The Impact of Economic Freedom on FDI Inflows to Developing Countries: 
The Case of the Middle East 

Bachelor Thesis in Economics
Author: Elham Beheshtitabar (19810315-4061)
        Asset Irgaliyev (19860618-P876)
Tutor: Scott Hacker (Supervisor)
        Hyunjoo Kim (Assistant supervisor)
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Abstract

This paper investigates the impact of Economic Freedom on FDI inflows to developing countries and the Middle East in particular. Four forms of Economic Freedom were tested as variables determining FDI inflow. These four variables were Freedom from Corruption, Government Size, Trade Freedom and Investment Freedom. Cross-sectional data for twelve Middle Eastern countries and forty-three other developing countries were gathered for 1995 and 2006. It was revealed that only Trade Freedom and Investment Freedom were significant in both Middle East and other regions. Apart from one case, the general positive sign of the significant variables confirms our hypothesis regarding the positive effects of these Economic Freedoms on FDI inflows. Based on these findings it can be recommended to improve the investment environment and reduce the barriers to trade in order to attract more FDI.

Keywords: Developing Countries, Economic Freedom, FDI, Foreign Direct Investment, Freedom from Corruption, Government Size, Investment Freedom, Middle East, Trade Freedom.
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1 INTRODUCTION

Economic theory suggests that foreign direct investment (FDI) can contribute to the recipient economy’s growth in many different ways. These include capital accumulation, development of human capital, increasing efficiency through competition and improved resource allocation, strengthening of the domestic financial markets and reducing local capital costs (Todaro, 2002).

It is therefore imperative for all countries, particularly developing ones, to increase their attractiveness to FDI inflows. During the past three decades the stock of FDI around the world has increased significantly from $13 billion in 1970 to $1306 billion in 2006 (UNCTAD, 2008). Although this FDI has mostly been flowing between developed economies, the developing countries have also seen a considerable increase in FDI: from less than $4 billion in 1970 to almost $380 billion in 2006 (UNCTAD, 2008).

Figure A1 in the Appendix compares FDI inflows in different regions of the world. The Middle East region represents a paradox with regard to the inflow of FDI; despite being home to some of the world’s largest reserves of petroleum and more than two decades of structural adjustment in its local economies, the region continues to attract relatively low levels of FDI (Rivlin, 2001).

While political instability can partly explain this paradox, it is generally surprising that low production costs in the more stable parts of the region have not attracted many multinational companies. So far the most attractive locations for FDI have been countries with significant natural resources (oil and gas), such as Kuwait, Qatar, and Saudi Arabia (Chan & Gemayel, 2004). However, some non oil-producing countries – Israel and Turkey – were also able to receive higher-than-average inflows in 2006 (UNCTAD, 2008).

The reasons for the generally disappointing level of FDI in the Middle East are not clearly determined and the few empirical studies conducted so far have produced contradictory results. This study aims to build on the previous research by analyzing the role of Economic Freedom as a determinant of countries’ attractiveness to FDI inflows.
1.1 Purpose

While previous researchers have studied the impact of macroeconomic and institutional variables on FDI inflow to the Middle East, this study aims to analyse the role of Economic Freedom in determining the countries’ attractiveness to FDI inflows.

As will be explained later, Economic Freedom has ten different components as defined by the Heritage Foundation. Out of these ten we have examined Property Rights, Business Freedom, Trade Freedom, Investment Freedom, Freedom from Corruption, and Government Size as determinants of FDI.

We separately analyse two categories of developing countries - Middle Eastern and non-Middle Eastern – and compare the results of the two to establish whether the determinants of FDI are different in the Middle East.

1.2 Outline

The following section reviews previous studies of the determinants of FDI inflow in the Middle East. Section 3 provides a background on the reasons and incentives that cause firms to invest in a foreign country. In section 3.2 we describe the concept of Economic Freedom and how it is expected to affect FDI inflows. The econometric model specification follows in Section 4, and in section 5 the empirical results are presented and analyzed. Section 6 concludes by suggesting policy implications and suggestions for further research.
2 LITERATURE REVIEW

Different studies have taken different perspectives on the determinants of countries’ attractiveness to FDI inflow. Some analysts emphasize the role of democracy and transparency, while others highlight the need for a stable macroeconomic environment (World Bank, 1997). Institutional economists on the other hand point to the role of institutions such as rule of law, property rights, and the tax system in mobilizing both foreign and domestic capital (Collier & Gunning, 1999, El-Naggar, 1990).

Empirical results of research on the determinants of FDI inflow to the Middle East have been somewhat contradictory; the same determinants are found to be significant by some studies and insignificant by others. Limitations in the availability of data have been a restrictive factor in previous research. This poses less of a problem at present due to the recent years’ improved data availability. The important findings so far, on the determinants of FDI inflow in Middle East, are discussed below, with attention to contradictions.

Given the unsatisfactory performance of the Middle East relative to other regions, Onyeiwu (2002) investigated whether the determinants of FDI affect Middle Eastern countries differently. A number of institutional and macroeconomic factors were tested; the results indicate that some of the important determinants of FDI flows to developing countries are not statistically significant in determining flows to the Middle East. These include economic growth, infrastructure, inflation, and rate of return on investment. In Onyeiwu’s study only trade openness and corruption/bureaucratic red tape were found significant in the Middle East, with respective positive and negative impacts. He therefore concludes trade liberalization and privatization to have a more decisive role than macroeconomic stabilization strategies in determining FDI flows to the Middle East.

On the other hand, the research by Kamaly (2002), where only macroeconomic determinants were tested, indicates economic growth and the lagged value of FDI/GDP as the only significant determinants of FDI flows to the Middle East. Note however that the study did not consider any institutional variables.

Chan and Gemayel (2004) demonstrated that economic, financial, and political risks as well as the instability associated with each risk are critical determinants of FDI into the Middle East.
Sekkat and Veganzones-Varoudakis (2007) showed that while FDI inflow to the Middle East responded positively to trade openness, other aspects of the investment climate such as political and economic risk and infrastructure had even greater impacts on FDI. In sharp contrast to Kamaly (2002) the above study also found that GDP and GDP growth rate were insignificant in determining FDI inflows to developing countries, including the Middle East.
3 THEORETICAL FRAMEWORK

In this section we first examine the corporations’ motives for investing abroad through the lens of Dunning’s OLI model. Next we describe Economic Freedom and its role in determining a country’s attractiveness to foreign investors.

3.1 Dunning's Eclectic Paradigm

According to Dunning’s eclectic paradigm (1997), also known as the OLI model, the reasons that motivate corporations to expand their operations internationally can be summarised as “Ownership-specific advantages” (O), “Location-specific factors” (L) and “Internalization advantages (I)”. Each of these factors provides an opportunity for the firm to realize profits by operating in the host market.

Ownership-specific advantages are tangible and intangible assets possessed exclusively by the investing firm but not by competitors in the host market. Such assets can include knowledge and technology, human skills, patents, and brands.

Location-specific factors are characteristics of the host country that provide a profit making opportunity for the foreign firm. Their importance to the firm depends on the type of motive behind the firm’s FDI. Dunning (1993) classifies these motives into the four categories of: rent seeking, market seeking, efficiency seeking, and strategic-asset seeking as described below.

- The rent seeking motive involves foreign firms seeking cheaper production factors. In this case the host country’s wage rate, cost of capital, and input prices would be the important location-specific factors for the foreign firm.

- Market seeking FDI involves foreign firms setting up their production facilities in the host country in order to increase their sales. This is mainly with the purpose of getting around trade barriers such as tariffs and high transport costs. Target locations for this kind of FDI are high-income economies with large markets (Asiedu, 2002).

- Efficiency seeking FDI aims at utilizing the host country’s particular advantages such as government regulations, resource endowment, and location.

- Strategic-asset seeking is concerned with maintaining the firms’ competitiveness
in international markets. Firms with this motive invest abroad to maintain their presence and market power in the host country.

**Internalization advantages** explain the preference of the firm to utilize its ownership specific advantages rather than selling or leasing them to other firms. This is more widespread in the case of knowledge and technology where firms invest large amounts in research and development. Internalization of such assets is the main determinant of the firm’s competitiveness.

This thesis focuses on location specific factors, i.e. the host country’s characteristics and their role in attracting FDI inflows. The particular characteristics under study are those relating to Economic Freedom, as described in the next section.

### 3.2 Economic Freedom and Its Effect on FDI Inflows

The 2008 Index of Economic Freedom published by the Heritage Foundation describes Economic Freedom as “the material autonomy of the individual, over his or her labour and property, in relation to the state and other organized groups”. According to this definition an economically free individual can fully control his or her labour and property.

Economic Freedom is classified into ten subcategories. Some of these ten freedoms measure the extent of the economy’s openness to trade and investment, while others are concerned with economic freedom on an individual level, measuring the individuals’ liberty to use their labour or financial resources.

The ten categories of Economic Freedom are Business freedom, Trade freedom, Fiscal freedom, Government size, Monetary freedom, Investment freedom, Financial freedom, Property rights, Freedom from corruption, and Labour freedom. A brief description of each freedom is provided below, together with its hypothesised effect on FDI inflows. Definitions in quotation marks are taken directly from the 2008 Index of Economic Freedom, Beach and Kane (2007).
• "Business freedom" is the ability to create, operate, and close an enterprise quickly and easily. Burdensome, redundant regulatory rules are the most harmful barriers to business freedom."
Naturally this factor would be of primary importance when a firm considers expansion into a new market. We expect firms to be more willing to invest in countries where it is easier to enter and exit the market.

• "Trade freedom" is a composite measure of the absence of tariff and non-tariff barriers that affect imports and exports of goods and services."
The impact of trade freedom on FDI inflows depends on the nature of the FDI. Horizontal FDI is expected to diminish with trade openness while vertical FDI would increase with increasing trade openness. According to Kumar (2002) however, trade openness has an overall positive affect on FDI inflow.

• "Government size" is defined to include all government expenditures, including consumption and transfers. Ideally, the state will provide only true public goods, with an absolute minimum of expenditure."
We consider the presence of a large government sector to act as a discouraging competitor to foreign investors. Since the measurement of this indicator gives a higher score to countries with a smaller government size we expect FDI inflows to respond positively to an increase in this indicator.

• "Investment freedom" is an assessment of the free flow of capital, especially foreign capital."
Generally investors are reluctant to invest in an economy where there are restrictive regulations on capital flows across the boarders. Therefore we expect FDI inflows in an economy to increase with increasing investment freedom.

• "Property rights" is an assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state."
Property rights are the foundations of a market economy and if governments can not provide a guarantee of these basic rights then international companies will not be willing to invest. We therefore expect the FDI inflow to be positively affected by an increase in property rights.
• “Freedom from corruption is based on quantitative data that assess the perception of corruption in the business environment, including levels of governmental legal, judicial, and administrative corruption.” Corruption leads to inefficiency in an economy and can discourage international companies from investing in an economy. We expect FDI inflows to increase with increasing freedom from corruption.

The following four components of Economic Freedom are not included in our model since we perceive them to have a less direct impact on FDI.

• “Fiscal freedom is a measure of the burden of government from the revenue side. It includes both the tax burden in terms of the top tax rate on income (individual and corporate separately) and the overall amount of tax revenue as a portion of gross domestic product (GDP).”

• “Financial freedom is a measure of banking security as well as independence from government control. State ownership of banks and other financial institutions such as insurer and capital markets is an inefficient burden, and political favouritism has no place in a free capital market.”

• “Monetary freedom combines a measure of price stability with an assessment of price controls. Both inflation and price controls distort market activity. Price stability without microeconomic intervention is the ideal state for the free market”.

• “Labour freedom is a composite measure of the ability of workers and businesses to interact without restriction by the state.”

Each one of the 10 freedoms is graded using a continuous scale of 0 to 100, where 100 represents maximum freedom. Details regarding the components of each freedom and their measurement procedures can be found in the 2008 Index of Economic Freedom, Beach and Kane (2007).
4 MODEL SPECIFICATION

The method of Least Squares was used where the dependent variable is the ratio (real FDI inflow/real GDP). The explanatory variables initially chosen were Freedom from Corruption, Property Rights, Government Size, Trade Freedom, Business Freedom and Investment Freedom. However Business Freedom and Trade Freedom were excluded based on the results of a correlation matrix, since they showed extensive co-linearity with the other variables. The results of the correlation matrix are displayed in Tables A1 and A2 in the Appendix.

Data on the variables were available at the Heritage Foundation’s website from 1995 up to 2006. Due to the relative stickiness of these variables over time, cross-sectional, rather than time series regression was performed at the beginning (1995) and the end of the period (2006). A separate regression was also run using the differences in the values of explained and explanatory variables over the time period 1995 to 2006.

The dependent variable (real FDI / real GDP) was calculated using raw data. Real values of GDP in US$ were obtained from the USDA Economic Research Service database, where the base year was 2000. Nominal FDI values were obtained from the UNCTAD FDI Stats database and adjusted to the year 2000 US$ using the US producer price index obtained from the EcoWin database.

The following linear and semi-log models were applied to the data:

**Linear model:**

\[
\frac{\text{real FDI}}{\text{real GDP}} = \beta_1 + \beta_2 (\text{Freedom from corruption}) + \beta_3 (\text{Government size}) + \beta_4 (\text{Trade Freedom}) + \beta_5 (\text{Investment Freedom}) + \nu
\]

(Eq.1)

---

1 For simplicity the term (real FDI inflow/real GDP) is often referred to as (real FDI/real GDP) or just FDI/GDP.
Semi-log model:

\[
\text{LOG (real FDI/real GDP)} = \beta_1 + \beta_2 \text{(Freedom from corruption)} + \beta_3 \text{(Government size)} + \\
\beta_4 \text{(Trade Freedom)} + \beta_5 \text{(Investment Freedom)} + \nu
\]

(Eq. 2)

The models were applied separately to the Middle East and other developing regions, for each of the years 1995 and 2006.

For the differences between these two years the following models were used:

Linear model:

\[
\Delta \text{(real FDI / real GDP)} = \beta_1 + \beta_2 \Delta \text{(Freedom from corruption)} + \beta_3 \Delta \text{(Government size)} + \\
\beta_4 \Delta \text{(Trade Freedom)} + \beta_5 \Delta \text{(Investment Freedom)} + \nu
\]

(Eq. 3)

Semi-log model:

\[
\Delta \text{LOG (real FDI/real GDP)} = \beta_1 + \beta_2 \Delta \text{(Freedom from corruption)} + \beta_3 \Delta \text{(Government size)} + \\
\beta_4 \Delta \text{(Trade Freedom)} + \beta_5 \Delta \text{(Investment Freedom)} + \nu
\]

(Eq. 4)

where \(\Delta\) indicates the difference in the value of the variable over the period 1995 to 2006. Betas in all the models are parameters to be estimated. \(\nu\) denotes the residual term, which is assumed to be normally distributed with mean zero and constant variance \(\sigma^2\).

Our sample contained 55 randomly chosen developing countries, including 12 countries from the Middle East. The list of countries can be found in Table A3 in the Appendix.

It is generally expected of a freer and less constrained economic climate to be more attractive to investment by both domestic and foreign investors. We use the Economic Freedom scores from the Heritage Foundation as quantitative measures of the economic climate. These scores are calculated in such a way as to give a higher score where higher levels of Economic Freedom prevail. Therefore we expect FDI to increase with an increase in each of the Economic Freedoms, i.e. we expect all the coefficients to be different from zero and have a positive sign.
5  EMPIRICAL ANALYSIS

In this section a descriptive summary of the data is presented followed by a summary of the regression results.

5.1  Descriptive Statistics of the Data

As demonstrated by Figures A2 and A3 in the Appendix, all the explanatory variables have a good variability across the countries in the sample. There is also a high variation in the value of the dependent variable (real FDI/real GDP) across the countries, as shown in Figure A4 in the Appendix. This wide range in both the dependant and the independent variables provides one of the necessary conditions for running a regression.

The mean values of the variables are demonstrated in Figures 1 to 4. Figure 1 shows the mean FDI/GDP ratio for 1995 and 2006.

![Figure 1: Mean values of (real FDI / real GDP) in 1995 and 2006 (calculated using data from the Heritage Foundation Database).](image)

It can be seen that in 1995 the mean FDI/GDP ratio in the Middle East was less than a quarter of that in other developing regions. This is surprising given that Figure 2 shows a more favorable economic environment in the Middle East compared to other developing regions in 1995. According to Figure 2 in 1995 Middle Eastern countries enjoyed higher average scores in four out of the six Economic Freedoms (Business Freedom, Trade Freedom, Property rights, and Freedom from Corruption) while having similar averages to other developing regions in the other two freedoms. The corresponding
standard deviations in the Middle East were lower than other regions in three of the Economic Freedoms and higher in the other three (Figure A2 in Appendix).

As shown in Figure 1, in 2006 the Middle East’s average FDI/GDP ratio was almost double that of the other developing countries. However, we know this is not representative of all the countries in the region due to the high associated standard deviation as shown in Figure A3 in Appendix.

According to Figure 3, in 2006 the Middle East region has similar averages to other developing countries in four of the Economic Freedoms, while being notably better in Property Rights and Freedom from Corruption. The standard deviations for the Middle East are lower or similar in all Economic Freedoms, as shown in Figure A3 in the Appendix.

Comparison of 1995 and 2006 show that both the Middle East and other developing regions have worsened in Business Freedom, Investment Freedom and Property Rights, while both have improved in their Trade Freedom and Government Size. Middle East has also seen an improvement in Freedom from Corruption whereas other regions have worsened in this aspect.
What we can conclude overall from these descriptive statistics is that on average Economic Freedom in the Middle East has been more favourable than other developing regions both in 1995 and 2006. But this fact has not translated into a uniformly higher FDI/GDP ratio in the countries of the region.

### 5.2 Summary of Regression Results

Tables 1 and 2 summarise the results of the linear model and the semi-log model regressions respectively.

As can be seen in Table 1, the linear functional form in 1995 only found Trade Freedom to be significant in the Middle East, while in the other developing regions none of the variables were significant. In 2006, the linear model showed a lack of significance in all the variables in the Middle East, while Investment Freedom was the only significant variable in other developing regions.

As far as the signs of the coefficients are concerned using the linear model in 1995, Investment Freedom in the Middle East, and Government Size in other developing regions did not have the expected positive sign. In 2006 the linear model produced negative coefficients for Investment Freedom in the Middle East, and Government Size and Freedom from Corruption in other developing regions.

Table 1 also shows the regression of differences between 1995 and 2006 using the linear model. Here a lack of significance is observed across the board for both the Middle
East and other developing regions. In this regression Investment Freedom and Trade Freedom in the Middle East, and Trade Freedom in other developing regions had negative coefficients, which is contrary to our expectations.

Table 1. Regressions results of the linear model for 1995, 2006, and changes from 1995 to 2006

<table>
<thead>
<tr>
<th>Variables</th>
<th>1995</th>
<th>Other Developing countries</th>
<th>2006</th>
<th>Other Developing countries</th>
<th>Differences from 1995 to 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.159662</td>
<td>0.006185</td>
<td>-0.360245</td>
<td>0.017165</td>
<td>0.028317</td>
</tr>
<tr>
<td>Freedom from Corruption</td>
<td>0.000149</td>
<td>0.000251</td>
<td>0.004542</td>
<td>-0.000109</td>
<td>0.00146</td>
</tr>
<tr>
<td>Government Size</td>
<td>0.000594</td>
<td>-0.000188</td>
<td>0.001136</td>
<td>-0.000396</td>
<td>0.003264</td>
</tr>
<tr>
<td>Trade Freedom</td>
<td>0.00203*</td>
<td>0.00015</td>
<td>0.004064</td>
<td>0.000375</td>
<td>-0.004796</td>
</tr>
<tr>
<td>Investment Freedom</td>
<td>-0.000244</td>
<td>0.000346</td>
<td>-0.00246</td>
<td>0.00089*</td>
<td>-0.005397</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.57144</td>
<td>0.126312</td>
<td>0.314268</td>
<td>0.160447</td>
<td>0.543373</td>
</tr>
<tr>
<td>Number of observations</td>
<td>12</td>
<td>48</td>
<td>12</td>
<td>48</td>
<td>12</td>
</tr>
</tbody>
</table>

* indicates significance at a 10% significance level.

Standard errors are reported inside brackets.
Table 2 shows the results of the semi-log regressions. In 1995 the semi-log model produced a lack of significance in all of the variables for both Middle East and other developing regions. Although insignificant, the signs of all coefficients in 1995 were positive using this model.

In 2006 the semi-log model was again insignificant in all the variables for the Middle East, and Trade Freedom was the only significant variable in the other developing regions. A negative coefficient was produced for the Middle East’s Investment Freedom in 2006 using the semi-log model, but all other variables had the expected positive sign in that year.

As Table 2 shows, regression of the differences between 1995 and 2006 using the semi-log model showed Investment Freedom as the only significant variable in the Middle East while none of the variables were found significant in other developing regions. In this regression Investment Freedom, Trade Freedom and Freedom from Corruption in the Middle East had negative coefficients, but the coefficients in other developing regions were positive.

It is interesting to see that both the linear and the semi-log model provided a better fit to the Middle East than to other developing regions, as indicated by the higher $R^2$ values in the Middle East.

Both functional forms produced a higher $R^2$ in 1995 compared to 2006. It was also interesting to see the $R^2$ of the Middle East improve in the regression of differences compared to the simple regressions using both models. Regression of the differences in the other developing regions however produced very low $R^2$ values in both model.
Table 2. Regression results of the semi-log model for 1995, 2006, and changes from 1995 to 2006

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Middle Eastern countries</td>
</tr>
<tr>
<td></td>
<td>1995</td>
</tr>
<tr>
<td>Intercept</td>
<td>-16.21326 (5.19061)</td>
</tr>
<tr>
<td>Freedom from Corruption</td>
<td>0.015137 (0.02172)</td>
</tr>
<tr>
<td>Government Size</td>
<td>0.036364 (0.02943)</td>
</tr>
<tr>
<td>Trade Freedom</td>
<td>0.090943 (0.06747)</td>
</tr>
<tr>
<td>Investment Freedom</td>
<td>0.03312 (0.0309)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.523465</td>
</tr>
<tr>
<td>Number of observations</td>
<td>12</td>
</tr>
</tbody>
</table>

* indicates significance at a 10% significance level.

Standard errors are reported inside brackets.
Another curious observation is that the same two variables were found significant in both regions. These were Trade Freedom and Investment Freedom. However as Table 3 summarizes, the same variables were not simultaneously significant in both regions in the same year or using the same model; Trade Freedom was significant in the Middle East in 1995 using the linear model while in other developing regions it was significant in 2006 using the semi-log model; Investment Freedom was significant in other developing regions in 2006 using the linear model, and in the regression of differences in the Middle East using the semi-log model.

Table 3. Overview of the significant results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linear Model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle East</td>
<td><strong>Trade Freedom</strong></td>
<td>No significance</td>
<td>No significance</td>
</tr>
<tr>
<td></td>
<td>Coefficient = 0.002038</td>
<td>R² = 0.57144</td>
<td>R² = 0.314268</td>
</tr>
<tr>
<td>Other regions</td>
<td>No significance</td>
<td>R² = 0.126312</td>
<td>No significance</td>
</tr>
<tr>
<td><strong>Semi-log Model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle East</td>
<td>No significance</td>
<td>R² = 0.523465</td>
<td></td>
</tr>
<tr>
<td>Other regions</td>
<td>No significance</td>
<td>R² = 0.141448</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Trade Freedom</strong></td>
<td>No significance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coefficient = 0.027609</td>
<td>R² = 0.139333</td>
<td></td>
</tr>
</tbody>
</table>

According to the significance result of the 1995 linear regression for the Middle East, a 10 unit increase in Trade Freedom would on average increase the FDI to GDP ratio of a Middle Eastern country by 0.02038. However the results of the semi-log model in the same year, as well as both the linear and the semi-log models in 2006, suggest that neither Trade Freedom nor any other Economic Freedom has a significant impact on the FDI to GDP ratio in the Middle East.

A more puzzling observation is that Investment Freedom is found significant but with a negative sign in the semi-log regression of the differences in the Middle East. This
would suggest a negative impact of Investment Freedom on the FDI/GDP ratio. This result is contrary to the theory of FDI and should therefore be investigated in further research.

According to the significant result of the 2006 linear regression for other developing regions, a 10 unit increase in Investment Freedom would on average increase the FDI/GDP ratio of these countries by 0.0089. The semi-log regression of 2006 in these developing regions suggests that a 10 unit increase in Trade Freedom would on average increase the FDI/GDP ratio by a staggering 32%. We do acknowledge however that these results are not supported by the other model when used for same year.

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2 A 10 unit increase in Trade Freedom would in this case cause the FDI/GDP ratio to be multiplied by a factor of $e^{0.27609} = 1.32$
6 CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH

The purpose of this study was to analyze the impact of Economic Freedom on FDI inflows to developing countries in general and the Middle East in particular.

Two models, linear and semi-log, were applied to the data. Overall, the models provided a better fit to the data from Middle East compared to other regions. The regressions however did not produce many significant results. Among all the Economic Freedoms tested only Trade Freedom and Investment Freedom were found significant in both the Middle East and other regions. Apart from one case, the general positive sign of the significant coefficients confirms our hypothesis regarding the positive effects of these Economic Freedoms on FDI inflows. This finding can be taken to underline the importance of policy measures to improve the investment environment and reduce the barriers to trade in order to attract more FDI.

We do realize that FDI is affected by many other factors such as political, financial and macroeconomic stability, infrastructure, human capital, and natural resource endowment of the recipient country. These factors were not included in our model and hence we cannot expect our model to fully explain the FDI inflows.

However the importance of Economic Freedom in determining FDI inflows cannot be rejected based on the outcome of this study. Rather, this research can be taken further by the application of other functional forms which could provide a better fit to the data. It would also be interesting to examine the effects of other Economic Freedoms, namely Property Rights, Fiscal Freedom, Monetary Freedom, and Financial freedom. A time series analysis may also shed more light on the effects of Economic Freedom on FDI inflows over a longer time span.
References


EcoWin Database, Retrieved February 2, 2008, from Jonkoping University Library.


Appendix

Figure A1  Comparison of FDI/GDP ratio in different parts of the world. Source: EcoWin database.

Table A1. Correlation Matrix between variables for 1995

<table>
<thead>
<tr>
<th></th>
<th>FC</th>
<th>PR</th>
<th>GS</th>
<th>TF</th>
<th>BF</th>
<th>IF</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC</td>
<td>1</td>
<td>0.6480678***</td>
<td>-0.1364115</td>
<td>0.2943572</td>
<td>0.5207366***</td>
<td>0.0955632</td>
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<td>0.5090908</td>
<td>0.3106259</td>
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<tr>
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<td>0.6996326***</td>
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*** - high correlation at 5% significance level
### Table A2. Correlation Matrix between variables for 2006

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<th>GS</th>
<th>TF</th>
<th>BF</th>
<th>IF</th>
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***- high correlation at 5% significance level
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<th>Latin America &amp; Caribbean</th>
<th>East Europe</th>
<th>Common Wealth Independent States</th>
<th>Asia</th>
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Source: [http://www.ams.org/membership/develop.html](http://www.ams.org/membership/develop.html), American Mathematical Society
Figure A2 Standard deviation of explanatory variables in 1995 (calculated using data from the Heritage Foundation Database).

Figure A3 Standard deviation of explanatory variables in 2006 (calculated using data from the Heritage Foundation Database).

Figure A4 Standard Deviation of the dependent variable in 1995 and 2006 (calculated using data from the Heritage Foundation Database).