still crucial for especially the developing economies and it is very important to study the factors that drive the FDI inflows into the host countries. The factors belonging to group of the country-specific or location-specific factors or determinants are especially weighty, since understanding of them can help the host governments to attract and increase FDI through the policy making tools.

We need to note that, since some factors were not included in our model, we can not claim that our model can fully explain the FDI inflows. In fact, we do admit that there are many other factors that affect FDI inflows, especially in the area of political obstacles, such as political instability, arbitrary interventions in economic activity, violence, recurring labour strikes, the risk of expropriation and other forms of tension that can discourage a foreign investor from speculating into an unstable country. Furthermore, we believe that institutional obstacles are one of the biggest factors that hold back FDI inflows to the MENA region. They include lack of transparency concerning the regulations governing investments, a weak legal system that does not deliver justice in a fair manner, high levels of bureaucracy.

Even though there has been a positive development in terms of regulatory regimes in liberalization, the region still has a long way to go in order to compete at the same level with the rest of the world. We believe that the region has to attract the kind of FDI that would significantly increase employment, enhance skills and lift the competitiveness of local enterprises. This still remains a challenge for the region.

8.1 Further research

Many research ideas could be inspired by our thesis. One of them could be to consider how the location determinants in the MENA region have changed over time. Moreover, it could be interesting to see if different countries in the MENA region have different FDI drivers. In addition to this, it could be of main concern to test the causality effect between these predictors and FDI to determine what affects what. Furthermore, other variables such as changes in productivity levels, technology spillovers, employment or unemployment, minimum wage levels, restrictions on foreign ownership and tax regimes could be investigated in future research.

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