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GEBZE TECHNICAL UNIVERSITY
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THE DETERMINANTS OF FDI IN THE LEAGUE OF ARAB STATES

ZUHAIR ARABI ELAMIN ALARABI
MASTER THESIS
DEPARTMENT OF ECONOMICS

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SUMMARY

This thesis investigates the determinants of FDI in the League of Arab States from 1970 to 2014. The League of Arab States consist of 22 nations that widely vary in geographical distributions, income, and natural resource endowments. The research seeks to define foreign direct investment in terms of its nature, trends, variables influencing it, and volumes of direct foreign investment in the Arab League nations. The study aims to identify ways in which these Arab League nations can boost their share of foreign direct investment. It uses a panel ARDL analysis and Pesaran's Pooled Mean Group (PMG) estimation. The estimation results for the full sample shows that human capital, capital stock, and openness have a statistically significant and positive effect on FDI, while the market size has a negative effect on FDI. The estimation results substantially vary between groups though. For instance, according to the geographic distribution, the market size has a negative and significant effect on FDI in Arab and Asian countries, while market size has a significant positive effect on FDI in Arab African countries. According to the income levels, the capital stock has a positive, significant effect on FDI in high-income Arab countries, while it has a negative effect on FDI in low and middle-income Arab countries. The nature of the relationship between foreign direct investment and the explanatory variables do not differ significantly from the expected results. Therefore, analyzing and identifying the determinants of foreign direct investment is extremely important for the Arab League countries to increase their share of foreign investment. Eventually, this study recommends a further improvement in both human and physical capital in Arab league nations due to their essential roles to attract FDI.

Keywords; Foreign Direct Investment, League of Arab States, ARDL, PMG¸ capital stock, openness.

ÖZET

Bu tez, 1970-2014 yılları arasında Arap Ligi Ülkeleri'ndeki doğrudan yabancı yatırımların (DYY) belirleyicilerini araştırmaktadır. Arap Ligi Ülkeleri coğrafi konumları, gelir ve doğal kaynak donatıları düşünüldüğünde geniş dağılım gösteren 22 ülkeden oluşmaktadır. Araştırma, Arap Ligi Ülkeleri'ndeki doğrudan yabancı yatırımlarının doğası, eğilimleri, etkileyen değişkenler ve doğrudan yabancı yatırım hacimlerini tanımlamayı amaçlamaktadır ve doğrudan yabancı yatırımları artırma yollarını belirlemeyi amaçlamaktadır. Çalışmada panel ARDL analizi ve Pesaran'ın Havuzlanmış Ortalama Grub (PMG) tahmini kullanılmıştır. Tam örneklem için yapılan tahmin sonuçları, beşeri sermayesinin, sermaye stokunun ve ticari açıklığın DYY üzerinde istatistiksel olarak anlamlı bir etkisi olduğunu gösterirken, piyasa büyüklüğünün DYY üzerinde olumsuz bir etkisi olduğunu göstermektedir. Tahmin sonuçları gruplar arasında büyük ölçüde farklılık göstermektedir. Örneğin, coğrafi dağılıma göre, pazar büyüklüğünün Arap Asya ülkelerinde doğrudan yabancı yatırım üzerinde olumsuz ve önemli bir etkisi varken, Arap Afrika ülkelerinde doğrudan yabancı yatırım üzerinde önemli bir olumlu etkisi vardır. Gelir düzeylerine göre, sermaye stokunun yüksek gelirli Arap ülkelerinde DYY üzerinde olumlu ve önemli bir etkisi varken, düşük ve orta gelirli Arap ülkelerinde DYY üzerinde olumsuz bir etkisi vardır. Doğrudan yabancı yatırım ile açıklayıcı değişkenler arasındaki ilişkinin niteliği beklenen sonuçlardan önemli ölçüde farklılık göstermektedir. Bu nedenle, doğrudan yabancı yatırımın belirleyicilerinin analiz edilmesi ve belirlenmesi Arap Ligi Ülkeleri'nin yabancı yatırım paylarını arttırması açısından son derece önemlidir. Sonuçta, çalışma, DYY'yi çekmek için temel rolünden dolayı Arap Ligi Ülkeleri'ndeki beşeri ve insan sermayesi konularına daha fazla önem verilmesi gerekliliğini vurgulamaktadır.

Anahtar kelimeler; Doğrudan Yabancı Yatırım, Arap Ülkeleri Ligi, ARDL, PMG, sermaye stoku, ticari açıklık.

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LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation	Explanation
2SLS	Two-Stage Least Squares
ALECSO	Arab League Educational, Cultural and Scientific Organization
ARDL	Autoregressive Distributed Lag Model
BMA	Bayesian Model Averaging
BRICS	Brazil, Russia, India, China and South Africa.
CD	Cross-Sectional Dependence Tests
CS	Capital stock
ECM	Error Correction Model
EMP	Employment Level
EX	Real exchange rate
FDI	Foreign direct investment
FMOLS	Fully Modified Ordinary Least Squares
GDP	Gross Domestic Product
GMM	General Method of Moments
HC	Human capital
HInc	High income
ICT	Information, Communication, and Technology
IMF	International Monetary Fund
IMF	International Monetary Fund
IPS	Im-Pesaran-Shin Unit Root Test
LAS	League of Arab States
LM	Lagrange Multiplier
LM adj	Lagrange Multiplier adjustment
LInc	Low income
MG	Mean group
MInc	Medium income
MNC	Multinational Corporation

Abbreviation	Explanation
MZ	Market Size
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
OPEN	Openness
PMG	Pooled Mean group
PWT	Penn World Tables
R&D	Research and development
RTA	Regional Trade Agreements
TFP	Total factor productivity
UAE	United Arab Emirates
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollar

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Foreign direct investment (FDI) has emerged as one of the major drivers of the integration of developing countries into the global economy. FDI is a type of investment led by multinational companies (MNC). Michael and Stephen (2012, p. 685) define MNCs "as organizations of companies or institutions that conduct and control production and service activities in two or more nations other than the nation of origin". Global FDI flows stay the most stable and preferred element of external finance in the previous decade, despite the worldwide economy's financial and economic crisis. FDI flows in developing countries stayed near to their level at around USD 671 billion in 2016, according to UNCTAD (2018), when FDI fell in the world. The flows of FDI to developing Asia increased to USD 476 billion in 2018 and fell by 21 percent in Africa to 42 USD billion, which is blamed for the sharp fall in oil prices and the persistent effects of the commodity bust.

FDI inflows to the League of Arab States (LAS) fluctuate from year to year in terms of value, as well as their share of total global FDI flows. This is primarily owing to the reality that the majority of FDI flows to Arab countries represent purchases from along with non-resident investors of existing assets in those countries. In addition, the climate of investment in Arab nations is sensitive according to local developments. Inflows of FDI to Arab countries are about 8 percent compared with the Arab population's acquisition of 20 percent of the world's total population in 2014, reflecting the need for greater openness to some Arab markets for FDI flows. There is also a need to continue strengthening the legal environment in some Arab countries as a factor that affects the flow of these investments. It also considers other factors such as training and providing skilled workers and increasing the size of the market and enhancing the degree of openness to the global economy through attention to exports and imports. Access to a share of FDI flows commensurate with Arab countries' natural and human resources first requires the study of FDI determinants and addressing the obstacles they face. Many international companies want to take advantage of Arab markets, which are significant markets for their products. Especially since the presence of these international companies in the Arab economies brings with modern technology in addition to advanced management methods. This study aims to estimate a standard

economic model of the determinants of foreign direct investment in the League of Arab States during the era of 1970-2014. The research finds that human capital, capital stock, and openness have the positive effect and directly contribute to attracting foreign investment in the host countries. The finds also confirm that some factors such as market size and exchange rate have the opposite effect in attracting foreign investment.

1.2 Motivation of Study

This research subject is important and valuable for the Arab league countries because it provides evidence for these countries to increase the volume of FDI inflows, to benefit from available natural resources, and to bring in advanced technology. The LAS consists of 22 countries, where there are different geographical distributions, some Arab countries are located in Asia, and others are located in Africa. At the same time, these countries vary in income, some are high-income countries while others are middle-income countries. Some countries in the Arab League have a huge wealth of natural resources, and FDI is a challenge for them to benefit from these resources. FDI is crucial because of the tangible or intangible asset portfolio of multinationals. Ajayi (2006) argues that these multinational companies are also active in the worldwide economy. The FDI share of the Arab countries is about 2.8% of the global investment in 2017, where it is considered a weak ratio compared to the possessions of those countries. It is therefore important to study the FDI determinants in the LAS to identify variables that have direct effects on FDI as the LAS can increase their share of foreign investment and benefit from the associated technology.

1.3 Research Objectives

The main aim of this thesis is to identify FDI in terms of its nature, trends, factors affecting it and the volume of FDI in the Arab League countries, and identify the means through which these countries can increase their shares of FDI.

1.4 Research Questions

Based on the motives of the thesis, the relatively small share and volume of global FDI flows to the Arab countries are not commensurate with the wealth of the Arab countries. The research gives further explanations and answers to the following questions:

a. What are the geographical distributions of FDI within the Arab League countries?
b. What are the determinants of FDI in the League of Arab countries?
c. Are the determinants of FDI uniform for all LAS countries and similar to the determinants of FDI for the other countries?
d. How can Arab League countries increase their share of foreign direct investment?
e. What are the countries that have the most foreign investments in the Arab League countries?

1.5 Importance of Research

Many Arab countries vigilantly seek to attract foreign capital as one of the main means of financing development and to inject the means of technology and modern management systems. FDI ultimately contributes to the speed of catching up with economic development and raising the standard of living. FDI is a safer way of financing than fixed loans as well as obtaining advanced technology. It also works to create job opportunities, raise the skills of workers, and open new markets for export. FDI has important effects on growth and prosperity. On another side, it can finance domestic investment and help the economy adapt to shocks and developments in economic terms, especially temporary ones. Given the numerous advantages of FDI for developing countries, it is essential to understand the determinants of FDI.

1.6 Structure of the Study

This thesis includes five chapters. Chapter 1 presents a background on the subject of the research and defines its objectives, the study of the problem, and its organization. Chapter 2 offers some information about the LAS, which includes 22 countries: (Algeria – Bahrain – Comoros – Djibouti – Egypt – Iraq – Jordan – Kuwait – Lebanon – Libya – Mauritania – Morocco – Oman – Palestine – Qatar - Saudi Arabia - Somalia - the Sudan – Syria – Tunisia – the UAE - Yemen). This chapter also presents detailed information on FDI flows in the Arab economies. Chapter 3 presents the previous literature on the FDI determinants and the studies carried out on FDI by determining the variables that can affect directly or indirectly for FDI in Arab countries as well as other countries. The Chapter 4 contains the data and methodology that this study uses and the explanation of the internal variables in the model. The Chapter 5

provides the estimation results of the assessment reached by the study. The last chapter summarizes the empirical results and discusses the effects of these results and provides some recommendations.

CHAPTER 2: BACKGROUND ON THE LEAGUE OF ARAB STATES

2.1. League of Arab States Establishment and Objectives

The League of Arab States (LAS) is founded in 1945 with only seven countries (Egypt, Iraq, Syria, Jordan, Saudi Arabia, Lebanon, and Yemen). Subsequently, the following states joined LAS, Libya in 1953, Sudan in 1956, Morocco and Tunisia in 1958, Kuwait in 1961, then Algeria in 1962, Bahrain, Qatar, UAE, Oman in 1971, Mauritania in 1973, Somalia in 1974, Palestine in 1976, Djibouti in 1977, Comoros is the last to join in 1993 as explained by Hadjivasiliou (2016).

LAS is an organization with members from many Arab nations on the continents of Asia and Africa. This organization has developed a charter containing many objectives such as coordination among members of Arab countries in various economic transactions, and the areas of meeting and health, and many others. The area of the Arab world is 13,953,041 square kilometers, thus the territory of the LAS is the second in the world after Russia and the fourth in terms of population after China, India, and the European Union. By mid-2018, the Arab region has a population of 422.7 million, representing 5.5% of the population of the world and growing by 1.9% in 2018.

Harb (2017) describes that LAS coordinates the development of a broad variety of programs aimed at developing these member states through the presence of many institutions of the League such as the Arab Organization for Education, Culture, and Science (ALECSO). As a place where the member states express political views, exchange views on issues considered by those States, collect information on conflicts and resolve them to limit them.

2.2. The Geographical Distribution of the LAS in the World

Figure 2.1 shows the geographical distribution of the Arab countries, which includes 22 countries located on the continents of Africa and Asia. Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen are located in Asia, while Algeria, Comoros, Djibouti, Egypt, Libya, Mauritania, Morocco, Somalia, Sudan, and Tunisia are located in Africa.

Countries of the LAS converge geographically, facilitating cooperation and trade among countries.

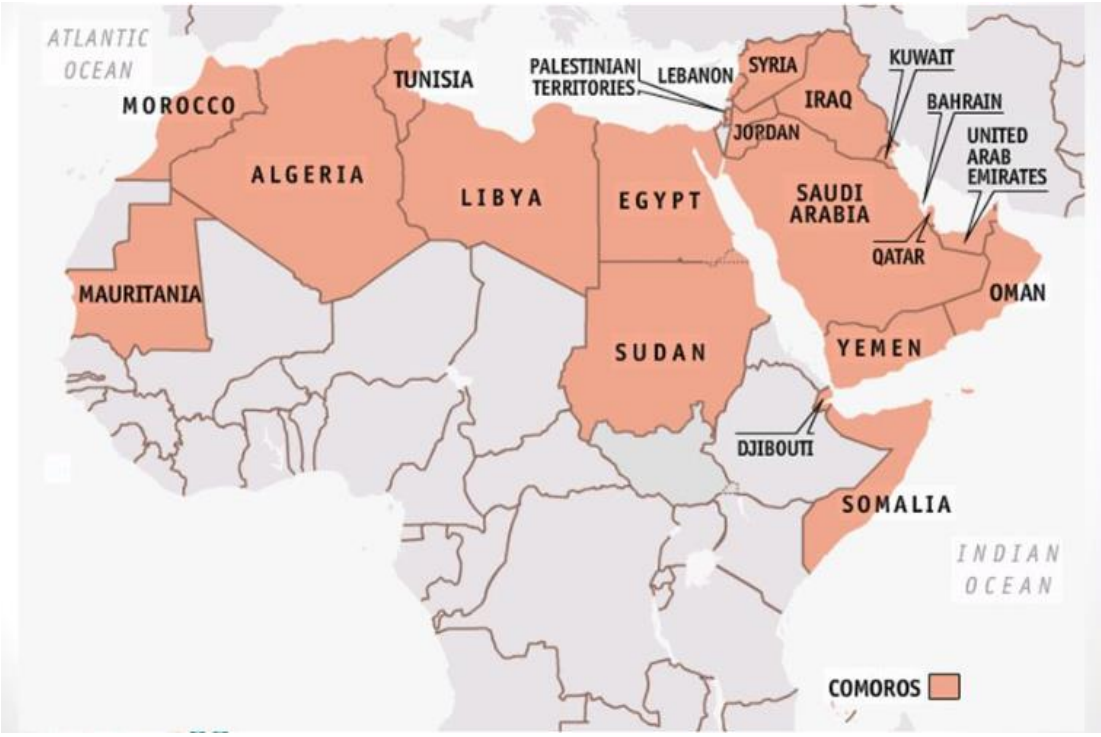

Figure 2.1: The Arab League States
Source: http://www.economist.com/blogs/dailychart/2011/02/arab_league_map

2.3. The LAS Sector of Economic Affairs

Since the establishment of LAS on 22 March 1945, joint Arab economic action has received the attention of the Arab States. In this context, the Social and Economic Council was established under Article VIII of the Treaty on Mutual Defense and Economic Cooperation among LAS. Achieving the economic and social objectives of LAS they established LAS Sector of Economic Affairs which is the Technical Secretariat of the Economic Committee of the SEC. The aim of the Economic Council is to achieve the Arab economic integration by activating trade movement among Arab countries and establishing the Arab Customs Union to reach the common Arab market and increasing inter-Arab Arab investment achieving infrastructure in Arab countries. It is also established for the purposes of promoting and facilitating trade and flows of investment in all economic fields, promoting sustainable development and preserving the environment and water, and developing policies to ensure adequate housing for Arab citizens, and providing and providing statistics, information and studies on Arab economies. It also aims to follow-up on Arab international economic developments

and oversees and prepare for the Arab International Forums established by the LAS with international countries and meetings with the purpose of deepening economic relations and increasing trade and investment.

The Economic Affairs Sector is also working to achieve the economic objectives set out in the Charter of the LAS and the Treaty on Mutual Defense and Economic Cooperation between the Arab League.

2.4. Foreign Direct Investment Flows

FDI is a form of investment and considered as a motor of employment and a means of enhancing technological progress. It also improves productivity and it eventually contributes to economic growth. FDI has several forms, such as mergers, construction of new facilities, profit from FDI and reinvestment.

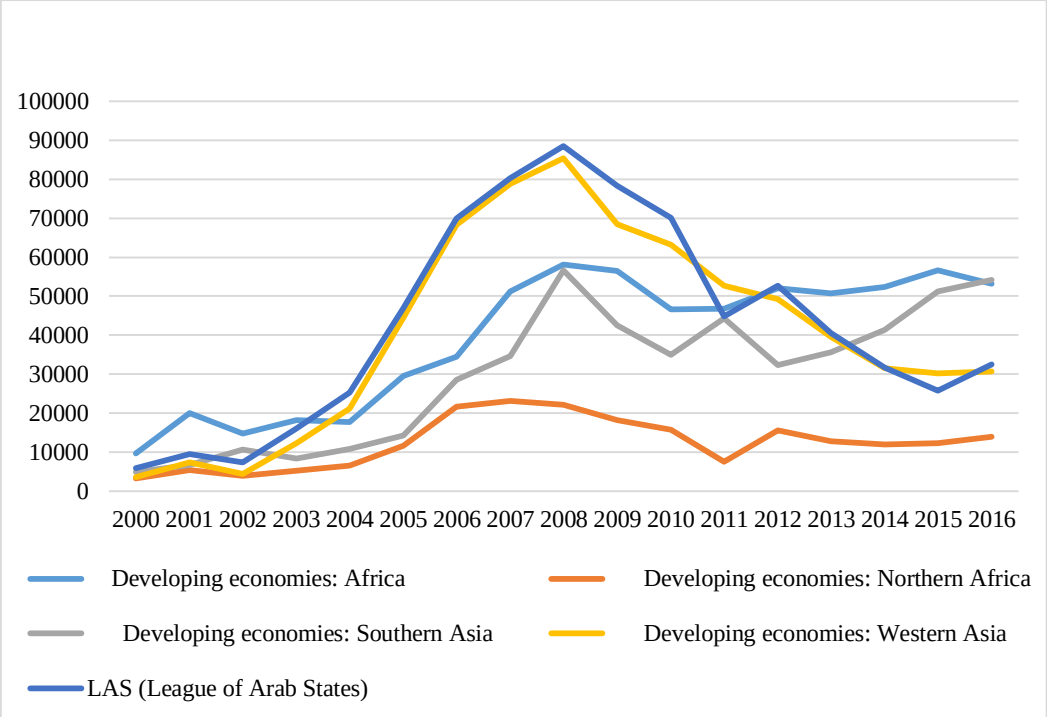

Figure 2.2: FDI Inflows

Source: UNCTAD, UNCTADstat

Figure 2.2 shows the FDI inflows for developing economies in Africa, Northern Africa, Southern Asia, Western Asia, and LAS from 2000 to 2016. According to UNCTAD, FDI flows to the developing economies during that period averaged USD 39,329.41 million in Africa, USD 12,390.74 million in Northern Africa, USD

30,110.97 million in Southern Asia, USD 40,671.1 million in Western Asia and USD 42,701.33 million in the LAS.

Figure 2.3 shows the outflows of FDI from developing economies in Africa, Northern Africa, Southern Asia, Western Asia, and LAS from 2000 to 2016. Developing economies have an average of USD 7,067.226 million in Africa, USD 1,930.664 million in Northern Africa, USD 8,702.905 million in Southern Asia, USD 20,953.85 million in Western Asia and USD 20,733.66 million in the LAS from FDI outflows.

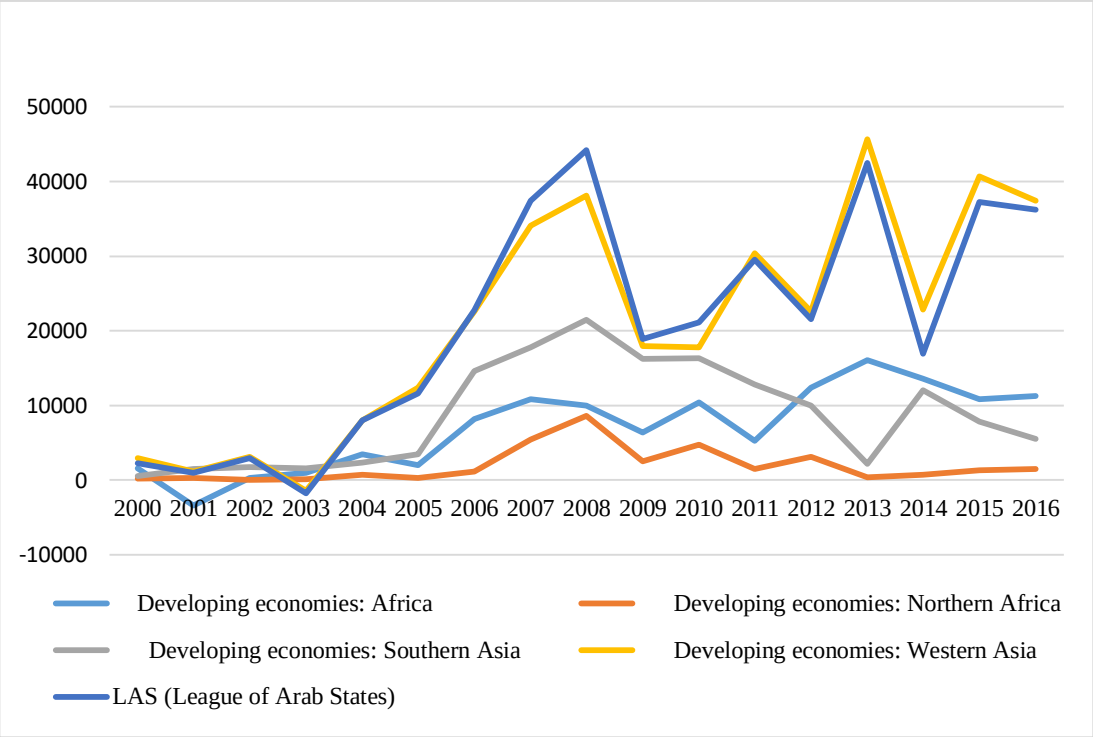

Figure 2.3: FDI Outflows

Source: UNCTAD, UNCTADstat

Table 2.1 shows some basic statistics on the LAS in 2017 taken from the World Bank. The table shows the total population is based on the factor of population, land area which is the complete region of a country, excluding inland water bodies, GDP per capita in constant 2010 USD, total rents on natural resources percent of GDP) which are the sum of oil rents, rents on natural gas, rents on coal (hard and soft), rents on minerals, and rents on forests, and FDI inflows. Egypt has the largest population, Algeria ranks first in terms of area, Qatar has the largest GDP per capita and Libya has the highest share of natural resources, and the UAE has the largest share of FDI inflows.

Table2.1: Data on various measures for the League of Arab States

	Population	Land area (Km sq.)	Per capita GDP (in constant USD)	Natural resources (% of GDP)	FDI inflows
Algeria	41,318,142	2,381,740	4820	14.706163	1,200,965,280
Bahrain	1,492,584	778	22,149	3.5151128	518,882,979
Comoros	813,912	1,861	1,355	2.3841248	165,001,125
Djibouti	956,985	23,180	---	0.6727497	8,607,994.47
Egypt	97,553,151	995,450	2,785	5.3996815	7,391,700,000
Iraq	38,274,618	434,128	5,450	37.978338	-5.032E+09
Jordan	9,702,353	88,780	3,238	0.7270136	2,029,718,310
Kuwait	4,136,528	17,820	33,546	37.138771	113,012,065
Lebanon	6,082,357	10,230	7,103	0.0012279	2,558,729,287
Libya	6,374,616	1,759,540	7,315	38.473724	---
Mauritania	4,420,184	1,030,700	1,303	24.115401	588,217,195
Morocco	35,739,580	446,300	3,288	1.6283058	2,680,109,856
Oman	4,636,262	309,500	15,977	23.487691	2,918,075,423
Palestine	4,684,777	6,020	2,591	---	203,376,299
Qatar	2,639,211	11,610	65,694	17.946621	985,989,011
Saudi Arabia	32,938,213	2,149,690	20,771	23.758154	1,421,300,326
Somalia	14,742,523	627,340	---	15.179809	384,000,000
Sudan	40,533,330	---	1,959	4.6226876	1,065,298,481
Syrian	18,269,868	183,630	---	---	---
Tunisia	11,532,127	155,360	4,304	2.4091447	809,696,519
The UAE	9,400,145	71,020	41,197	13.688736	1.0354E+10
Yemen	28,250,420	527,970	692	1.946,932	-269,850,000

Source: World Bank, World Development Indicators, 2019.

2.5. The FDI in the League of Arab States

2.5.1. Algeria

Between 2006 and 2011, Algeria has been economically stable and wealthy with natural resources, attracting decent amount of FDI flows. Most recently, European investment has declined sharply and Gulf investors have shown greater interest. With

the proliferation of transport and infrastructure development projects, there is also a noticeable reorientation of the FDI in the domestic market. FDI inflows decreased slightly from USD 1.64 billion down to USD 1.2 billion between 2016 and 2017, according to UNCTAD (2018) report. In the same period, the nation dropped in the ranking of nations getting the most flows from 74th to 83rd location. This decline is mainly owing to the fact that FDI is still extremely dependent on the Algerian gas and oil industry, whose prices fell in 2017. In 2017, FDI stock rose slightly, reaching USD 29 billion. Recently, China and Turkey have invested heavily in Algeria and have taken over the historic position of France as the country's largest investor.

2.5.2. Bahrain

Bahrain's Kingdom is open to foreign investment and has one of the region's highest stock-to-GDP FDI ratios. Following the aftermath of the 2008 economic crisis and the Arab Spring, inflows of FDI to Bahrain grabbed and increased by 213 percent in 2017 from a year ago to USD 519 million. The information, communication, and technology (ICT) sector have accounted for 54 percent of the FDI. Tourism, logistics and financial sectors are also attracting FDI. Saudi Arabia, Kuwait, India, and the UAE are the main investor countries. Total FDI stock was USD 26.5 billion 77.5 percent of GDP by the end of 2017 UNCTAD (2018).

2.5.3. Comoros

Despite the tax concessions and other advantages offered by the Comorian government, which seek to improve the business climate and institutional stability, FDI flows remain unsatisfactory and considered marginal. In 2017, these inflows amounted to only USD 9 million, which is consistent with historical tendencies but well below the 2011 exceptional peak USD 23 million according to UNCTAD (2018) report. Despite a rise in 2017, FDI's stock remains low. It is estimated to be worth USD 124 million 18.9% of GDP. Most foreign investments are received by the agricultural and fishing sectors. France, the United States, and South Africa are the main investing countries.

2.5.4. Djibouti

According to UNCTAD (2018) report, FDI flows to Djibouti reached USD 160 million in 2016 and increased to USD 165 million in 2017 after the highest foreign

investment inflow in 2013 was USD 286 million. In stock terms, FDI accounts for 93.6 percent or nearly USD 2 billion of Djibouti's GDP. Most FDI is directed to the service sector. Gulf countries, China Ethiopia, Yemen, the United States, Brazil, France, India, and Turkey are the main investors. Djibouti aims to build closer connections with India and the Cooperation Council of the Gulf.

2.5.5. Egypt

FDI inflows reduced by 9 percent compared to the prior year in 2017. In the same year, FDI inflows into Egypt amounted to USD 7,391 million according to UNCTAD (2018) report. Egypt is Africa's biggest recipient of FDI flows. The volume of FDI reached USD 109 billion in 2017. The UK is the largest investor. The FDI focuses on construction, manufacturing, financial services, real estate, and the oil sector.

2.5.6. Iraq

Over the years 2007-2017, Iraq attracted foreign direct investment at a good pace, mostly aimed at investing in the oil sector. Between 2003 and 2016, the new foreign investment projects in Iraq reached 320 projects or 2.62 % of the total investment projects received in the Arab countries. Then, as a result of the poor security situation in Iraq, investments began to reverse migration from Iraq, especially in 2014, which amounted to USD 10,176 million.

2.5.7. Jordan

Throughout history, we can say that the Jordanian economy benefited from the huge investments of the Gulf States, which continued to rise until 2006. But since then, because of the world economic crisis, FDI has declined, a geopolitical instability followed. FDI inflows amounted to USD 1.6 billion in 2017. And it has remained stable since then. The total FDI stock, estimated at USD 33.8 billion, represents 83.7 percent of Jordan's GDP according to UNCTAD (2018) report. The government of Jordanian has planned to take care of large-scale infrastructure projects (nuclear energy, transportation, and water) that require large foreign funds, especially to boost FDI flows.

2.5.8. Kuwait

Kuwait is always available to foreign investment and is opening up further to foreign capital, but FDI in the country is still underdeveloped. According to UNCTAD (2018) report, the lack of economic diversity and the fall in the price of oil since 2014 this resulted in a decrease in inflows in 2017. The decline started in 2012 and there was no recovery from Kuwait's investments. FDI inflows in 2017 reached to USD 301 million, down 28 percent from 2016 and 90 percent from 2012. In 2017, FDI stocks increased by 1.3 percent (11.9 percent of GDP) and reached USD 15.1 billion. Most investments are aimed at the gas and oil sector, real estate, financial services, and construction. Most foreign investment comes from the U.S. and China.

2.5.9. Lebanon

In September 2018, the FDI in Lebanon increased by USD 211.1 million, an increase of USD 141.0 million compared to the previous month. In December 2009, the FDI in Lebanon amounted to USD 872.5 million, the greatest level of foreign investment recorded in Lebanon, while the lowest FDI level in Mar 2011 was USD -34.7 million.

2.5.10. Libya

Libya has plenty of gas and oil resources and a strategic geographical position between Europe, Africa, and the Gulf country. The ongoing civil war, low-skilled labor force, and low economic diversification, however, pose a hindrance. In 2017, the FDI in Libya amounted to about USD 18.4 billion, or about 33.9 percent of GDP. The industrial sector in Libya relies on petrochemicals, oil refining, iron, and steel. Foreign investment in Libya is primarily targeted at the oil industry and is considered vulnerable to market changes.

2.5.11. Mauritania

Mauritania remains relatively at the margin according to the flows of foreign investment. FDI inflows in 2017 reached to USD 330 million, an increase of 21 percent compared to 2016 according to UNCTAD (2018) report. The total FDI stock, estimated at USD 7 billion, represents 139.8 percent of Mauritania's GDP. Most of the investments has targeted the oil sectors, iron ore, telecommunications, and gold mining

and the construction industry. China has shown a growing-investing in Mauritania. It is natural that their European trading partners (mostly Hungary and France) will continue their projects investment in the country (infrastructure and telecommunications).

2.5.12. Morocco

Following a decline in the global recession, FDI inflows to Morocco increased by more than USD 3 billion in 2014 and 2015. After dropping by 29 percent to USD 2.32 billion, inflows of FDI picked up to 2.66 USD billion in 2017 (15.4 percent y-y increase) according to UNCTAD (2018) report. FDI inflows increased by 25.9 percent year-on-year to USD 3.44 billion in 2018. France is Morocco's largest stock investor, followed by Spain, the UAE, and the United States. Production holds a higher share on stocks of FDI, followed by telecommunications, property, energy, and tourism.

2.5.13. Oman

In December 2017, the FDI in Oman increased by 2.9 USD billion, an increase of USD 2.3 billion compared to 2016. In December 2007, the FDI in Oman amounted to USD 3.3 billion, the highest level of foreign investment recorded in Oman, while the lowest FDI level in December 2015 was USD -2.2 billion.

2.5.14. Palestine

FDI inflows to Palestine reached USD 203 million in 2017 comparing to 2016, which decreased by USD 297 million. While the direct investment volume amounted to USD 2.7 billion in 2017, according to UNCTAD (2018) report. At an end of 2018, the FDI amounted to USD 2.72 billion, which means there is a net flow of about USD 200 million, according to the Palestinian Central Statistics Bureau. Foreign investment to the State of Palestine focused mostly on real estate, telecommunications, and financial services. Qatar is the region’s largest investor and Jordan. After the decision of the U.S. administration to halt all financial assistance to Palestine, the volume of FDI inflows has declined.

2.5.15. Qatar

FDI flows into Qatar have generally followed an upward trend in recent years, because of the country's political stability, a stable currency tied to the US dollar, high-

quality infrastructure and one of the world's lowest levels of corporate tax (10 percent). FDI flows in Qatar in 2018 amounted to a negative USD 2.1 billion with a sharp decline relative to 2017 (USD 986 million). In 2018, the complete FDI stock stood at USD 32.7 billion (17 percent of GDP), according to the UNCTAD, (2018) report. Qatar's large foreign exchange reserves make it possible for Qatar to become an important international investor. The United States, Singapore, South Korea, and Japan are the major contributors to foreign direct investment flows. Oil, construction, gas, financial services, and public works are the most attractive sectors for foreign investment. The FDI comes from the European Union, the Arab States, and the United States.

2.5.16. Saudi Arabia

In the latest years, FDI inflows to the Saudi Arabia have been declining gradually. Foreign investment fell between the years 2016 and 2017 from 7.4 to 1.4 billion dollars, or 80 percent of the volume of foreign direct investment, according to UNCTAD (2018). The multinationals' negative intra-company loans and the big liquidation operations of 2017 played a big role in this decline. The number dropped sharply from 53% in 2009 to 27% in 2015, but the Saudi Arabia still has the largest of FDI share in West Asia. The volume of FDI stock reached 232 billion dollars by 2017, the highest number in the Arab countries. The UAE, Kuwait, Singapore, Malaysia, Japan, France, and the States of United America are key investors in the Saudi Arabia. Fuel, chemical industries, real estate, tourism, machinery, and cars are the most prominent types of foreign investment.

2.5.17. Somalia

Net FDI inflows for Somalia amounted to USD 384 million in 2017. In the same year, net FDI inflows increased from USD 40,000 in 1998 to USD 384 million, growing at an average annual rate of 127.51 percent. Gulf countries such as the Saudi Arabia, Qatar, and the UAE are among the major investors, and Turkey has recently emerged as a major foreign investor in Somalia.

2.5.18. Sudan

FDI in Sudan increased by USD 430.1 million in 2018. The FDI in Sudan reached USD 1.6 billion in 2006, while the lowest level of FDI in Sudan was the only

USD 0.4 million in 1996. Sudan enjoys rich natural resources and enjoys a geographic location close to the rich Arab markets. China is one of Sudan's largest investors.

2.5.19. Syria

In December 2011, FDI in Syria increased by USD 804.2 million, an increase of 1.5 USD billion compared to 2010. In 2009, FDI in Syria amounted to USD 2.6 billion, the greatest level of foreign investment recorded in Syria, while the lowest FDI level in 1970 was USD -0.1 million.

2.5.20. Tunisia

In Tunisia, economic and political stability has stayed brittle since the January 2011 Tunisian Revolution. According to UNCTAD (2018) report, FDI inflows have been affected as they have declined gradually over this 2017 period. They stood at USD 880 million in 2017, a 1 percent decline from 2016 and 45 percent from 2012. In 2017 Tunisian FDI stocks fell to USD 28.7 billion comparing to USD 29.3 billion in 2016. This represents 71.3 percent of the country's GDP. According to Tunisian Investment Agency, FDI inflows increased significantly in the first half of 2018 compared to a year earlier. Energy, electronics, tourism, and mechanical manufacturing are major sectors that attract investment. France, followed by Qatar, Italy, and Germany, is by far the country's largest investors.

2.5.21. The United Arab Emirates

Regional instability and the world economic crisis has played a significant part in the decrease of FDI to the UAE between 2010 and 2013. FDI subsequently saw a marked recovery. Where economic and political stability can increase the attractiveness of foreign investors in any country. FDI inflows in the UAE increased by 8 percent in 2017 compared to 2016, while West Asia saw a 16 percent drop in the same period, according to UNCTAD (2018) report. By the end of 2017, FDI reached USD 10 billion as the result of mergers and acquisitions. Foreign direct investment shares recorded an increase of USD 129 billion in 2018, and investment rose by 26 percent at an annual rate of USD 4.84 billion. India is the UAE 'second largest investor. FDI is focused on finance, insurance, trade, and manufacturing, construction, and real estate sectors. The UAE is characterized by low energy costs and oil resource availability.

2.5.22. Yemen

In December 2016, FDI in Yemen remained at USD 0.0 million, down USD 15.4 million from 2015. In December 2008, FDI in Yemen reached USD 1.6 billion. The greatest level of foreign investments recorded in Yemen, while the lowest FDI level in December 2011 was USD -517.8 million.

2.6. The Geographical Distribution of FDI in the LAS

According to UNCTAD (2018) report, we can deduce the geographic distribution of FDI in the LAS. The Saudi Arabia is at the forefront of Arab countries on FDI shares of about USD 232 billion, which is the first in Western Asia. In the second place comes the UAE, wherein 2018 the volume of FDI shares was USD 129 billion, followed by USD 109 billion in Egypt shares, the first in Africa. Qatar and Jordan, respectively, are worth USD 34.9 billion and USD 33.8 billion. Algeria, Tunisia, and Bahrain each received over USD 26 billion, while the rest of the countries varied in taking their share of FDI.

CHAPTER 3: LITERATURE REVIEW

3.1. Introduction

In the literature, the determinants of FDI are those factors affecting a country's capacity to receive foreign direct investment. These factors might vary from country to country and vary in expected outcomes. Some are related negatively with FDI and some are positive. In a study aimed at studying the effects of various economic factors on FDI by Muhammad (2010) after taking secondary data for three countries in Armenia, Kyrgyzstan, and Turkmenistan between 1991 and 2009 by using the least squares technique. His results show that market size and official development assistance have a positive effect on FDI flows to those countries. Another study about the FDI determinants in developing countries is done by Demirhan and Masca (2008) between 2000 and 2004, the data are collected for 38 developing countries using the average value of all data. Based on their results obtained, the per capita GDP growth rate and openness have a positive statistical relationship with flows of FDI to developing countries. In the study by Ang (2008) of FDI determinants in Malaysia from 1960 to 2005 using time series data, real GDP has a substantial positive effect on FDI inflows, and openness has affected positively inflows of FDI. On another side, the exchange rate revaluation discourages foreign direct investment flows.

Ibrahim and Hassan (2013) examine the determinants of FDI in Sudan for the period of 1970 to 2010. The market size, indirect taxes, inflation rate, exchange rate, trade openness, and investment incentives policy are found as influential variables on FDI. They find that FDI flows are associated with market size, exchange rate, inflation rate, and investment incentives policy in Sudan.

Vijayakumar, Sridharan, and Kode (2010) investigates the determinants of FDI flows to the BRICS countries. Using panel data from 1975 to 2007, they show that the potential determinants of FDI inflows in these countries are market size, infrastructure, labor cost, and capital formation. While trade openness seems to be the insignificant determinant of FDI inflows to the BRICS countries.

Fedderke and Romm (2004) argue that while market size, economic and policy stability are non-policy factors, openness and infrastructure are policy-related factors. For the host country, market size is one of the most significant determinants horizontal

FDI, which is often measured by GDP or per capita GDP. Business-level returns on this investment also rely on the economies of scale.

Using Bayesian statistical techniques and providing some of the necessary methodological investigations into the factors determining FDI, Blonigen and Jeremy (2011) indicate a modest identification of gravitational variables, cultural distance factors, GDP per capita in the parent country, relative labor grants, and regional trade agreements for FDI modeling. Their findings reflect little support for FDI promotion by government policies, as there is no strong evidence that policy variables controlled by the host country (such as multilateral trade costs, infrastructure, business costs or political institutions) have an impact on foreign direct investment. Of specific note, the findings of the research indicate that many covariates discovered significant by prior research are not robust.

Yasmin, Hussain, and Chaudhary (2003) analyze the size and determinants of FDI in developing countries. The sample is drawn from 15 developing nations and countries are divided into groups by their income levels. Following the panel data model, their results show that while both urbanization and the standard of living, GDP per capita, current account, inflation, and wages affect the FDI flows significantly in low-income countries, urbanization, trade openness, living standards, current account, domestic investment, strong labor, external debt, and wages affect the FDI flow in middle-income countries. Urbanization, domestic investment, trade openness, per capita GDP, labor force and external debt affect the FDI flows in high-income countries.

Erdogan and Unver (2015) investigate the determinants of FDI for 88 countries in 1985-2011 by using the dynamic and static panel data analysis. Their findings show that social security expenditures, urbanization rate, health expenditures, and the percentage of the population over 65 years of the era have statistically significant negative effects on FDI flows, while per capita GDP, inflation and GDP growth, unemployment rate, market size, credit to the private sector, labor force growth, corruption control, and market capitalization have statistically significant positive effects on inflows of FDI. In addition, financial openness has a statistically significant negative effect and energy imports have a positive effect on the host country.

Ekanayake (2011) examines the factors affecting inward FDI within the United States among the fifty states. Annual data are used for the 1997-2007 period. The study identifies several determinants of FDI and investigates the changes occurred during

the period. The findings demonstrate that the primary determinants of employment related to FDI, and real income per capita and real expenditure on education per capita, real expenditure on R&D and capital expenditures have significantly positive effects on FDI flows. It also shows that the share of engineers and scientists in the labor force has a small positive effect on inflows of FDI. There is also a negative effect on both the state taxes per capita, the industrialization rate, the cost of the labor unit and the trade union and the unemployment rate on the flow of FDI.

With a view to identify the major determinants of the FDI flow in the developing countries, Kumari and Sharma (2017) use an unbalanced set of data for 1990-2012. Their study covers 20 developing countries from South, East, and Southeast Asia. Using seven of the explanatory variables (trade openness, market size, inflation, infrastructure, interest rate, human capital, R&D), they attempt to discover the best suitable model between the model (constant influence) and the model (random effect) and using the Haussmann test. The results of the fixed effects estimates show that trade openness, market size, human capital return, and interest rate are significant factors of FDI inflows to developing countries. The size of the market is the most significant determinant of FDI inflows. Among the constraints faced by this study, it is the lack of data on the exchange rate, corruption, labor costs, natural resources, political risks and the effectiveness of the rule of law, which are the major determinants of FDI inflows.

As the OECD countries are the main recipients of FDI, Zang (2012) examines the determinants of FDI for 20 OECD countries from 1981 to 2008 by using the 2SLS simultaneous equations model. This study actually considers the determinants of outward and inward FDI and their relation to economic growth. The results indicate that FDI inflows do not contribute to the economic growth of host countries, while economic growth has a positive effect on inflows of FDI. The results also show that labor protection legislation and trade openness in host countries attract FDI. The FDI flows reduce economic growth in the parent country and, conversely, increase economic growth from outflows from FDI in the country of origin. The level of FDI shares, the low cost of currency in the home country, trade openness and low labor in host countries are stimulating local firms and making them invest abroad. Governments must stimulate domestic investment by developing sound policies that promote economic growth, which in turn will attract FDI inflows and encourage outflows from foreign direct investment.

By accelerating economic growth in developing countries, FDI is always looking for countries that are assumed to be safer to achieve returns than developed countries. Unlike developed countries, few countries benefit from a foreign direct investment such as India, China, Sudan, and Nigeria. Mottaleb and Kalirajan (2010) examine 68 countries from low- and middle-income developing countries using a panel data. This study examines the factors affecting the FDI flows to developing countries, compared to the discussion of why some countries succeeded in attracting FDI and the failure of other countries. The results indicate the nations with the largest GDP and high GDP growth rate in addition to their share of international trade, and in terms of the environment, which is more suitable for business, is the most attractive for FDI.

Onuoha, Okonkwo, Okoro, and Okere (2018) examine the long-term and short-term dynamic relationship between FDI and macroeconomic variables in West Africa from 1990 to 2016. The study uses several modern econometric techniques, PMG / ARDL, and non-causality of Granger. After controlling the impact of the exchange rate and trade openness, the long-term positive impact of FDI on economic growth is considered statistically significant. The error correction coefficient is negative, indicating that the short-term equilibrium imbalance corrects the long-term. For the cause of Granger, short-term causation does not work in any direction, and this can be attributed to weak economic activity in those countries.

Chy (2012) examines the role of institutional variables in the flow of FDI in selected North African and Middle East countries. Using the panel ARDL model, or the pooled group (PMG) suggested by Pesaran, Shin, and Smith (1999), the study finds that there's a short and long-term relationship between the variables studied: internal conflict, democratic accountability, investment image, military policy, and quality bureaucracy. The results show that internal conflict, bureaucracy, and investment image are of positive statistical significance in influencing the FDI flows. Therefore, when attracting foreign investors, in the countries of North Africa and the Middle East, policymakers should consider implementing policies that are friendly to FDI by providing or maintaining the quality of the institutions.

The Arab region has a comparative advantage in its natural resources and abundant capital and labor. However, when it comes to competitiveness, the Arab region is weak from a global point of view. The volume of trade and the inflow of FDI are not commensurate with the advantages that the Arab region possesses, which are considered as attractive for the inflow of FDI and the increase in the volume of trade.

The Generalized Moments Method (GMM) is applied by Ismail (2004), to estimate the impact of foreign trade and FDI on the competitiveness of the Arab region by using the panel data model. The sample of 17 countries from the Arab region is collected from 1998 to 2009. The findings indicate that the competitiveness of the Arab region has a beneficial effect on foreign trade and FDI.

By examining the impact of FDI on the domestic investment, Yahia, Haiyun, Khan, Sadaqat, and Islam (2018) find that FDI has a direct impact on local investment during the period 1976-2016 in Sudan. Macroeconomic stability, exchange rate, natural resource rent, and economic growth have been highly correlated in the short and long term with domestic investment in Sudan. While FDI emerges as a long-term determinant. The study employs the ARDL and Granger causality model to study the effect. At an annual rate of 35%, the system corrects the disequilibrium of the previous period according to the results shown by the error correction model. There is a one-way causal relationship from the FDI flow, macroeconomic stability, trade openness, exchange rate and natural resource rent to local investment, according to the Granger causation results. The study suggests designing more effective macroeconomic stabilization policies, developing effective strategies that encourage foreign direct investment, and flexible exchange rates that stimulate economic growth and control inflation.

According to Antony (2011), FDI is the flow of international resources to developing countries. He examines the determinants of FDI in Africa using Kenya as a case study to find out the role of infrastructure, sustained economic growth, and political stability on FDI flows. Following the panel data model for the period, 1990 to 2010 finds that the development of infrastructure has a positive effect on the FDI flows in Kenya. The study also finds that political instability in Kenya has negatively affected the FDI flows. The paper also concludes that deteriorating or sustainable economic growth has no impact on the flow of FDI in Kenya.

Majeed and Ahmad (2009) evaluate a set of host country features determining FDI flows to developing nations using information from 72 nations for the 1970-2008 period. The model is predicted using the method of GMM. The analysis shows that economic growth, per capita income, and GDP have positive effects on FDI flow. The host-looking countries are attracted to multinational corporations pursuing trade promotion policies, this is confirmed by the positive impact of openness on FDI flows

to developing countries. The study finds that military spending has a negative, significant effect on the FDI flow.

3.2. Several Macroeconomic Determinants of FDI

3.2.1. Market size

The size of the market is the number of members of a particular market, consists of potential buyers for a particular product or its sellers, and can be measured by per capita GDP or GDP growth rate. It is expected that there is a positive relationship between the size of the domestic market and the FDI flows, especially if FDI is targeted at market research activities as Ranjan and Agrawal (2011), Resmini (2000), et al. (2014), and Tsai (1994) argue. On another hand, the market size might also negatively affect the flow of FDI according to Jaspersen, Aylward, and Knox (2015). In nations with population density, the use of per capita GDP as an indicator of market size is particularly biased and can negatively impact FDI. This research assumes a favorable relationship between the size of the market and FDI. Over the last decade, developing countries have shown signs of improved market growth, increased demand, and economies of scale on production and improved economic conditions, all of which stimulate foreign investors according to Majeed and Ahmad (2008). If developing countries are to follow a path of foreign investment development, increasing the size of the domestic market could have a positive effect on the FDI flows.

3.2.2. Human Capital

Human capital is a measure of the economic value of the set of skills by an employee. The educated workforce is a significant variable in FDI flows if companies seek efficiency in production. Human capital has a positive relationship with the inflows of FDI as indicated by many studies such as Boadi (2015). The high level of education in the labor force may attract the FDI flows according to Srinivasan (2011). In previous periods, there has been a great interest in education because it is one of the most fundamental principles of development goals. The type of work varies according to the education and skills required. The human capital is raised through education and skills acquisition. In another study, Blomström and Kokko (2003) discuss the relationship between human capital and FDI. They state that there is a non-linear complexity in the interaction between the two, potential outcomes can thus vary between human capital and FDI. The human capital can determine the amount of FDI

flowing to the host country. Countries with high human capital are highly attractive to multinational corporations.

3.2.3. Capital Stock

Domestic investment in host countries contributes to an increase in foreign direct investment flows. Domestic investment depends on the capital stock of the host country. This means that capital stocks have a direct link to FDI. Instead, new evidence from American multinational companies' analyzes suggests that higher levels of domestic investment are associated with greater foreign investment. This estimated complementarity that companies combine domestic and foreign production to generate final output at a lower cost than would be possible with production in just one country, making every phase of the production process more lucrative in equilibrium according to Desai, Foley, and Hines (2005).

3.2.4. Employment

Employment level measures the use of resources available in the country (people able to do work) and is calculated as a proportion of the population at a certain age. Employment has a significant impact on the flow of foreign direct investment, but this effect depends on the type and skill of the worker as Çolak and Alakbarov (2017) argue. According to Tshepo (2015), FDI has a long-term positive relationship with employment levels in the economy of South Africa. The results show that FDI is stimulating growth and employment in South Africa. Human capital, labor costs and return on investment and labor disputes are influential factors for foreign direct investment in South Africa. This study suggests that the government should focus on these factors to facilitate the flows of FDI into South Africa's economy. Wei (2013) also investigates the effect of FDI on job creation opportunities in China. He analyzes the effect of FDI on labor in China in terms of the relationship between it and employment in the Chinese economy. The result shows that FDI has no significant positive relationship with employment as a whole, while the result is different for sectors. Therefore, the relationship between the FDI and the employment can be positive if the sort of FDI is looking for production in the host country, and the relationship may vary if the type of FDI is looking for marketing.

3.2.5. Exchange rates

The real exchange rate is the price that takes into account the nominal exchange rate of the national currency weighted by foreign prices and domestic prices. According to programs proposed by the IMF and the World Bank, countries need to develop themselves and achieve high growth rates, devaluation of currencies, removal of subsidies and liberalization of trade regimes (Anwu, 1992). In the late 1980s, developing countries followed adjustment policies and considered liberalization imperative. In another study, Harvey (1989) examines the determinants FDI. The econometric results suggest that the variance in exchange rates as measured by the squared coefficient of variation, especially when the time required to complete orders is long, is a factor in the FDI decision.

3.2.6. Openness

The open economy is the economy in which the ratio of foreign trade to GDP is high. Many economists believe that there is a close positive relationship between the volume of foreign trade, especially exports, and FDI and that the high volume of trade gives foreign companies opportunities for production and distribution in areas with a growing export and import activity and thus generating high returns. The countries with a higher level of trade openness and linked to the world economy attract foreign capital and welcome investment abroad, according to Owusu-Antwi (2012), Srinivasan (2011), and Gastanaga, Nugent, and Pashamova, (1998). The level of trade openness also shows a country's degree of comparative advantage in conducting investment as Adhikary (2011) argues.

3.3. Effects of FDI on Host Countries

In this subsection, we briefly review the literature on the impact of FDI on various policy variables such as growth, investment, employment, and productivity. FDI is one of the most significant economic issues, especially in recent times, as developing countries have taken the lead in attracting FDI in particular. FDI is the direct transfer of foreign capital because it is one of the main drivers of financial and economic growth in developing nations. FDI contributes many things, expands the investment base in the country, and contributes to solving the unemployment problem by creating new job opportunities, introducing advanced technology, the state, and

learning the modern methods of management, communication, and marketing, which lead to national recruitment gaining skill and experience.

Long-term economic growth according to an endogenous growth theory depends on the technological change. The new growth theory provides a framework in which FDI increases the growth rate of the host country permanently through the transfer, diffusion and indirect effects of technology to the host country. Many theoretical and empirical models have been developed in line with the new growth theory to illustrate how FDI facilitates the transfer and diffusion of technology and enhances productivity and growth in the host country. According to the proponents of these FDI models brings best management practices in addition to capital, the use of advanced technology, creates jobs and encourages exports. The advanced technology and best management practices applied by MNEs promote productivity in foreign-owned companies. This is the direct benefit of the host country. The presence of multinational corporations enhances efficiency and increases indirect productivity in locally owned companies. Because of the technology brought by multinational companies, FDI has some public benefits. When such technology is used by multinational companies, it generates external positive factors for local firms that cannot fully absorb them, these factors increase productivity " spillovers " according to Abdullah (2017).

According to Javorcik (2004), multinationals move directly to suppliers and force them to improve product quality and deliver on time, encouraging local suppliers to modernize their technology or improve their management capabilities. The increase in demand for intermediate products also makes it possible to capitalize on savings the size. This increases the productivity in backward link (upstream) industries. In contrast, local companies' productivity can be increased through the forwarding link (downstream) industries. FDI has significant economic importance in host countries, contributing to a number of positive impacts, by raising the rate of domestic investment.

Foreign investment contributes to the direction and transfer of advanced technology to developing countries and modern management skills. The host countries have a major role in the development of workers and increase the skill and the efficiency of production; foreign companies have experience in economic activity and broad knowledge of production arts and how to market works. FDI is also contributing to the development of other sectors such as exports needed by developing countries, increasing interest in R&D in the host country and contributing to increased

productivity and production, which in turn increases national income and thus increases average per capita income, Thus improving the level of productivity.

On the other hand**,** Harrison and Aitken (1999) argue that multinational companies can obtain a large market share in host countries. By the virtue of the cost advantage of using the company's assets, local companies may lose their market shares, with foreign companies, where local companies operate on a less efficient scale and experience higher production costs. Multinational companies often do not use the most advanced technology if the proportion of skilled workers in those countries is low and this restricts the transfer of technology from foreign companies according to Blomström (1993). Even if foreign companies use advanced technology in a country, they are able to effectively protect their technology for fear of being transferred according to Greenaway (2004). Agbloyor et al. (2014) discover the negative effect of FDI inflows on economic growth in 14 African nations depending on the GMM estimators. In the study by Diby (2016) to evaluate the effect of FDI inflows on technological transfer in Kenya, he finds that the existence of foreign investments does not spur technological transfer. An additional, if local companies are not prepared to take advantage of the existence of MNEs or if the rivalry is too big, the net effect of FDI inflows may also be negative.

CHAPTER 4: DATA AND METHODOLOGY

4.1. Data

4.1.1. Data sources

The sample of the countries is used in the analysis are as following: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen. The initial sample includes all countries, we exclude two countries, Somalia and Palestine, from the analysis due to the lack of data. As mentioned previously, the Arab League consists of African and other Asian nations. Some nations have a partial data shortage owing to the country's nature. Some African nations also suffer from a partial absence of data such as the Comoros and Djibouti owing to their absence of some resources. The research contains data on seven variables from 1970 to 2014. We below present a definition of variables and data sources.

Table 4.1: Definition of variables and data sources

Variable	Definition	Source
fdi	Foreign direct investment, net inflows (% of GDP)	UNCTAD
mz	Market Size, GDP per capita (constant 2010 US$)	UNCTAD
hc	Human capital index, based on years of schooling and returns to education.	PWT
cs	Capital stock growth	PWT
emp	Number of persons engaged (in millions)	PWT
ex	Exchange rate, national currency/USD (market + estimated)	PWT
open	Openness, ratio of exports and imports to GDP	PWT

Note: UNCTAD is The United Nations Conference on Trade and Development and PWT is The Penn World Tables.

Foreign direct investment (fdi) is the individual or company to invest or buy a property or establish another company outside the borders of the motherland. FDI is

usually measured as a percentage of GDP. Market size (mz) is for the host countries, which represents the country's economic potential and also denotes demand from these countries. Market size is the number of people who are prospective buyers in a certain market segment and can be measured by GDP growth rate or per capita GDP. This study measures (mz) by the per capita GDP. The data source for (fdi) and (mz) is UNCTADstat.

Human capital (hc) is measured by the index of human capital based on years of schooling and returns to education. Capital stock (cs) is the plant, machinery, equipment, and other resources assisting the production. Employment level (emp) measures the use of resources available in the country (people able to do work) calculated as a proportion of the population at a certain age, in this study, it is measured by the number of persons engaged (in millions). The real exchange rate (ex) is the price that takes into account the nominal exchange rate of the national currency weighted by foreign prices and domestic prices. In this study, it is proxied by the exchange rate, national currency on USD (market + estimated). Openness (open) is the ratio of exports and imports to GDP, the trade openness relates to the economy of a specified country's outward or inward orientation. Outward orientation relates to economies that take advantage of other countries ' possibilities to trade. The data source for hc, cs, emp, ex, and open is the PWT database (www.ggdc.net/pwt).

4.1.2. Descriptive statistics

Tables 4.2 and 4.3 show the descriptive statistics and the correlation of variables respectively. We have data for 20 nations for 45 years and have explanatory seven variables. In Table 4.2 the biggest FDI inflow is 39456.00USD million for Saudi Arabia which, while the lowest FDI inflow is -10176.40USD million, an average of 1,857064 USD million per year. The size of the market is evaluated by GDP per capita, the largest per capita GDP is 127090.2 USD and the smallest value is 509.3 USD, an annual average of 13.803,81 USD. With an average of 1.76, the highest human capital value is 2,875861 and the lowest value was 1,035201. The annual growth rate of capital stock is 4.9 percent. The highest amount of employment is 27.89934 million, while the lowest amount of employment is 0.046953 million, an average of 3.212521 million. The biggest value of its exchange rate is 2394.956 to USD and its lowest value reached 0.000348 to USD with an annual average of 120.8355 to USD. Openness

records the biggest value of 24.4 percent of GDP, while the lowest value is 0.09 percent of GDP with an average of 5.3 percent of GDP.

Table 4. 2: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
fdi	866	1.857064	3.907013	-10176.40	39456.00
mz	900	13803.81	21914.5	509.3407	127090.2
hc	656	1.756199	0.449128	1.035201	2.875861
cs	817	4.971636	4.175202	-3.00726	32.9758
emp	823	3.212521	4.153243	0.046953	27.89934
ex	880	120.8355	334.9287	0.000348	2394.956
open	861	5.275230	3.392730	0.092440	24.43910

Table 4.3 reports the correlation results among the variables. The results show that the degree of correlation between FDI and market size is very weak and negative. Human capital and capital stocks have a relatively strong positive correlation with FDI. The exchange rate has a weak and negative correlation with FDI.

Table 4. 3 The Correlation Results

	fdi	mz	hc	cs	emp	ex	open
fdi	1						
mz	-0.0959	1					
hc	0.2385	0.3095	1				
cs	0.2178	0.1387	-0.0389	1			
emp	0.0173	-0.3616	0.0525	0.046	1		
ex	-0.005	-0.1385	0.0523	-0.0904	0.0373	1	
open	0.1054	0.3801	0.3668	0.1447	-0.4374	-0.0189	1

4.2. Cross-Sectional Dependence Tests

First, we need to identify the cross-sectional dependence of the given series. The Pesaran (2004) CD test is used in the experimental analysis. We can then determine the correct type of unit root test after testing the dependence on the cross-section of variables and the equation of cointegrating. In turn, the Lagrange multiplication tests (LM) and the bias-adjusted Lagrange multiplication tests developed by Breusch and

Pagan (1980), and Pesaran, Ullah, and Yamagata (2008) are used. When T is greater than N, the tests of LM and LM adj. are favorable to the tests proposed by Frees (1995) and Pesaran (2004). The LM test has a $\chi 2$ distribution with the independence hypothesis of the null cross-section. The LM test is biased when the mean is different from zero and the mean of the group is equal to zero. Pesaran, Ullah, and Yamagata (2008) corrected the test by including the variance and mean in the test statistics so that the modified LM becomes unbiased and contains a normal standard distribution.

4.3. Methodology

This study is based on both a descriptive and quantitative approach. The study employs a model for diagnosing factors influencing FDI in the LAS. The study first uses a Panel ARDL methodology to examine the long-run relationship between variables when there are more than two variables in the model. The unit root tests is performed as an initial step to ensure that the time series uses in the study are stationary. Second, we use Pedroni cointegration and FMOLS experiments to check if there is cointegration between variables. This research uses the Pooled Mean Group (PMG) assessment framework established by Pesaran, Shin, and Smith (1999), (PSS hereafter). The analysis is carried out using the time series regression models estimated from annual data between 1970-2014 that is taken from the UNCTAD and Penn World Tables.

We basically employ the following model specification:

$$FDI = \beta_0 + \beta_1 MZ + \beta_2 HC + \beta_3 CS + \beta_4 EMP + \beta_5 EX \ \beta_6 OPEN + e_t \quad (4.1)$$

where FDI is foreign direct investment, MZ is Market Size, HC is Human capital, CS is Capital stock, EMP is Employment Level, EX is Exchange rate, OPEN is Openness, β is parameters, and e_T is Error correction.

4.4. Panel Unit Root Test

The characteristics of panel-based unit root tests of the first generation models used in the thesis rely on the assumption that the data is autonomous and distributed among individuals. Quah (1992 and 1994), Breitung and Meyer (1994) and Levin and Lin (1992, 1993), are the first generation unit root tests.

In general, the following univariate regression is based on this type of unit root tests for panels:

$$y_{it} = \rho_i \, y_{it-1} + Z_{it}\gamma + u_{it} \qquad (4.2)$$

Where $i = 1, 2 \ldots N$an individual, T-series observations is are available for every individual $t = 1, 2 \ldots Z_{it}$ is the deterministic element and u_{it} is a steady process. Z_{it} could be zero, the fixed effects (μ_i), or fixed effect as well as a time trend (t).

The null hypothesis is H0: ρ = 1 meaning that a time series has a unit root (series is non-stationary). The alternative hypothesis is H1: ρ < 1, meaning that the time series doesn't have a unit root (series is stationary). If H0 is accepted (i.e. if series is non-stationary) then it should be looking for stationary in the first difference or the second difference.

4.4.1. The Im-Pesaran-Shin test

Im, Pesaran, and Shin (2003) (IPS hereafter) suggest a new, more flexible and computationally simple unit root testing procedure for panels (called t-bar statistics) using the probability framework. This allows both stationary and non-stationary series to be used simultaneously (i.e. ρ may differ between individuals). In addition, this test allows the dynamics and error variances across groups to be residual serial correlation and heterogeneity. Rather than pooling the data, IPS considers the mean of (ADF) statistics calculated in the panel for every unit cross-section when the model's error term (4.1) is correlated serially.

4.4.2. The Fisher and Augmented Dickey-Fuller tests

Maddala and Wu (1999) and Choi (2001) consider Levin, Lin and Chu (LLC) frameworks deficiencies and offer an alternative testing strategy. They then suggest using a non-parametric Fisher-type test to test the unit root in panel data on the basis of a mixture of the p-values of the unit root test statistics in every unit cross-section (the ADF test or other non-stationary tests). IPS and Fisher tests combine data based on individual unit root tests and relax the Levin, Lin and Chu (LLC) test's restrictive assumption that ρi is the same as the alternative. The Fisher test, however, is built on more overall assumptions than those previously proposed (Quah, LLC and IPS tests), as noted by Choi (2001).

4.5. ARDL Approach or Bound Cointegration Testing

When there is one cointegrating vector, the cointegration procedure of Johansen and Juselius (1990) cannot be implemented. It is therefore imperative to explore co-integration ARDL approach or a bound procedure for a long-term relationship, regardless of whether the fundamental variables are I(0), I(1) or a combination of both. In such a situation, applying co-integration ARDL approach can provide realistic and efficient estimates. Unlike Johansen and Juselius (1990), the cointegration strategy of ARDL helps to identify the cointegrating vector(s). That is, each of the fundamental variables stands as one long-run relationship equation. If one co-integrating vector (i.e. the underlying equation) is recognized, the co-integration vectors ARDL model is re-parameterized into Error Correction Model (ECM). The re-parameterized outcome provides short and long-run dynamics relationship of single model variables. The distributed lag model means the inclusion of the regressors ' unrestricted lag in a regression function. This cointegration testing method specifically enables us to understand whether, considering the endogenous variable, the underlying factors in the model are co-integrated or not.

4.5.1. Requirements for Applying Cointegration ARDL Approach Testing

- Whether the underlying factors are in the order I (0) or order I (1) or a mixture of both, the ARDL method can be implemented. This helps to prevent the pre-testing issues associated with conventional cointegration assessment requiring the classification of factors into I (0) and I (1). This implies that the bound cointegration testing method does not involve pre-testing of the factors included in the unit roots model and is robust if there's a single long-term relationship between the underlying factors as Nkoro and Uko (2001) argue.
- If one proves that there’s a long-run relationship from the F-statistics and that the sample data size is small or limited, representation the error correction of ARDL becomes relatively more efficient.

4.5.2. Advantages of the ARDL Approach

As mentioned by Nkoro and Uko (2001), the ARDL Approach is regarded as one of the best cointegration tests and it has many advantages.

- When each of the fundamental variables is a single equation, the endogeneity is less of an issue in the ARDL technique, that is because it is free of residual correlation (i.e. all variables are assumed to be endogenous). It also allows us to evaluate the reference model.
- The ARDL method can differentiate between dependent and explanatory variables when there's a single long-run relationship.
- The main benefit of this strategy is its identification of the co-integrating vectors where there are numerous cointegrating vectors.

  The ECM can be obtained from ARDL model by means of linear transformation that integrates short-run modifications with the long-run equilibrium without missing long-run data.

4.5.3. ARDL models can be specified

We use the PMG assessment structure established by PSS (1999), in this research. Assume an ARDL $(p, q1 \ \ldots qk)$ dynamic panel speciation of the form:

$$y_{it} = \sum_{i=1}^{p} \lambda_{ij}\, y_{i_{t-j}} + \sum_{i=0}^{q} \delta_{ij}\, x_{i_{t-j}} + \mu_i + \epsilon_{it} \qquad (4.3)$$

wherein the equation (4.3) group numbers i = 1, 2, ... N, period numbers $t = 1, 2, \ldots T, X_{it}$ is a vector for explanatory variables k × 1, δ it is k × 1 coefficient vectors, λij is scalar, and μi is a group-specific effect. T must be sufficiently big to fit the model individually for each group. Time trends and other fixed regressors include. If the variables in (4.3) are I(1) and co-integrated, then the error term is an I(0) process for all i. Their responsiveness to any deviation from the long-term equilibrium is the main feature of co-integrated variables. This feature implies a model for error correction in which the deviation from equilibrium influences the short-run dynamics of the variables in the system. It is therefore common to re-specify equation (4.3) in the error correction equation.

$$\Delta y_{it} = \phi_i\left(y_{i_{t-1}} - \theta_i x_{it}\right) + \sum_{i=1}^{p-1} \lambda_{ij}\, \Delta y_{i_{t-j}} + \sum_{i=0}^{q-1} \delta_{ij}\, \Delta x_{i_{t-j}} + \mu_i + \epsilon_{it} \qquad (4.4)$$

Where $\phi_i = -\left(1 - \sum_{i=1}^{p-1} \lambda_{ij}\right), \theta_i = \frac{\sum_{i=0}^{q-1} \delta_{ij}}{1-\sum_k \lambda_{ik}}, \lambda^*{}_{ij} = \sum_{m=j+1}^{p-1} \lambda_{im}, j = 1, 2, \ldots, p-1, and\ \delta^*{}_{ij} = -\sum_{m=j+1}^{q-1} \delta_{im}$,*j=1, 2… q-1.*

In the equation (4.4), ϕ_i parameter is the adjustment term error-correcting speed. If ϕ_i = 0, there would have been no proof of a long-term relationship. Under the preliminary premise that the variables demonstrate a return to long-term equilibrium, and this parameter is anticipated to be substantially negative. Vector θ_i which includes long-term interactions between variables is of particular importance.

According to Nkoro and Uko (2001) ARDL cointegration method is one of the 20th-century solution's biggest findings for analyzing sequence with one cointegrating vector and, unlike other methods, does not involve pretests for unit roots. Consequently, the technique of ARDL cointegration is preferable when the variables that are integrated in a different order, I(0), I(1) or a combination of both and robust when there is a single long-run relationship in small sample size between the underlying variables. The estimations of ARDL is feasible not only when we have a lagged dependent variable as an explanatory variable, but also when the explanatory variables are endogenous. The added benefit of the method is that it simultaneously provides lengthy and short-run outcomes, removing issues associated with omitted variables and autocorrelation. The estimates collected from the ARDL technique of co-integration assessment are unbiased and effective as they prevent the issues that may occur in the presence of serial correlation and endogeneity.

4.6. The Panel Cointegration Test

Time series modeling to maintain their long-run data intact can be accomplished by co-integration. Granger (1981) and Engle and Granger (1987) are the first to formalize the idea of cointegration, providing tests and estimation procedures to evaluate the existence of a long-run relationship between set of variables within a dynamic specification framework. Co-integration test investigates how time series can be paired in such a way that the workings of equilibrium forces guarantee that they do not move too far apart, while they may be separately non-stationary and drift far away from equilibrium. That is, co-integration includes a certain stationary linear combination of factors that are separately non-stationary but incorporated to order, I(d). Co-integration is an econometric notion that mimics the presence of a long-run equilibrium between the underlying economic time series that over time converges.

Co-integration thus creates a greater statistical and economic foundation for the model of empirical error correction, which combines short and long-run data in variables of modeling. Co-integration testing is a needed step to determine whether a

model has significant long-run relationships empirically. If co-integration among the underlying factors has not been established, it becomes imperative instead to continue working in differences with variables. Long-term information will be lacking, however. There are several cointegration tests, other than the Engle and Granger (1987) method, including Autoregressive Distributed Lag cointegration method or linked cointegration testing method.

4.6.1. Pedroni Cointegration Test

Granger (1981) shows that if the series only becomes stationary after being differentiated once (integrated with order one), linear combinations can be stationary without differentiation. Such series are called "co-integrated"" in the literature. When the integration of order one is implied, a next step is to use cointegration assessment to determine whether a long-term relationship exists between the integrated variables concerned. This study follows Pedroni's (2004) panel cointegration tests to provide a technique for the using of panel data. Pedroni's method includes several different statistics in heterogeneous panels to test the null of no cointegration. A test group is called "within dimension" (panel testing) and the other group is called "between dimension" (group testing). The tests within dimension pool the data over the within the dimension. It takes common time factors into account and allows member-wide heterogeneity. Testing between dimensions allows for parameter heterogeneity across members, and is called group means statistics on cointegration.

4.6.2. The FMOLS Test

If our variables are co-integrated, a next step is to assess the long-term equilibrium relationship. When introduced to the co-integrated panel, the OLS estimator is an inconsistent estimator and the biased. Thus, Pedroni proposes a fully modified OLS estimator, the FMOLS, and provides the estimator of FMOLS techniques for the inter-dimensional "group mean". The FMOLS estimator enables us to be more flexible in the existence of heterogeneity in the co-integrated vectors examined Pedroni (1999, 2001, and 2004). In addition, the above technique enables testing on the null hypothesis if there's a powerful connection between variables.

CHAPTER 5: EMPIRICAL RESULTS AND DISCUSSION OF FINDINGS

5.1. The Cross-Sectional Dependence Tests Results

We first present the results of cross-sectional dependency tests in Table 5.1. As seen in Table 5.1, for the variables, all LM tests indicate the presence of cross-sectional dependence at a significance level of 1 percent. We can, therefore, proceed by carrying out unit root tests that enable cross-sectional dependence.

Table 5.1 : The cross-sectional dependence tests results

Cross-Section Dependence Test				
Variable	Breusch-Pagan LM	Pesaran scaled LM	Bias-corrected scaled LM	Pesaran CD
lnfdi	233.9839	8.900734	8.726315	2.624900
	[0.0000]	[0.0000]	[0.0000]	[0.0087]
lnmz	1194.522	75.18414	75.00972	25.91339
	[0.0000]	[0.0000]	[0.0000]	[0.0000]
lnhc	1630.397	105.2624	105.0880	35.39276
	[0.0000]	[0.0000]	[0.0000]	[0.0000]
lncs	719.8015	42.42533	42.25092	17.06664
	[0.0000]	[0.0000]	[0.0000]	[0.0000]
lnemp	575.6865	32.48046	32.30604	12.19261
	[0.0000]	[0.0000]	[0.0000]	[0.0000]
lnex	1986.849	129.8599	129.6855	3.258458
	[0.0000]	[0.0000]	[0.0000]	[0.0011]
lnopen	682.9936	39.88535	39.71093	12.72721
	[0.0000]	[0.0000]	[0.0000]	[0.0000]

Notes: The parentheses show the p-values of the test statistics.

5.2. Panel Unit Root Results

In line with the methodology described above, as a first step in the analysis, the panel unit root test should be applied to the time-series data used in the model. Im-

Pesaran-Shin and Fisher-Augmented Dickey-Fuller tests are applied. The results are as shown in Tables 5.2 and 5.3, respectively.

According to the Im-Pesaran-Shin test from Table 5.2, the results show the stability of the variables FDI, capital stock, exchange rate, and openness at the level with the intercept. In the case of an intercept and trend at the level, both the FDI variable and the exchange rate settle only. When taken the first differences, all variables are stable except for the human capital variable, and the results of the first difference of the Im-Pesaran-Shin test in the presence of intercept and trend show the stability of all model variables. These results confirm that there is no root-unit problem in the time series.

Table 5.2: The Im-Pesaran-Shin test results

	Level		First differences	
	Intercept	Intercept, trend	Intercept	Intercept, trend
	Statistic	Statistic	Statistic	Statistic
lnfdi	-5.2991***	-6.0728***	-31.696***	-30.577***
lnmz	-1.5067*	0.8997	-19.137***	-19.049***
lnhc	2.8543	1.0842	-1.2307	-5.0196***
lncs	-3.2298***	-1.1996	-21.887***	-19.269***
lnemp	4.6609	-1.0198	-15.919***	-14.556***
lnex	-1.108***	-1.208***	-1.2008***	-1.2008***
lnopen	-1.990**	-0.5762	-25.723***	-24.865***

Note: IPS is Im-Pesaran-Shin test, *, **, *** indicate significance at 10%, 5% and 1% respectively.

The results presented in Table 5.3 don't vary substantially from the Im-Pesaran-Shin test (see Table 5.2), confirming and supporting the results indicating the time series are free from the unit root problem. With the existence of the intercept, the variables of foreign direct investment, capital stock, exchange rate, and openness at the level have stabilized. In the case of intercept and trend at levels with, both the FDI variable and the exchange rate settle only stationary. When the first difference are taken by the presence of an intercept, all variables is stationary except for the variable of human capital, the uniform appears to be stationary at ADF-Fisher Chi-square and is not stable at DF-Choi Z-stat. The results of the first differences with the existence

of interception and trend show the stability of all the variables of the model, indicating the absence of the unit root problem.

Table 5.3: The Fisher-Augmented Dickey-Fuller results

	Level		First differences	
	Intercept	Intercept, trend	Intercept	Intercept, trend
	Statistic	Statistic	Statistic	Statistic
lnfdi	117.549***	123.308***	554.531***	926.686***
	[-50243]***	[-5.760] ***	[-20.73]***	[-20.39]***
lnmz	54.8872*	36.5784	383.585***	379.931***
	[-1.540]*	[1.269]	[-15.96]***	[-15.662]***
lnhc	26.7761	29.2261	49.0476***	279.529***
	[2.5415]	[0.945]	[-0.722]	[-2.7625]***
lncs	63.6254***	45.3926	431.98***	352.566***
	[-3.255]***	[-1.271]	[-18.15]***	[-15.762]***
lnemp	15.0978	51.3628	304.79***	348.96***
	[4.6384]	[-0.999]	[-12.74]***	[-12.055]***
lnex	54.5262**	579.875***	190.127***	671.341***
		[-8.942] ***		[-15.149]***
lnopen	56.7945**	37.784	540.83***	503.969***
	[-2.032]**	[-0.596]	[-20.11]***	[-19.286]***

Note: Fisher-ADF is Fisher-Augmented Dickey-Fuller tests, the parentheses show the P-values of ADF - Choi Z-stat, *, **, *** indicate significance at 10%, 5% and 1% respectively.

5.3. The Pool Mean-Group Estimation

Tables (5.4, 5.5, 5.6, and 5.7) introduces the results of the Pooled Mean Group Estimation, we use automatic ARDL lag selection using the Schwarz criterion because this criterion selects the optimum lag length to minimize the residual sum of squares. The Selection of ADRL by the Schwarz criterion are $(1, 1, 1, 1, 1, 1, 1)$. One should note that in the estimation of PMG, long-term are mostly statistically significant in all countries and across groups, while short-term coefficients are not significant and may differ.

5.3.1. The Long Run Analysis

From Table 5.4 in this PMG model, FDI is the dependent variable. Our results indicate that market size has a significant statistically and negative coefficient. The negative relationship between the size of the host market and FDI for these countries shows that FDI is a kind of investments looking for cheaper resources or FDI is taken based on the resources' considerations. In other words, it seems that it doesn't primarily consider these host countries as markets. Our findings are in line with Aseidu (2002), and Edwards (1990). The impact of human capital on FDI is found to be positive and statistically significant. These results are also similar to findings of Zhang and Markusen (1999).

Table 5.4: The result of PMG for all countries

Pooled Mean Group Result			
Variable	Coefficient	Std. Error	t-Statistic
Long Run Equation			
Lnmz	-0.001526***	0.000633	-2.426445
Lnhc	0.057638***	0.008256	6.981674
Lncs	0.137074***	0.030461	4.500004
Lnemp	-0.002294	0.002078	-1.104164
Lnex	-0.000805	0.00055	-1.463834
Lnopen	0.006411**	0.002771	2.313849
Short Run Equation			
ECM (-1)	-0.485857***	0.090434	-5.372513
D(Lnmz)	-0.003650	0.012882	-0.283364
D(Lnhc)	-0.098442	0.282618	-0.348323
D(Lncs)	0.101575	0.113102	0.898085
D(Lnemp)	0.125115	0.113083	1.106396
D(Lnex)	0.114824	0.110531	1.038836
D(Lnopen)	-0.003409	0.006440	-0.529357
F-statistic	29.83438	Prob.	0.0000

Note: Number of obs = 606, Number of countries 20, *, **, *** indicate significance at 10%, 5% and 1% respectively.

The capital stock also demonstrates a positive relationship with FDI, which is statistically significant, where an increase in the share of capital stocks, in turn, raises the flow of FDI. Openness has also a positive, statistically significant relationship with the FDI, implying that host countries with higher trade openness receive more FDI. Employment and exchange rates have negative coefficients, they are not statistically significant though.

5.3.2. The Short Run Analysis

Table 5.4 also presents the short-run estimates. The coefficient on ECM (-1) is significantly negative at the 1 percent level. It shows that there's a long-term cointegration relationship between variables, with more than 48 percent of the short-run disequilibrium being corrected in the long run. In the PMG model for a short-term relationship, the results show that the variables (Market Size, Human Capital, and Openness) have a negative coefficient, but none of the coefficients are statistically significant. Some of the variables (Capital Stock, Employment, and Exchange Rates) have positive coefficients but their coefficients are not statistically significant.

5.4. The Long and Short Run Analysis between Groups

In this section, the LAS are divided into two groups based three different variables: their geographical locations such as located in Asia or Africa, their levels of richness in natural resources, and their per capita income levels.

5.4.1. Long Run Analysis

5.4.1.1. African Arab versus Asian Arab countries

From Table 5.5, our results show that the market size has a significantly negative coefficient for the Arab Asian countries. However, the market size has a significantly positive coefficient for the Arab African nations similar to Nunes, Oscategui, and Peschiera, (2006), and Tsai (1994) find. These result can be explained by the argument that Arab Asian countries, which are mostly rich in income, do not receive adequate levels of FDI as they are supposed to. This might lead to a negative association between GDP per capita and FDI inflows.

Similarly, the capital stock variable has a significantly positive effect on FDI in Arab Asian countries, while it has a significantly negative effect on FDI in Arab African countries. Although the level of employment has no effect on FDI for the full

sample, it has a significantly negative effect on FDI for both groups. Similarly, the exchange rate is also not significant for the full sample. However, exchange rates have different effects on FDI for these two groups. It has a significantly negative effect on FDI only for African Arab states.

Table 5.5: The result of PMG between Asian and African Groups

Pooled Mean Group Result		
	Asian Arab group	African Arab group
Variable	Coefficient	Coefficient
	Long Run Equation	
Lnmz	-0.006085***	0.006649***
Lnhc	0.098172***	0.093735***
Lncs	0.205531***	-0.06487*
Lnemp	-0.012991***	-0.032399***
Lnex	-0.001266	-0.003512***
Lnopen	-0.004534	0.013839***
	Short Run Equation	
ECM (-1)	-0.472545***	-0.676579***
D(Lnmz)	0.002378	0.011836
D(Lnhc)	-0.492596	0.211624
D(Lncs)	-0.050640	0.345166
D(Lnemp)	0.215646	-0.001909
D(Lnex)	0.154642	0.001872
D(Lnopen)	-0.009243	0.000875
Number of obs =	Asian group 251	African group 355

Note: Number of Asian countries 11, African countries 9, *, **, *** indicate significance at 10%, 5% and 1% respectively.

Our results imply that the positive relationship between openness and FDI seems to be driven by the relationship for the African Arab countries because our results indicate that openness doesn't have any significant effect on FDI for Asian Arab states. Finally, human capital variable for both groups has a positive, statistically significant effect on FDI similar to the studies conducted by Boadi (2015), Markusen (2011), and Zhang (1999).

Table 5.6: The result of PMG between Resource-Rich and Resource-Poor Groups

Pooled Mean Group Result		
	Resource-Rich Group	Resource-Poor Group
Variable	Coefficient	Coefficient
	Long Run Equation	
Lnmz	0.000377	0.001101
Lnhc	-0.000482	0.074262***
Lncs	0.053959*	0.096940***
Lnemp	0.000815	-0.012617***
Lnex	0.003074***	-0.000472
Lnopen	-0.003195	0.009980***
	Short Run Equation	
ECM (-1)	-0.476930***	-0.702951***
D(Lnmz)	0.004925	-0.044065
D(Lnhc)	-0.248605	-0.266814
D(Lncs)	-0.037031	0.348496
D(Lnemp)	0.000777	0.209621
D(Lnex)	0.075740	-0.069494
D(Lnopen)	-0.007414	-0.001669
Number of obs = Poor group 272	Rich group 334	

Note: Number of Poor countries 10, Rich countries 10, *, **, *** indicate significance at 10%, 5% and 1% respectively.

5.4.1.2. Resource Poor versus Resource Rich Arab States

Regarding the two groupings based on natural resources endowments, the size of the market has no significant effect on FDI in both resource-rich and resource-poor countries as can be seen in Table 5.6. The human capital variable has a statistically significant and positive effect on FDI only in resource-poor countries, which is the expected relationship, the increase of human capital in these countries increases FDI flows. The capital stock has a significantly positive effect on FDI for both groups, but in poorer countries, it has more influence than rich countries. Employment has a significantly negative impact on FDI in resource-poor countries, probably due to the lack of skilled labor. While the exchange rate has a significant positive effect on FDI for resource-rich countries, openness has a significant positive impact on FDI in resource-poor countries.

5.4.1.3. Poor versus the Rich Arab States

As can be seen from Table 5.7, while the impact of market size on FDI in high-income Arab countries is significantly negative, its impact is significantly positive in middle-income Arab countries. The human capital variable has a significantly positive effect on FDI in both groups, the study carried out by Markusen, (2011) and Zhang (1999) supports this result. The capital stock has a positive, significant effect on FDI in high-income Arab countries, while it has a negative effect on FDI in Low and middle-income Arab countries. The employment variable negatively affects FDI in both countries and is statistically significant in middle-income Arab countries. The exchange rate has a significantly negative relationship with FDI only for middle-income Arab countries. Similarly, openness has a positive effect on FDI only for middle-income Arab countries.

5.4.2. The Short Run Analysis

5.4.2.1. African Arab versus Asian Arab countries

For the short-run estimates, for geographical locations, all variables have insignificant coefficients. From Table 5.5 the variables (human capital, capital stock, and openness) have a negative effect on FDI, and the variables (market size, employment and exchange rates) have a positive relationship with FDI in Asian Arab countries. While the variables (market size, human capital, capital stock, exchange rate, and openness) have a positive relationship with FDI, and the relationship between FDI and employment in Arab countries on the African continent is negative.

5.4.2.2. Resource Poor versus Resource Rich Arab States

From Table (5.6) in the short-run estimates for the grouping based on resource richness, the variables (human capital, capital stock, and openness) have a negative effect on FDI. While the variables (market size, employment and exchange rates) have a positive relationship with FDI in countries rich in natural resources. The variables (market size, human capital, exchange rate, and openness) have a negative relationship with FDI. The relationship between FDI and variables (capital stock and employment) in poor countries of natural resources are positive, and all variables are not significant statistically in influencing FDI inflow.

Table 5.7: The result of PMG between HInc and MInc-LInc Groups

Pooled Mean Group Result		
	High Income Group	Low and Middle Income Group
Variable	Coefficient	Coefficient
	Long Run Equation	
Lnmz	-0.005339*	0.006298***
Lnhc	0.092413***	0.091212***
Lncs	0.299931***	-0.067291*
Lnemp	-0.012755*	-0.030400***
Lnex	-0.000599	-0.003692***
Lnopen	0.008888	0.012529***
	Short Run Equation	
ECM (-1)	-0.541581***	-0.523274***
D(Lnmz)	-0.009459	0.001027
D(Lnhc)	-0.584731	-0.192222
D(Lncs)	-0.179285	0.271777
D(Lnemp)	0.042893	0.134764
D(Lnex)	0.335287	-0.020081
D(Lnopen)	-0.019209	-0.001053
Number of obs =	HInc group 213	MInc-LInc group 393

Note: HInc is high income, MInc-LInc is Medal- Low income. Number of HInc countries 6, MInc countries 14, *, **, *** indicate significance at 10%, 5% and 1% respectively.

5.4.2.3. Poor versus the Rich Arab States

For the short-run estimates for the groups for the income level of countries, the variables (market size, human capital, capital stock, and openness) have a negative effect on FDI, employment and exchange rate variables have a positive relationship with FDI in high-income Arab countries. While the variables (human capital, exchange rates, and openness) have a negative relationship with FDI. The relationship is positive between FDI and variables (market size, capital stock, and employment) in low and middle-income Arab countries, as shown in Table (5.7).

5.5. The Panel Cointegration Results

5.5.1. The Pedroni Cointegration Test

In Table 5.8, the hypothesis of cointegration among all variables is tested in this thesis using Pedroni (2004) cointegration tests, all cointegration tests of seven panels. The results of both tests (between and within dimensions) with (intercept, intercept and trend) indicate that the no-cointegration null hypothesis is rejected at significant levels of 5 and 1 percent. The empirical results thus support the cointegration hypothesis among all variables in the model.

Table 5.8: Pedroni Cointegration Results

Pedroni Cointegration test				
	Intercept			Intercept, trend
Within-dimension				
	Statistic	Statistic	Statistic	Statistic
Panel v-Statistic	-1.820	-2.2877	-3.576	-3.967
Panel rho-Statistic	0.1716	-1.4776*	1.2865	-0.340
Panel PP-Statistic	-8.356***	-9.2905***	-7.7185***	-9.182***
Panel ADF-Statistic	-8.132***	-9.2448***	-7.6558***	-9.015***
Between-dimension				
Group rho-Statistic	-0.232		1.0405	
Group PP-Statistic	-10.36***		-8.5101***	
Group ADF-Statistic	-7.932***		-6.8242***	

Notes: Null hypothesis: No cointegration. Trend assumption. Deterministic intercept, intercept and trend. *, **, *** indicate significance at 10%, 5% and 1% respectively.

5.5.2. The FMOLS Test Results

The FMOLS test is performed when there's a correlation among the variables. FDI is the dependent variable. In these estimates, the variables of market size, employment, exchange rate, and openness have statistically insignificant coefficients, meaning that these variables do not have an association with FDI. Human capital and capital stocks have positive, statistically significant coefficients. These results indicate that higher levels of both human and physical capital stocks raise FDI for the host

countries. R-squared value is 0.28, which implies that the variables explain 28% of FDI.

Taking the trend into account, the result does not change very much. However, the employment factor becomes statistically significant now. One can interpret foreign direct investment, alongside human capital, and capital stock, which has significant positive coefficients. The value of R-squared becomes 0.40, which means that the variables explain 40% of the variation in FDI, as shown in Table 5.9 below.

Table 5. 9: The FMOLS test results

Panel Fully Modified Least Squares (FMOLS)				
	Polled		Polled, Trend	
Variable	Coefficient	Std. Error	Coefficient	Std. Error
lnmz	-0.010772	0.008032	-0.012045	0.009771
lnhc	0.104954***	0.027881	0.126376***	0.046538
lncs	0.248633***	0.054049	0.240685***	0.050437
lnemp	-0.010109	0.008159	-0.046863***	0.015536
lnex	-0.002207	0.001601	-0.001649	0.003013
lnopen	-0.003913	0.003252	-0.001406	0.003482
F-statistic	8.326087***		6.193990***	
R-squared	0.280937		0.405263	

Notes: FMOLS is Fully Modified Least Squares. *, **, *** indicate significance at 10%, 5% and 1% respectively.

5.6. Discussion

In this study, we examine the determinants of FDI in the League of Arab States. The estimation results show that human capital, capital stock, and openness are among the most important determinants of FDI in the LAS. The size of the market, which is measured by per capita GDP, has a negative impact on the flow of FDI to the Arab League countries. Employment and exchange rate are statistically insignificant and negative coefficients.

When countries are divided according to their geographical distribution, in the Arab Asian countries, the size of the market and employment has a negative impact on the flow of FDI. Human capital and physical capital stocks, which are major determinants of FDI, have an important positive impact. Exchange rate and openness are statistically insignificant. In the Arab African countries, the size of the market,

human capital, and openness are the most significant determinants with a positive effect on the flow of FDI. However, employment and exchange rate negatively affect the flow of FDI.

According to countries with rich natural resources, all of the variables are not statistically significant except for the exchange rate, which positively affects the flow of FDI. This is because local currency appreciation leads to cheaper imported inputs and stimulates FDI as Mariel and Pánková (2010) argue.

In poor countries, human capital, physical capital stock, and openness are among the most important determinants of FDI. However, employment negatively affects the flow of FDI to poor countries.

According to the income level of LAS, human capital and capital stocks positively affect the flow of FDI in high-income countries. The size of the market, human capital, and openness positively affect the flow of FDI, while employment and exchange rate negatively affect the flow of FDI in low and middle-income countries.

In the short term, none of the coefficients are statistically significant, except for the ECM coefficient. The negative sign indicates that there is a common integration between the variables in the short term that is corrected in the long term.

According to the above findings, we can argue that the human capital, physical capital, and openness are among the most important determinants of FDI in the LAS. These findings support the findings of Kumari and Sharma (2017), who examine the determinants of FDI in developing countries and reach similar results.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This thesis examines the determinants of FDI in the LAS. In addition to the FDI variable, our study employs six variables (market size, human capital, employment, capital stock, exchange rate, and openness) to examine their effects on FDI from 1970 to 2014. The study uses a Panel ARDL methodology Pedroni cointegration test and FMOLS test to investigate the determinants of FDI for all sample and then split countries into two groups based on geographical distribution to Arab and African countries, rich and poor countries based on natural resources, high-income countries, and middle-income countries based on income.

Our estimation results show that human capital, capital stock, and openness are among the main determinants of FDI in the Arab League as a whole. The size of the market negatively impacts FDI inflows, this is due to the fact that some Arab countries are rich but do not receive foreign direct investment flows to suit those countries. The negative impact of the market size could be due to the type of FD in these countries so that foreign companies seek to take advantage of resources rather than search for marketing.

The results differ when countries are divided into groups. For example, according to geographical distribution, the capital stock has a significantly positive effect on FDI in Arab Asian countries, while it has a significantly negative effect on FDI in Arab African countries. Although the level of employment has no effect on FDI for the full sample, it has a significantly negative effect on FDI for both groups.

According to natural resources, the impact of the exchange rate in rich countries is positive for FDI and is statistically significant. The size of the market has a positive, insignificant effect on FDI in both rich and poor countries. Employment has a positive effect on FDI in rich countries and is negative, statistically significant for FDI in poor countries.

According to income levels, in high-income Arab countries, capital has an important positive impact on FDI. The human capital variable in both groups has a positive, statistically significant effect on FDI, similar to results by the study carried out by Markusen, (2011) and Zhang (1999).

The market size positively effects FDI in the Arab African countries and the Arab countries of low and medium-income groups. This effect is expected for these nations because they receive FDI inflows commensurate with their potential.

In the short term, the error correction coefficient is significantly negative, reflecting a long-term relationship between the variables. However, none of the coefficients in the short run are significant.

6.2 Recommendations

The aims of most MNCs is to maximize their profit that is repatriated to their home economies instead of being reinvested in the host country. It indicates that foreign investors are aimed at the Arab region in order to benefit from the region's resources. Based on the above and through the results of our study, we recommend the following:

- Because of the role that human capital plays in attracting FDI, Arab countries should focus on their human capital levels by improving the quality of education, training, and skills.
- The capital stock has a major effect on FDI so Arab countries should increase their share of capital stock.
- Attracting foreign investment is essential, but it is also indispensable to understand the sort of investment and the foreign investor's objective to share the advantages of foreign investment between the host nations and the investor. The host nations should profit from employing employees and revive the domestic market.
- Finally, it is feasible to benefit from foreign investment by enhancing openness to the globe by raising the percentage of trade to GDP, particularly for Arab countries to enjoy a geographical location close Europe and the remainder of Asia and Africa.

6.3 Research Contributions

The increase in research on FDI in recent times indicates the importance of FDI in development and economic growth. Companies move across borders when they have certain advantages over local companies. FDI can play an important role in providing high-quality management skills, capital for investment and transfer of technology with increased competition, job creation and export development. All this

enhances productivity and opportunities for economic growth, especially in developing countries according to Asiedu (2002). FDI can also bring foreign currencies and fill the shortfall caused by low savings rates. No research in the Arab League has yet explored the determinants of FDI and this study aims to fill that gap. The study also provides essential evidence regarding foreign investment factors in the region. Moreover, this research is of great relevance not only for the countries of the Arab League but also for other developing countries. The LAS is, therefore, a developing region and knowledge contributed to literature through this study can be extended to other developing regions. No study so far compares the determinants of FDI in the Arab League countries and in different LAS country groupings based on geographic distribution, natural resources or income.

6.4 Study limitations

Although the research contributes to knowledge and reaches important results, there are limitations to the study. Due to the lack of data our sample size is not include all LAS countries, but the sample we use in analyzes are representative. Most of the recent studies in FDI literature used corporate data or the factors of institutional stability and political stability to clarify the determinants of FDI, but because of the lack of data, this study used macroeconomic data to explain FDI activities. The current study focused on 6 control variables, where microeconomic factors are not considered. The period chosen for the study is 45 years, but some countries have less data than the study period.

6.5 Future research

Based on the findings of this study, a number of ways can be identified for future research. First, foreign investments in future research in the Arab League should be investigated using with sector level or company-level data. This in turn helps the region to grasp the determinants of FDI. Secondly, this study uses GDP per capita as a measure of the market, so future research could explore other measures for market size. Finally, with regard to the important factors for determining FDI that is not used in this study, future research could use variables such as total factor productivity and institutional variables.

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