The determinants of foreign direct investment in the Middle East

Abstract

The underlying purpose of this research paper is to analyse the determinants of foreign direct investment (FDI) in the Middle Eastern countries. The research is fundamentally based on an econometric model that consist of factors that acts as potential drivers of inward FDI flows in the countries which have been investigated. The countries in the Middle East have been growing consistently over the last decade. Their economy has developed tremendously due to the implementation of efficient strategies by the governments of the respective countries. The governments of the respective countries have been able to make prospective domestic investments which have enabled them to bring about diversification in their economy. Given the fact that, a diversified economy offers investors with prospective opportunities for making investments, international investors have been by and large inclined towards making investments in the Middle Eastern countries, specifically the ones which substantially developed. This provided the researcher with a solid foundation for research in order to investigate the economical factors which have had significant role in attracting inward FDI flow in the Middle Eastern countries. Five models were prepared among which one included the study of the economical factors of all the Middle Eastern countries, the second model included the investigation of OPEC member countries, the third model included the analysis of economical factors of the non OEC member countries, the fourth model included the study of all the Middle Eastern countries during the time period between 2002 and 2006 and the last model involves the study of all the Middle Eastern countries between 2007 and 2011. The factors were regressed using the multiple ordinary least squared regression models that enabled the researcher to draw strong inferences. The researcher was able to test the theories and outcomes that have been set forth in the existing literatures. Majority of the findings were in complete alignment with findings reported in empirical investigations and some findings contradicted the existing literatures. It has been noted that GDP per capita, manufacturing export as a percent of GDP, oil and gas proved reserves of a country and world oil prices have a positive association with the inward FDI flow in the Middle Eastern countries. This suggests that these factors are key determinants of FDI inflow. On the other hand it has also been witnessed that a country risk rating score has a negative association with the inward FDI flow in the sample countries. This implies that countries that are considerably exposed to environmental and political risk will always attract lesser FDI inflows. This finding is in complete alignment with the findings of the empirical researches. Further research can be done in this field that will include greater number of countries. Alongside that, the timeline of the research can also be extended to provide the researcher with a more holistic view.

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Introduction

Foreign direct investment is usually considered as advantageous for host countries, specifically in the emerging market. Since the 1997 Asian debt crisis, FDI is considered a more stable source of capital instead of portfolio investment (Lipsey, 2001). FDI is also known to have significant spillover effects such as managerial expertise and transfer of technology (Meyer and Sinani, 2009). Thus, majority of the emerging economies, including the countries in the Middle East region have been consistently encouraging FDI.

Thus, the question regarding the determinants of FDI flows bears a special importance for both policymakers and academics throughout the world. Empirical researchers done by Globerman and Shapiro (2002) and Benassy-Quere et al. (2007) focused on the impact of individual elements on FDI flows whereas the researches done by Jun and Singh (1995), Sethi et al. (2003) and Chakrabarti (2001) have focused mainly on making an attempt to create a wholesome model of the determinants of FDI flows. Given the significance of FDI in the development, transitional or the emerging economies have drawn a lot of attention from world leaders, policymakers and academics in this particular field (Bevan and Estrin, 2002; Nunnenkamp, 2002). Despite the fact that a lot of research has focused on the determinants of FDI flows in emerging economies, the evidences provided by these researches are mixed and incomprehensive.

The research on FDIs was mostly done through the transactions costs approach developed by Coase (1937). The author argued that the relative cost of transacting within the hierarchy of an organization or on the open market determines the boundaries of the organization. Hymer (1960), who carried out an investigation regarding the reasons behind companies carrying out activities beyond their home country borders themselves instead of doing the same through arms length agreements, also applied the similar approach developed by Coase (1937) in the research on international productions.

The transaction costs approach was extended by Williamson (1979) who explained that the reasons behind companies establishing their operations on foreign soils is the prospect of opportunism between the parties under contract. The opportunism is associated with various cost factors such as costs of negotiating contracts, supervising compliance, resolving disagreements and renegotiating if a contract has to be modified. Hence it is implied that, if these transaction costs are substantially high, companies will be inclined towards engaging in FDI in order to leverage their ownership advantages and the available resources. Thereafter many research scholars such as Anderson and Gatignon (1986; 1988), Hennart (1982; 1986) made significant contribution towards developing the transaction cost approach.

Considering a wider perspective, the diverse patterns of global production developed by Dunning (1977) revealed that companies are more likely to engage in FDI, if doing so helps them attain location, internalization and ownership advantages. Majority of the researches that focused on the determinants of FDI in a particular country or region dealt with location factors. Dunning (1980) conducted a study of this type and validated for a number of location oriented advantages.

The author reported that size of the market, differentials in wages and other tariffs were the primary location oriented factors stimulating US FDI in seven countries. Thereafter, quite a few numbers of researches were conducted that encompassed the determinants of FDI and its association with a country's location oriented advantages.

Empirical studies concerning FDI location factors have more often than not been based on panel data (Chan and Gemayel, 2004; Jun and Singh, 1995) or survey questionnaires (Slangen and Beugelsdijk, 2010). These researches were thereafter merged in theoretical contributions in studies such as the ones done by Buckley and Ghauri (2004) and Dunning and Lundan (2008). Researches on the determinants of FDI which have been published in the four primary international business journals (Ellis and Zhan, 2011) are listed in the Appendix. Even though certain conflicting evidences have been witnessed, but the general conclusion that arises from the studies conducted till date reveals that market size, export orientation, openness to trade and environmental risk factors are the key determinants of FDI inflows. These factors will be discussed in the sections to follow.

As far as the emerging markets are concerned, majority of the researchers have focused on economies such as China, India, Brazil and Russia. The Middle Eastern region has received relatively lesser focus in the academic literatures published till date. This particular research will cater to construct a model including the determinants of FDI inflows in the Middle Eastern countries. The research contributes to the existing literatures published in this area by empirical researchers thereby validating few of the conventional determinants of FDI inflows in the Middle Eastern countries. In addition, the research paper will also examine the contribution of world energy prices and the countries with oil and gas resources in determining the level of FDI inflows. The research outcomes are expected to indicate that few of the conventional determinants of FDI inflows such as openness to trade, size of market and world energy prices have a significant contribution in the Middle Eastern region. On the other hand, an overall measure of energy reserves as well as environmental risk of a particular country do not have a noteworthy association with FDI or is associated with it negatively.

The rest of this study has been structured as follows. The following section will involve an in-depth review of the background of this study. Thereafter relevant existing literatures published in this field of research will be category reviewed that will enable the researcher to build a solid foundation for this study and also to analyze the gap that may exist. Following that the research strategy and methodology to be adopted will be explained in details. The section to follow will include the results of the model applied and its analysis. Next to follow is a brief discussion of the outcomes of the research. Lastly, a thorough conclusion will be provided that will encompass the overall essence of this research and will also explain the key outputs if this research. Thereafter, recommendations, limitations and future scope for research will also be stated.

Background

There are several probable definitions of the Middle Easter region. However that depends on the approach that is to be taken. The Middle Eastern region is comprised of the following countries: Bahrain, Kuwait, Jordan, United Arab Emirates, Saudi Arabia, Qatar, Oman and Lebanon. The level of FDI inflows in the Middle East have stayed relatively low until very recently. During the period between the 1980s and 1990s, the MENA (Middle East North Africa) countries accounted for a very nominal percent of the global FDI inflows. However this proportion has been growing gradually since 2000 and has reached to 3.8 percent in the year 2005 and thereafter to 5.7% in 2008 (UNCTAD, 2009). FDI inflows in West Asia that includes Turkey and the HCC countries was $5.9 billion in 2009 but subsequently decreased to $4.2 billion, $3 billion in 2010 and 2011 respectively and then increased slightly to $3.5 billion in 2012 (appendix 1). A significant proportion of these FDI inflows went to the GCC countries (UNCTAD, 2013). The FDI outflows from the West Asian countries have been considerably volatile between 2006 and 2012 (appendix 2). The governments of majority of the countries in the Middle East have been encouraging FDI as a strategy for diversifying and developing their economies, especially the UAE and Saudi Arabia. Despite the recent economic growth, the Middle Eastern regions share of the worldwide FDI flows has been relatively lower compared to the region's share of the global economy.

The Middle Eastern countries do have some common attributes within themselves in terms of culture, business practices, history, governance systems and most importantly language. However, as far as the economic profiles of these countries are concerned, there is significant difference between the countries in terms of the oil and gas resources/reserves that they possess. For the purpose of this research, the region that is being focused on contains four OPEC members and four non OPEC members. Countries can only be considered as an OPEC member if they attain at least one-fourth of their annual GDP from oil and gas revenues. These are the countries which have large proven oil reserves that will last for over 85 years at the current rate of production (BP, 2009). Although number of non OPEC members such as Bahrain and Oman have fewer oil reserves but they are considerably smaller compared to other Middle Eastern countries such as the UAE, Qatar, Saudi Arabia and Kuwait. It has been forecasted by analysts that the non-OPEC member countries will run out of their oil reserves within the next 15 years. The rest of the countries within the sample (in this case Jordan and Lebanon) have no proven oil and gas reserves that can currently be exploited. Given the fact that Middle Eastern counties (mainly the GCCs) display diverse oil and gas endowments and have very few alternative exportable natural resources (Richards and Waterbury, 2008), this region is a prospective ground for investigating the effect of natural resource endowments on FDI inflows. Oil and Gas resources will serve as the associate accurate determinant of a particular country's total natural resource endowment.

There has been considerably lesser number of literatures which have focused on FDI deals in the Middle Easter countries (the ones which are aforementioned). According to Moosa (2002),

inward FDI flows in the Middle Eastern countries can be best explained through factors such as annual GDP growth rate, research and development expenses, and enrolment in tertiary education, domestic investment and country risk. According to Alessandrini (2000), who studied the regulatory and legal framework of FDI in the MENA region as well as the association with inward FDI flow, countries such as Turkey, Tunisia and Morocco have been able to attract substantial FDI inflows despite the severe retractions imposed on FDI inflows in certain specific sectors. On the other hand Chan and Gemayel (2004), who did a critical analysis of the role risk and risk instability on inward FDI flows, stated that the risk instability/stability factor rather than the actual risk level is positively correlated with high inward FDI flow in the MENA countries. Having evaluated the contribution of risk in MENA region to a sample of developed economies, the authors concluded that the risk factors play a greater role in attracting FDI in the developing nations than in developed nations. Thus far, not many empirical studies have focused on the role of oil and gas resource in the overall inward FDI in the Middle Easter countries. Majority of the researches have focused either on the MENA countries clubbed together or the whole of West Asia that also includes countries likes Turkey. Therefore, in those researches many country specific factors had to be taken into account which might affect the overall result of another country. That is my this research will superficially focus on eight Middle Easter countries of which four are OPEC members and the rest are non OPEC members.

In the similar context Estrin and Meyer (2004) have stated that majority of the empirical studies done in recent times have analyzed the FDI entry strategies in emerging economies such as Brazil, Russia, India, China and other Eastern European countries. That is the reason why the other emerging economies remain relatively under-investigated. Moreover, majority of the empirical researches pay very scant focus on institutional peculiarities and local resource endowment, as very few of the researches have methodically investigated the institutional disparities within and between emerging economies and their corresponding on the FDI inflows.

Literature Review

Determinants of FDI flows

As far as the determinants of the overall inward FDI flow into a country is concerned, empirical researches have consistently focused on factors such as size of the country's market, openness to trade, business operating environment and political risks. A list constituting some of the researches done on the determinants of FDI inflow has been provide in Appendix. In this particular section, each and every variable that can be associated as being determinants of FDI have been discussed in details and tentative hypothesis for the Middle Eastern countries have been set forth.

Market size

Market size is regarded as the least contentious factor that can be associated with FDI inflows in a country. According to Chakrabarti (2001), Dunning (1980) and Estrin and Bevan (2004) a

country's market size is usually determined by its GDP. There are various other measures of a country's market size or attractiveness however their implementation of those measures may have an ambiguous impact on the overall process of research. Greater level of GDP per capital indicates the market has a high purchasing power and this level is expected to increase the flow of marketing seeking FDIs. However, it has to be noted that for efficiency seeking FDIs, greater GDP per capita is characteristically related to high rates of wages that makes the country look potentially unattractive for foreign direct investments in especially export oriented manufacturing industries (Arellano and Bond, 1991; Blundell and Bond, 1998). As far as the Middle Eastern region is concerned, the available evidence indicates that the prevalence of marketing seeking FDI is greater than that of efficiency seeking FDI and henceforth it is expected that GDP per capita and GDP are moderately accurate determinants of FDI inflows.

Hypothesis: 1 – The overall inward FDI flow in the Middle Eastern countries (sample countries mentioned in the section above) are positively correlated with the country's market size or attractiveness.

Openness to trade

A country's openness to trade is usually expected to be associated with high level of FDI only if foreign investment leads to production of services and goofs for the purpose of export. However, a contrary argument has also been presented that suggests that barriers in tariff may also encourage "tariff-hopping" FDI. In the empirical literatures published in the field of FDI determinants, openness to trade is in actuality found to be correlated to high inward FDI flow, despite the fact that the direction of causality is still uncertain. According to Jun and Singh (1995), export orientation was the only significant determinant of FDI inflows in a set of 31 developing economies (more specifically to a subset of countries attracting higher level of FDIs). The authors applied the Granger causality tests and thereafter concluded that a simultaneous and dynamic relationship may exist between FDI and export. Overall, it was concluded that exports pave the way for FDI. This gives the researcher with the second hypothesis which is:

Hypothesis: 2 - The overall inward FDI flow in the Middle Eastern countries is positively associated with the country's manufacturing exports.

Environmental risk

From the context of FDI, environmental risk can be defined as the randomness of the external environment of an entrant (Anderson and Gatignon, 1988). Environmental risk is also sometimes referred to as country risk or external risk. According to Agarwal and Ramaswami (1992), external risk can be described as the uncertainty over the persistence of the present political and economic conditions as well as governmental policies that are crucial factors ensuring the profitability and survival of a company's business operations in a particular country. Political risk is more often than not regarded as pivotal component of environment risk. According to Root (1994), a country faces political risk primarily due to the uncertainty over the continuation

of the existing political and economic policies in a particular country which are crucial factors ensuring a long term profitability and sustainability of an already existing or proposed business arrangement.

Root (1994) states four primary types of political risks that should be evaluated by researchers. They are expropriation risk, general instability, transfer risk and operations risk. The idea of environmental risk is very closely associated with business operating environment and stability of business institutions. With the development of effective and stable institutions in countries, political changes have lesser probability of having a substantial impact on business operating environment.

Commonly, one would anticipate considerably greater levels of environmental risk as well as institutional instability that would impact foreign investment (Love and Lage-Hidalgo, 2000; Agosin and Machado, 2005). However, it has to be kept in mind that for greater risk exposure, investors would expect a higher return as a compensation for the risk that they are exposed to. Therefore, certain investments may look prospective in one country with relatively higher levels of risk but the scenario may not be the same in another one (Agosin and Mayer, 2000; Apergis, Katrakilidis, and Tabakis, 2006).

With the enhanced interconnectivity between national economies, there has been a significant growth in corporations', rating agencies' and academics' interests in analysis of environmental risk. In the contemporary business world, variety of risk ratings are available that are rated according to a country's exposure to environmental risk from different standpoints. The factors that are focused while rating a country's risk exposure are credit risk, corruption, economic freedom and overall risk (Borensztein, De Gregorio and Lee, 1998; Bosworth and Collins, 1999).

Risk scores have long been used for the purpose of analyzing the relationship between FDI and risk from different perspectives. Jun and Singh (1965) conducted a study of FDI determinants in developing economies and the role of sociopolitical instability. The authors conducted regression analyses in order to analyze the relationship between inward FDI flow and GDP as well as sociopolitical instability. They concluded that there is a noteworthy relationship between FDI inflows and risk particularly for those countries that have been attracting higher level of FDI inflows.

Slangen and Beugelsdijk (2010) in a recent study reported that institutional hazards have a negative association with foreign activity of MNEs, especially in cases of vertical foreign activity which is characterized by the extraction of resources at the beginning by the interlinked affiliates and then the processing and sales of those resources elsewhere. This process is quite contrary to horizontal FDIs that are more marketing seeking rather than efficiency seeking. Failure in horizontal FDIs does not affect the investor beyond borders where the investment has been made. Thus the tolerance level for environmental risk in these sorts of investments is considerably higher. The authors utilized the indicators published by the World Bank governance

indicators for the purpose of conducting their analysis (Corden and Neary, 1982; Galan, Gonzalez-Benito and Zuniga-Vincente, 2007; Kaufmann, Kraay and Mastruzzi, 2007).

Thus, despite few disparities of individual studies depending on scientific characteristics, empirical researches point out that higher exposure of environmental risk leads to low inward FDI flow. This fact holds true majorly for developing countries as well as countries with greater exposure to risk.

Hypothesis: 3 - The overall inward FDI flow in the Middle Eastern countries is negatively associated with a country's exposure level to environmental/political risk.

Natural resource endowments

According to Estrin and Meyer (2004), oil and gas endowments are usually believed to attract resource seeking FDI, bit they have not been the context of research in majority of empirical researches Mina (2007). Availability and accessibility to natural resources is one of the key location determinants for resource seeking FDIs. However, the availability and accessibility to such resources is essential but not sufficient for resource seeking FDI. According to Dunning and Lundan (2008), government restrictions on investment incentives and FDI, infrastructure are other relevant factors.

Furthermore, since in the Middle Eastern region energy reserves are usually controlled and supervised by state owned bodies, the profits generated from energy export operations can be reinvested domestically by the government in order to achieve economic diversification. Thus, it can be said that in order develop the economy, financial resources of foreign investors is not a prerequisite and countries having rich natural resource reserves have no incentive to encourage investments from foreign investors. This argument can be validated through the explanations set forth by Lopez-Carlos and Schwab (2005). The authors stated that restrictions in foreign investments in the Middle Easter region are much higher in OPEC countries compared to non OPEC countries. This is precisely the reason behind the fact that OPEC countries have received relatively lesser foreign investments than non OPEC countries. According to Rogmans and Ebbers (2013), the OPEC countries had a FDI to GDP ratio of 1.6% over the period between 1997-2008 compared to the ratio of 3.5% for non OPEX member countries. Therefore it can be implied that the 'Dutch disease' or 'resource curse' apply to foreign direct investments and that in the Middle Eastern region, the natural resource endowment of a country has a negative association to the FDI inflows.

Hypothesis: 4 - The overall inward FDI flow in the Middle Eastern countries is negatively associated with a country's natural resource endowment.

World oil prices

Alongside the definite natural resource endowments of a particular country, world resource prices may also have an impact on the inward FDI flow. Till date, very few studies have

investigated the effect of oil prices on inward FDI flow. Rise and fall in the prices of oil can have a two way effect on FDI inflows. First of all, higher prices of oil make investments in gas and oil exploration appear considerably attractive which thereby increases the flow of FDI if the investments are made by international investors. Secondly, higher prices of oil enables governments of oil producing states earn greater revenues. Given the fact that, substantial oil producing countries normally run in surplus budget, the surplus revenues can thereafter be utilized for making reinvestments in the domestic enemy in order to achieve economic diversification. If the impact exists, then it is likely that the effect will have a lag. This is precisely because the fluctuations in oil prices and its resultant effect needs a bit of time to make its way to higher government revenues and henceforth higher FDI. This enables the researcher to develop the following hypothesis:

Hypothesis: 5 - The overall inward FDI flow in the Middle Eastern countries is positively associated with a world energy prices in the previous year.

Research Methodology

Research Philosophy

The primary reason behind applying a research philosophy is that it enables the researcher to collect, organize and analyze the data in order to addresses a particular research topic. Commonly, two researchers philosophical approaches can be adopted while carrying out a research study; namely interpretive and positivist philosophy. The selection of the research philosophy depends mostly on the nature if issue that is being addressed. Given the fact that both the philosophies are evenly effective, the difference lies in their objectivity.

Positivist philosophy

Positivist philosophy depends largely on the experimental and manipulative methods. The philosophy ensures that a gap exists between a researcher's subjective biases and the objective reality that is being ventured. Positivists believe that reality is static and it can be viewed from an objective standpoint (Mukherji and Albon, 2009). The philosophy emphasizes on forming theories before the research is conducted. The philosophy can be adopted in two distinct ways, one of which is experimental research and the other one is descriptive research. Positivist philosophy involves correlation analysis, quasi-experimental analysis, cross-sectional analysis and questionnaire survey feedback analysis. This philosophy directs the researcher's attention towards axiological and ontological perspective of the research issue. It facilitates both quantitative and qualitative analysis of the research problem.

Interpretivism philosophy

Interpretivists state that reality can only be understood through subjective explanation of and intervention in reality. Interpretivist researchers realize that there might be number of interpretations of reality. However, it has to be noted that these interpretations are a part of

scientific knowledge that is being pursued (Mukherji and Albon, 2009). Somekh and Lewin (2004) stated that the implementation of interpretivism philosophy in a research study was first proposed by Edmund Husserl. This philosophy accentuates on carrying out the research depending on general perception of human being about a particular issue. Interpretivism philosophy addresses issues that are micro-sociological in nature. The best example of a micro-sociological issue is the fundamental motive behind a person's behaviour. The social model that enables the researcher to conduct a research is supportive of many research activities such as analysing non-statistical variables such as human perception, emotion and social motives. This model should be strictly applied for researches involving qualitative analysis. This is the underlying reason behind the application of unstructured questionnaires for the purpose of conducting surveys. However, unlike positivist philosophy, this philosophy focuses on conducting the study before development of a theory. According to Spradley (1979) and Plummer (1983), researches involving application of interpretivism philosophy are conducted through focus group interview, interview, participant observation, evaluation of individual attributes and action research.

Research philosophy adopted

Provided the fact that this research has to be conducted through an in-depth analysis of quantitative data, interpretive approach has not been considered an appropriate philosophy. Consequently, application of the positivist philosophy has been deemed appropriate. The underlying objective of this study is to critically analyse the key determinants of FDI in the Middle Eastern countries. The study encompasses the activity of assessing the key driving factors of FDI in the emerging markets. This evaluation will be done through the implementation of positivist philosophy that will make it possible to understand and interpret interdependency and correlation between the key determinants of FDI and the actual inward FDI flows (Blaxter, Hughes and Tight, 2006). In addition, the issue that is being addressed is non-linear/asymmetric in nature and that is why positivist research philosophy has to be implemented. Furthermore this study will compare the ideas set forth in the existing literature with the results obtained in this research in order to provide a strong conclusion. This is precisely the reason behind the consideration of positivist approach as the best fit research philosophy (Mukherji and Albon, 2009).

Research approach

Inductive approach

This approach is one of the most effective means to conduct a research study. It facilitates the translation of observation in to strong conclusion. Inductive approach involves the analysis of behaviour and relationship between two variables as well as identification of any trend within the relationship. Following the completion of these activities, a researcher reaches a position whereby a thorough conclusion can be provided. However, given the fact that, the researcher is aiming to test validity of hypothesis that has been developed through a broad range of literature

in order to determine the relationship between research variables, implementation of this research approach would deplete appropriateness of this research (Gratton and Jones, 2010).

Deductive Approach

This research approach provides the researcher with a process to test soundness of assumptions in a manner contrary to that of inductive approach. Deductive approach initiates with the development of relevant theories. Following that, the behaviour between the research variables that forms the context of research, is studied. This serves as a solid foundation based upon which a detailed conclusion is reached. This approach compliments the objective of this research paper appropriately (Gratton and Jones, 2010).

Research approach adopted

In order to be able to conduct this research study in a prudent manner and give it a robust shape, deductive approach has been deemed appropriate. The fundamental reason behind the implementation of deductive approach is the fact that this study initially addresses a broad issue and then onwards attention is focused towards addressing specific aspects of the research topic that is being explored. In addition, another reason behind the implementation of deductive approach is that this study involves testing validity of hypotheses that have been developed through a broad range of literature in order to determine the relationship between research variables (Saunders, Lewis and Thornhil, 2009; Mukherji and Albon, 2009). The major requisite of this research study is to conduct an in-depth analysis and interpret the relationship and behaviour between the research variables as well as to identify any trend in this relationship. Following these activities, the research was able to establish tentative hypotheses and finally a detailed conclusion was set forth. The facts that have been mentioned in this section justify the adoption of this research approach for the purpose of conducting this research.

Methodology

This research is mainly dependant on panel data that analyses the inward FDI flow into eight Middle Eastern countries during the period between 2000 and 2012. In order to be able to test the hypotheses developed from existing literatures, multiple ordinary least squared regression model will be applied that consists of primary parameters that are expected to have an association with FDI inflows. The hypotheses have been stated in the literature review section.

As far as the dependant variables are concerned, FDI inflows have been consistently used in majority of other studies. Given the associated adhesiveness of direct investments, FDI flows rather than FDI stocks are more susceptible to modifications in characteristics of location. FDI inflow data have been obtained from authentic UNCTAD World Investment Reports database. Given the conclusive evidence and justified logic regarding the contribution of GDP in explaining FDI inflows provided by Chakrabarti (2001), Estrin and Bevan (2004) and Dunning (1980), the flow of FDI is more often than not expressed as a proportion of a country's GDP. In such a context, the focus of this research lies in investigating the key determinants FDI flows in a

particular country after taking into consideration the market size or attractiveness of that particular country's economy. In order to be able to match the available data with the independent variables, annual data for a 12 year period between 2000 and 2012 has been used for none of the Middle Eastern countries that are part of the sample countries of this research.

The independent variables that have been included in the regression model are designed in order to test the individual hypotheses developed in the literature review section. This will enable the researcher to understand the determinants of FDI inflows in the Middle Eastern countries and at the same time the researcher will also be able to restrict the number of explanatory variables in order to manage any issues of multi co-linearity.

Market size is determined by the value of per capita GDP. This determination is based on the assumption that affluent consumer oriented markets are considerably attractive for market seeking FDI. There can be reverse effect of per capita GDP on FDIs which seek efficiency because per capita GDP indicates high rates of wages. However, that depends on the pattern in which income is distributed within the economy.

Openness to trade is determined by the amount of manufacturing exports as a percent of GDP of a particular country. Countries whose GDP growth is stimulated significantly by exports will always attract foreign direct investments. This research will only investigate the relationship between a country's FDI flows and its trade policy but not the direction of causality.

As a determinant of environmental risk, the risk rating score of a country provided by the Political Risk Group' report ICRG. This measure has been adopted in number of other researches such as the ones done by Calhoun (2005), Henisz (2000) and Busse and Hefeker (2007). These data are available in a consistent manner for an extended period of time. The risk rating score is computed in such a way that it facilitates comparison of environmental risk of two countries over time. The parameters included while computing the rating score are political, financial and economic risk elements.

A country's total gas and oil reserves are the key measuring factors of its natural resource endowment. The oil reserves are calculated in billions of barrels produced in the proven reserves whereas the calculation unit of gas reserve is cubic meters (BP, 2009). To arrive at an approximate measure of a country's natural resource endowment, gas reserves converted into equivalent oil reserves using the standard conversion ratio of the industry (5.89 barrels of oil = 1,000m3 of gas). The calculation of oil prices is done using world oil price data at the beginning of a year (BP, 2009). The one year lagged impact of oil price on FDI is tested.

With the inclusion of these parameters as independent variables, it is expected that all relevant factors have been considered for the purpose of applying the regression model in order to manage the risk of multi co-linearity. Unlike other literatures which have also included education and infrastructure in their analytical model, this research does not do so. This is precisely

because in cases where both the above mentioned factors were considered, identifying relevant data across time series in a consistent manner across the sample countries was difficult.

Apart from the application of multiple least squared regression analysis, bivariate correlation coefficient model has also been implemented. In addition, several robustness checks have also been done. Given the dissimilar economic attributes of the non OPEC and OPEC countries, the regression model has been applied for all the countries as a whole as also for two separate groups of OPEC and non OPEC member countries. This has been done in order to be able to determine the disparities (if any) in the determinants of inward flow of FDI depending on the country's level of natural resource endowments. A similar pattern of analysis has been done by Jun and Singh (1995) who subdivided the sample countries into two categories of high FDI recipient and low FDI recipient in order to investigate the determinants of FDI in countries with different economic profile. Moreover, the sample of this particular research will be divided into two different time periods (2002-2006 and 2006-2011) to observe whether the determinants of inward FDI flow changes over time. On the basis of the above mentioned facts the following regression models have been developed:

- Model 1: All 8 Middle Eastern countries, all years (2002-2011).

- Model 2: OPEC countries, all years (2002-2011).

- Model 3: Non OPEC countries, all years (2002-2011).

- Model 4: All 8 Middle Eastern countries (2002-2006).

- Model 5: All 8 Middle Eastern countries (2006-2011).

Result and analysis

The results of the regression analysis have been provided in the appendix.

Model 1

This model includes all the Middle Eastern countries for which data has been collected during the period between 2002 and 2011. The regression analysis reveals that three out of five independent variables have a positive correlation with the inwards FDI flow in the Middle Eastern countries which have been studied. Manufacturing export as a percent of GDP is positively correlated with the inward FDI flow in the Middle Eastern countries. However, the t stat value of 0.39 indicates that it is not a significant determinant of inward FDI flow. Oil and gas proved reserve is positively correlated with the FDI inflows in the Middle Eastern region. The t stat value of 6.84 indicates that the value is highly significant at 1% level of significance. Lastly, world oil price is also positively correlated to the inward FDI flow. The t stat value of 2.80 indicates that the correlation is statistically significant at 1% level of confidence. As far as the negatively associated factors are concerned, they are GDP per capita and country risk rating.

However, the t stat value of GDP per capita and country risk rating of -0.56 and -0.77 respectively indicate that although they are negatively correlated with the inward FDI flow the values are not at all significant. The R^2 value of 46.7% is relatively low. The underlying reason behind such a small value can be attributed to the fact that FDI/GDP per capital was chosen as the dependent variable. This is precisely because the objective of the model is to explain that part of FDI inflow that has not been explained by the market size of a country's economy. However, if FDI had been used as an independent variable and GDP was included as an independent variable, then the value of R^2 would have obviously been very high.

Model 2

Model 2 consists of Middle Eastern countries which are members of OPEC. The countries which were included in this model are Kuwait, Qatar, Saudi Arabia and UAE. The regression analysis reveals quite contrasting results to that of the results reported in model 1. As is evident from regression analysis, the value of GDP per capita is negatively associated with the inwards FDI flow in the OPEC member countries. However, a t stat value of -0.10 indicates that the correlation is absolutely insignificant. The manufacturing export as a percent of GDP is also negatively correlated with the FDI inflows in all the five countries mentioned above. Quite similar to the test statistic value of GDP per capita, the test statistic value of manufacturing export of all the countries combined (-0.25) is not significant. On the other hand country risk rating, oil and gas proved reserves and world oil price are positively correlated to the inward flow of FDI in the OPEC member countries. Country risk rating although positively correlated but the t stat value of 0.48 suggests its insignificance. Oil and gas proved reserves and world oil price having nearly similar t stat values of 1.39 and 1.36 respectively indicates that they are positively correlated to the inward FDI flow in the OPEC members as well as their correlation is statistically significant at 10% level of significance. The value of R^2 in this model (43.7%) is quite close to the value of R^2 in model 1, although the value has decreased. A low value of 43.7% indicates that the model does not explain all the variability of response data around its mean. Given the fact that model provides the researcher with statistically significantly predictors that is why even though the value of R^2 is quite low, strong conclusions can still be drawn.

Model 3

Model 3 constitutes of non OPEC countries. The countries which have been investigated in this model are Bahrain, Lebanon, Oman and Jordan. The regression analysis of model 3 reveals that GDP per capita is negatively correlated with the inwards FDI flow in the non OPEC member countries. However, it has to be noted for non OPEC member countries the GDP per capita t stat value of -1.58 indicates that the negative correlation between this factor and inward FDI flow is statistically significant at 10% level of significance. Manufacturing export as a percent of GDP is positively associated to inward FDI flow in non OPEC member countries. The t stat value of 1.79 indicates that the correlation between manufacturing export and inward FDI flow in the non OPC member countries is statistically significant at 10% level of significance. As far as the

country risk rating is concerned, it is negatively correlated to the inward FDI flow in the non OPEC member countries. The t stat value of -3.42 suggests that the correlation is of high statistical significance at 1% level of significance. The natural resource endowment is positively associated with the inward FDI flow in the non OPEC member countries. The t stat value of 1.76 suggests that the value is correlation is statistically significance at 10% level of significance. Lastly, world oil price is also positively associated with the flow of FDI in the non OPEC member countries. The t stat value (3.59) is highly significant at 1% level of statistical significance. The R2 value in model 3 (52.15%) is slightly higher than that of model 2 which illustrates that model gives a better explanation of the variability of response data around its mean.

Model 4

This model includes the study of all the Middle Eastern during the period between 2002 and 2006. It is clearly evident from the regression analysis of model 4 the market size of the economies represented by the GDP per capita is positively correlated to the inward FDI flow in the Middle Eastern countries. However, the correlation is not statistically significant as suggested by the t stat value of 1.06. The manufacturing export as a percent of GDP is also positively correlated to the FDI inflows in the Middle Eastern region during the period between 2002 and 2006. However, even in this case the association is not statistically significant as the t stat value stands a mere 0.62. Among the five variables that have been regressed in this model only the country risk rating factor has a negative association with the inward FDI flows in the Middle Eastern countries that have been included within the sample. Although the association is negative but the t stat value of -1.03 suggests that the correlation is insignificant. The oil and gas proved reserves in the Middle Eastern countries is positively associated with the FDI inflows in all the eight economies that have been studied. The correlation between the two factors has a t value of 2.69 which is statistically significant at 1% level of significance. Very similar to that of oil and gas proved reserves, the world oil price also has a positive correlation with the inwards FDI flows in the Middle Eastern economies. The t stat value in this case is 3.014 which indicate that the value is statistically significant at 1% level of significance. The R2 value of 39.32% is very low and suggests that the model is not robust and that it fails to explain all the variability of response data around its mean. However, the presence of statistically significant predictors will enable the researcher to draw strong inferences.

Model 5

Model 5 involves the regression analysis of all the Middle Eastern countries during the period between 2007 and 2011. The regression analysis of model 5 reveals quite contrasting results to that of the results depicted in model 4. As is evident from the results, among the five variables of the Middle Eastern countries that have been regressed, only one factor has a positive correlation with the FDI inflows in the region and the rest have negative correlation. The GDP per capita is negatively associated with the inward FDI flow in the Middle Eastern region. The t stat value of

this factor of this factor is -1.014 which is statistically insignificant. Manufacturing export as a percent of GDP is also negatively correlated to the inward FDI flow in the Middle Eastern economies. The t stat value of -0.42 indicates that the correlation between the two factors although negative but is highly statistically insignificant. The country risk rating of all the Middle Eastern countries combined is also negatively correlated to the inward FDI flow in this region. Even in case the t stat value came out to be -0.86 which is not at all statistically significant. The one which is positively associated with the inward FDI flow is the natural resource endowments in the Middle Eastern countries. The t stat value of 9.13 indicates a very high statistical significance at 1% level of significance. As far as the world oil price is concerned, it is negatively correlated with the inward FDI flows in the Middle Eastern region. The t stat value in this case is -0.59 which is statically insignificant. One contrasting factor in this particular model is that the R2 value of 74.16% is substantially higher than the values obtained in the other models. Thus it can be said that this model is very robust which explains majority of the variability of the respond data around the mean.

Discussion and analysis

The regression analysis of all the models has provided the researcher with several insights of the key determinants of FDI in the Middle Eastern region. The GDP per capita is negatively correlated with the inward FDI flow in the Middle Eastern countries. This is quite contrasting to the explanations given in the literature where majority of the research scholars stated that a country's market size is positively associated with the inward FDI flow. However, in this research, it was noted that although GDP per capita is negatively associated with the FDI inflows in the Middle Eastern Region, but the t stat value is insignificant for majority of the models. The value has been found to be significant only in case of model 3 (which is for non OPEC member countries). Thus, the hypothesis can only be rejected in case of model 3 and it holds true for all the other models. Only the outcomes of model 3 are in line with the ideas stated by Dunning (1980). But the outcomes of all the other models explain the fact that, a country with a greater level of market attractiveness will always attract international investors to come and invest in their economy. The same has been witnessed in case of all the OPEC member countries in the Middle East which have considerable bigger market size and have consistently attracted FDIs over the last 10 years.

As far as the contribution of manufacturing exports as a percentage of GDP towards attracting FDI in the Middle East is concerned, it can be said that, the association between the two factors is by and large positive. However, it is evident from the regression analysis that the t stat value of this factor is insignificant for majority of the models. Thus, the hypothesis has to be accepted for majority of the models. On the other hand, the regression analysis of model 3 (which is for non OPEC member countries) reveals that the t stat value is statically significant at 10% level of significance. Thus, in this case, the hypothesis has to be rejected. Thus the outcome of regression analysis states that manufacturing export as a percent of GDP is a key determinant of inward FDI flow in the OPEC member countries but does not play a significant role in attracting FDI in the

non OPEC member countries. This outcome is in complete alignment with the conclusions provided within the empirical researches done in this filed. The reason behind such an outcome is the fact that the OPEC members, having proven reserves of oil and gas are able to export the same in huge amount which enables them to establish a strong trade relationship between their trade destination countries. The foreign investors see a prospect in these countries that have rich reserves of natural resources and therefore are more inclined towards making investments.

When the contribution of country risk rating score towards attracting or repelling FDI inflows in the Middle Eastern region was taken into consideration, it was seen that the t stat value of this factor is not at all significant for four of the five models. Given the fact that the test statistics provides the researcher with an insignificant value, therefore the hypothesis stated within the research has to be accepted. Thus, this result is also in complete alignment with the existing literatures. Since there is a negative association between countries' risk rating score and the inward FDI flow, therefore it can be said that the Middle Eastern countries which are highly exposed to political and environmental risk will obviously attract lesser FDI. The underlying reason behind this negative association is the fact that investors will always be uncertain about the investments that they make in countries which are highly risky. Moreover, countries which are politically and environmentally stressed are more likely to economically unstable in the long run. Thus, they do not offer the investors with a prospective investment opportunity.

The hypothesis which states that the overall inward FDI flow in the Middle Eastern countries is negatively associated with a country's natural resource endowment has to be rejected particularly because of the fact that the regression analysis of all the models has revealed t stat values which are statically significant at both 1% and 10% level of statistical significance. The hypothesis stated above was drawn because of the fact that countries having proven oil and gas reserve always run in surplus budget. That is why the governments of these countries have access to sufficient funds in order make domestic investments and henceforth develop their respective economies. That is why they do not rely much on foreign investments and thus this factor is not a key determinant of FDI inflow in natural resource rich countries. However acceptance of an alternative hypothesis suggests the fact that countries that are have huge reserves of gas and oil mainly export these products to majority of their trade destinations. This enables them to establish a strong business relationship with the customer countries. The foreign investors observe a prospective opportunities in countries having rich reserves of oil and gas because of the fact that these natural resources will never deplete if proper measures are taken and will continue to serve the world population. Thus, investing in such countries will enable them to have long term benefits and thus the investors are more inclined in investing in the Middle Eastern countries, especially in the petroleum industry.

As far as the world oil price is concerned, the regression analysis of all the models reveals that there is a significant positive association between this factor and the inward FDI flow in the Middle Eastern countries. The outcomes of this research are absolutely in line with the outcomes of empirical investigations done in this field. World oil price has a significant contribution

towards attracting FDI in the Middle Eastern countries. This is precisely because of the fact that a rise in oil prices always makes the oil and gas sector look prospective for investments. Thus, this influences international investors to invest in these countries as prices of oil and have more often than not have followed an upward pattern. Moreover, given the fact that, oil and gas rich countries have sufficient amount of funds available for making domestic investments, it enables them to achieve economic domestic diversification. Economically diverse and stable countries are always a prospective field of investment for international investors.

Conclusion

The Middle Eastern countries are amongst the most unique countries in the world because of the fact that the countries are similar to each other in many aspects. However, one significant difference that lies in between countries is the amount of energy endowments of each and every country. This fact combined with the nonexistence of certain other major natural resource endowments as well as the level of exposure to political and environmental risk makes the Middle Eastern region very appropriate for testing the contribution of various factors such the country's GDP per capita, manufacturing export as a percent of GDP, country risk rating, oil and gas proved reserves and world oil price in determining the inward FDI flow in these countries. Consequently, this research has accepted as well as rejected some of the conventional determinants of inward FDI flows found in the existing literatures. This enabled the researcher to set forth new findings.

The role of GDP per capita in determining the inward flow of FDI has been found to be positive for majority of the Middle Eastern countries. This finding is in complete alignment with the outcomes stated in the empirical literatures. This is precisely because of the fact that a country's GDP per capita is represented by its market size and attractiveness. Thus, the Middle Eastern countries which have a bigger market size and are considerable attractive than other countries, would more often than not have a significant contribution in attracting inward FDI flow. A higher GDP per capita suggests that the country is economically stable and this stimulates foreign investors towards making investments in this economy. However, it has to be noted that in case of non OPEC countries whose market size is considerably smaller than that of the OPEC countries, the GDP per capita is not a significant determinant of inward FDI flow. As far as the manufacturing export is concerned, it also has a positive association with the inward FDI flow in the Middle Eastern countries. This suggest that countries with higher level of manufacturing export as a percentage of GDP will always attract greater level of foreign investments. This is particularly because of the fact that countries that earn substantial revenues from their exports look considerably attractive for investments. As far as the country risk rating is concerned, this factor is negatively associated with the inward FDI flow in the Middle Eastern countries. This is because of the fact that countries which are significantly exposed to environmental and political risks will always attract lesser FDI and vice versa. The reason that can be attributed to this fact is that international investors will always be concerned about the investments that they are making and thus will always refrain from investing in countries that does not have a stable political and

economical environment. The research also revealed that countries having substantial reserves of oil and gas will always attract greater level of FDI inflows. A country's energy endowment is a significant determinant of FDI inflow. This is precisely because of the fact that Middle Eastern countries having sufficient energy endowments will always run in surplus budget. This enables the governments to utilize the excess profit in order to make investments in their respective economies so as to bring about development. It is obvious that foreign investors will always be inclined towards making investments in economically stable countries. Lastly, world oil prices are a key determinant of FDI inflow in the Middle Eastern countries. The underlying reason that can be attributed to this fact is that oil prices more often than follow an upward trend. Besides that, rising price of oil and gas makes investment in the petroleum industry look very prospective. Thus, international investors are more attracted towards making investment in countries with enriched petroleum industry.

Scope of future research

As far as the implications for further research is concerned, this research has mainly focused upon eight Middle Eastern countries. Thus scope of further research lies in the expansion of the research grid where other countries in the Middle East such as Iran and Iraq can also be included within the sample countries. In addition, this research has only included five economical factors that have been regressed in five models. A further research can be done that include various other factors such as annual GDP growth rate, enrolment in tertiary education, research and development expenses and levels of domestic investment can be taken into consideration. This is precisely because of the fact that the aforementioned factors have significant role towards attracting foreign investments. Alongside the research may also span across the African countries. This is precisely because of the fact that the African countries such as Nigeria, South Africa, and Burkina Faso have been attracting significant level of foreign investments over the last decade. Thus an investigation that will include these countries as well as other African countries will provide an in-depth to the researcher regarding the factors that have been able to attract foreign investments.

Limitations

This particular research is associated with certain limitations. First of all the exclusion of factors such as employment rate, quality of infrastructure and workforce, annual GDP growth rate, research and development expenses from the regression models reduces the robustness of the research. In addition, the determination of the environmental risk of all the sample countries is based on a high level of estimation. Further research may include various other types of environmental risk and their resultant impact on the level of inward FDI flow in the sample countries. Moreover, given that fact the research has been conducted at country (macro) level, it entails certain restrictions. Finally, due to data availability issues certain countries had to be excluded from the scope of this research and the research had to be conducted for the time period between 2002 and 2011. Extensive data availability would have enabled the researcher to expand the timeline for the research.

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Appendices

Appendix 1: FDI inflows, 2006-2012
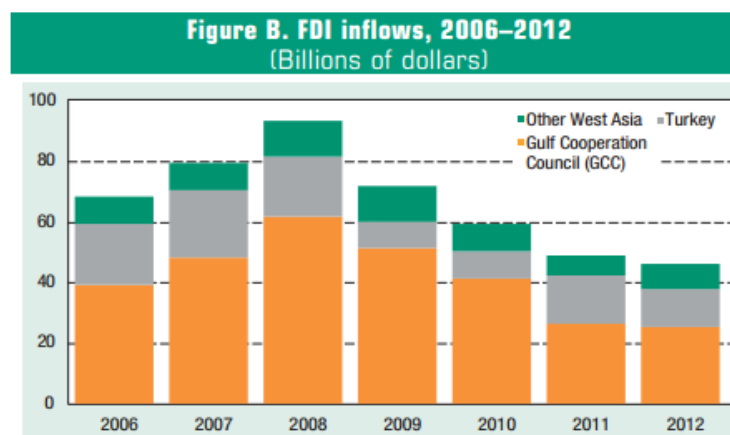
(UNCTAD, 2013)

Appendix 2: FDI outflows, 2006-2012

(UNCTAD, 2013)

Appendix 3: Regression analysis – Model 1

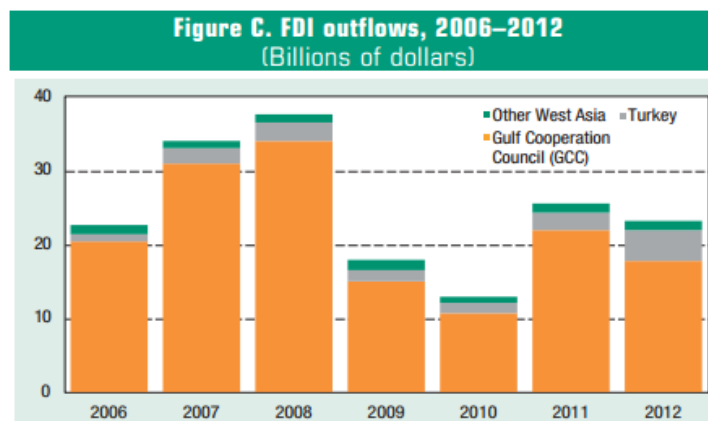| SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.683396757							
R Square	0.467031127							
Adjusted R Square	0.43052641							
Standard Error	5834451835							
Observations	79							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	5	2.17754E+21	4.35509E+20	12.79371987	6.16615E-09			
Residual	73	2.48498E+21	3.40408E+19					
Total	78	4.66252E+21						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3886595591	9223544485	0.42137766	0.674717504	-14495901795	22269092976	-14495901795	22269092976
GDP per capita	-22327.91848	39323.1323	-0.567806204	0.571908853	-100698.807	56042.97005	-100698.807	56042.97005
Manufacturing Export	17658658.35	44604037.07	0.395898208	0.69333486	-71237058.07	106554374.8	-71237058.07	106554374.8
Country risk rating	-105467418.5	135437671.6	-0.778715532	0.438664276	-375394304.9	164459468	-375394304.9	164459468
Oil and gas proved reserves	59690959.68	8715671.655	6.848693025	1.98509E-09	42320651.37	77061267.99	42320651.37	77061267.99
world oil price	76474950.3	27307918.51	2.800467941	0.006526513	22050347.98	130899552.6	22050347.98	130899552.6

Appendix 4: Regression analysis – Model 2

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.661554223							
R Square	0.43765399							
Adjusted R Square	0.354956047							
Standard Error	8151565139							
Observations	40							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	5	1.75828E+21	3.51656E+20	5.292199	0.001060395			
Residual	34	2.25923E+21	6.6448E+19					
Total	39	4.01751E+21						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-46334693856	81866337690	-0.565979805	0.575124	-2.12707E+11	1.20038E+11	-2.12707E+11	1.20038E+11
GDP per capita	-19603.34573	185841.3174	-0.105484324	0.916611	-397278.3404	358071.6489	-397278.3404	358071.6489
Manufacturing Export	-55082232.88	219771704.3	-0.250633871	0.803606	-501712069.6	391547603.9	-501712069.6	391547603.9
Country risk rating	516456787.2	1068679227	0.483266423	0.632004	-1655360692	2688274266	-1655360692	2688274266
Oil and gas proved reserves	58272519.56	41658686.76	1.398808366	0.170927	-26388117.39	142933156.5	-26388117.39	142933156.5
world oil price	141536298.3	103352644.2	1.369450191	0.179837	-68501544.15	351574140.8	-68501544.15	351574140.8

Appendix 5: Regression analysis – Model 3

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.72220097							
R Square	0.521574241							
Adjusted R Square	0.451217512							
Standard Error	970149821							
Observations	40							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	5	3.48866E+19	6.97731E+18	7.413281528	8.58411E-05			
Residual	34	3.20005E+19	9.41191E+17					
Total	39	6.6887E+19						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8167344044	2045488720	3.992857043	0.000330519	4010410847	12324277242	4010410847	12324277242
GDP per capita	-56462.94902	35518.80111	-1.589663706	0.121167504	-128645.8372	15719.93911	-128645.8372	15719.93911
Manufacturing Export	21325529.71	11904395.77	1.791399591	0.0821347	-2867113.09	45518172.5	-2867113.09	45518172.5
Country risk rating	-118237994	34547272.31	-3.422498684	0.001633275	-188446498.1	-48029489.96	-188446498.1	-48029489.96
Oil and gas proved reserves	203275014.2	114940456.2	1.768524512	0.085945314	-30312095.54	436862123.9	-30312095.54	436862123.9
world oil price	24099919.55	6710017.528	3.591632875	0.001025532	10463523.35	37736315.75	10463523.35	37736315.75

Appendix 6: Regression analysis – Model 4

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.627083261							
R Square	0.393233417							
Adjusted R Square	0.304003037							
Standard Error	3531649044							
Observations	40							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	5	2.74829E+20	5.49658E+19	4.406945448	0.003357136			
Residual	34	4.24067E+20	1.24725E+19					
Total	39	6.98896E+20						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4844844398	8747325391	0.553865803	0.583295298	-12931859500	22621548295	-12931859500	22621548295
GDP per capita	44311.05073	41672.62295	1.063313216	0.295134019	-40377.90797	129000.0094	-40377.90797	129000.0094
Manufacturing Export	28974370.04	46723945.99	0.620118216	0.53931432	-65980112.11	123928852.2	-65980112.11	123928852.2
Country risk rating	-142779476.5	138129172	-1.033666345	0.308588903	-423491726.3	137932773.4	-423491726.3	137932773.4
Oil and gas proved reserves	21985762.68	8157232.032	2.695247921	0.010853311	5408272.762	38563252.59	5408272.762	38563252.59
world oil price	125873805.3	41751898.04	3.014804385	0.004836328	41023740.25	210723870.4	41023740.25	210723870.4

Appendix 7: Regression analysis – Model 5

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.861168401							
R Square	0.741611016							
Adjusted R Square	0.703612636							
Standard Error	5278159516							
Observations	40							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	5	2.71861E+21	5.43721E+20	19.51691138	3.93206E-09			
Residual	34	9.47205E+20	2.7859E+19					
Total	39	3.66581E+21						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15830130363	11692950099	1.353818346	0.184725742	-7932803140	39593063866	-7932803140	39593063866
GDP per capita	-44065.00154	43444.32446	-1.014286724	0.317609869	-132354.4909	44224.4878	-132354.4909	44224.4878
Manufacturing Export	-22363468.05	52182230.57	-0.428564816	0.670942984	-128410519	83683582.92	-128410519	83683582.92
Country risk rating	-133492953.4	153641079.1	-0.868862378	0.3910146	-445729191	178743284.3	-445729191	178743284.3
Oil and gas proved reserves	98885135.7	10820206.9	9.13893206	1.11075E-10	76895829.77	120874441.6	76895829.77	120874441.6
world oil price	-31309397.08	52742445.73	-0.593628085	0.556689917	-138494942.2	75876148.06	-138494942.2	75876148.06