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THE DETERMINANTS OF FOREIGN DIRECT INVESTMENTS IN THE MIDDLE EAST AND NORTH AFRICA REGION

by
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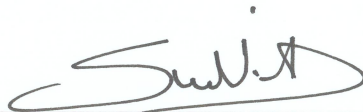Signature   Date

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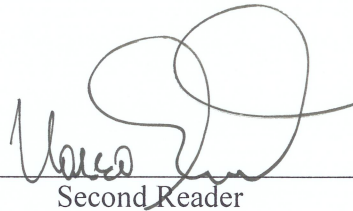
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AN ABSTRACT OF THE PROJECT OF

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FDIs are considered to be a major aspect of globalization especially during the last three decades. Barriers to foreign investment have fallen gradually since the 1980s. Nevertheless, FDI inflows to the MENA region have been disappointing relative to other developing countries despite its 430 million population, being home of the richest oil-producing countries in the world, and two decades of implementation of structural adjustment. Countries of the MENA region are very diverse in their economic, political and social features. On the basis of these elements, the performance of a country, with respect to attracting FDI, varies across the MENA region. Therefore , further investigation of the determinants of FDI and how do they shape the distribution of FDIs among MENA countries especially in the light of the recent political events shaking the Middle East is required.

This project aims to examine the role of the FDI determinants in the distribution of the FDIs in the MENA region. It will be divided into five chapters: Chapter 1 is a general introduction. Chapter 2 is a literature review that includes what previous researchers conclude about the impact of FDI determinants on the MENA countries. Chapter 3 covers the macroeconomic fundamentals of the MENA region. Chapter 4 includes empirical testing in a panel approach using E-views. Chapter 5 concludes and gives policy recommendations.

CONTENTS

ILLUSTRATIONS

TABLES

CHAPTER I

INTRODUCTION

Countries of the Middle East and North Africa form a region that is a home to a population half of which is under the age of 25, making it the second youngest region in the world after the Sub-Saharan Africa. These human capacities in addition to other resource endowments result in heterogeneity that makes conducting any study fascinating. The MENA region has always suffered from repressed trade and financial regimes, high levels of unemployment, corruption, slow growth and many other adversities that obstructed the flow of FDIs into the region for a long time. Thus, this region was never listed among the main attractors of FDI; up until early 1990s, Asia was considered to be the main attractor of FDI until the Asian crisis occurred where it was succeeded by Latin America.

Nevertheless, the share of FDI inflows to the MENA region has reasonably started to rise starting the mid-1980s. This can be attributed to two main major changes that readjusted the aspects of FDI attractiveness of the whole region. The first transformation was the technology and information revolution or what is known as the wave globalization that started pulling its way through the developing world in the 1980s. In the light of globalization, developing countries of the MENA region adopted new technologies along with advanced manufacturing behavior schemes. The second major transformation was the democratization wave that invaded the MENA region in the 1980s pushing aside many authoritarian regimes. This democratization wave altered long entrenched ideologies of trade and investments restrictions.

What FDI brings to host countries is far more than hot money circulating in an economy. FDI results in technological spillovers to host countries that have managed to pull MENA countries out of massive structural destruction resulting from long years of wars and political unrest. Managerial expertise is also brought to developing countries by Foreign Direct Investments (Lipsey, 2001). Moreover, FDI inflows attribute to higher level of GDP especially in the presence of developed financial sector (Alfaro et al, 2004). Job creation to compensate for the high unemployment rates most of the MENA countries suffer from is another positive outcome of FDI inflows. Thus, FDIs are favorable to countries of the Middle East and North Africa. Furthermore, some of these countries rely on these investments as a major source of financing their budget deficits. This reliance on FDI inflows portrays a lesson learned from the Asian debt crisis of 1977 where portfolio investments proved to be an unstable source of capital inflows. The degree of attractiveness of FDI varies from one country to another depending on various characteristics including the presence of human or resource wealth. As for resource wealth, precisely of the high oil reserves found in the region, the boom in prices between 1976 and 1980 brought remarkably high FDI levels to MENA countries that haven't been witnessed prior to spike in prices (Neaime and Marcus, 2009).

The uprising that flickered on the Streets of Tunisia end of 2010 had negative spillover effects on the majority of the countries in the region. Political unrest demonstrated in armed conflicts in Egypt, Libya, Bahrain, Yemen, and Syria is one form of the negative spillovers the Jasmine Revolution of Tunisia. The drop of the global investment climate of the region as a whole is another form. Statistics suggest that amid the eruption of the Arab Spring, around 75 % of foreign investments were

withdrawn from the region leaving it incapable of absorbing politico-economic changes that followed (MIGA 2011, 26). For the portion that that wasn't withdrawn, it was either frozen for later extension or sustained under severe restrictions.

The main objective of this paper is to construct a model of determinants foreign direct investments entering the MENA region. This study contributes to the literature by testing widespread hypothesis regarding the role of trade openness, market size, inflation volatilities, oil prices, and revolutions have in determining movements of FDI trends towards the MENA region. The study covers the time span of the years 1970-2015. The paper is organized as follows; Section 1 provides a general introduction. Section 2 traces the literature review summing up previous investigations done in the field of FDI determinants on different regions including the MENA region. Section3 gives an overview of the macroeconomic fundamentals of the MENA region explaining the major demographics that allow such a region to absorb FDI inflows. Section 4 explicates the conceptual framework and the empirical model constructed along with a thorough analysis on the results obtained. Finally, Section 5 concludes and gives applicable policy recommendations for enhancing the levels of FDI projects in the MENA region.

Note that research on the determinants of FDI inflows to the MENA region is relatively scarce compared to earlier studies performed on FDI levels due to data limitations. Privacy issues are a form of data limitations in the region. Countries of the GCC tend to have more privacy constraints than other countries in the region especially in the banking sector, where only partial financial data is revealed to the public. Moreover, data protection policies that govern MENA's leading economies attribute to majority of the data limitations on the determinants of FDI inflows research field. Dubai

International Financial Centre and the Qatar Financial Centre abide by such laws that happen to restrict data transfers from such financial centers to places located outside these financial centers. Nevertheless, data accountability in countries of the MENA region is not of great efficiency due to lack of legitimate institutions that are capable of performing accurate data assessments.

Results of this study reveal that the instrumental variables that directly affect inward FDI flows to the MENA region are the Gross Domestic Product, crude oil prices, and revolutions in the region. Results suggest that foreign direct investments inflows to the countries of MENA region are mainly market based since Gross Domestic Product of a country resembles its market size. Thus, countries of the MENA region should aim at enhancing features related to the demographics of those determinants in order to improve their competitive atmosphere and attract higher FDI inflows. Findings of this study would be of great benefit to market regulators, participants, and policy makers upon setting reformation strategies to the MENA region.

CHAPTER II

LITERATURE REVIEW

The literature on Foreign Direct Investment theory in the Middle East and North Africa region is relatively wide; however results obtained by various studies conducted remain inconsistent. Qualitative rather than quantitative studies form the majority of the FDI literature. Economists and scholars engaged with work in this region for multiple reasons such as the presence of oil and gas reserves in generous quantities along with high probability of risk (Rogmans 2011). In addition, the Arab uprisings that started in 2010 brought more attention to the Arab region and made it more interesting to research. As it is generally identified, the MENA region attracts a relatively small portion of FDI inflows compared to other developing countries. Onyeiwu (2004) attributes this gap to the fact that the factors affecting FDI trends in developing countries are different than those affecting trends in the MENA region. While Neaime and Marktanner (2009) focuses on this gap precisely in Arab countries of the MENA splitting the Arab region into diversified and oil economies with the least absorptive capacities. The Arab world maintained a lower level of FDI in comparison with its counterparts because of the presence of a low manufacturing export capacity and a democracy deficit which repelled FDI attraction (Neaime & Marktanner, 2009). Moreover, Borensztein (1998) explains that this gap is due to a variation in technological absorptive ability which is determined by human capital.

Nevertheless, the case of the MENA region FDI can be considered as a "double-edged sword" (Wang et al. 2013). FDI inflows helped developing countries grow and

recover from decades of economic and political unrest. These inflows were a major

reason behind job creation in most of the developing countries. FDI inflows in turn lead

to an increase in wages. This increase occurs when domestic companies compete with

new foreign businesses leading them to increase their wages (Pandya, 2010). Foreign

Direct Investments also have positive impact on GDP. This claim was tested by several

economists including Borenszteina , Gregoriob, and Leec who tested the effects of FDI

on economic growth through a cross-country-regression framework based on panel data

obtained from 69 developing countries over the period of 20 years, from 1970 till 1990.

The conclusions reached by these economists were that FDI has a positive effect on the

level of economic growth in a country. However, the magnitude of this impact is

extremely dependent on the stock of human capital existing in the host country.

Moreover, conclusions also show a positive yet a minor effect of FDI on domestic

investment. Nonetheless, this paper does not reveal the other side of FDI. Several

studies examined the negative impacts FDI inflows can bring to the host country. FDI

was found to have harmful environmental effects where higher levels of pollution were

accompanied by increasing FDI inflows (Antweiler et al.,2001)

The idea of FDI originates from the presence of high transactions costs within a

firm's atmosphere leading it to seek alternative investment opportunities abroad (Coase,

1937). In other words, FDI is the transfer of goods between multinational firms that

account to around 30 % of the world trade. Williamson (1979) developed a broader

framework for FDI clarifying that firms invest abroad due the existence of the potential

for opportunism between the host and domestic country. This potential opportunism

conveys with it momentous costs of negotiating contracts, monitoring compliance,

resolving disputes and potentially renegotiating if a contract needs to be modified to

comply with the laws of the country being invested in. According to Dunning (1977), FDI can also be a result of other major reasons including advantages related to location and ownership. The extent to which a country receives a Foreign Direct Investment is an open-ended matter. FDI determinants are neither static nor limited. FDI is a very complex indicator which can be affected by multiple variables. Nevertheless, some variables have greater impact in determining FDIs inflows than others, putting determinants into "push" and "pull" categories.

Chakrabarti (2001) and Kamaly (2002) consider market openness, political stability, economic growth, and infrastructure quality to be among the key determinants of FDI. In a paper released in 2002, Kamaly referred to previous stock of FDI allocated by a country as one of the determinants of FDI. While Cavers(1974) and Cheng & Kwan (2000) discusses the effects of exchange rates, inflation rates, labor unit costs, and natural endowments on FDI attraction in a country. These determinants can be divided into macroeconomic and institutional factors. However, Disdier & Mayer found in 2004 that macroeconomic factors give only a partial explanation of FDI inflows and that further investigation should be done regarding institutional factors. Moosa (2002) proposes that the inward trend of FDI into the Middle East can be determined by five factors; GDP growth rate, human capital -which is accounted for through the enrolment levels in tertiary education-,budget spent on research and development, domestic investment, and potential risk levels in the host economy itself.

The issue of the presence of indeterminate variables than can shape FDI trends in a country and the discrepancy in results obtained was examined by Avik Chakrabarti in a study conducted in 2001. Chakrabarti claims that the lack of certainty in conclusions concluded by various studies is caused by the fact that samples,

methodologies, and analytical implementations differ from one study to another. He criticizes the empirical work on FDI stating that it is not built on any theory, which in turn leads to a very low level of confidence among motivated readers regarding all the publications related to the topic of FDI. Moreover, the absence of firm theoretical framework leads to a misspecification in which variables are to be set constant upon conducting various statistical tests, which in turn results in different outcomes of similar studies, making conclusions more dubious to readers. In an attempt to determine to which extent conclusions derived by cross-country-FDI regressions can be trusted, Chakrabarti divides FDI determinants into two categories: robust and fragile. Then he performs a sensitivity analysis that ranks fragile determinants according to their probability of being correlated to FDI. Upon preforming prolonged correlation tests and multiple cross-country regressions -some with a single determinant such as GDP and others with whole determinants chosen-, Chakrabarti found the variable of market size to have the most prominent impact on FDI. Moreover, he also found that several of the controversial determinants including tariff, tax, and openness to be extremely sensitive to slight changes in the conditions of their information set. Finally, Chakrabarti found that a country's openness to international trade to be the determinant with the highest level of correlation with FDI followed by wage, exports, and GDP.

There are economists who further elaborated in depth on the effect of only one variable on FDI in a country. Lambsdorff (2005) took the studies done on corruption and its link to capital inflows one step further. He tested the general concept of corruption having a negative effect on FDI. In his theoretical framework, Lambsdorff assumed that a low level of FDI disrupts the capital composition of capital flows in general, increasing the risk of currency or financial crisis. He also clarified a firm

relation between corruption and low levels of GDP and completion along with income inequality and high levels of crime and inflation. The study was done on different countries from multiple regions including Africa, Middle East, Latin America, and Asia over the period 1995 to 2000. The method used is simple OLs regressions along with 2SLS taking FDI as a dependent variable with corruption along with growth, trade openness, inflation and other variables that were of no great importance in Lambsdorff's study. Results obtained validate the hypothesis that corruption does affect FDI negatively verified by a positive coefficient significant at the 1 % level. Moreover, Lambsdorff accounted for instrumental variables that might impact levels of corruption. The two instrumental variables he observed were the share of each religion in a country and the ethno-linguistic fractionalization. Upon preforming a 2SLS regression with these instrumental varibales, the effect of corruption on FDI was much more robust than the previous OLS regression. Lamsdorff progressed on the issue of corruption and decomposed into two kinds: corruption in the field of import/export permits and corruption in the fields of annual tax payments. He ran normal OLS regressions and concluded that corruption related to imports and exports permits has a positive and significant effect on FDI while the other kind of taxes related to annual tax payments, access to public services and judicial decisions has a negative yet significant impact on FDI.

Several economists examined the role of institutional factors in determining FDI inflows. Institutional immaturity present in developing countries raises transaction costs and risk levels deterring the flow of FDI to those countries (Child, et al., 2003; Mayer, 2004; Uhlenbruck, 2004). Méon and Sekkat (2004) found that a deterioration of the quality of institutions has a negative effect on FDI inflows to a country. Moreover,

Danny Wang (2012) conducted a study on institutional development in China. Wang used panel data on 287 cities in China over the period of 1999 to 2005 to study the double edged outcomes of FDI on the Chinese economy, obtaining various results from one city to another. The method applied in this study is the Generalized Least Squares (GLS) instead of ordinary least squares in order to avoid problems that might arise due to the existence of repeated city-level observations over time in the sample. Results obtained showed significant positive impact on economic growth and labor productivity while negative impacts were witnessed on employment levels and environment. Later on, an institutional framework was introduced in order to improve the understanding of FDI determinants. The major result of this study was that institutional development augments the positive effects of FDI reducing negative effects. "Providing sound regulations and incentives, local institutions boost the host city's ability to absorb the positive impacts of FDI, and help curtail its potential damage." (wang et al. ,p.3,2013)

Moreover, the matter of liberalization of FDI policy was thoroughly deliberated in a study made by three scholars: Arusha Cooray, Artur Tamazian and Krishna Chaitanya Vadlamannati. These scholars constructed the notion that developing countries tend to compete more among each other in order to attract FDI than developed countries. The reason behind this is that developed countries are already attractive FDI targets with property right protection, developed institutions, high quality infrastructure and many other advanced aspects. Moreover, the usage of similar procedures in attracting FDI is another reason that leads developing to compute more intensely among each other. These methods include reduction of entry barriers and policy adjustments regarding FDI. The three scholars used spatial econometrics to examine whether law and policy adjustments favoring FDI in one country are influenced by similar FDI

policy adjustments in another country. Several studies were conducted by many

scholars including Davies Ronald et al. (2003), Devereux et al. (2008), Davies Ronald.

Voget (2008), Overesch and Rincke (2008) using spatial econometrics regarding

exploring tax competition among developed countries. The studies made by will be

mentioned throughout the paper. The researchers tested two hypotheses in this paper;

"Hypothesis 1.Potential host countries are more likely to change policies favoring FDI

when their competitors have done so." And "Hypothesis 2.Competition to attract FDI

via the liberalization of policies favoring FDI is more intensive among developing

countries." Panel data on 148 countries covering the period 1992-2009 was used. A

proxy for FDI policy changes was constructed based on a set of exogenous variables, a

country specific dummy, and an error term. Competition with other countries was

measured by the number of yearly changes in policies favoring FDI in other countries.

This value is considered to be a spatial lag. Moreover, geographic locations were of

great significance in this paper where the assumption that countries close to other

countries with high level of policy liberations regarding FDI tend to compete more.

Thus distance was included in the weighing scheme of the equation. After running

regressions using OLS fixed effects, a positive and significant relationship was detected

between policy changes favoring FDI and inflows of FDI to a country. This result was

valid throughout several manipulations including excluding the developed countries

from the sample, including lagged dependent variable. In addition, upon preforming

causality tests, two main results were detected. The first result suggests that causality

among the dependent and independent goes in both directions. In other words, the flow

of FDI to a country causes policy adjustments regarding FDI in this country. The second

result advocates for the significance of location factors where a FDI policy changes are

driven by changes in nearby countries. Moreover, Alessandrini (2000) further elaborated on the legal restrictions on FDI inflows to a country. According to Alessandrini, some countries in the MENA region like Morocco, Tunisia, and Turkey were able to attract a sizeable amount FDI regardless of the legal restrictions enforced.

Different kind of risk can be considered among the major determinants of FDI. Singh and Jun (1995) observed the consequence of political risk and business operating conditions. They found that the developing countries that relatively attract low FDI inflows suffer from high levels of sociopolitical instability. Lucas(1990) claims that multinational companies invest and produce in high-cost developing countries since they are considered to have lower levels of political instability than others. Chances of higher political risk are more likely to be found in low cost developing countries. Lucas proposes that political risk is not the only concern of multinational companies where being subject to different regulatory regimes creates a whole new set of risks. Kitty K. Chan and Edward R. Gemayel divided risk into three classifications; economic, financial, and political. A substantial weakness of their division of risk is that the rating used which is the International Country Risk Guide rating provides only a measurement of risk level without any indication of stability of the risk level. Chan and Gemayel used two dynamic panel models: one for the MENA region and the other for EU and North America. Results obtained suggest that the high level of instability related to risk investment is much complex in the MENA region compared to EU and North America (Gemayel, 2004). Anderson and Gatignon (1988) similarly investigated the role of risk in determining FDI drifts. They split the sample of countries into high and low risk divisions. The outcome of their study was that high volatility of risk is mainly relevant for FDI flowing to high risk countries.

Nevertheless, there were a couple of economists who viewed the MENA economies from a resource wealth perspective. Alan Bevan and Saul Estrin contributed a large percentage of FDI inflows attraction to the natural resource endowments of the host country. They performed their study on transition economies in Europe. However, they haven't gone in depth in the empirical research of the hypothesis. Mina (2007) preformed a study upon which he measured oil potential by oil reserves and oil utilization by oil production. The outcome from Mina's paper was contradictory to previous theories set on the role of oil wealth in attracting FDI. Oil utilization had a negative impact on FDI inflows. Mina used cross sectional data over the period 1980-2002. In its regression, oil resource was modeled through accounting for the oil exploration capacity where oil potential of an individual country is clearly mirrored. Moreover, the "OIL" explanatory variable in the model also accounted for the oil extraction feature in the same country, and the methodological connection between oil extraction and exploration. Through this approach utilization of oil resources and oil production were demonstrated .Mina also included world oil prices as a determinant for FDI levels. The researcher didn't limit his study only to oil variables; he also added other explanatory variables including trade openness, infrastructure development, human capital and institutional development. What Mina obtained that was an opposite direction correlations between FDI and both oil variables. FDI inflows were negatively correlated to oil production and oil reserves, which is inconsistent to the theory, while being positively correlated to oil production. Moreover, upon running the regression oil prices, production and reserves had turned out to have a negative effect on FDI inflows while oil utilization has a positive impact on FDI inflows. In addition, Tim Rogmans and Haico Ebbers also chose to test whether oil and gas endowments have a significant

effect on FDI. Moreover, the two researchers added other explanatory variables to the model including market size, trade openness, environmental risk, and oil prices. Panel data for 16 MENA countries over the period of 1987 to 2008 was observed. They performed some manipulations to the data splitting it into two categories of OPEC and non-OPEC countries along with two different time periods; first time period covers from 1987 till1997 while the second from 1998 till 2008. A total of six least squared regressions were implemented including different countries and time combinations along with several robustness tests on the different models. Results obtained from the multiple regressions suggest several perspectives regarding the determinants of FDI in the MENA region .A negative relationship between a country's oil and gas reserves and FDI performance contradicts with Dunning's (1980) hypothesis that the presence of resource wealth attracts resource-seeking FDI. This negative relationship is significant for both models including the overall country sample and the non-OPEC countries in particular. Moreover, the negative impact on FDI was observed to grown stronger overtime. However, the petroleum endowments variable was not significant in explaining variations in FDI performance within the group of OPEC countries. This result controverts the hypothesis that suggests that "Dutch disease" or "resource curse" can also be applicable to the role of natural resource endowment in attracting FDI. This hypothesis suggests that when a country starts earning foreign exchange reserves due to exporting of natural resources, its real exchange rate would positively increase. The latter situation makes FDI in this country more expensive for foreign investors (Corden & Neary, 1982).

Looking through history, the MENA region has always been a region of high civic instability. In a paper published in 2008, Ali Abderrezak shed light on the effect

on the long term colonization effect on foreign direct investments in the MENA region. Abderrezak (2008) built on the assumption that FDI inflows are widely determined by the host countries' attitudes towards those investments. Those attitudes are -up to this date- influenced by the historical colonization the MENA countries endured. In his model, Abderrezak (2008) introduced 'colonization memory' to be a variable that accounts for political, cultural, and historical aspects that form the countries' perceptions toward foreign investment. In addition to the colonization memory, Abderrezak observed several other factors that may play a major role in shaping FDI inflows. Market size, trade openness, exchange rate and natural resource endowments were among those main observatory variables. Moreover, the natural resource endowment variable used in Abderrezak's model was different than previous usage of this variable. He took natural resource wealth to be the hydrocarbon based on a previous Ricardian endowment model, proposing that ceteris paribus, hydrocarbon-rich host economies tend to attract higher levels of foreign direct investments inflows. Note that the time length of each country's independency was taken into account throughout this study. Data perceived cover 16 countries in the MENA over the period of 2000 to 2005. Upon preforming Ordinary least squares regression and correcting for the presence of heteroskedasticity and serial correlation results obtained clarify the following: real income and international trade openness proved to have a positive and significant relation with disparities in net FDI inflows while hydrocarbon endowments, GDP levels, and foreign exchange rates have a significant negative impact on net FDI inflows. However, the main result derived out of this model was the effect of colonization on foreign investments inclinations in the selected MENA countries. Colonization memory demonstrated a negative relation with the inward movement of

FDI to the region. This supports the notion of persistent residual colonization sentiments regarding FDI that Abderrezak has based his model on.

Taken the literature given, this study will test the direct effects of five main factors on the inwards flows of foreign direct investments to the MENA region. Determinants under observation are trade openness, inflation volatility, market size, revolutions, and world oil prices. The study aims at filling gaps found in the literature. A major drawback of most of the studies conducted in the FDI determinants field is that they were done on a relatively short time span. The largest time span found in the literature was of twenty years (Rogmans and Egger, 2013). Duration observed in other studies ranged from five to ten years (Helmy, 2013). The duration covered by the following study is thirty five years starting 1970 till 2015 accounting for all major transformations in the region during those years. In addition, no previously conducted study took alone revolutions as determinant. Previous studies worked on accounting for the total political risk governing the region. Several researchers measured political risk in terms of law and order, ethnic tension and internal armed conflicts (Khouri, 2014). This paper focuses on a certain kind of political risk which revolutions specifically internal revolutions and uprisings. Revolutions are accounted for as a dummy variable that takes a value of one during the year the rebellion occurs.

CHAPTER III

FDI OVERVIEW AND MACROECONOMIC

FUNDAMENTALS OF THE MENA REGION

A. Overview of the FDI Trends in the MENA region

The Middle East and North Africa (MENA) region covers the area starting from Morocco in northwest Africa to Iran in southwest Asia and down to Sudan in Africa. The region is known to be a home of 6 percent of the world's population, which is almost equivalent to the population of the European Union (EU). There is no consistent list of countries shaping the region however there are some countries that typically form the region including Algeria, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, Yemen. These countries are of different aspects in terms of economic structure, resource wealth, and regime schemes, despite their common features such as language, history, and culture. MENA countries also differ in their ability to attract FDI and their degree of tolerance of those inflows. In spite of the minor share of FDI inflows the region attracts, it relies on FDI as a major source of financing particularly after decades of debt crisis accompanied with multiple commercial bank lending failures. These countries desire long-term capital inflows that prove to be stable over time. In this case, foreign direct investments are the best fit (Lipsey, 2001). Revenues gained from FDI account to almost twice the government revenues from tariffs, payroll taxes and social contributions, and other types including income taxes and levies.

In an attempt to increase its share of FDI inflows, the MENA region as a whole launched several policy changes in order to provide an attractive economic atmosphere for foreign countries. During the period of 1992 to 2001, 1029 policy changes favoring FDI inflows occurred (Korbin, 2005). These changes included the reduction in regulations regarding the entry of firms to host countries in the 1990s. Protection for a host country's industries from the entry of foreign industries was around 40% in the 1970. This percentage decreased to around 12% by the end of 2000 (Pandya 2010). These changes had a positive impact on the FDI inflows to the countries of the MENA region. This positive outcome was evident in sixteen out of nineteen countries (UNCTAD, 2006). According to UNCTAD, the period of 1996 to 2000 witnessed an expansion of 200 % in the inward flow of FDI.

This boom lasted in the region up until 2006. In fact, in 2006 the MENA region attracted 4% of the world FDI share which is a share equivalent to its demographic weight. This remarkable level can be attributed to a chain of huge projects launched by the Gulf Cooperation Council countries in the telecom, banking, construction, and energy sector. It is important to note that FDI shares flowing into the MENA region mostly go to GCC category of this region. Foreign direct investments rushed into GCC countries during the period of 2002 to 2010 with an optimal increase of 3800% of their share of FDI being between the years 2002 and 2008 (Toone, 2012).Upon registering such a high record, countries of the GCC had already outpaced both the developing and developed regions of the world.
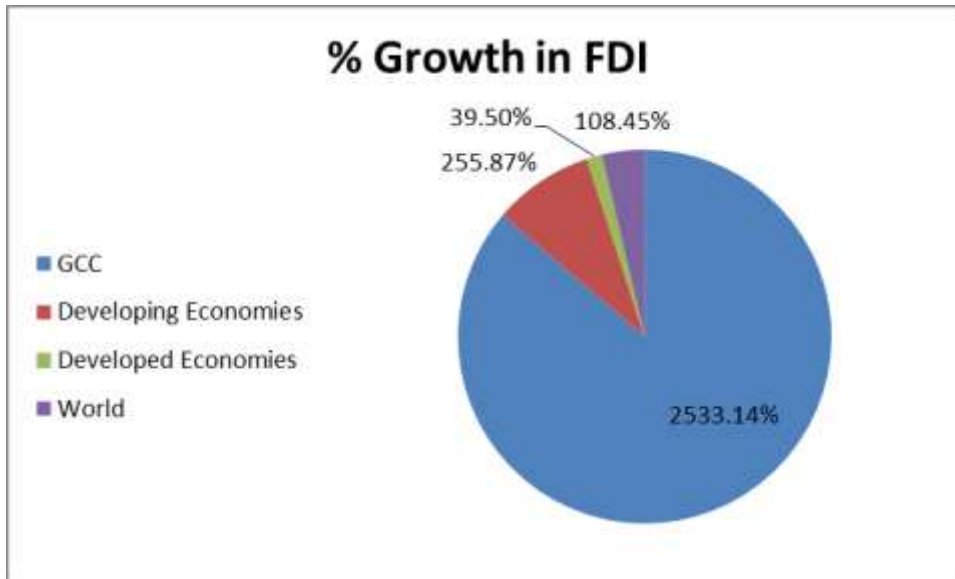
Figure 1: Average Increase in FDI Inflows over the period 2002-2010—Developing, and developed Economies
Source: UNCTAD database (2015)

Figure 1 shows that the increase in FDI inflows to GCC countries during the period of 2002 to 2010 was remarkably higher than the overall average increase in the whole world. This boom was mainly an outcome of several modifications in the legal system imposed in the area. The most remarkable transition in regulations took place when Saudi Arabia adopted the Foreign Investment Law ("FIL") in 2000. According to Toone (2010), " "The FIL provides equal tax treatment to foreign and local investors, permits 100 percent foreign ownership of projects, and gives foreign investors access to attractive finance from the Saudi Industrial Development Fund."(p. 29). Moreover, Qatar and UAE took several similar measures with UAE implementing a Federal Companies Law that allows for 100% foreign ownership in some sectors. As for Kuwait, it reduced the marginal tax rate for multi-national foreign companies from 55% to 15%.

A state of gradual decline in FDI trends began afterwards. The most prominent drop occurred with the financial crisis that took place in 2008. Little recovery took place

and signs of revival had arisen in 2010 only before the Arab Uprisings erupted. The first step towards the downfall in FDI trends was a major decline in project announcements in the MENA region. For instance, the lowest level of projects was announced since 2004 which is equivalent to 666 projects amounting to 3o billion euros.

Despite all the chaos taking place in the major countries shaping the MENA region, foreign countries did not entirely stop their investments to region. This perception has no obvious explanation. However, a rational explanation can be that these countries have a very solid knowledge and experience in the region which allows them to assess risk without preventing them from investing. It is important to note that not all countries were able to record an FDI level similar to their average performance after the uprisings erupted in 2011. In Egypt, for instance, the number of announced FDI projects did not increase compared to 2011 levels. In Lebanon and Jordan, no noteworthy changes were observed in FDI inflows levels pre or post 2011 irrespective of their sensitive location and complex political relations with countries at conflict. Tunisia, Morocco, and Algeria also experienced extensions in projects announced which in turn lead to an increase in FDI levels. Progress in the stock of FDI post 2011 burst of tensions was evident in sectors like aeronautics and engineering industry. Other sectors were of sound improvement such as software, agribusiness and food processing, distribution and business services sector. This was mainly due to the decline in European and American FDI.
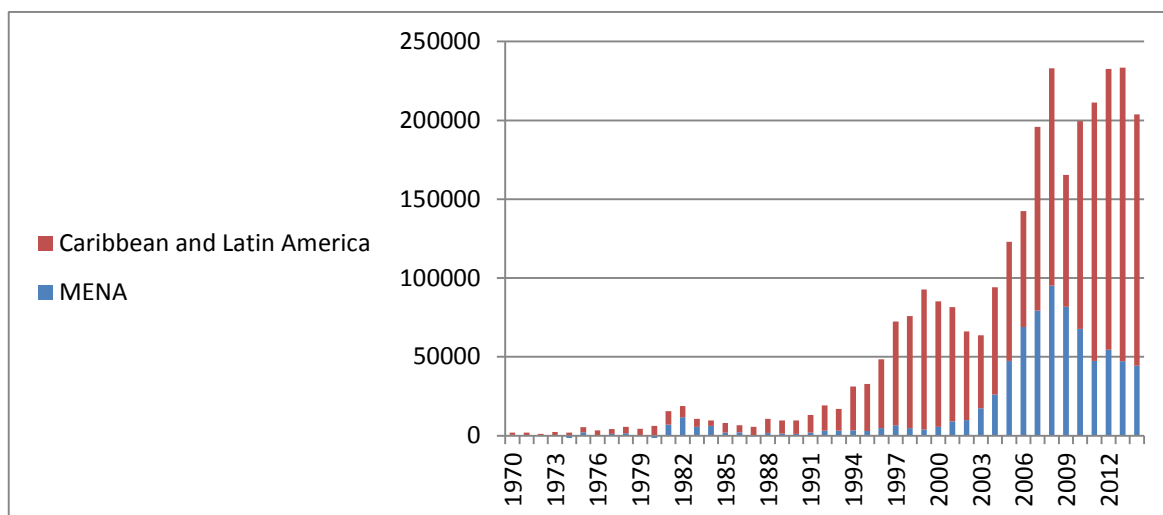
Figure 2: FDI inflows to MENA and Caribbean countries, 1970-2014
Source: UNCTAD database (2015)
Note: Only 16 countries of the MENA region were observed in this graph.

As it is evident in the graph, FDI before the 1990s were almost negligible in the

MENA region. It was only up till the wave of globalization hit the world in the late

1980s that FDI started flowing to the region. Thus FDI stands as a main element of

globalization. It was the period when complicated trade barriers were lifted and the

spread of information and communication technology began (Heshmati & Addison,

2003). The graph compares the FDI levels of the MENA region to the Caribbean and

Latin America. The reason the MENA region in general or the Arab world in particular

is compared to Caribbean and Latin America is that those regions are categorized as

developing countries; countries that are suffering from similar socio-economic

difficulties and lagging behind the rest of the world in FDI attraction. FDI inflows to the

MENA region resumed prior to 2010/11. However, as it is observable in the graph, the

increase in inward flows of FDI in the Caribbean and Latin America is relatively larger

than any increases in the MENA trend. Inflows increased by 54% between 2010 and

2013 to the Caribbean and Latin America while the MENA region witnessed a 30%

decrease in FDI inflows during the same period. Similarly, the MENA region attracted about 6% of total FDI inflows to developing countries in 2013, compared to a much higher level of 13% in 2008.
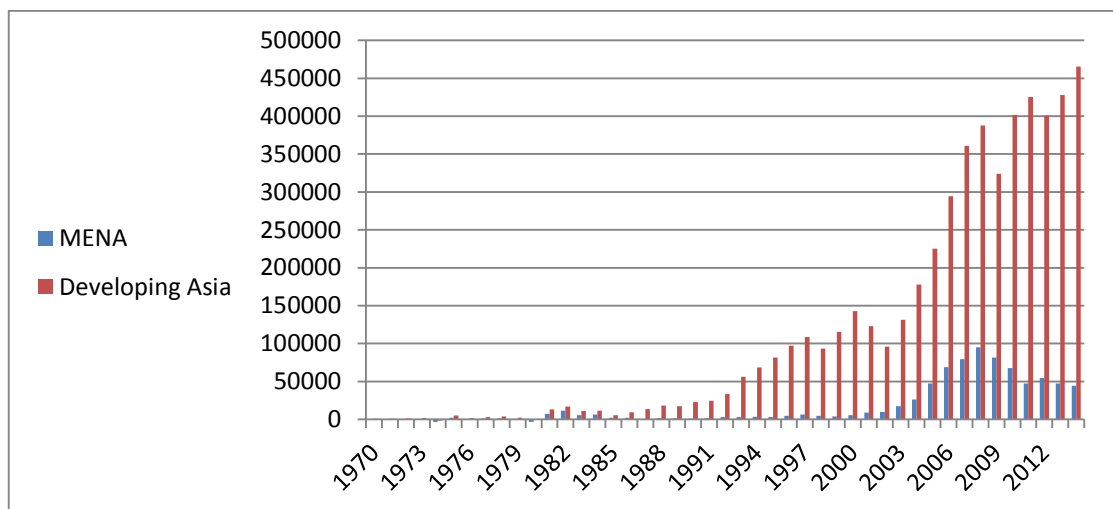
Figure 3: FDI inflows to MENA and Asia, 1970-2014
Source: UNCTAD database (2015)
Note: Only 16 countries of the MENA region were observed in the graph above.

This graph clarifies the share of the MENA countries from the FDI entering the developing regions compared to developing Asia countries. FDI flows to developing economies have been increasing over the past two decades. The highest level recorded was $681 billion in 2014, which accounted for 55 percent of global FDI inflows (UNCTAD Databases). Among the 10 top host economies five are developing countries. It is important to note that the majority of the escalation of FDI inflows primarily goes to Asia.

B. Macro-economic Fundamentals of the MENA Region

1. Growth as Percentage of GDP
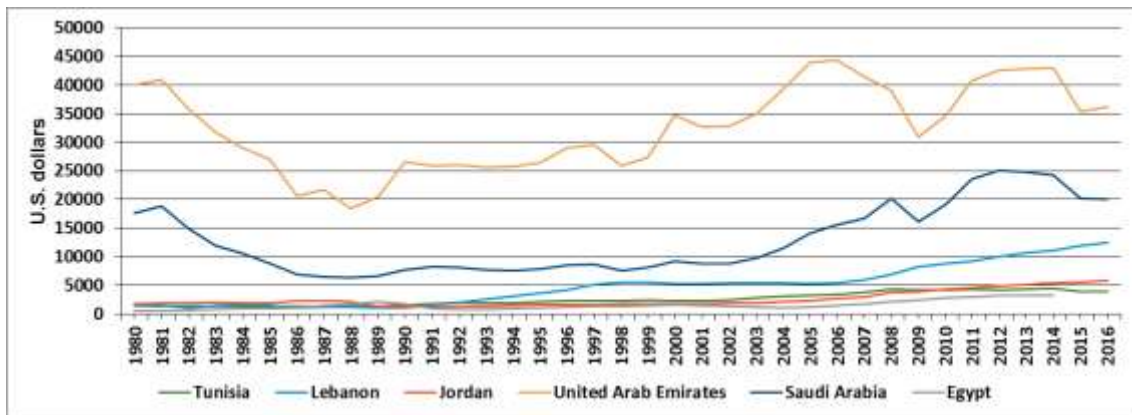
Figure 4: Gross domestic product per capita, current prices (U.S. dollars)
Source: International Monetary Fund

The average per capita GDP in the MENA region is around $2,000, which is to twice that of developing countries as a whole. This pulls the MENA to a higher ranking which allows it to compete to the average levels countries of Latin America and of the economies in transition. Countries with the highest levels of GDP are those of oil dependant economies. Saudi Arabia alone accounts for around one fifth of the region's total GDP. Three major collapses can be observed in the oil economies. The first was the oil-glut of 1980 where the markets of those countries witnessed excess supply with tremendously low levels of demand which triggered a recession leading to lower levels of GDP.The second was 2008-2009 global financial crisis that led to a downturn in oil prices which decreases the revenues from oil leading to a decrease in the total deficit. In addition, a major drop in oil prices occured during 2014 that decreased oil revenues for these countries, leading to a lower GDP.
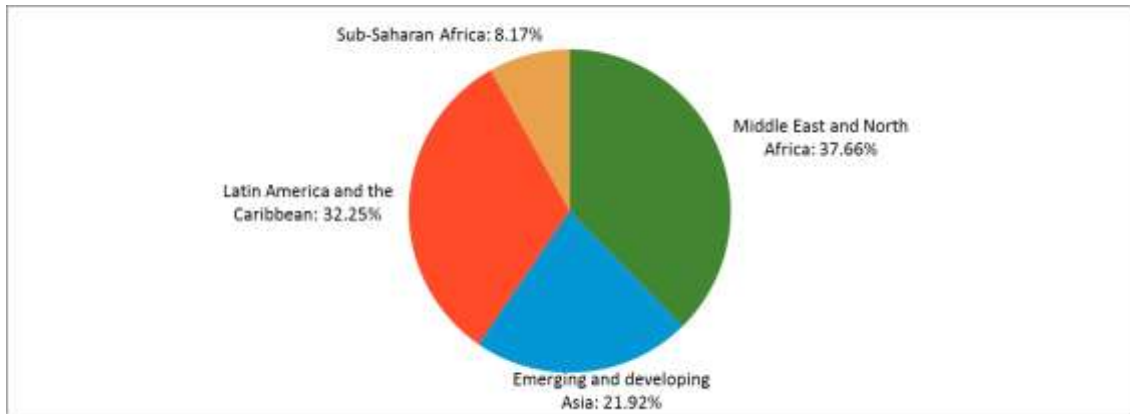
Figure 5: Gross domestic product based on purchasing power-parity (PPP) per capita GDP (Current international dollar)

Source: International Monetary Fund

This figure portrays a comparison of MENA's growth in 2015 with multiple other developing regions. The MENA's gross domestic product rate appears to be better than that of most developing regions such as Latin America and the Caribbean, Sub Saharan Africa, Emerging and developing Asia. This can be attributed to a rise in public and private consumption levels resulting from expansionary fiscal policies. Moreover, political tensions in certain areas ameliorated leading to crowding-in investments especially in Egypt and Tunisia. Other factors were also vital for the upsurge in GDP levels of the MENA region in 2015, including sustained subsidy reforms in Egypt, Yemen and Jordan, and a recommencement of oil production in Libya which augmented growth to 5.2 percent in 2015

2. Inflation Rates
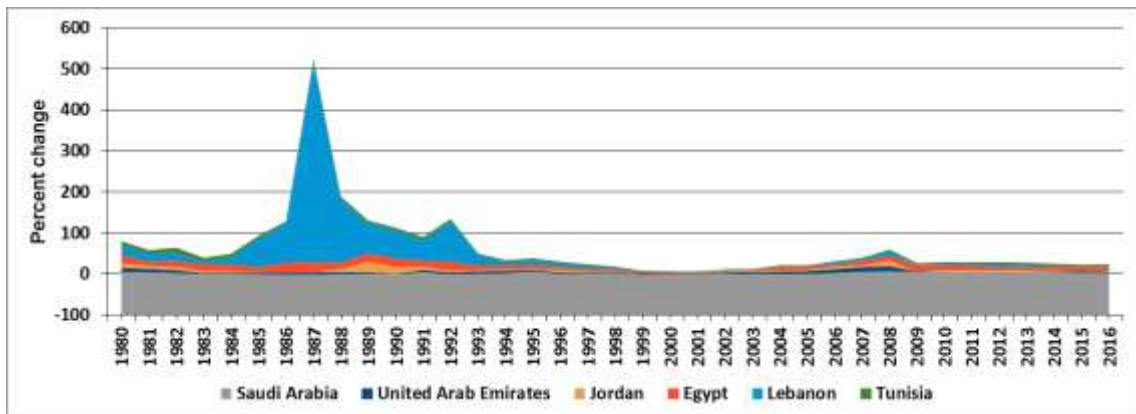
Figure 6: Inflation, average consumer prices (Percent change)
Source: International Monetary Fund

MENA countries have always worked on taking restrictive measures in order to control their inflation levels. Inflation in oil-exporting countries has always been lower than in non-oil exporting countries due to several measures including tighter monetary policies, pegging most of these countries' currencies to the U.S. dollar. Pegging currencies to the U.S. dollar results in lower volatility levels and internal currency shocks. Moreover, remittances to MENA countries that come against no economic value have played a major role in keeping the average level of inflation at a tolerable level. These remittances operate through the balance of payment listed as "safety valve". (El-Erian, p.15, 1997)

As for the persisting negative inflation rates in Saudi Arabia, three explanations may be valid; the first rational explanation is that deflation can be due to an aging population in Saudi Arabia where people tend to save more than invest. "The proportion of people in Saudi Arabia aged 60 or more is predicted to be 25 percent of the total population of 40 million by the end of 2050."(Abusaaq, p.1, 2015). Another valid explanation is that Saudi Arabia has the lowest debt-to-GDP ratios which accounted for

less than 2 % in 2014. Stingy low levels of debt become deflationary at a certain point. Outstanding loans have to be repaid with funds that revive investment and consumption. Otherwise, debt would create economic snags that require robust policies like negative interest rates to induce more borrowing and spending in the economy.

Egypt worked on reducing inflation rates during the period of 1989-1994 through more solid monetary and fiscal policies. Lebanon is considered to be a country of high inflation levels in the MENA region. This is attributed to an expansionary growth in the money supply that is more rapid than growth of the economy itself. For instance, the Central Bank of Lebanon injected $800 million dollars in 2014 alone. Moreover, the hyperinflation Lebanon confronted in 1986 was primarily due to growing unsustainable public sector budget deficits, increasing government spending with lower revenues from all major sectors during the civil war. This has led the Lebanese pound to depreciate by around 85 %.
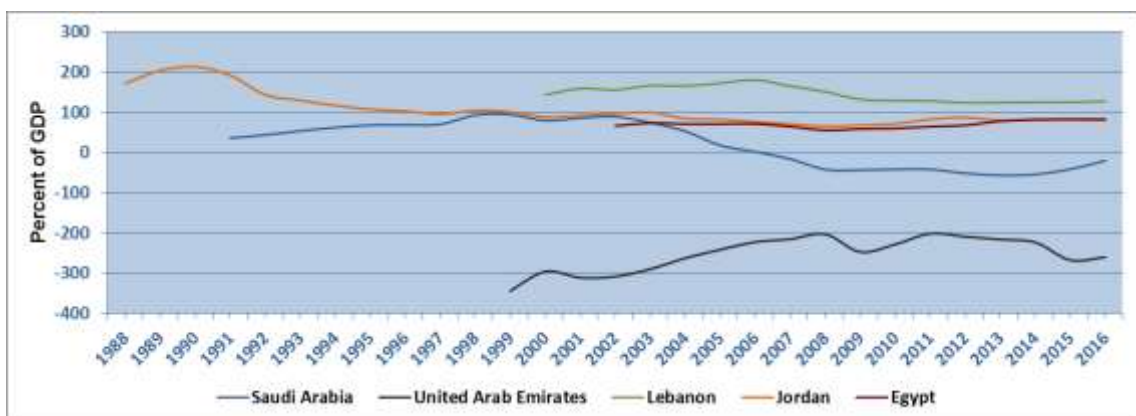
3. Debt

Figure 7: General Government Net Debt (Percent of GDP)
Source: International Monetary Fund

The general government debt of MENA countries increased by $44 billion throughout the period of 1989 to 1994. One third was accounted for oil-exporting countries particularly the ones who got involved the 1990–1991 regional conflict that shook the Gulf and left specifically Kuwait in utter disorder. Saudi Arabia got directly involved in the Iraqi invasion in Kuwait, sending armed troops to Kuwait resisting the Iraqi raid. This in turn led Saudi to get involved in bank loans in the aftermath of the conflict which the country finally managed to repay. Moreover, the significant low debt levels of Saudi Arabia along with its massive international oil reserves are the major reasons why Saudi is capable to withstand the drastic fall in crude prices without having its economy collapse in the short run. The external debt of the region as a percentage of GDP remained relatively stable. Debt in oil exporting countries, although relatively small, increased gradually, compared to that of non-oil exporting countries that declined from 100 percent in 1989 to 69 percent in 1994.This decline was mainly a result of developments in Egypt, Jordan, and Morocco. Reductions in the stock of debt granted by official mutual creditors in Egypt took place in the early 1990s leading to a major decline in debt levels. Jordan drove its economy to firm debt-reduction procedures with commercial banks and including debt rescheduling. In addition, Jordan was granted debt forgiveness by some of its bilateral official creditors. Increase in debt service is pushing Lebanon's public debt to higher levels which accounted for about 145 % of GDP in 2014. Another factor contributing to higher debt levels is reduced transfers to Electricité du Liban (EdL) from falling oil prices which amounts to 40 percent of Lebanon's gross public debt.

4. Budget Deficits
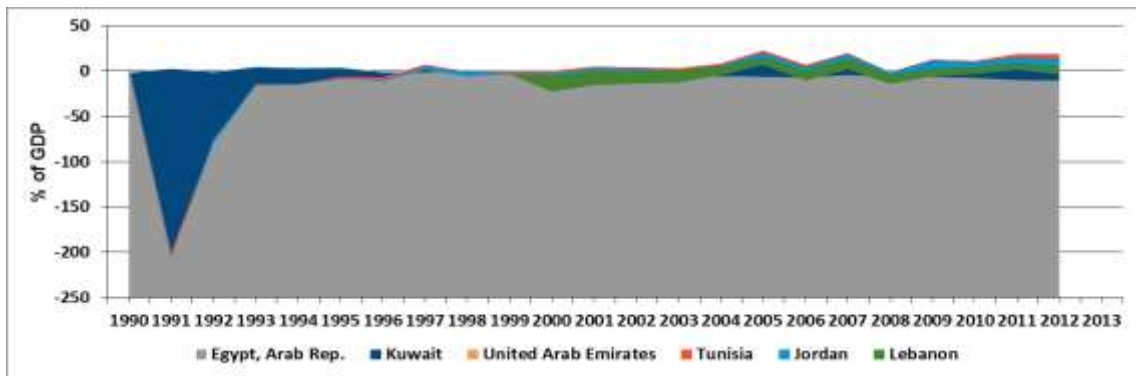
Figure 8: Cash Surplus / Deficit (% of GDP)
Source: World Bank 1

The graph above explains the overall budget deficit and the fundamentals of revenue and expenditure patterns behind them. Fiscal deficits in the MENA region are considered to be large according to international standards. Major drop in oil prices during the period of 1989-91 led to a sharp deteriorations in public finances in oil-exporting countries. Countries of the MENA worked on addressing fiscal imbalances through financing deficits by adopting of multiple adjustment measures including: running down foreign assets, cutting public and private expenditures, enhancing revenues through refining tax systems and inducing subsidy reforms, which declined budget deficits by 1½ percentage points to below 8 percent of GDP in 2014 . However, cuts in expenditures, particularly capital expenditure and fiscal tightening proved unsustainable in different countries and was quickly reversed. By 1994, both oil-extracting and non-oil extracting countries managed to reduce their fiscal deficit to about 5 percent of GDP. However, deficits gradually started to diverge between both sets of countries to reach a combined budget surplus for 2014 of 4.5 percent of GDP in the GCC in 2014 opposed to fiscal deficit in 4.75 % of GDP in non-GCC countries.

On individual levels, Kuwait faced a severe budget deficit during the 1990 invasion where its economy was sunk by military spending and almost negligible revenues due to harsh war conditions. As for Saudi Arabia, decline in oil prices smashed the economic structure on so many levels. Oil revenues declined leading to a slowdown in money and credit growth slowed, exports and imports, and government spending leading fiscal and external surpluses to deficits. Lebanon is a country that has been struggling with budget deficit for over 9 years in a row. The peak of this deficit was of $4.22B in 2013. The latter narrowed down by 27.18% in 2014, to deteriorate again in 2015.

C. Threats to the Economic Welfare of the MENA Region

Upon having an inclusive evaluation of the welfare of the MENA economy in 2016, it is relatively crucial not to mention the vicious outbreak of Islamic State of Iraq and Syria crisis resulting from the 2011 Syrian war. The advancement of ISIS on six economies of the Levant including Egypt, Iraq, Jordan, Lebanon, the Syria, and Turkey shook the MENA region adding more complexities to a zone that has already been in economic disorder for decades. What the countries actually wanted out of the uprisings they led were massive reforms that would pull them out of a harsh reality they were living. However, they did not see any of the tremendous social, human, and economic costs they are paying up to this moment coming. One impact ISIS expansion primarily led to was disturbing the trade routes across the Middle East. Prior to the expansion of ISIS, Iraq was considered to be Turkey's second biggest export market after Germany and Syria relied on Iraq as a main source of export revenues.

	Population	Labor	Transport					
			Turkey	Egypt	Jordan	Lebanon	Syria	Iraq
Turkey	0.9	0.8	0.0	3.5	-18.3	-35.2	-18.4	-
Egypt	0.2	0.1	5.9	0.0	12.2	-10.2	2.5	3.6
Jordan	2.5	2.3	-19.5	11.1	0.0	-32.9	-15.7	-8.5
Lebanon	19.5	15.4	-16.2	10.9	-11.3	0.0	-13.4	-7.3
Syria	-20.7	-19.0	-23.8	-4.9	-20.2	-33.4	0.0	-
Iraq	7.3	7.6	-9.2	4.2	-	-15.0	-8.1	0.0

Table 1: Population, labor force & transport cost shocks as an outcome of conflict in the Levant (%)
Source: Ianchovichina and Ivanic (2014)

Trading and transportation costs exceedingly rose in countries of deteriorated trade routes leading to a lower contribution of trade to GDP in those countries. The escalation of transport costs is reasoned to the deteriorations in the efficiency of shipping goods from each of the injured countries.(Ianchovichina & Ivanic, 2014).
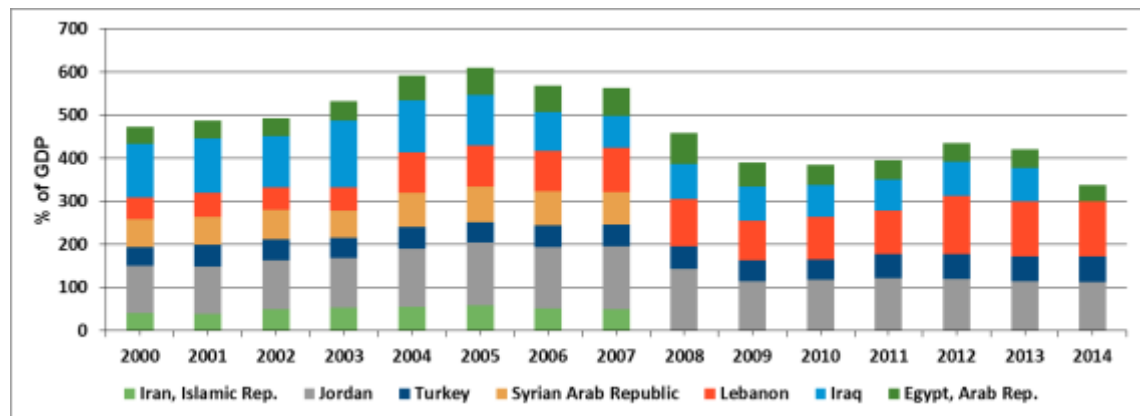

Figure 9: Trade (5 of GDP)
Source: World Bank

The above graph shows how trade dropped in most of the countries affected directly by ISIS invasion or indirectly by the economic spillovers. Total trade as percentage of GDP was of very high levels during the period of 2000 and 2012 due to the increase in Turkey's intra-regional exports activity. By this point Syria relied

heavily on Iraq for export revenues .The graph also suggests an almost negligible

percentage of trade to GDP in Iraq during 2014. This is due to the termination of the

country's North trade routes. According to the World Bank, Iraq receives around 25 %

of the total imports it used to receive before the ISIS crisis.

	Turkey	Egypt	Jordan	Lebanon	Syria	Iraq
Direct per capita effects of war	-0.5	-0.1	-1.4	-10.6	-14.0	-16.1
Output effects	0.0	0.0	0.0	-0.1	-6.3	-12.6
Capital Destruction	0.0	0.0	0.0	0.0	-5.4	-0.1
Trade cost escalation	0.0	0.0	0.0	-0.1	-0.1	-0.2
Population effects of refugee movements	-0.9	-0.2	-2.5	-16.4	20.8	-6.1
Per capita effects of trade disintegration	-1.4	-9.0	-5.8	-2.2	-8.6	-12.0
Direct aggregate effects of war	0.3	0.1	1.0	6.4	-30.7	-10.7
Cumulative effects in US$ 2007	-6,510	-10,483	-834	912	-12,280	-3,997

Table 2: Welfare effects of war in the Levant (%)
Source: Ianchovichina and Ivanic (2014)

It is clear that the persisting ISIS conflict harms significantly all economies of

the Levant. As for the cumulative effect of ISIS upheaval, it was strongest in Iraq.

Population effects of refugee movements were most apparent in Lebanon with minimal

effects in Egypt.

CHAPTER IV

RESEARCH METHODOLOGY

A. Theoretical Framework

It is important to note that in the case of FDI determinants there is no clear theoretical framework that guides any empirical work in this field. There are no standardized determinants of FDI from which consistent results can be driven out. None of the studies done by researchers have a definite outcome especially that they worked on only a small range variables at a time. Results obtained are proved to be spurious due to the mere fact that explanatory variables were observed to be correlated to FDI inflows in different signs.

Nevertheless, there are a couple of theories of which researchers and economists take as a starting point to build on their research methodology. A very relevant theory that can relate to FDI investigation is the Neoclassical theory of capital flows. This theory states that capital is supposed to flow from rich countries to poor countries under the condition of perfect capital mobility causing convergence in prices across countries (Manzocchi & Martin, 1996). Another theory that would relate to FDI research is the International Production theory introduced by John H. Dunning in 1980. The Production theory elaborates precisely on international production which is equivalent to FDI, restricting the decision taken by enterprises to involve in such investments to three main factors: "first, the extent to which it possesses (or can acquire, on more favorable terms) assets1 which its competitors (or potential competitors) do not possess; second, whether it is in its interest to sell or lease these assets to other firms, or make use of-internalize-them itself; and third, how far it is profitable to exploit these assets in conjunction with

the indigenous resources of foreign countries rather than those of the home country." (Dunning, p.1, 1980). Many scholars also base their empirical inquiries on the market imperfections theory developed by Stephen Hymer in 1970. The theory focused on countries in which economies are manipulated by monopolies. The presence of high levels of imperfect completion causes firms to restrict their production levels in the home country in order not to increase domestic prices which is in all terms against monopolies' norms. This leads firms to invest abroad with their excess capacities they are left with (Hymer,1970).

Moreover, the production cycle theory introduced by Vernon in 1966 was developed to explain different types of investments performed by the U.S companies in Western Europe prior to World War Two especially in the manufacturing industry. This theory helped economists reflect different case studies on other regions of the world. Vernon divided the production cycle into three major phases: innovation of the new product, development of the product till it is fully mature, and standardization of the product. The theory explains of the production that after World War Two, demand for manufactured goods significantly increased in Europe particularly products of the USA industry. As a result, American firms began exporting and investing in Europe due to presence of advanced technological advantages in their industry which was their competitors lacked back then (Vernon, 1966). There is also the theory of exchange rates in imperfect capital markets that scholars relate to upon facing high volatility of exchange rates in the economy. Takao Itagaki and David Cushman empirically tested the effect of uncertainty in exchange rate levels on FDI in 1981 and 1985 respectively. Results obtained by Cushman showed that a higher level of real exchange rate lead to FDI outflows in a country. Moreover, appreciation of foreign currencies especially,

currencies of host economies generate lower levels of FDI outflows (Cushman, 1985).

On the contrary, this theory is incapable of explaining concurrent FDI between

countries with different currencies.

B. Determinants of Foreign Direct Investments: Explanatory Variables Chosen

Building on the insights of the literature given, the following explanatory

variables were chosen as main determinants forming Foreign Direct Investments to the

Middle East and North African countries. This section tackles each of the major factors

correlated with inward FDI flows. Insights on the FDI determinants are debated and

inclusive hypothesis for the MENA region are formulated.

1. Inflation Rates

Inflation volatility denotes the overall macroeconomic stability a country is

enjoying. It also reflects internal or external shocks to an economy. High inflation rates

in an economy are indication of somewhat high uncertainty in the markets. Moreover, in

such a case, markets would suffer from costs escalations, which make it difficult for

foreign enterprises to invest (Grosse and Treviño, 2005). Thus, foreign direct

investments inflows are expected to decline in economies with high inflation rates.

Hypothesis 1: Inflation rates are negatively associated with FDI inflows.

2. Revolutions

Up to this time period there wasn't a study that thoroughly covered the role of

revolutions in the inclination of FDI inflows towards the MENA region especially in the

light of Arab revolutions raging throughout the region. Several case studies on the

determinants of FDI were performed on countries targeted by the revolutionary

upheaval. However, these studies didn't take revolutions as an explanatory variable in

their model. They limited its usage to a mere event where statistics prior and post

revolutions are compared. Bannour (2015) conducted a study on FDI determinants in

Tunisia after the Arab Spring or what is known as the Jasmine revolution had hit it in

2011. Bannour only highlighted the economic efforts Tunisia did in order to remain an

attractor of FDI after the Jasmine revolution (Bannour, 2015). In the shadow of FDI

figures in the MENA region, revolutions are expected to have a negative effect on FDI

inflows.

Hypothesis 2: Revolutions are negatively associated with FDI inflows.

3. Trade openness

This explanatory variable clarifies the degree of trade liberalization found in a

host country. Previous literature has found a positive correlation between open trade

policies towards foreign investments and the volume of FDI flowing to a country

(Asiedu, 2002; Morisset, 2000). In a paper written by Harinder Singh and Kwang W.

Jun in 1995, exports' potential in a county proved to be the only significant determinant

in a 31 developing countries model. The correlations between the two factors also

verified a positive correspondence between them. Nevertheless, there is a discrepancy

on the criteria of measurement of this variable. Quantifying   for trade openness can

have several tracks including the measures of trade trail and the measures of trade

restrictions (Yanikkaya, 2003). However the most common path examined is the

measurement of trade; specifically the trade volume as percentage of GDP. This

indicator accounts for the e sum of exports and imports of goods and service divided by gross domestic product. It is expected to prove a positive association with FDI inflows.

Hypothesis 3: Trade openness is positively associated with FDI inflows.

4. Oil Prices

There are two theories regarding the contribution oil prices have in explaining the FDI inwards trend to a country. The first theory states that higher oil revenues makes investments in the field of oil and gas more attractive to multinational foreign enterprises leading to higher FDI to the host county. While the other theory suggests that higher oil prices generates additional government revenues for oil producing countries leading to budget surpluses. The surpluses created are a resource for these governments to do direct foreign investments itself abroad tightening policies for inward FDIs towards it. However, the second theory is far from the reality of the oil exporting countries in the GCC since the effect of higher oil prices needs a very long time to be manifested in budget surpluses. Nevertheless, evidence of a positive relationship between high oil prices and high FDI inflows in the MENA region was detected by Rogmans & Ebbers (2013).

Hypothesis 4: World oil prices are positively associated with FDI inflows.

5. Market Size

Market size or the capacity of a country's current market to absorb FDI is determined generally by a country's levels of GDP (Chakrabarti, 2001, Dunning, 1980). The presence of high income and wealth in a country is more likely to attract more FDI to it since such markets it infers higher levels of demand resulting in higher sales profit

to investors. However, there is a controversial view that the labor force in countries with high levels of GDP tends to demand higher levels of wages which isn't a factor of attractiveness for foreign companies. Countries of the GCC which are of export-oriented economies serve as a suitable example for this scheme. Evidence of a positive and dynamic relation between high GDP levels and high FDI inflows levels has been detected.

Hypothesis 5: Market size is positively associated with FDI inflows.

C. Data and Methodology

This study uses annual panel data over the period 1970-2015 on six countries located in the Middle East and North Africa. As defined by Hsiao (2003), panel or longitudinal data is the set of data that covers multiple observations over a substantial time span. It benefits complex linear regressions by strengthening the efficiency of econometric estimates through decreasing the existing collinearity among explanatory variables and increasing the degrees of freedom. Moreover, panel data is used in accounting for the dynamics of change especially in cases of disturbing events such as economic crises and recessions. Panel data also controls for omitted variables and measurement errors (Hsiao, 1985). Panel data can be used in several fields including microeconomics and macroeconomics econometrics models. All of these factors contributed to the choice of panel data in our model.

Selected variables	Proxies	Source
Trade openness	Trade (% of GDP)	IMF
Market Size	GDP per capita(current US $)	World Bank
Inflation rates	Growth rate of the GDP deflator (annual %)	IMF
Oil Prices	Crude oil prices (current US $)	OECD factbook
Revolutions	Dummy variable: 1 in case of revolutions O in case of others.	-
FDI	Inward FDI stock (current US$)	UNCTAD

Table 3: Data Summary

In this model, data was implemented in STATA in order to estimate the effects of the determinants chosen on FDI in the MENA region. The sample includes countries that can be split into multiple categories of resource wealth and location division. Thus the model contains GCC countries (Kingdom of Saudi Arabia, United Arab Emirates), North African countries (Egypt, Tunisia) and Middle Eastern countries (Jordan, Lebanon). The dependent variable for this model is the net FDI inflows as a percentage of GDP. The table below summarizes the determinants chosen as explanatory variables to our regression, the proxies used to measure the determinants, and the databases through which the data was collected.

The following equation was set to implement on STATA:

$$\text{FDI} = c + \beta_1 \text{ (inflation rates) }_{i,t} + \beta_2 \text{ (revolutions) }_{i,t} + \beta_3 \text{ (trade openness) }_{i,t} + \beta_4 \text{ (oil prices)}_{i,t} + \beta_5 \text{ (GDP) }_{i,t} + \varepsilon_{i,t}$$

Ordinary Least Square was used to accommodate the presence of Panel data. The method through which the regression can be approached is either using The Fixed Effect Model or the Random Effect Model. The main difference between the two models is that the Fixed Effect Model accounts for any bias the independent variables might have on the dependent variable. Correlation between the explanatory variables

and the error term is a form of such biasedness. Omitted variable bias also serves as another example for the errors that might occur in OLS regressions. These inaccuracies are generated by unique and time-invariant characteristics entrenched in each explanatory variable. On the other hand, the Random Effect Model assumes that the discrepancies among the independent variable are assumed to be random and there is no need to control for them. Moreover, it presumes that there is no correlation between the error term and the explanatory variables.

D. Empirical Results and Analysis

1. Regression results through Fixed Effects Model

FDI = -4197.25 +50.06439 (inflation rates) i,t +-4066.945(revolutions) i,t +- 5.833379(trade openness) i,t + 75.4409(oil prices)i,t+ 0.4468257(GDP) i,t +4016.375

Results of Estimation: Fixed Effects		
Variable	Coefficient	P-values
Constant	-4197.25	0.015
Inflationrates	50.06439**	0.097
Revolutions	-4066.945*	0.011
Tradeofgdp	-5.833379	0.815
Crudeoilps	75.4409*	0.00
GDP	0.4468257 *	0.00
R Squared	0.2043	
Total Observations	203	
* significant at 5% level. ** significant at 10% level.		

Table 4: Fixed Effects Model Results

2. Regression results through Random Effects Model

FDI = -1936.326+ 20.47539 (inflation rates) i,t +-5186.541 (revolutions) i,t +-1.752848 (trade openness) i,t +108.1324 (oil prices)i,t+ 0.0868791 (GDP) i,t + 4016.375

Results of Regression: Random Effects		
Variable	Coefficient	P- values
Constant	-1936.326	-0.098
Inflationrates	20.47539	0.489
Revolutions	-5186.541*	0.003
Tradeofgdp	-1.752848	0.892
Crudeoilps	108.1324*	0.00
GDP	0.0868791*	0.035
R Squared	0.3428	
Wald chi (2)	102.74	0.00
Total Observations	203	
* significant at 5% level. ** significant at 10% level.		

Table 5: Random Effects Model Results

3. Choosing between Fixed and Random effects:

The choice between Random and Fixed effects depends on the results generated by Hausman test. The null hypothesis of the Hausman test is that the preferred model is of random effects rather than of fixed effects. Thus the alternative hypothesis is that the chosen model if of fixed effects. Hausman test also tests detects any correlation between the error terms and the independent variables (Torres-Reyna,2007).

4. Results of running the Hausman test

```
            —— Coefficients ——
                (b)           (B)          (b-B)        sqrt(diag(V_b-V_B))
               fixed         random      Difference          S.E.

inflationr~s    50.06439     20.47539       29.589            5.07908
  revolutions  -4066.945    -5186.541     1119.596                .
   tradeofgdp  -5.833379    -1.752848     -4.080531          21.28682
   crudeoilps    75.4409     108.1324      -32.69148          7.566746
          gdp   .4468257     .0868791       .3599466          .0877707
```

```
                    b = consistent under Ho and Ha; obtained from xtreg
           B = inconsistent under Ha, efficient under Ho; obtained from xtreg

   Test:  Ho:  difference in coefficients not systematic

           chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                   =        1.42
        Prob>chi2 =      0.9217
        (V_b-V_B is not positive definite)
```

Figure 10: Hausman test

Upon preforming Hausman test we observe probability of chi square. If the derived probability lies below 0.05 (5 % significance level) we reject the null hypothesis of favorable random effect model. Thus our choice in this case falls on the Fixed Effect Model.

The obtained chi square probability in our model is 0.92. Therefore we fail to reject the null; difference in coefficients is not systematic. The selected model is the Random effects model. Moreover, this result can be hypothesized prior to the usage of the Hausman test through comparing the results of both models. The Random effects model has a higher R-squared than the Fixed effects model. Hence, the Random Effects model is of a better fit than the substitute model where the independent variables in the Random model better explain the dependent variable.

5. *Empirical Analysis of the Random Effects Model*

FDI = -1936.326+ 20.47539 (inflation rates) i,t +-5186.541 (revolutions) i,t +-1.752848 (trade openness) i,t +108.1324 (oil prices)i,t+ 0.0868791 (GDP) i,t +4016.375

In the main regression of our model the most relevant explanatory variables have been included while controlling for issues of multicolinearity and heteroskedasticity. Table 5 represents the results of the Panel Generalized Least Squares regression through the application of random effects. R-squared obtained is 0.34. Thus the goodness of fit of the model constructed isn't of a very high level. This can be attributed to the fact that the MENA region is a dynamic area of constant transformations which makes accounting for the changes that would have direct effects on FDI inflows to the region quiet complicated. A Wald test statistic is performed to the Random Effects Model. Probability of Wald Chi test with 2 as a degree of freedom is zero. Thus we reject the null that all of the regression coefficients across both models are simultaneously equal to zero. Hence, at least one of the coefficients generated from the regression in the model is not equal to zero.

Further statistical results generated from the above equation and summarized in table 5 convey the explanatory power of the model chosen. The parameter estimates of $\beta 1$ proved to be positive however insignificant at the 5 % and 10 % level. This is inconsistent with hypothesis 1 where inflation volatilities would negatively affect FDI inflows. Thus upon framing their investment decisions, multinational enterprises do not take inflation rates into consideration especially in the light of multiple hedging criterion against such risks. The parameter of $\beta 2$ obtained is -5186.541. This coefficient is negative and significant at the 5 % level which is consistent with hypothesis 2 tested.

The outcome suggests that ever since the 1970 revolutions in the area of observation played a major role in shaping the FDI trends entering to the region. Revolutions include mass uprisings over an extended period of time, usually done by the people. Revolutions result in tangible economic, social and political change. Revolutions, uprisings and riots take place over an extended period of time which may lead to temporarily paralyzing the state and the undergoing projects. It takes a relatively long period of time for the purposes of revolution to be translated into reality. Since 2011, Libya has been sinking in violence and hostility, even after the former president Mo'ammar Al Qaddafi has been overthrown. Egypt suffers from economic and political instability with the military controlling more than half of the Egyptian economy and it is working its way towards more access to power and resources. Moreover, the estimator of β3 is negative and insignificant at the 5% and 10 % level. Thus, the above model suggests no relation between trade openness and FDI inflows to the region despite all the trade liberalization patterns that took globalization introduced to the MENA region. This contradicts with hypothesis 3 established. In addition the outcome is contradictory to previous literature in the field where Jun and Singh (1995) concluded that trade openness particular and export potential of a country have a twofold causality relation. Nevertheless, the coefficient of β4 implies a direct and significant relationship between crude oil prices and FDI inflows to the MENA region approving the assumption of hypothesis 4. There are several countries in the MENA region of tremendous oil wealth which makes them a main target of foreign investments during periods of strike in prices. Finally, the estimator of β4 positive and significant on the 5 % .This outcome supports hypothesis 4 providing further evidence that enterprises directing FDI are

selective of the markets of host countries. They basically seek out markets of unlimited

potentials and high levels of consumptions.

CHAPTER V

CONCLUSION AND POLICY RECOMMENDATIONS

In this paper, factors affecting the inward flows of Foreign Direct Investments in the Middle East and North Africa were thoroughly investigated for six countries over the period 1970-2015. Multiple panel manipulations were conducted in order to formulate accurate interpretations of the general trends of FDI in the area of study through a global perspective. Empirical assessment was based on the implementation of an Ordinary Least Squared regression that contains five theoretical drivers thought to have significance effects on investments attractiveness of the MENA region. These drivers include inflation rates, trade openness, market size, revolutions and market size. The MENA region is a combination of rich and poor, heavily and scarcely populated, large- and small sized countries of common aspects; nevertheless these countries have unlimited discrepancies in terms of market potentials, resource wealth, political stability and many other attributes that make research in the region relatively complex. Factors affecting FDI inflows in such a region are ambiguous and prone to constant modifications resulting from the dynamics. MENA countries did not involve much in globalization and international capital markets integration compared to other developing regions such as Latin America and the Caribbean. FDI inflows to the MENA region have outperformed only Sub Saharan Africa among other developing regions ever since the wave of globalization started reshaping the world's economic map.

The conclusions of this study are in line with some of the FDI main drivers previously found in the literature and contribute to new findings not previously derived. The findings show that factors affecting FDI trends are of diverse categories. In other

words, macroeconomic dynamics such as gross domestic product (GDP), which provides an overview of the market size, proved to have a direct and significant effect on FDI attraction. Moreover, socio-political aspects signified by revolutions in the observed model verified a destructive effect on FDI attraction in the MENA region. Nevertheless, financial factors also help designate foreign direct investments decisions in the MENA region. Thus oil prices had a positive impact on FDI inflows. These three results were abiding with the standardized hypothesis assigned. Based on these findings we can conclude that relatively large markets with high income wealth and high levels of oil reserves attract more FDI than markets lacking these features do. On the other hand, there are couples of findings that contradict with previous literature along with the hypothesis tested. Trade openness proved to be of no significance in our model. This is regardless of the fact that economists including Neaime and Marktanner(2009) have been suggesting that manufacturing export capacity would raise the levels of FDI inflows in MENA region. Inflation rates also had a negligible role in the explanation of FDI trends in our selected model. Note that the conclusions of this study do not relate to any of the traditional FDI theories previously discussed. These theories were generated in other regions whose aspects are incompatible with those of the MENA.

Nevertheless, these conclusions seem to be viable, which means our study is robust. Yet, the study has few drawbacks. Data accountability, especially in the Arab countries, is a crucial issue. This is the main reason behind eliminating some countries from our study. Several countries such as Iran and Iraq had either very scarce or no data at all published. Therefore, one of the drawbacks of our study is that it includes a relatively small number of countries. Also, lack of data led to the exclusion of determinants that are believed to be potentially significant in such models. The omitted

variables include the returns on stock markets. Theory suggests that higher market returns indicates a high economic performance in a country which in turn massively draws foreign direct investments into it. Our study was not able to include the returns of stock market variable since it covered a time span starting from the 1970s; nonetheless most of the financial markets in the MENA weren't developed by that time. Another drawback of this study is that it takes political risk from only one angle. The constructed model doesn't account for any external armed conflicts, wars, or any military spillovers that might disturb the security of a country. Moreover, the major drop hit the world's oil prices back in 2014 is supposed to have a severe effect on FDI inflows to the MENA region. However, this study was not able to account for this effect since it needed several years for the pros and cons to be evident. Future studies to be conducted in the upcoming years should measure the economic instabilities the sharp decline in oil prices created along with their direct impact on FDI inflows to MENA countries. In addition, future research can look further into different political risks and their effect on FDI inflows. Future studies can also include the returns of stock markets as a determinant; however they would have to limit their time span to the dates of data availability of these returns.

Although significant transformational efforts towards inward-attracting economic development strategies , the MENA regions still lags behind regarding its contribution to the total of the world's share of FDI inflows. Despite measurements of lower trade barriers, privatization of many public companies and foreign exchange markets deregulations, FDI investments to the MENA countries rose by a mild percentage. Thus MENA countries have to strive towards higher levels of growth and employment rates through structural reforms that would boost the investment

attractiveness of those countries. These structural reforms can include economic diversification, private sector and entrepreneurship development, and more openness and competition in different economic sectors and labor markets. It is important to note that political and security risk has been worsening the economic prospects of the MENA region for the last couple of years precisely in the Arab countries in transition. This kind of risk that is often depicted in the form of armed conflicts is one of the main that factors that has been hindering FDI inflows to the region, particularly in the sectors of non-oil tradable manufacturing goods and services which are the gate upon which markets of these countries integrate into world markets. Governments of the MENA nations should exert more efforts in order to restore political stability in the whole region which would eliminate the security risk. Moreover, policymakers should work on establishing rational and transparent regulatory and legal frameworks which guarantee fair shares to new entrants and privileged insiders. Business climate needs to also be enhanced through simpler business-related and administrative procedures. Finally, policymakers and government representatives must work on improving data collection of all FDI related figures and statistics through greater coordination of data collection techniques within and across countries.

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