مجلة دراسات اقتصادية

السلسلة العلمية لجمعية الاقتصاد السعودية

المجلد الثاني عشر، العدد (24)

جمادي الأولى (1439هـ) ***يناير (2018م)***

البحوث والدراسات

مقالات وتقارير

دراسات اقتصادية: السلسلة العلمية لجمعية الاقتصاد السعودية، المجلد (12)، العدد (24)

دراسات اقتصادية

السلسلة العلمية لجمعية الاقتصاد السعودية

المجلد الثاني عشر

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الصف والإخراج الفني/ الطيب بخيت إدرس

قواعد النشر

هذه الدورية العلمية نصف سنوية محكمة تعنى بالشئون الاقتصادية تصدر عن جمعية الاقتصاد السعودية بجامعة الملك سعود، وهي تهدف إلى إتاحة الفرصة للباحثين لنشر نتائج أبحاثهم. تنظر هيئة التحرير – من خلال هيئات التحرير الفرعية – في نشر مواد في علم الاقتصاد وفروعه. تقدم البحوث الأصلية، التي لم تنشر أو ترسل للنشر في محلات أخرى، بالإنجليزية أو بالعربية، وفي حالة القبول يجب إلا تنشر المادة في أي دورية أخرى دون إذن كتابي من رئيس هيئة التحرير.

تصنف المواد التي تقبلها المجلة للنشر إلى الأنواع الآتية:

(1) بحث: ويشتمل على عمل المؤلف في مجال تخصصه، ويجب أن يحتوى على إضافة للمعرفة في مجاله وأن يكون في حدود (25) صفحة.

(2) مقالة استعراضية: وتشتمل على عرض نقدي لبحوث سبق أجراؤها في مجال علم الاقتصاد وفروعه أو أجريت في خلال فترة زمنية محددة وإلا تتجاوز (5) صفحات.

(3) المنبر (منتدى): خطابات إلى المحرر، ملاحظات وردود.

(4) نقد الكتب.

تعليمات عامة

(1) تقديم المواد: يقدم الأصل مطبوعا – ومعه نسختين – على مسافتين وعلى وجه واحد من ورق مقاس A4 (21 × 29.7 سم)، ويجب أن ترقم

الصفحات ترقيما متسلسلا بما في ذلك الجداول والأشكال. وتقدم الجداول والصور واللوحات وقائمة المراجع على صفحات مستقلة مع تحديد أماكن ظهورها في المتن.

(2) الملخصات: يرفق ملخصان بالعربية والإنجليزية للبحوث والمقالات الاستعراضية على إلا يزيد عدد كلمات كل منهما على (200) كلمة.

(3) الجداول والمواد التوضيحية: يجب أن تكون الجداول والرسومات واللوحات مناسبة لمساحة الصف في صفحة المجلة (5ر12 x 18سم)، ويتم إعداد الأشكال بالحبر الصيني الأسود على ورق كلك، ولا تقبل صور الأشكال عوضا عن الأصول . كما يجب أن تكون الخطوط واضحة ومحددة ومنتظمة في كثافة الحبر ويتناسب سمكها مع حجم الرسم، ويراعى أن تكون الصور الظلية الملونة أو غير الملونه – مطبوعة على ورق لماع.

(4) الاختصارات: يجب استخدام اختصارات عناوين الدوريات العلمية كما هو وارد في The World List of Scientific Periodicals. تستخدم الاختصارات المقننة دوليا بدلا من كتابة الكلمات مثل: سم ، مم، م، كم، مل، كجم، ق، %، ... الخ.

(5) المراجع: بصفة عامة يشار إلى المراجع بداخل المتن بالأرقام حسب أولوية ذكرها. تقدم المراجع جميعها تحت عنوان المراجع في نهاية المادة بالطريقة المتبعة في أسلوب (MLA):

أ – يشار إلى الدوريات في المتن بأرقام داخل أقواس مربعة على مستوى السطر. أما في قائمة المراجع فيبدأ المرجع بذكر رقمه داخل قوسين مربعين فاسم عائلة المؤلف ثم الأسماء الأولى أو اختصاراتها فعنوان البحث (بين علامتي تنصيص) فاسم الدورية(تحت خط) فرقم المجلد، فرقم العدد، فسنة النشر(بين قوسين) ثم أرقام الصفحات.

مثال :

رزق، إبراهيم أحمد،(مصادر الاتصال المعرفي الزراعي لزراع منطقة القصيم بالمملكة العربية السعودية) مجلة كلية الزراعة ، جامعة الملك سعود، م 9، ع 2 (1987م)، 63-77.

ب – يشار إلى الكتب في المتن داخل قوسين مربعين مع ذكر الصفحات، مثال [8، ص16]. أما في قائمة المراجع فيكتب رقم المرجع داخل قوسين مربعين متبوعا باسم المؤلف ثم الأسماء الأولى أو اختصاراتها فعنوان الكتاب (تحته خط) فمكان النشر ثم الناشر فسنة النشر.

مثال:

الخالدي، محمود عبد الحميد، قواعد نظام الحكم في الإسلام، الكويت:دار البحوث العلمية، 1980م.

عندما ترد في المتن إشارة إلى مرجع سبق ذكره يستخدم رقم المرجع السابق ذكره (نفسه) مع ذكر أرقام الصفحات المعنية بين قوسين مربعين

على مستوى السطر. يجب مراعاة عدم استخدام الاختصارات مثل: المرجع نفسه ، المرجع السابق ، ... الخ.

(6) الحواشي: تستخدم لتزويد القارئ بمعلومات توضيحية. ويشار إلى التعليق في المتن بأرقام مرتفعة عن السطر بدون أقواس. وترقم التعليقات متسلسلة داخل المتن ويمكن الإشارة إلى مرجع داخل الحاشية – في حالة الضرورة – عن طريق استخدام رقم المرجع بين قوسين بنفس طريقة استخدامها في المتن . تقدم التعليقات على صفحات مستقلة علما بأنها ستطبع اسفل الصفحات المعنية ويفصلها عن المتن خط.

(7) تعبر المواد المقدمة للنشر عن آراء ونتائج مؤلفيها فقط .

(8) المستلات: يمنح المؤلف عشرة (10) مستلة مجانية من بحثه.

(9) المراسلات: توجه جميع المراسلات إلى:

رئيس تحرير السلسلة العلمية لجمعية الاقتصاد السعودية

ص . ب 71115 الرياض 11587

المملكة العربية السعودية

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(10) عدد مرات الصدور: نصف سنوية.

المحتويات

البحوث والدراسات

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The Contribution of Manufacturing and Service Sectors in Attracting FDI Inflows in Jordan: An ARDL Bounds Testing Approach

Al-Abdulrazag Bashier*

Abstract

This paper aims to analyze, along with other factors, the role played by Jordan's manufacturing and service sectors in attracting foreign direct investment (FDI) inflows to Jordan from 1980 to 2016 by utilizing the Autoregressive Distributed Lagged (ARDL) Model. The estimation results revealed that in the long-run, the explanatory variables market size; service sector, infrastructure, and trade openness have a significant positive impact on FDI inflow except inflation is insignificant. On the other hand, financial development and manufacturing variables are negative and significant. The results show that FDI is market-seeking type. Therefore, increasing the market size represented by economic growth, is a good factor to attract FDI. The results recommend many policy implications that can attract more FDI to Jordan. First, the public and private sectors are advised to increase technological competencies in the manufacturing sector since FDI inflows are mostly of high technological level. Second, increasing the level of modern services will also help in attracting more FDI. Third, the government needs to stabilize the economy by reducing the inflation rate to its minimum.

Keywords: Jordan, FDI, ARDL, cointegration, manufacturing sector, service sector

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The Contribution of Manufacturing and Service Sectors in Attracting FDI Inflows in Jordan: An ARDL Bounds Testing Approach

1. Introduction:

According to the United Nations Conference on Trade and Development (UNCTAD) (2017), in year 2016, the global flows of foreign direct investment (FDI) fell by 2% to 1.75 trillion as compared to the year 2015. Further, UNCTAD argued that this decrease was related to policy uncertainty, geopolitical risks, and tax policy fluctuations which affect cross-border FDI mobility. However, UNCTAD (2017) expected global FDI inflows to reach $1.8 trillion in 2017. FDI inflows to developing countries, Jordan being no exception, are considered a more vital source of external finance compared to other external financial sources such as remittances. Moreover, it well documented that FDI is very important to the host countries in many aspects, for example, it generates various economic benefits by providing capital as a source of finance, promotes exports and development, creates new job opportunities, improves management skills of locals, and enhances productivity in domestic business firms, as well as, provides access to new technologies of foreign countries (Ebiringa and Emeh, 2013). Hence, the various advantages of FDI inflows encourage competition between countries, especially developing countries, and motivates them to implement different economic policies to

encourage foreign companies to invest in the host countries (Omar and Anil, 2016).

It is well established that Jordan is a non-oil producing country with few natural resources except potash and phosphate. Despite this, Jordan has been attracting worldwide FDI over the last few decades. As indicated by UNCTAD (2013), this can be attributed to Jordan's economic and political stability, and investment laws that enhance investment opportunities by offering tax exemptions to foreign companies (Al-Abdulrazag, 2017). Although FDI stocks fluctuated during the study period, Jordan experienced a noticeable upward trend in FDI in this period. At the end of the twentieth century, Jordan witnessed a boom as FDI stocks increased from a minimum value of USD 64.34 million in 1980 to a maximum value of USD 29,958 million in 2015 averaging at USD 8,361.34 million. During the period of this study, it achieved an average growth rate of 9.14%. The focus of this study is to answer the frequently-asked question: What are the determinants of FDI inflows into Jordan? Hence, the objective of this paper is to empirically identify and analyze country-specific macroeconomic variables that played a significant role in attracting foreign companies to invest in Jordan between 1980 and 2016. Moreover, this paper provides some policy implications to help policymakers attract a significant volume of FDI inflows.

This study is prompted by the literature on FDI that suggests that all countries, particularly developing ones, are struggling and competing among themselves to attract the FDI inflows into their economies, and Jordan is no exception. The

public and private sectors are motivated with the expected benefits of FDI inflows to the domestic economies, for example, economic growth, technological transfer, human capital development among other benefits. Therefore, government officials and the private sector in Jordan need to identify and develop the macroeconomic variables that attract FDI inflows such as market size, economic growth, economic and political stability, infrastructure, human capital, labor force, trade openness.

The significance of this study is its contribution to the existing literature on the determinants of the FDI inflows. Extensive applied works were conducted on the determinants of the FDI inflows into host countries. In Jordan's case, various studies have been conducted by Abdulhaq et al. (2015); Al-batayneh (2015), Gaith (2011), Al-Alami (2009), Amir and Torki (2009); and Husni and Walid (2010) among others. However, this study differs in various aspects: It employs the ARDL bounds testing to cointegration and covers a longer period from 1980 to 2016. Specifically, the study investigates the influence of the manufacturing and the service sectors on FDI inflows in Jordan, hence bridging the literature gap on the determinants of FDI inflows in Jordan. In addition, the outcomes of this study will possibly help policymakers and government officials in Jordan to design and implement a set of economic and institutional policies to attract FDI.

The paper is organized as follows. In addition to the introduction, Section 2 presents theoretical background. Section 3 presents the literature review of related applied work. Section 4

presents the research methodology and model specification. Section 5 reports and discusses the empirical findings. Finally, section 6 is the conclusion and suggests some policy implications for attracting FDI inflows in Jordan.

2. Theoretical Background:

Two major factors are said to be the motivators for FDI inflows in host countries: economic and political push and pull factors (Burcak, 2015). In this context, the pull factors refer to the economic structure of the host country, for example, market size, natural resources, human capital, technological capabilities, and production costs. The push factors represent the home country-specific factors such as market size and interest rates. However, there is no consensus among researchers on the importance of these factors (Burcak, 2015). A considerable number of theories were suggested by scholars to explain the factors determining the FDI in the host countries. FDI inflow varies based on the objective of the foreign companies (Somnath, 2017). According to Danning (2000), the eclectic paradigm of FDI which focuses on Ownership, Location, and Internalization (OLI) identify the major factors that motivate foreign investors to invest abroad rather than participate in foreign markets through different means such as joint ventures, management contracts, and so forth (Omar and Anil, 2016). The first factor indicates that the firm must have a competitive advantage in terms of specific ownership in its homeland that can be transferred abroad to result in a successful FDI for the firm, which is not shared by its competitors. The advantages of specific-ownership can be divided into three types: the

knowledge-based advantage that is related to all forms of innovative activities, the economy of common governance advantage related to economies of scale, and monopolistic advantage related to markets and natural resources. The location factor in terms of the advantages might be specific to a given location, for example, productive low-cost labor, institutional environments, and market size. The internalization factor should maintain the competitive advantage specific to the firm by controlling the entire value chain in its industry. UNCTAD (1998) confirmed Dunning's OLI Paradigm in that FDI usually chooses a host country where it can combine the components of ownership and location advantages of the host countries through internalization of FDI.

Based on the eclectic paradigm of Dunning, there are four main types of FDI determination based on the push factors that are external to the host country and are related to cyclical and structural conditions and herding that motivate the foreign investors to invest abroad (Ebiringa and Emeh, 2013). The first type is the market-seeking FDI where some foreign companies target the large domestic market size. According to this type, the motivation for foreign companies to invest abroad is to promote existing markets or to establish new markets for their products (goods and services). Therefore, the market size and its growth, tariffs, and low cost of transportations in the host countries motivate FDI inflows. The second type is resource-seeking FDI, where the firms' objective is the availability of natural resources, such as physical resources, unskilled and semi-skilled labor, technological and management abilities, in addition to

organizational skills. The third type of FDI seeks the reduction of the firms' production costs and is called efficiency-seeking in terms of relative cost of factors of production. Such firms seek to invest in countries with similar economic structure and income levels. The fourth type is strategic-assets seeking FDI where firms strive to acquire assets of foreign companies to sustain their worldwide competitiveness. The pull factors (those internal to foreign investors) are factors such as economic, socio-political and structural conditions, and uncertainty (Ebiringa and Emeh, 2013).

3. Literature Review:

A significant amount of economic literature has provided empirical evidence on the economic, political, and institutional factors influencing the level of FDI inflows in the host countries—developed as well as developing countries. However, there is no consensus on specific factors and they vary from country to country as well. It was Dunning's work (1977, 1973) that provided a framework for FDI determination that formed the theoretical background for applied work in investigating the factors that attract FDI inflows into the host countries, particularly developing countries. In the following discussion, a brief review of the most recent research is surveyed to identify the relevant factors for Jordan.

Maralgua et al. (2017) showed that market size, real GDP per capita, human capital, real exchange rate, and financial development exerted negative impacts on FDI inflows. Mohamed et al. (2017) found a significant positive impact of inflation, domestic investment, and external debt on FDI inflows.

However, GDP, exchange rate, and the lack of government had a negative influence for Somalia. Sawmolly (2017) found that economic growth positively influenced FDI inflows, whereas exchange and inflation rates had negative impacts in Algeria. Somnah (2017) findings revealed that unemployment, inflation rate positively influenced FDI inflows in India while Human Development Index, inflation rate, and industrial dispute positively influenced FDI inflows in Brazil. Abdelbagi et al. (2016) showed that, in the long-run economic growth, human capital, infrastructure, domestic investment, lagged FDI, and trade openness had significant positive influence on the FDI inflows. Erdenebat and Taikoo (2016) showed that only GDP had a positive and significant influence on FDI inflows in Mongolia. Doan and Lin (2016) found that market size and government effectiveness had a significant positive influence on inward FDI for Indochina (Cambodia, Laos, and Vietnam CLV) economies. Faik, et al. (2016) concluded that total industry output and sub-industries exerted a short-run negative influence on FDI inflows, but it became positive in the long-run in Turkey. Houssem et al. (2016) revealed that GDP growth and trade openness had positive impacts, whereas inflation and real effective exchange rate exert negative impacts for 68 emerging markets. Jones and Jacob (2016) findings indicated a negative and significant impact of exchange rate; whereas inflation and economic growth positively affected FDI for Namibia. Shiba (2016) findings revealed the existence of a long-run relationship among variables, and that real GDP, real exchange rate, and trade openness positively influenced FDI inflows in Nigeria.

Abdul et al. (2015) found that a direct causality runs from the manufacturing sector to FDI for Nigeria. Agyenim, et al. (2015) showed that GDP, sector GDP, exchange rate, and trade openness had a positive and significant influence on FDI inflows in Norway. For the Central and Eastern European countries, Burcak (2015) found that real GDP growth and global financial crisis, labor cost, and electricity price have strong influence on FDI. Caroline (2015) showed that economic risks, political risks, and financial risks had a negative effect for 35 African countries; Whereas inflation, stock market performance, infrastructure, trade openness, and lagged FDI showed positive and significant influences on FDI inflows. Daly and Tosompark (2015) showed that only wage variable had a positive and significant influence on FDI inflows for Thailand, whereas market size and exports had positive but insignificant influence. Gharaibeh (2015) for Bahrain provided that government consumption expenditure, inflation rate, economic stability, labor force, openness, education, and population had significant positive influences on FDI inflows. For the Association of Southeast Asian Nations (ASEAN) countries, Hoang and Bui (2015) showed that market size, trade openness, infrastructure, human capital, and labor productivity had a positive impact on FDI inflows. Kalaichelvi, et al. (2015) found that trade openness, infrastructure, and economic growth exert a positive impact on FDI inflows in Sri Lanka, whereas inflation has a negative impact, and wage rate was insignificant. Omar, et al. (2016) findings indicated that market size and natural resources positively influenced FDI inflows; whereas, inflation rate and degree of openness had

negative influences in Oman. For Pakistan, Sadaf and Iqbal (2014) pointed out that GDP, and interest rate had significant positive impacts on FDI inflows. In examining the determinants of FDI inflow in Haiti, Chen et al. (2013) found that market size, human capital, exchange and interest rates had positive significant influences. Ebiringa and Emeh (2013) showed that market size and market capitalization had significant positive impacts; whereas exchange rate, interest rate, and inflation exert significant negative impacts in Nigeria. For Baltic countries, Svetlana and Andreas (2013) revealed that corporate taxes, distance, economic freedom index, and market size had significant impacts on FDI inflows. Adefeso and Agboola (2012), for Nigeria, found that market size, trade openness, natural resources, external debt, and tax had significant positive impacts; while inflation, exchange rate, and infrastructure showed negative impacts. Mohammad and Mehdi (2012) found that economic growth had a significant positive impact, whereas inflation rate, oil extraction and openness had a negative effect on FDI inflows in eight Islamic countries. Chitrakalpa (2011) found that the service sector positively influenced FDI in India. Mohamed (2011) analyzed the FDI determinants in Algeria and revealed that public investment and trade openness had positive effects on FDI inflows. Asima et al. (2008) showed a significant positive impact of openness, inflation, and service sector. However, the impact on the manufacturing sector in MENA region was positive but insignificant, significant for non-GCC countries and negative and significant for GCC countries.

Specifically, a considerable amount of applied work related to FDI inflows has been conducted in Jordan over the last few decades. Most of this work focused either on the impact of FDI on selected macroeconomic variables, for example, economic growth, employment, and exports or on the factors attracting FDI. This work has been conducted using different sample sizes, different time horizons, and estimation methodologies such panel data analysis, ARDL, and cointegration among others. However, to the best of the author's knowledge, none of this applied work treated manufacturing and service sectors as determinants of FDI inflows. Abdulhaq et al. (2015) found that trade openness and freedom from corruption had a positive significant influence on FDI in Jordan. Ghaith Al-Eitan (2011) found that the Country Risk Model indicated that GDP had a positive influence on FDI inflows in Jordan. Husni and Walid (2010) showed that taxes incentives, infrastructure, human capital skills, and legal regulations would help attract FDI to Jordan. Al-Alami (2009) showed that all factors had significant impacts on FDI inflows except cultural and infrastructural factors. Amer and Torki (2009) revealed that market size (GDP and per capita GDP) was the major determinant of FDI in Jordan and Arab countries. Hussam and Yaser (2015) showed that FDI exerted an insignificant negative influence on TFP in low-tech industries. However, FDI positively and significantly affects TFP.

4. Methodology and Data:

The objective of the study is to provide empirical evidence on the role of manufacturing and service sectors along

with other variables in attracting FDI inflows in Jordan by employing annual data for the period 1980 to 2016. Based on the literature review presented earlier, the study examines the determinant variables that are expected to have the most influence on FDI inflows into Jordan, for example, market size, inflation rate, financial development, as well as, the manufacturing and service sectors. The required data were obtained from various sources, UNCTAD, Jordan Central Bank, and World Development Indicators (WDI).

4.1 Model Specification:

Based on the literature and studies conducted on the determinants FDI inflows in different host countries, it is obvious that there are many factors affecting the FDI inflows into a specific host country. Unfortunately, as Maralgua et al. (2017) stated due to the small sample size and the possibility of multicolinearity problem, it is difficult to include all factors affecting FDI inflows in a single econometric model. Therefore, the present study includes the most frequently utilized factors in the literature, in addition to manufacturing and service sectors. Following the applied literature, a multivariate log-linear model for FDI inflows into Jordan is constructed as follows:

$$FDI = f(MS, \quad MFG, \quad SER, \quad FIN, \quad INF, \quad INFRA, \quad TR) \qquad (1)$$

Where FDI is FDI stock inflows into Jordan as the dependent variable since it is more stable than FDI inflows (Nor, et al. 2015). MS is the market size measured by GDP; MFG is the ratio of manufacturing sector output to GDP. FIN is the ratio of domestic credit provided by the financial sector to GDP that serves as an indicator of financial development. INF is the inflation rate measured by Consumer Price Index, and INFRA is

the infrastructure. For efficiency and consistency of the estimation results, they were transformed into natural logarithmic forms to avoid the problem of heteroscedasticity (Maralgua et al. 2017). The variables were measured at constant prices (2005=100). Trade openness (TR) is added as a control variable.

4.2 Variable Description:

The Market size:

The market size reflects the economic conditions and potential demand in the host country (Hong and Duc, 2015). Therefore, the larger the market size of the host country, the higher is the volume of FDI inflows (Agyenim et al. 2015). This conclusion can be explained by the increased demand for goods and services due to the large market size, leading to more FDI to meet the increase in demand in the host county. Moreover, large market size (GDP) reflects better opportunities and higher chances of attracting FDI (Agyenim et al. 2015). The importance of market size to foreign investors has been confirmed by many economists, for example, Abdelbagi et al. (2017), Maralgua et al. (2017), Sawmolly (2017), Somnah (2017), Erdenebat and Taikoo (2016), Doan and Lin (2016), Houssem et al. (2016), Shiba (2016), Agyenim et al. (2015) among others. The findings are in line with Dunning's eclectic paradigm, asserting that market size of the host country is a crucial factor for FDI inflows. However, Sadaf and Iqbal (2014) found a significant negative impact.

Financial development indicator:

The current study utilizes the ratio of domestic credit provided by the banking sector to GDP (% GDP) to present the

financial development indicator and is expected to exert a negative influence on FDI inflows. Maralgua et al. (2017) found significant negative impact in the credit and M_2/GDP cases. Hong and Duc (2015) found insignificant positive impact on FDI.

Infrastructure:

Infrastructure is defined as an economic, social, and institutional framework of facilities needed for economic activities. To proxy a country's infrastructure, we followed Sherif and Dalia (2016) in using the number of fixed telephone lines per 100 people. The impact of infrastructure is expected to be positive, however, the applied research showed mixed results; for example, Abdelbagi et al. (2016), Sherif and Dalia (2016), and Kalaichelvi, et al. (2015) among others found significant positive impact.

Inflation rate (Economic stability):

Inflation rate reflects the macroeconomic stability. A higher rate of inflation reduces the purchasing power of income in domestic currency for investing companies (Agyenim et al. 2015). A low inflation rate provides a positive signal of national economic stability, thus encouraging FDI inflows. Therefore, a stable economy helps reducing the uncertainty of the investment environment. It is worthwhile to examine whether inflation in Jordan might be a deterrent for FDI inflows. It is expected that inflation exerts negative impact on FDI inflows to Jordan. Mohamed et al. (2017), Sawmolly (2017), Somnah (2017), Agyenim et al. (2015) among others found negative and significant influence of inflation on FDI inflows implying that

low inflation rate tends to attract more FDI inflows. On another hand, Al-Sharif (2016), Doan and Lin (2016), among others found negative but insignificant influence. Houssem et al. (2016) found a significant positive impact, while Erdenebat and Taikoo (2016), Chen et al. (2013) found insignificant positive influence.

Manufacturing sector:

The manufacturing sector variable measures the size of the manufacturing sector in Jordan's economy, and it is measured as the ratio of the manufacturing output to the GDP in the economy. It is expected to exert a positive effect on the FDI inflows to Jordan. The rationale behind this expectation is that the more developed the manufacturing sector, the higher will be the FDI inflows, especially industrial FDI.

Service sector:

The service sector variable measures of the size of the service sector in Jordan's economy, and it is measured as the ratio of the manufacturing output to the GDP in the economy. It is expected to exert a positive effect on the FDI inflows to Jordan. The rationale behind this expectation is that the more developed the service sector is, the higher will be the FDI inflows, especially industrial FDI.

4.3 ARDL bounds testing approach to cointegration:

It is well known in time-series analysis that spurious correlation between variables is a common property of macroeconomic time series data. Since only non-stationary time series data are used to estimate the long-run equilibrium relationships, there is a need for a process to stabilize and remove these spurious correlation such as differencing and

logarithmic transformation processes. There are various econometric approaches used by applied research in examining the long-run equilibrium cointegration of the time series variables such as (Engle and Granger, 1987; Johansen, 1988) among others. However, the ARDL econometric technique, as Guan et al. (2015) mentioned, was originally introduced by Charemza and Deadman (1992) and later modified and by Pesaran, et al. (2001) has recently become the most widely used econometric technique in time-series analysis. To achieve the objectives of the study and for the above advantages, the study employed bounds testing approach based on the Unrestricted Error Correction Model (UECM) technique to analyze FDI determinants in Jordan.

The ARDL approach has many advantages compared with other types of single-equation cointegration methods, which made it a popular technique in applied research (Srinivasan, et al. 2012). The ARDL does not require a prior determination of the order of integration of the variables, and can be applied regardless of the order of integration whether the variables are I(1), I(0), or mixed integration, while other cointegration approaches require that the variables be in the same order of integration. It can be applied to a small sample size, whereas the Johansen approach requires a large sample size; and both the short-run and long-run can be estimated simultaneously in bounds testing. It provides unbiased estimates of the long-run model (Guan et al. 2015).

The ARDL bounds testing modeling process involves two main steps. The first is to confirm the existence of long-run

relationships among variables by comparing the computed F-statistics of the ARDL-ECM process with a given upper and lower bounds. Based on ARDL bounds testing, the relationship between FDI inflows into Jordan and its determinants is estimated using the UECM is as follows:

$$\Delta LFDI_t = \alpha_0 + \sum_{i=1}^{n} \beta_{1i} \Delta LFDI_{t-1} + \sum_{i=0}^{s} \beta_{2i} \Delta LMGF_{t-i} + \sum_{i=0}^{p} \beta_{3i} \Delta LSER_{t-j} + \sum_{i=0}^{p} \beta_{4i} \Delta LINF_{t-j} + \sum_{i=0}^{p} \beta_{5i} \Delta LMS_{t-j} + \sum_{i=0}^{p} \beta_{6i} \Delta LFIN_{t-j} \sum_{i=0}^{p} \beta_{7i} LINFRA_{t-j} + \delta_1 LFDI_{t-1} + \delta_2 LMFG_{t-1} + \delta_3 LSER_{t-1} + \delta_4 LFIN_{t-1} + \delta_5 LMS_{t-1} + \delta_6 LFIN_{t-1} + \delta_7 LINFRA_{t-1} + \varepsilon_t \quad (3)$$

The long-run cointegration equilibrium relationship between the FDI inflows and the explanatory variables is examined by the significance of the lagged terms in equation (3), which is based on the Wald test or F-statistics with a non-standard asymptotic distribution under the null hypothesis of no-cointegration regardless the order of integration. The test conducts an F-test for the joint significance, where the null hypothesis of no-cointegration and the alternative hypotheses are as follows:

$$H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 \ldots\ldots = \delta_7 = 0$$
$$H_1: \delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq \ldots\ldots \delta_7 \neq 0$$

To test the null hypothesis using the F-statistic test, Pesaran, et al. (2001) provided two sets of critical values relating to the order of integration. The first set is the upper bound critical value that pertains to the I(1) series, while the second set is the lower bound critical value that refers to I(0) series. For example, if the computed F-statistics is higher than the upper bound critical value, then we can reject the null hypothesis of no-

cointegration, implying that there is a long-run cointegration equilibrium relationship among the variables, and hence, the long-run and short-run relationships can be estimated by the model. On the other hand, if the F-statistics is lower than the lower bound critical values, the null hypothesis cannot be rejected, whereas, if the F-statistic falls between the upper and lower bound critical values, the inference would be inconclusive. The optimal lag-length order incorporated into the ARDL Model is selected based on Schwarz Bayesian criterion (SBC) and Akaike Information Criteria (AIC) that are commonly used for selecting a maximum relevant lag length.

Having confirmed the existence of long-run relationship, the next step an ECM is utilized to estimate the short-run parameters specified as follows:

$$\begin{aligned}\Delta \mathrm{L}FDI_t = \alpha_0 + \sum_{i=1}^{n} \beta_i \Delta \mathrm{L}FDI_{t-1} \quad + \sum_{j=0}^{p} \gamma_i \Delta \mathrm{L}MS_{t-j} \\ + \sum_{j=0}^{s} \pi_i \Delta \mathrm{L}FIN_{t-i} \\ + \sum_{j=0}^{p} \sigma_i \Delta INFRA_{t-j} \\ + \sum_{J-0}^{P} \alpha_i \Delta \mathrm{L}MFG_{t-j} + \sum_{J-0}^{P} \varphi_i \Delta \mathrm{L}SER_{t-j} + \sum_{J-0}^{P} \omega_i \Delta \mathrm{L}INF_{t-j} \\ + \lambda_1 ECT_{t-1} \quad + \varepsilon_t \qquad (4)\end{aligned}$$

Where the coefficients are the short-run coefficients, λ_1 is the speed of adjustment parameter, and ECM is the error correction term. The estimated coefficient of the ECM term which is expected to be negative and significant refers to the

speed of adjustment of the explained variables in converging to the long-run equilibrium. To ascertain the validity of the ARDL Model, a set of diagnostic tests in addition to stability test are performed. The purpose of the diagnostic tests is to examine the existence of estimation problems with a model such as autocorrelation (serial correlation), normality, heteroscedasticity. The stability tests of the regression coefficients were also performed to ensure there are no structural breaks.

5. Estimation Results and Discussion:

The analysis starts with examining the degree of integration of the series via the unit root test, co-integration test, which indicates the existence of long-run equilibrium relationships, and Granger-Causality within a VECM framework.

5.1 Unit Root Test (Stationarity Test):

The stationarity status of all variables, according to Pesaran et al. (2001), is first tested before proceeding with the ARDL bounds testing to determine their order of integration to ensure that all time series are either I(0) or I(1), but not I(2). Table (1) reports the Augmented Dickey-Fuller (ADF) unit roots test (1979, 1981) for intercept only, intercept and trend, and none. The unit roots test indicates that none of the variables is integrated of order 2. Both tests indicate that all variables are non-stationary at their levels except financial development variable (LFIN) which integrated of order zero I(0) and become stationary after taking the first differences, that they are integrated of order 1, I(1). These results enable us to move to the

next step, which is testing for the existence of long-run equilibrium relationship.

Table 1: Results of ADF Unit Roots Test

Variable	ADF results (Level)			ADF results (differenced)		
	Constant	Constant & Trend	None	Constant	Constant & Trend	None
LMS	0.25 (3)	-1.87 (3)	2.17 (3)	-3.25** (2)	-	1.501(3)
LINF	-1.338	-2.118	1.995	-3.29(1)	-4.61**(0)	-2.24**(1)
LFDI	-0.21	-3.56	1.77	-10.1*	-10.01*	-9.39*
LINTRA	-1.72(1)	-0.79(1)	-0.25(1)	-2.75***(0)	-4.17**(0)	-2.82*(0)
LFIN	-3.59*(0)	-3.73*(0)	2.71*(0)	----	----	----
L*MFG*	-3.97	-3.7	-0.44	-4.91*	-4.86*	-4.98*
LTR	-1.456(0)	-1.44(0)	-1.43	-4.003(0)*	-3.99(0)**	-3.975(0)*
LSER	1.75(0)	-0.879(0)	5.739(0)	-5.745(0)*	-6.596(0)*	0.715(0)

(*), (**), (***) significant at 1%, 5%, and 10% respectively, lags numbers are in Parenthesis; # Growth Rate

5.2 ARDL Estimation Results:

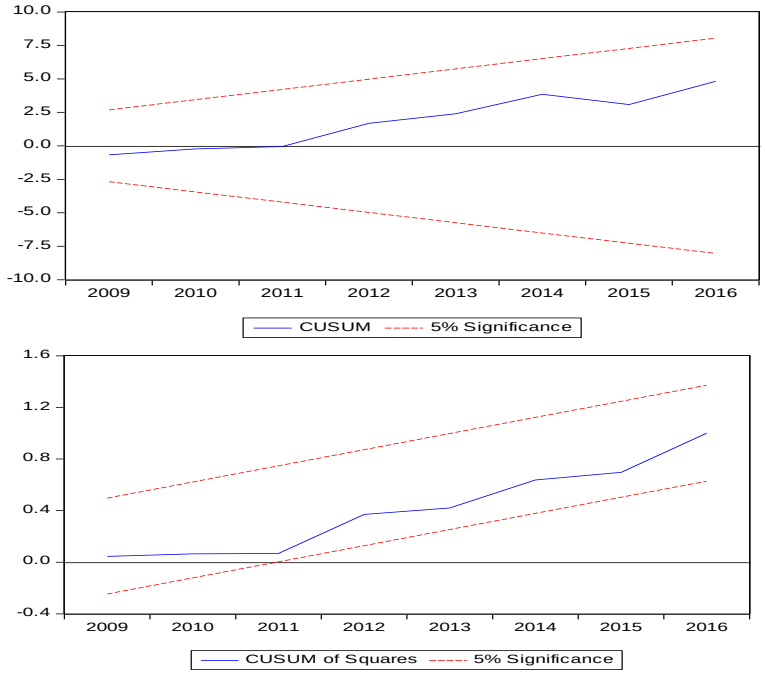
The statistical tests of the ARDL(2, 2, 0, 2, 0, 2, 0) estimation results are necessary to ensure that the model is free of the statistical problems. To ensure the validity of the estimated model, the current study conducts various diagnostic tests such as serial correlation, functional form, normality, and heteroscedasticity. The LM Serial correlation test, in addition to DW test (2.87), indicates that the model does not suffer from the problem as it is shown by the insignificant value of F-statistic test (3.09). Therefore, one may accept the null hypothesis of no serial correlation. Also, The Breusch-Pagan-Godfrey heteroscedasticity test with the insignificant F-statistics test (0.249) indicates the absence of this problem. Finally, Jaque-Bera normality test statistic is insignificant (0.557), which

indicates that the error terms are normally distributed. Hence, the estimation results are valid and meaningful.

5.3 The Stability Test:

The study applies the cumulative sum of recursive residuals (CUSUM) and (CUSUMSQ) to ensure the parameters' stability. Figure 1 shows that the plots of the CUSUM and CUSUMSQ statistic fall within the critical bands of the 5% confidence interval of parameter stability. Therefore, the results confirm the existence of parameter stability over the study period for Jordan.

Figure 1: The Stability Test Results



5.4 Cointegration Results:

The next step is to examine the existence of long-run relationships between the variables by applying the bounds

testing approach to cointegration. The calculated F-statistics (4.88) is greater than the upper bound critical value (4.43) provided by Pesaran (2001) at a 1% level, and hence, one can reject the null hypothesis of no-cointegration. Hence, this result provides evidence on the long-run relationship between variables. The Ramsey stability test was performed and it show that the model is stable.

Short-run estimation results:

Based on the cointegration results, we can estimate the VECM. Table 2 presents the short-run estimation results. It shows that the first-differenced of all variables as well as their lagged periods have mixed results in the short-run.

Table: 2 -ARDL Cointegrating And Long Run Form

ARDL(2, 2, 0, 2, 0, 2, 0)

Dependent Variable: L (FDI)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DLOG(FDI(-1))	-0.452786	0.188569	-2.401162	0.0274
D(LMFG)	-0.152658	0.108511	-1.406842	0.1765
D(LMFG(-1))	0.283067	0.225692	1.254214	0.2258
D(LSER)	0.437646	0.154263	2.837014	0.0109
D(LMS)	0.625873	0.853745	0.733091	0.4729
D(LMS(-1))	-2.159927	0.609378	-3.544475	0.0023
D(INF)	0.008842	0.006987	1.265386	0.2219
D(LFIN)	1.189859	0.546450	2.177436	0.0430
D(LFIN(-1))	-0.989985	0.532317	-1.859765	0.0793
D(LINFRA)	0.498919	0.137616	3.625430	0.0019
DL (TR)	0.767743	0.232396	3.303597	0.0039
CointEq(-1)	-0.269110	0.110726	-2.430412	0.0258
Cointeq = LOG(FDI) - (-4.1504*LMFG + 1.6263*LSER + 8.3238*LMS +				
0.0329*INF -1.0090*LFIN + 1.8540*LINFRA+ 2.8529*L (TR) -69.642)				

The error correction term turned out to be negative and significant at a 1% level providing evidence on the presence of

long-run causality runs from the explanatory variables to (LFDI). The error correction term is (–0.269), which indicates that 26.9% of short-run shock is corrected in each year (it takes about 3.72 year to restore long-run equilibrium)

Table 3 reports the long-run estimation results of ARDL(2, 2, 0, 2, 0, 2, 0). The table shows that market size represented by GDP is positive and statistically significant at a 1% level with the value of 8.323. The result indicates that a 1% increase in GDP increases the FDI by 8.323%. The market size result is in line with Abdelbagi et al. (2016), Shiba (2016), Doan and Lin (2016), Houssem et al. (2016), Erdenebat and Taikoo (2016), Gharaibeh (2015), Agyenim et al. (2015), Burcak (2015), Hong and Duc (2015), and Amer and Torki (2009) among other who found that market size is a major factor with a significant positive impact on FDI inflows. The infrastructure has the expected positive and significant impact, a 9% increase in the infrastructure leads to a 1.85% increase in FDI inflows. The infrastructure result is in line with Maralgua et al. (2017), Abdelbagi et al. (2016), Erdenebat and Taikoo (2016), Sherif and Dalia (2016), Kalaichelvi et al. (2015), and Chen et al. (2013). As for inflation rate variable, it has the expected negative sign but it is insignificant. The inflation rate result is in line with Mohamed et al. (2017), Somnah (2017) Omar, et al. (2015), Doan and Lin (2016), Erdenebat and Taikoo (2016), Gharaibeh (2015), Hong and Duc (2015), Kalaichelvi et al. (2015), and Ebiringa and Emeh (2013) showed a positive and a significant impact of inflation rate on FDI inflows. Moreover, the financial development indicator has a negative and insignificant impact,

which contradicts the expectations. Therefore, an increase in the ratio of financial development by 1% leads to a 1.009% decrease in the FDI inflows into Jordan. The financial development result is in line with Maralgua et al. (2017), and Hong and Duc (2015). Moreover, the results indicate that manufacturing sector exerts a significant negative impact on FDI inflows contradicting the expected positive impact; where an increase in manufacturing sector GDP decreases the FDI inflows by a 4.15%. This result is in line with Faik et al. (2016) in the Turkish case, and Asima (2008) found negative impact in the GCC countries. On the other hand, service sector GDP has a positive and significant impact on FDI stock in Jordan at 8% level; a 1% increase in LSER increase the FDI by 1.62%. This result is line with Chitrakalpa (2011) for India. Moreover, inflation is positive and insignificant. Trade openness is positive and significant.

Table 3: Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LMFG	-4.150447	1.673598	-2.479954	0.0233
LSER	1.626274	0.881829	1.844206	0.0817
LMS	8.323775	2.879011	2.891193	0.0097
INF	0.032855	0.026950	1.219125	0.2385
LFIN	-1.009038	2.035186	-0.495796	0.6260
LINFRA	1.853960	1.036505	1.788666	0.0905
L (TR)	2.852900	1.214788	2.348476	0.0305
C	-69.642576	22.577494	-3.084602	0.0064

5.5 Discussion of the Results:

The positive and significant impact of market size indicates that FDI inflow into Jordan is market-seeking type. In addition, the FDI inflow takes advantage of Jordan's geographical location to export to the world, as well as, regional

markets. Financial development that was measured as the ratio of bank credit to the private sector to GDP was negative and significant, indicating that Jordan's financial sector is still less developed. Inflation rate influences the purchasing power of consumers inversely. Therefore, foreign companies prefer to invest in countries with lower inflation rate to ensure the existence of adequate demand for their products in domestic markets. In addition, it reduces the return on investment. In this context, high inflation rate discourages foreign companies from investing in Jordan. Another possible justification is that inflation is a proxy for economic stability. Therefore, a stable economy helps increasing confidence in the economy. The negative relation between FDI and the manufacturing sector can be due to the fact that this sector is mainly composed of small and micro industries, which is characterized by low technology. In addition, these industries possess low competitive advantage in the world market. As Hussam and Yaser (2015) pointed out, FDI firms aim to maximize profits, so they take advantage of the geographical location of Jordan. Their goal is to produce for external markets rather than local markets. In this context, service sector is positive and significant, which indicates that FDI is service-seeking (Asima et al. 2008).

6. Conclusion and Policy Implication:

The main objective of this study is to investigate the contribution of both the manufacturing and service sectors in attracting FDI inflows in Jordan. In the studies conducted so far, a major part of the analysis on FDI inflows in Jordan has been restricted to examining either the attracting factors or the impact

of FDI on economic growth among other variables. The impact of manufacturing and service sectors on FDI inflows has not been investigated (to the best of the author's knowledge). The estimation results revealed that in the long-run, the explanatory variables market size; service sector, infrastructure, and trade openness have a significant positive impact on FDI inflow except inflation is insignificant. On the other hand, financial development and manufacturing variables are negative and significant.

The current study suggests that some policy implications can help to attract more FDI inflows in Jordan. The public and private sectors should improve their technological competencies in manufacturing establishments since FDI inflows are mostly at a high technological level. In addition, although the service sector is attracting FDI, improving the standard of modern services would further help in attracting FDI. From the results, it can be assumed that in Jordan's context, FDI is market-seeking type. Therefore, increasing the market size represented by economic growth is a good attracting factor. Moreover, the government needs to stabilize the economy by reducing the inflation rate to its minimum.

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Short and Long Run Effects of Currency Devaluation Policy on Egypt-Saudi Bilateral Trade

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Abstract

Egypt suffers from a growing bilateral trade deficit with Saudi Arabia, one of its most important trading partners. Although the devaluation of the domestic currency is anticipated to improve Egypt's trade balance, few studies have confirmed the effectiveness of this exchange rate policy. Therefore, the objective of this study is to evaluate whether the ***J*** *curve hypothesis holds for Egypt's bilateral trade balance with Saudi Arabia from 1995 to 2016, using the ARDL approach to capture both short run dynamics and long run effects. The empirical results support the existence of the J curve, i.e. that the devaluation of the Egyptian pound has a positive impact on Egypt's bilateral trade balance with Saudi Arabia after a deterioration in the short run. As the coefficient of the lagged error correction term implies that the short run adjustment process fluctuates around the long run value before eventually*

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converging to it, the study recommends to take economic and political instabilities into consideration and to remove bottlenecks in the production sector to fully exploit the benefits of increased demand for exports as a result of its currency devaluation policy.

Short and Long Run Effects of Currency Devaluation Policy on Egypt-Saudi Bilateral Trade

Aliaa N. Khodeir, Karima M. Kamal, Bodour R. Alhumaid

1. Introduction:

Instabilities in the trade balance are one of the main challenges facing policymakers in developing countries. Due to the significant impact of exchange rate movements on the trade balance, exchange rate policies are often used as a tool to improve the trade balance. This corrective tool finds its intellectual origins in what is known as the "**J** curve hypothesis".

Egypt, as a developing country, suffers from a persistent and worsening trade balance deficit. As many established tools to improve its trade balance such as subsidies, quotas, and taxes are no longer suitable after Egypt joined the World Trade Organization (WTO) in 1995 **[1,2]**, it is necessary to determine whether exchange rate changes could be used to treat these imbalances. This entails the need to evaluate whether the dynamic interactions between Egypt's trade balance and its currency changes support the existence of the **J** curve hypothesis.

The official statistics of the Central Bank of Egypt show clearly the magnitude of the trade balance deficit Egypt suffers from. They reveal a steady increase in the deficit form 30.7 billion dollars in 2012/2013 to 33.7 billion dollars in 2013/2014

by a rate of 9.8%, and to 38.8 billion dollars in 2014/2015 at a rate close to 14%, then declining slightly in 2015/2016 to about 38.7 billion dollars.

The worsening of the trade deficit is caused by a continuous rise in imports accompanied by a decline in exports. While imports reached about 59.8 billion dollars in 2013/2014, export earnings did not exceed 26.1 billion dollars leading to a low coverage rate of imports by exports of 43.7% compared to 46.8% in 2012/2013. The ratio continued to decline in 2014/2015 to reach 36.3%, due to higher payments on imports to 60.8 billion dollars, while export earnings fell to 22.1 billion dollars. During 2015/2016, the ratio even dropped to 32.06%.

Saudi Arabia is an important trading partner of Egypt ranking second among the most Arab countries exporting and importing from Egypt in 2015/2016. In the Central Bank of Egypt's annual report 2015/2016 Saudi imports accounted for 27% of total Egyptian imports from Arab countries, while exports to Saudi Arabia accounted for 19% of total exports to Arab countries **[3]**.

Although trade relations between Egypt and Saudi Arabia go back a long time, Egypt's bilateral trade balance with Saudi Arabia has suffered from a worsening trade deficit over the last two decades from 1995 to 2016. While the deficit was about 76 million dollars in 1995, it amounted to 286 million dollars in 2016. This continuous growing deficit is the reason this study chooses Egypt's bilateral trade balance with Saudi Arabia as the field of application**[4]**.

The importance of Egypt's bilateral trade balance with Saudi Arabia is increasing and will continue to intensify in the coming period in light of the developments in both countries and the changes in their economies which will surely affect the bilateral trade between them.

Since the large drop in oil prices in 2014, the fiscal deficit in Saudi Arabia has been very large prompting the government to take a number of fiscal adjustment measures**.** It began with a substantial spending cut in late 2015, followed up with a preliminary set of reforms and a tighter budget for 2016 before announcing by mid-year its long-term Vision 2030 and five-year National Transformation Program in which it outlined its medium-to-long term strategy for reducing the reliance of its economy and the budget on oil. In late 2016, the Saudi government announced the Fiscal Balance Program, which outlines the government's target of achieving a balanced budget by 2019. Nevertheless, the fiscal deficit has been very large, averaging over 16 percent of GDP in 2015–16, and the government net financial asset position declined by 30 percent of GDP during 2015–16 as deposits at Saudi Arabian Monetary Agency declined and borrowing from domestic and external sources increased. The external position in 2016 was judged to be substantially weaker than the level consistent with desirable medium-term fiscal policy settings **[5]**. These deflationary trends in the fiscal and monetary policy of Saudi Arabia are expected to have a negative impact on the trade balance between Saudi Arabia and its commercial partners, including Egypt.

On the other hand, in 2016 Saudi Arabia announced, in agreement with Egypt, the construction of King Salman Bridge over the Red Sea connecting the two countries and becoming a gateway between Asia and Africa. This bridge is anticipated not only to increase trade relations between Egypt and Saudi Arabia, but also to open the door to more trade relations of both countries with other Arab countries and the rest of the world. Therefore, the King Salman Bridge is a great opportunity to improve trade relations with Egypt's existing trading partners, especially Saudi Arabia and to open new horizons for new trading partnerships. This expansion of trade relations is hoped to improve Egypt's trade balance in general and especially its bilateral trade balance with Saudi Arabia.

As part of the Egyptian government's efforts to improve its trade balance, the Egyptian economic reform program which began in the 1990s adopted a currency devaluation policy. The depreciation of the Egyptian pound against the dollar has resulted also in a decrease in its value against the Saudi riyal, which is tightly pegged to the dollar since 1986. While the exchange rate of the Saudi riyal expressed in Egyptian pound was about 1.65 in 2004 it reached about 1.89 pounds in 2014. Recently, after the Central Bank of Egypt announced the floating of the exchange rate on the 3rd of November 2016, the exchange rate of the riyal reached 2.69 pounds.

Comparing these exchange rate changes with Egypt's bilateral trade balance with Saudi Arabia expressed as Egypt's export/imports coverage ratio, this ratio has generally seen an improvement during the years of this millennium, which

coincided with the devaluations in the domestic currency. This export/imports coverage ratio ranged between 32% and 87% from 2004 and until 2016, after ranging from 19% to 62% before 2003 **[4].**

Therefore, this study investigates the impact of exchange rate changes on the bilateral trade balance between Egypt and Saudi Arabia. Specifically, it attempts to test the following hypothesis: "The **J** curve hypothesis applies to the Egyptian bilateral trade balance with Saudi Arabia." The **J** curve hypothesis suggests that the devaluation of the domestic currency improves a country's long term trade balance after a short period of deterioration **[6].**

To test this hypothesis, the study applies the Autoregressive Distributed Lag (ARDL) methodology which is considered the most suitable approach in this context, as both short run dynamics and long run effects can be detected, which is in line with the **J** curve hypothesis. There are numerous empirical studies on the **J** curve hypothesis covering both developing and developed countries. Studies on the Egyptian economy however are limited and suffer from accumulation bias resulting from the use of trade data between Egypt and the rest of the world or between Egypt and its trading partners in general. This study adds to the empirical evidence by testing whether the previous hypothesis holds for Egypt’s bilateral trade balance with one country only, namely Saudi Arabia, using recent data that covers the period from 1995 to 2016.

The rest of the paper is organized in the following manner: after reviewing the literature on the **J** curve

phenomenon, Egypt's bilateral trade relation with Saudi Arabia is analyzed alongside its exchange rate movements. Then follows the description of the econometric model and the empirical analysis of the results, and finally the study concludes with the most important findings and recommendations.

2. Literature review

The ideas of Marshall-Lerner, best known as the Marshall-Lerner Condition, are the core of the idea of the **J** curve. This condition suggests that the devaluation of a currency would improve the long-term state of the trade balance if the total demand elasticities of exports and imports are greater than one. The condition is based on the application of elasticities in the interpretation of the balance of payments. The depreciation of the currency leads to a change in relative prices, where export prices denominated in domestic currency decrease while import prices denominated in domestic currency increase, thus increasing external demand for exports and reducing internal demand for imports **[7].**

The **J** Curve concept was first introduced by Magee in 1973 based on his studies of the United States of America's trade balance following reductions in the dollar in 1971, which resulted in a worsening deficit over the following year which reached 6.8 billion dollars after the deficit was 2.7 billion in 1971. Based on his results, Magee argued that it is possible that currency devaluation causes the trade balance to deteriorate first and improve later, causing movements that resemble the letter **J**, hence the **J** curve phenomenon. This short run temporary deterioration of the trade balance was explained by adjustment

lags. Where time lags between the adjustment of prices of contracts before and after the reduction in prices are called price adjustment lags, and time lags continuing until the locally produced quantities of supply are modified are called quantities adjustment lags **[8]**.

Since its introduction empirical studies have intensively investigated the validity of the **J** curve for both developed and developing countries using different econometric techniques, data types and models, and producing mixed results. For example, **Rose and Yellen (1989) [6]** used twenty-five years of data for the United States of America, and indicated that there was no statistically significant evidence of the existence of this curve. By using response functions based on the error correction model, **Hacker and Hatemi-J (2003) [9]** found that the **J** curve holds for five European countries - Belgium, Denmark, the Netherlands, Norway and Sweden. As for developing countries; **Suri and Shome (2013) [10]** found evidence that supported the **J** curve for the Indian trade balance using monthly data for the period between 2010 and 2012, and relying on the Pearson correlation coefficient to confirm the results. Using the ARDL methodology, both **Zirambra and Chifamba (2014) [7]** and **Baba and Yazici (2016) [11]** found no evidence to support the **J** curve for Nigeria and South Africa, respectively. The study of **Suleman et al. (2014) [12]** showed that the **J** curve for Pakistan's trade balance with Saudi Arabia could not be supported using the autoregressive distributed lag (ARDL) methodology for annual data of the period (1973-2010).

As for the trade balance of Saudi Arabia, several studies were conducted. **Mahmood and Alkhateeb (2017) [13]** investigated the influence of devaluation policy on the trade balance of Saudi Arabia in general for the period 1970-2015 using a non-linear ARDL model. Their study concluded that devaluation is not effective in improving the trade balance suggesting that a fixed exchange rate is preferable to devaluation. In another study **Mahmood et al. (2017a) [14]** using the same methodology and time period found evidence for the existence of the **J** curve for industrial exports of electrical products. Yet in another study on the service trade **Mahmood et al. (2017b) [15]** found evidence to support the existence of the **J** curve hypothesis in the long run, suggesting that devaluation of Saudi currency may improve the trade balance of the service sectors in Saudi Arabia.

As for the Egyptian economy, there are several studies investigating the existence of the **J** curve. **Kulkarni (2001) [16]** used descriptive analysis of time series data for Egypt and Ghana and found that the **J** curve holds for both countries after each devaluation. However, the original model was extended to take successive devaluations into consideration and concluded that a series of devaluations would shift the **J** curve and cause a continuous trade balance deficit. **Bahmani-Oskooee and Hosny (2013) [17]** used quarterly data on Egypt's trade with the US on 36 industries during the period (1994-2007) and resulted in supporting the **J** curve for 16 of the 36 industries. In a previous study **Bahmani-Oskooee (2001) [18]** also adopted the same method using quarterly data during the period (1971-1994) for a

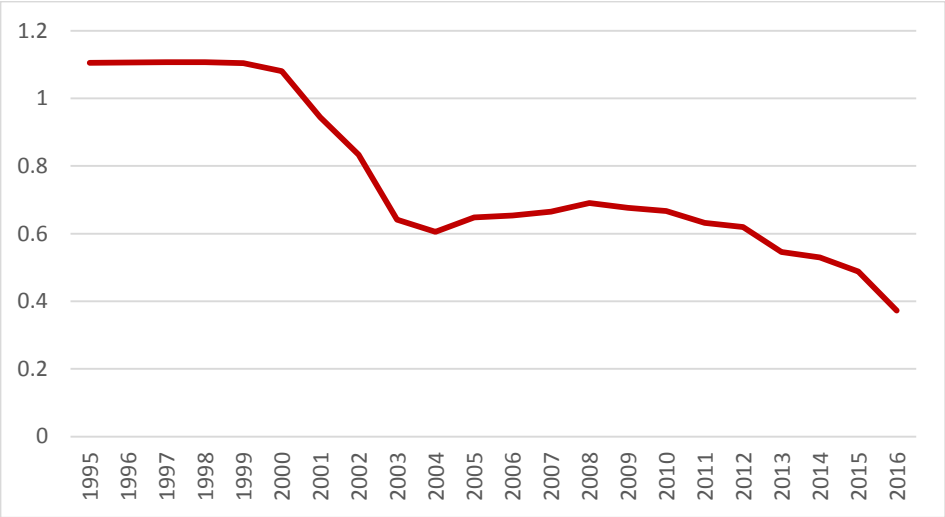
number of countries in the Middle East, including Egypt, to study the effect of nominal and real exchange rates on the trade balance performance and found that a real devaluation has a positive long-term effect on the trade balance of most nonoil exporting Middle Eastern countries including Egypt. Moreover, the study of **Abd-El-Kader (2013) [1]** used annual panel data on Egypt's relationship with 20 of its trading partners including Saudi Arabia, and found evidence to support the existence of the **J** curve during the period (1989-2010) in line with the other studies.

As far as the researchers know, there are no studies linking Egypt's trade balance exclusively with Saudi Arabia for the purpose of investigating whether the **J** curve hypothesis applies to their trade relations. The available studies on the **J** curve phenomenon are limited to the trading relations of each country separately with other trading partners.

3. The Economic Analysis of Egypt's Bilateral Trade Balance with Saudi Arabia during Exchange Rate Changes

During the 1990s, in the early years of the implementation of the Egyptian economic reform program, Egypt enjoyed monetary stability evident in the relative stability of the Egyptian pound against the main currencies. However, by the start of the new millennium, Egypt was hit by a currency crisis and black markets for foreign currencies emerged which affected the value of the Egyptian pound against the currencies of its trading partners, including the Saudi riyal.

Figure (1): The value of the Egyptian pound against the Saudi riyal during (1995-2016)



Source: UNCTAD statistics.

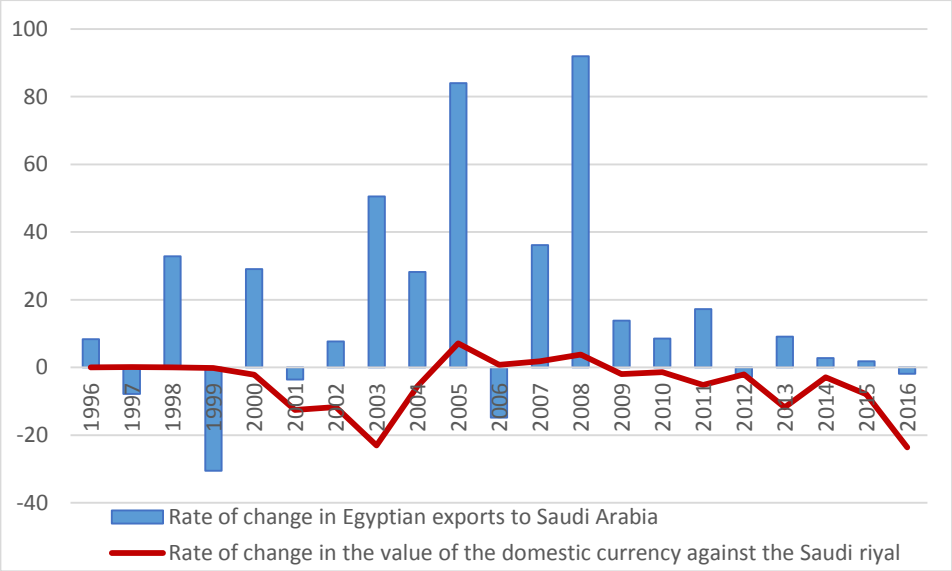
Throughout the mid-1990s until the end of the 1990s, the Egyptian pound was relatively stable around 1.1 Saudi riyal. From 2001 onwards, and despite Egypt's commitment to the implementation of economic reform policies; the foreign exchange market suffered from imbalances. Affected by the currency crisis, the Egyptian government was inclined to devaluate its currency ever since. Consequently, the price of the Saudi riyal against the Egyptian pound started to rise. **Figure (1)** shows clearly the depreciation of the Egyptian pound against the Saudi riyal. The value of the Egyptian pound dropped from 1.08 Saudi riyals in 2000 to 0.64 Saudi riyals in 2003, continued to fall to about 0.61 riyals in 2004 and reached its lowest value in 2016 at 0.37 riyals.

The devaluation of Egypt's domestic currency against the Saudi riyal had an observable impact on both exports and imports between the two countries. By tracking the rate of change in Egyptian exports and the rate of change in the value of the Egyptian pound against the Saudi riyal, as shown in **Figure (2)**, contradicting trends can be identified. Exports achieved a positive growth rate during a large number of years in which the value of the Egyptian pound fell against the Saudi riyal. Exports increased by 29% in 2000 while the pound depreciated by 2.2%. Also the noticeable decline in the value of the pound in 2003, at a rate of 23%, which coincided with a significant increase in exports, whose growth rate escalated to nearly 50.5%. In addition, the period 2009-2015 showed a correlation between the devaluation of the Egyptian pound and the growth of Egyptian exports to Saudi Arabia except for the year 2012.

On the other hand, there have been some years in which the value of the Egyptian pound depreciated and the value of exports declined. This occurred in 1999, 2001, 2006, 2012 and 2016. In 1999, the value of the domestic currency decreased by a mere 0.2%, accompanied by a decline in exports of 30.5%. And in 2001, the currency lost about 12.6% of its value against the riyal compared to the previous year, while exports achieved negative growth, falling by 3.59%. Also, the pound lost 2% of its value in 2012, with a 2.8% drop in export growth. In addition, the decision of the Egyptian government to float exchange rates in 2016 led to further devaluation of the Egyptian pound by 23.6% against the Saudi riyal while the value of Egyptian

exports to Saudi Arabia declined by about 1.9% compared to 2015.

Figure (2): **Rates of change in the value of Egypt's domestic currency and Egyptian exports to Saudi Arabia during (1996-2016)**



Source: UNCTAD statistics.

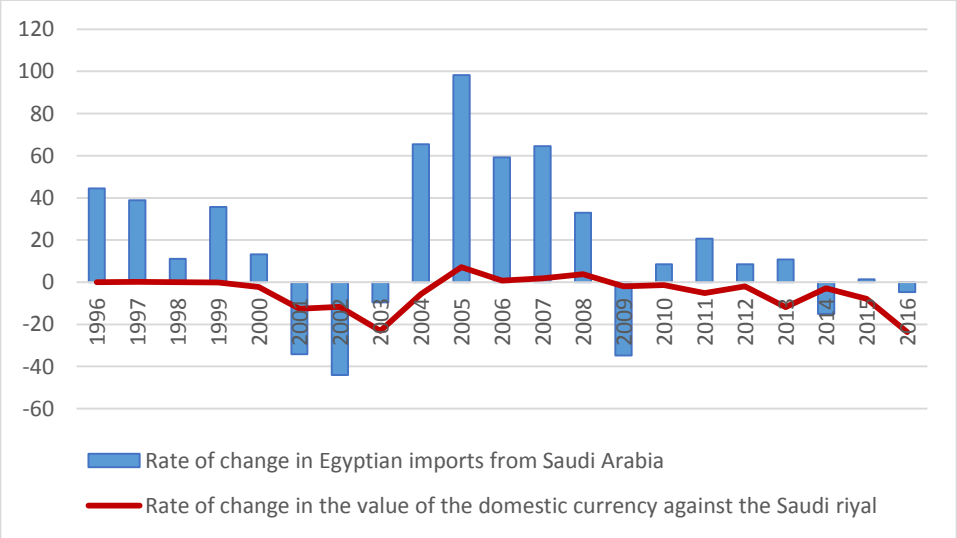
The previous analysis of **Figure (2)** about Egypt's export performance allows the following inferences:

- The devaluation of the domestic currency is an important factor in Egypt's export performance during most of the study period, indicating that in the long run the effect of the **J** curve hypothesis might be achieved.
- The devaluation of the domestic currency does not necessarily coincide with an improvement in export performance as in the years 1999, 2001, 2012 and 2016 as quantity adaptation may take longer. This implies that the

short run dynamics of the **J** curve hypothesis might be achieved.

- As for Egypt's import performance from Saudi Arabia in relation to the devaluation of the Egyptian pound, **Figure (3)** shows that imports recorded positive growth rates throughout the study period despite the depreciation of the Egyptian pound against the Saudi riyal, except for the years 2001, 2002, 2003, 2009, 2014 and 2016. This can be explained by the low elasticity of Egyptian imports from Saudi Arabia to exchange rate changes.

Figure (3): Rates of change in the value of Egypt's domestic currency and Egyptian imports from Saudi Arabia (1996-2016)



Source: UNCTAD statistics.

The reason behind this low elasticity of imports lies in the composition of Egypt's imports from Saudi Arabia, which consist mostly of crude oil and its products, followed by plastics and related products and metal products. In addition to crude oil

being an important energy resource difficult to dispense, plastic products (such as polypropylene, high and low density polyethylene) and metal products (such as iron and steel) are also crucial for industrial production and difficult to replace **[19].** Hence, the devaluation of the Egyptian pound is not expected to reduce the quantity of imports from Saudi Arabia substantially. Accordingly, it can be argued that Egypt's import behavior, following its domestic currency devaluation in **Figure (3),** does not support the **J** curve hypothesis in the long run.

Relying entirely on the previous analysis of the trade balance components does not allow a final judgment on whether the **J** curve hypothesis holds for the bilateral trade balance of Egypt with Saudi Arabia. As Egypt's import response to a lower exchange rate was less than its export response, Egypt's export behavior is in favor of supporting the **J** curve hypothesis, while its import behavior is not in favor of supporting it. These ambiguous results regarding the acceptance of the **J** curve hypothesis makes it necessary to resort to an econometric methodology to evaluate to what extent Egypt's import/export behavior is consistent with the **J** curve hypothesis.

4. The Econometric Model

The main objective of the study is to evaluate whether the performance of Egypt's bilateral trade balance with Saudi Arabia supports the **J** curve hypothesis, i.e. that the devaluation of the Egyptian pound has a positive impact on Egypt's bilateral trade balance with Saudi Arabia after an initial deterioration. After the description of the econometric model and data used in this study,

empirical results for the short and long run effects will be discussed.

4.1 Description of the Econometric Model:

The econometric analysis in this study is based on the trade balance model proposed by **Rose and Yellen (1989) [6]** and used by **Ziramba and Chifamba (2014) [7]** on factors determining the trade balance according to the following equation:

$$\ln(TB_t) = \delta \ln(Y_t) + \alpha \ln(Y_t^*) + \pi \ln(e_t) + \in_t$$

According to this logarithmic function a country's trade balance ($\mathbf{TB_t}$) is a function of its real exchange rate ($\mathbf{e_t}$), the domestic income ($\mathbf{Y_t}$), the foreign income ($\mathbf{Y^*_t}$) and a random variable ($\mathbf{\in_t}$). The parameters ($\boldsymbol{\delta}$) and ($\boldsymbol{\alpha}$) represent the elasticity of the trade balance to changes in the country's domestic income and the elasticity of the trade balance to changes in foreign income respectively, and (π) is the trade balance elasticity to real exchange rate changes. Thus, Egypt's bilateral trade balance function with Saudi Arabia will take the following form:

$$TB = f\,(YE, YSA, REX)$$

Where **TB =** Egypt's trade balance with Saudi Arabia, calculated as the ratio of Egypt's exports to Saudi Arabia to Egypt's imports from Saudi Arabia. The ratio is used to make the measure of trade balance unit free.

YE = domestic income i.e. the real gross domestic product (GDP) of Egypt.

YSA = foreign income, i.e. the (GDP) of the Kingdom of Saudi Arabia.

REX = real exchange rate, calculated according to the following equation:

$$\mathrm{REX} = \frac{\mathrm{PSA} \times \mathrm{NX}}{\mathrm{PE}}$$

Where **(PSA)** is the consumer price index in Saudi Arabia, **(NX)** the nominal exchange rate represents the price of foreign currency i.e. the equivalent of the Saudi riyal in Egyptian pounds, while **(PE)** is the consumer price index in Egypt.

There are no priori expectations on the relationship between incomes, whether domestic or foreign, and the trade balance; as the impact of income depends on supply and demand factors **[11, 20].** Provided that an increase in Egypt's income is either due to an increase in production of locally manufactured substitutes of foreign goods that replace imports, or would allow for an increase in Egypt's export capacity in what is known as the growth-driven exports, the effect on Egypt's trade balance is expected to be positive; but if an increase in Egypt's income leads to an increase in Egypt's imports, the effect on Egypt's trade balance is expected to be negative. On the other hand, an increase in foreign income may lead to an increase in the external demand for imports from Egypt, thus increasing Egyptian exports and improving Egypt's trade balance; however, if the rise in foreign income is due to an increase in production of locally manufactured substitutes that replace imports from Egypt, then Egypt's trade balance is expected to deteriorate.

In order to evaluate the effect of the real exchange rate changes between the Egyptian pound and the Saudi riyal on Egypt's trade balance and to detect the **J** curve phenomenon, the short run effects need to be separated from long run effects. If

the **J** curve hypothesis can be confirmed for Egypt's trade balance, then the devaluation of the domestic currency is expected to affect Egypt's trade balance positively in the long run and adversely in the short run.

To be able to determine the nature of the effect during different time periods, the study applies the autoregressive distributed lag (ARDL) approach **[21].** This approach is characterized by its ability to distinguish between short run adjustments and long run effects as well as being suitable for small samples **[22, 23]**. Therefore, it is considered the most appropriate approach for this study given the time period for which the data on the variables are available. In addition, the ARDL approach does not require the variables to be integrated of the same order **[24].**

Using the logarithmic form to allow estimating the response elasticity of the variables, the ARDL model for the current study will take the following form:

$$\begin{aligned}\Delta\mathrm{Log(TB)} = {} & \mathrm{C} + \beta_1 \mathrm{Log(TB_{t-1})} + \delta_1 \mathrm{Log(YE_{t-1})} \\ & + \alpha_1 \mathrm{Log(YSA_{t-1})} + \pi_1 \mathrm{Log(REX_{t-1})} \\ & + \sum_{i=1}^{p} \beta_{2i} \Delta\mathrm{Log(TB_{t-i})} + \sum_{i=1}^{K} \delta_{2i} \Delta\mathrm{Log(YE_{t-i})} \\ & + \sum_{i=1}^{m} \alpha_{2i} \Delta\mathrm{Log(YSA_{t-i})} + \sum_{i=1}^{n} \pi_{2i} \Delta\mathrm{Log(REX_{t-i})} \\ & + \mu_t\end{aligned}$$

The first four parameters preceding variables without taking first differences correspond to long run relationships. The

remaining parameters preceding variables after taking their first differences correspond to the short run dynamics of the model. Obtaining evidence of the **J** curve hypothesis requires that the parameter of the real exchange rate on the trade balance in the long run ($\boldsymbol{\pi_1}$) to be positive and significant, and the parameter of the real exchange rate for the trade balance in the short run ($\boldsymbol{\pi_{2i}}$) to be negative and significant.

4.2 Empirical Results:

The study uses data for the period 1995-2016, available in the United Nations statistics base about trade indicators **[4].** The time series data has been tested for stationarity using the Elliott-Rothenberg-Stock DF-GLS test, which is suitable for small-scale samples, and has been used in a number of empirical studies such as **[24, 25].** The null hypothesis is that the time series contains a unit root i.e. is not stationary.

Table (1): Results of the stationarity test

Variables in logarithmic form	DF-GLS at the zero level = I(0)	DF-GLS at the first difference = I(1)
TB	- 2.393955**	- 3.297370
YE	- 0.227200	- 2.071103**
YSA	0.151063	- 4.379838 *
REX	- 2.376087**	- 2.472066
Critical values Trend and intercept	- 2.685718 (1%) - 1.959071 (5%) - 1.607456 (10%)	

- * Significant at 1%, ** Significant at 5%, *** Significant at 10%

The results of the test reported in **Table (1)** indicate different orders of integration for the variables between I(0) and I(1), with none of the variables being I(2) or beyond. The variables representing the trade balance and the real exchange rate were stationary at I(0) at trend and intercept testing and the variables representing domestic and foreign income were stationary at I(1). As the ARDL technique does not require the time series of the variables to be of the same order of integration, it is the most suitable approach for this study.

Using Eviews 9, the ARDL model was tested for a long run relationship between the underlying variables using the F-Bounds test. As the computed F-statistic, 6.0946573, was greater than the upper bound critical values 5.61, 4.35 and 3.77 at the 1%, 5% and 10% levels respectively, the null hypothesis was rejected which means that a long run relationship exists between the variables under investigation.

After selecting the optimal lag distribution automatically using the Akaike Information Criteria (AIC), which reached its lowest value at (3,2,2,2) respectively, the estimated model was tested using diagnostic and specification tests to ensure that it does not suffer from any econometric problems that would affect the results.

The Breusch-Godfrey Serial Correlation LM test indicates that there is no serial correlation between the error terms as the probability of the F-statistic was 0.3355 which is greater than 0.05. In addition the probability of the chi-square test statistic in the Heteroskedasticity Breusch-Pagan-Godfrey test was 0.2295, indicating that the model errors are homoscedastic. Furthermore,

the Ramsey Reset test with a probability of the F statistic of 0.3585 confirms the suitability of the model's functional form; and random errors in the model follow the normal distribution with a probability value of 0.2985 based on the Jarque-Bera test.

Regarding the effect of incomes, the long run coefficients for both foreign income and domestic income, shown in **Table (2),** are not significant at the 5%. Thus both Saudi income and Egyptian income have no long run effect on Egypt's trade balance with Saudi Arabia contrary to what was anticipated. This might be explained by the nature of exports and imports between Egypt and Saudi Arabia, in addition to the fact that although an increase in Saudi income is expected to lead to an increase in Saudi imports in general, it does not necessarily lead to an increase in its imports from Egypt specifically. On the other hand, while an increase in Egyptian income might also increase Egyptian exports in general, it does not automatically increase its exports to Saudi Arabia. Therefore, rises in incomes might have no long term impacts on Egypt's bilateral trade balance with Saudi Arabia.

Table (2): ARDL long run estimation results

Independent variables	Regression coefficient estimated values	Probability value
Log **(**YSA**)**	2.001651	0.1002
Log **(**YE**)**	- 0.257544	0.7910
Log **(**REX**)**	2.027521 *	0.0085

- * Significant at 1%, ** Significant at 5%, *** Significant at 10%

As for the effect of real exchange rate changes on the Egyptian trade balance, the impact parameter was positive and significant. This indicates that an increase in the real exchange rate i.e. the devaluation of the domestic currency against the Saudi riyal, will lead to an improvement in the Egypt's bilateral trade balance with Saudi Arabia as the ratio of Egyptian exports to Saudi Arabia to its imports from Saudi Arabia will increase. Considering the estimated partial elasticity of the bilateral trade balance to exchange rate changes being 2.03, a 1% appreciation of real exchange rate i.e. a 1% devaluation of the Egyptian pound would result in a 2.03% improvement of Egypt's bilateral trade balance with Saudi Arabia. Based on these findings the long term part of the **J** curve hypothesis can be supported for the Egyptian economy. This does not contradict the previous economic analysis which showed that imports have increased despite currency devaluation. The confirmation of the long run **J** curve hypothesis by the econometric analysis indicates that the growth rate of Egyptian exports to Saudi Arabia in response to the domestic currency devaluation was higher than the growth

rate of Egyptian imports from Saudi Arabia. These results are also reflected in **Figures (2), (3)** of the economic analysis.

The results of the ARDL error correction model presented in **Table (3)** show a high explanatory power through the coefficient of determination, as 92.8% of the changes in Egypt's bilateral trade balance with Saudi Arabia can be explained by changes in Egyptian income, Saudi income and the real exchange rate. The lagged error correction term with a negative value of -1.4 is statistically significant at the 1% level. As the coefficient of the lagged error correction term lies between -1 and -2, the correction process does not monotonically converge to the equilibrium value immediately, but fluctuates around it in a dampening manner before converging to it rapidly after some delay **[26]**.

Comparing the long run effects of incomes in **Table (2),** where both Saudi and Egyptian incomes had no significant long run effects on Egypt's bilateral trade balance with Saudi Arabia, with their respective short run effects in **Table (3)** it is noticeable that the one period lagged Saudi income has a significant negative impact on Egypt's bilateral trade balance, while Egyptian income had no significant effect. This implies that effects of changes in foreign and domestic incomes on the bilateral trade balance are not as anticipated except for the short run effect of changes in Saudi income.

Table (3): ARDL error correction regression model estimation results

Independent variables	Estimated value of the Regression coefficients	Probability value
Dlog (TB (-1))	0.948711 *	0.0010
Dlog (TB (-2))	0.228458	0.1678
Dlog (YSA)	2.463326 ***	0.0621
Dlog (YSA (-1))	- 3.505259 **	0.0106
Dlog (YE)	- 23.53096 *	0.0003
Dlog (YE(-1))	4.329721	0.2373
Dlog (REX)	- 0.413715	0.4473
Dlog (REX (-1))	- 1.707356 ***	0.0570
Coint Eq. (-1)	- 1.438869 *	0.0009
R^2	0.928259	

- * Significant at 1%, ** Significant at 5%, *** Significant at 10%

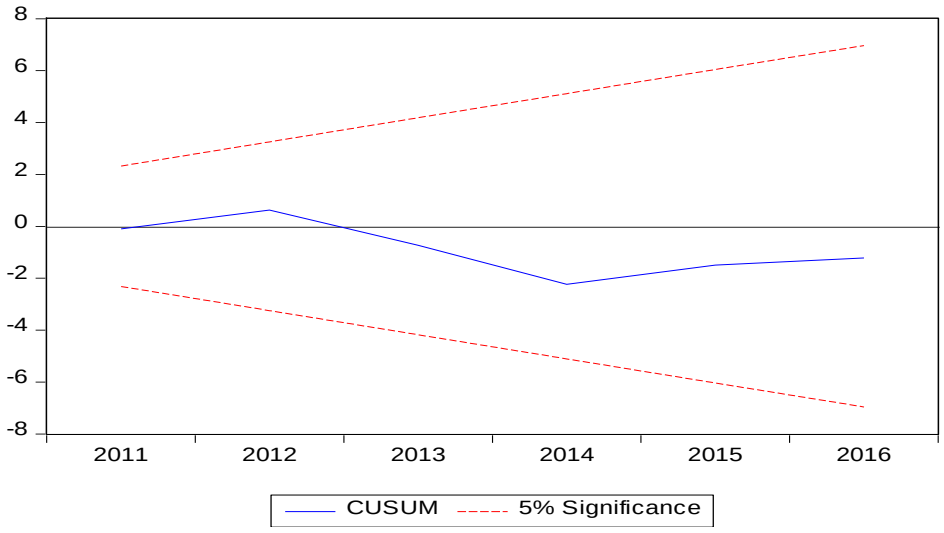
On the other hand the estimated value of the partial elasticity of Egypt's bilateral trade balance to exchange rate changes in **Table (3**) is negative and significant at 10% as was expected, which supports the existence of a short run effect of the **J** curve hypothesis. A 1% devaluation of the Egyptian pound in any year will result in a 1.7% deterioration of Egypt's bilateral trade balance the following year.

These short run effects mean that even if the devaluation of the Egyptian pound against the Saudi Riyal leads to a decline in the prices of Egyptian exports and hence an increase in demand by Saudi Arabia in the long run, the low supply elasticity in the production sector will prevent Egypt's trade

balance from improving in the short run. However, in the long run, adjustments in the production sector will increase the supply elasticity to respond to increased demand, thereby improving the trade balance, as shown in **Table (2)**, where the impact parameter of the exchange rate changes was positive and significant. This adjustment process is also confirmed by the negative value of the error correction coefficient which reflects also the speed of adjusting the imbalances following income and exchange rate changes.

To ascertain the stability of the estimated parameters in the short and long run, the Cumulative Sum of Recursive Residual (CUSUM) test was performed. **Figure (4)** shows that the parameters are stable at a significance level of 5%.

Figure (4): CUSUM test for structural stability of parameters



The econometric analysis supports the J curve hypothesis for the short and long run effects of the devaluation of the Egyptian

pound on Egypt's trade balance with Saudi Arabia. While the results of the present study agree with the results of a number of previous studies [**9, 10**], they disagree with the results of some others [**7, 11, 12**].

5. Conclusion and Recommendations:

The main objective of this study is to verify the existence of the **J** curve phenomenon for Egypt's bilateral trade relations with one of its most important trading partners, Saudi Arabia, using data for the period for the period from 1995 to 2016. This period coincided with the Egyptian government's decisions to adopt a more liberal exchange rate policy, which resulted in the devaluation of the Egyptian pound against the Saudi riyal.

The results of the descriptive analysis regarding Egyptian export/import behavior in relation to Saudi Arabia following its domestic currency depreciation are ambiguous. There is evidence that Egypt's exports to Saudi Arabia achieved a positive growth rate during a large number of years in which the value of the Egyptian pound fell against the Saudi riyal, which is consistent with the long term part of the **J** curve hypothesis. On the other hand, there is no evidence that imports from Saudi Arabia decreased after the depreciation of the Egyptian pound, as has been expected, but on the contrary imports recorded a positive growth rate during most years of the study, which is inconsistent with the **J** curve hypothesis. The reason behind this unexpected response of import behavior to domestic currency devaluation can be explained by the low elasticity of Egyptian imports from Saudi Arabia to exchange rate changes, which

consists mainly of crude oil, plastics and metals which are extremely important for the Egyptian economy and have no local substitutes.

The results of the econometric analysis, using an ARDL model, is more conclusive and provides evidence that Egyptian export/import behavior following Egyptian currency devaluation is consistent with the **J** curve hypothesis both in the short run and the long run. In the long run a 1% devaluation of the Egyptian pound leads to a 2.03% improvement of Egypt's bilateral trade balance with Saudi Arabia, despite Egypt's unfavorable import response to domestic currency devaluation. This is plausible, given that the growth rate of exports exceeded the growth rate of imports as evident from the figures in the analytical part.

In the short run, the error correction model using ARDL shows a negative impact of the currency devaluation policy on the Egypt's trade balance as was expected. A 1% devaluation of the Egyptian pound in a previous year results in a 1.7% deterioration of Egypt's bilateral trade balance with Saudi Arabian (taking one lagged period), which is consistent with the **J** curve hypothesis in the short run. As the coefficient of the lagged error correction term lies between -1 and -2, the correction process fluctuates around the equilibrium path rather than convergence to it directly. The reason behind the deterioration of Egypt's trade balance in the short run is expected, due to the low elasticity of Egypt's production capacities, which respond relatively slowly to increases in foreign demand for exports when their prices expressed in

foreign currency fall following the depreciation of the Egyptian pound.

The above results indicate that Egypt's currency devaluation policy plays an important role in improving its bilateral trade balance with Saudi Arabia in the long run. This anticipated positive effect on the trade balance is primarily caused by an increase in Saudi demand for Egyptian exports due to lower export prices, despite the fact that Egyptian imports from Saudi Arabia were relatively insensitive to the devaluation of its currency. This positive effect on Egypt's trade balance is expected to increase after the building of the King Salman Bridge which will boost trade relations between Egypt and its neighboring countries.

Furthermore, these results bear essential policy implications for Egypt to reap the full benefits of its national currency liberation policy, which resulted in a devaluation of the Egyptian pound. First, Egypt needs to remove bottlenecks in its manufacturing capacities to allow its production sector to respond as quickly as possible to increases in export demand. Second, Egypt has to conduct market research to diversify its exports, not only to Saudi Arabia but in general, to ensure a continuous increase in demand for its exports, and finally, Egypt should invest in research and development to expand its ability to produce local substitutes to reduce imports from Saudi Arabia and other countries.

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Social Financing: The Missing Component in Islamic Banking Practices

Mehboob ul Hassan*

Introduction:

Since the emergence of know history, poverty has been on of the major social, economic and political problems of humanity. Almost all the social and economic crimes and human rights violations are closely linked with poverty. Poverty is, anonymously, described as when someone is jobless, illiterate, homeless, or in the lack of money and insufficient food. There are various socio-economic and geo-political indicators of poverty such as: lack of education or no education, homelessness, poor health, short life expectancy, malnourishment, low production, unemployment, poor infrastructure, and high maternal mortality rate. Poverty has so many forms and multiple dimensions and is so complex dilemma that despite the immense number of efforts at domestic and international levels it is still prevailing in all the regions and countries of the world. The rising number of poor in developed and developing countries especially raises questions to the authorities and financial institutions, such as whether to expand the number of existing financial institutions that lend more money to the poor; whether new types of financial institutions to

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be established that focus exclusively on the poor; whether develop the new regulatory and supervisory perimeter in these financial institutions for contesting the poverty; how to identify, monitor and mitigate the risk of default while financing the poor. There are also questions as how to bring those bankable Muslim to the financial institutions who are reluctant to the banking because of the problem of interest in financial dealings.

This study intends to provide the introductory material for financial and regulatory authorities to better understand:

- the poverty as a global issue: context and causes;
- the role of financial sector and the significance of financial inclusion;
- the reasons of low financial inclusion in the Muslim world;
- what social financing is and why is it needed especially in the Muslim world? and
- propose the initiatives to increase the financial inclusion of Muslims.

The study is composed with an aim to meet all the above objectives. The contents of following sections will explore the issues in respective manners.

Poverty as a global issue: context and causes:

Poverty, as per the consensus among the international community, is a deprivation and lack of choices and opportunities. Being poor does not only means living below two dollars a day or an imaginary line of poverty, being poor means a substantial denial of access to live a respectable level. It means living a deprived life; having an income level that does not allow

an individual to purchase and enjoy basic necessities available to other individuals in that environment and society. Absolute poverty in its all vicious faces is prevailing in the developing countries. Poverty is remained un-addressed issue or addressed without understanding its context. World Bank proposed a charter in 1980s, called MDGs 2000, for the elimination of poverty and securing the human rights along-with the increase the living standard of poor, where eight goals were specifically set to be achieved till 2015. One most significant goal, among the others, was lowering the level of poverty to the half till the year 2015. United Nation launched comprehensive program for developing the policies for financial inclusion and the year 2005 was celebrated as the international year of microcredit. Building an Inclusive Financial Sector was the main agenda to achieve the millennium development goals of UN.

Financial inclusion of individuals, entrepreneurs and small scale firms has become the central focus of many local, federal and international authorities and government policies and debates. Especially, microcredit and microfinancing for the small and individually owned businesses are the catchphrase for the policy makers and the authorities. Microcredit and microfinancing were the focused policy tools emphasized in the millennium development goals (2000), in which all the member countries of UN agreed to bring the poverty to half the total population by the year 2015. UN Secretary General, Mr. Kofi Anan announced the year 2005 as the international Year of Microcredit while addressing in the following words: "…the stark reality is that poorest people in the world still lack access to

sustainable financial services, whether it is savings, credit or insurance. The great challenge before us is to address the constraints that exclude people from full participation in the financial sector….we can and must build inclusive financial sector that help people improve their lives" (Annan, Kofi, 2005).

Financing to poor was not considered as right of the poor, rather it was considered as benevolence from the banks and authorities to the poor. UN claimed in year 2015 review report that global poverty rate fell below 10% as compared to 37.1% in 1990. In other words, approximately out of 2,800 million in 1990, now only 702 million people are living under $1.90 per day. This progress is declared as "best news in the world today" by the President of World bank Group (World Bank, 2015). But the other side of the picture shows a sad depiction too as majority of these 702 million poor are residing in South Asia and Sub-Saharan Africa, undoubtedly majority is Muslim. And in further depiction of this sad picture, we find only 11% of these poor have bank account in a formal banking and financial institution. Around 38 % of world population do not have access to the formal financial services or institutions. 73% poor of the world population are unbanked, or they do not use banks because of costs, travel distances, and often-burdensome requirements involved in opening account in formal banking and financial institution.

Economists and policy makers equally believe that the access to financial services is the pathway towards developing the entrepreneurship opportunities, creating new business possibilities, and eases the curses of poverty by creating new job

opportunities and employments, and eliminates the income and economic inequalities at gross root levels of the society. Financial exclusion and poverty are closely interlinked and are considered among the real problems of economy both in the developed and developing worlds. In most of the countries, financial services are available only to a limited number of the population and a large segment of the bankable adults do not have access to the banking and financial institutions for meeting their financial needs. Bringing the unbanked into the banking network is the key agenda at every forum of the discussion and has taken the attention of scholars, policy makers and economists. Dissemination of Financial Inclusion Indicators was among the top endorsements of the G-20 leaders of Seoul 2010 Summit. World Bank too addressed the financial inclusion issues in its second series of the Global Financial Development Report (World Bank, 2013). This increased interest of the academia and the authorities in this socio-economic issue. Finally, financial inclusion is now one of the main themes of policy and regulatory debates and applied researches, and the agenda of government policies and plans.

The role of financial sector and the significance of financial inclusion:

The role of financial sector comprising brisk network of banking and financial institutions creating opportunities for all the segments of society can be hardly overemphasized. Banks and financial institutions channelize and transform the small savings into huge bulk of investments and plays a significant role in the growth and development of all kinds of industries alike. The

access to well-functioning and efficient financial services generate positive externalities to the poor. First, they provide funds for the immediate basic consumption needs such as food, clothing and shelter to the poorest of the poor. Second, they lead to increase the savings, empowering the individuals to get education and training and integrate their services and potentials with economic activities. The significance of a purposefully designed financial system can help the society and the economy in the following ways (Hassan, Mehboob-ul, 2016):

- It implants the savings habits among the peoples; leading to increasing in the savings, investments and thereby spurs the process of economic growth.
- It encourages the saving habits in the households and provides a platform to those who are living constantly under financial duress because of absence of savings, which make them vulnerable folk of the society.
- Financial inclusion creates avenues of formal credits to the unbanked lots of the society who are otherwise dependent on exploitative informal sources of credit for their financial needs.
- In-time provision of adequate and properly designed financial schemes, goods and service, will inculcate entrepreneurship spirit and skill in the households and eventually will increase output and spurs the process of economic growth.
- Financial inclusion has been viewed as a successive strategy for rapid and rational provision of government benefits and subsidies to needy and deserving masses of society. Transfer

of government benefits directly to bank account of the recipient is also considered as a remedy to overcome the leaks in distribution of government benefits and subsidies.

Thus, the core of the whole discussion is that only a deep-rooted financial sector can reach to the unbanked individuals and ease their economic problems, channelize their savings to the potential entrepreneurs, gear-up the economic activities and lead to the economic growth and development.

Significance of Financial Inclusion:

Access to financial services means an opportunity for the meeting the current financial needs and plan for the future in form of investments in education, healthcare and a cushion in time of crises. The poor will feel secure against the economic shocks that would lower their consumption or reduce their savings, and will able to credit acquisition and able to earn additional incomes which will lead to more consumption, spending into capital goods, health, education and skills-development and productivity. This will lead to household well-being and increase in the quality of human capital and productivity in longer run (Hassan, Mehboob-ul, 2015).

In Muslim perspective, a financial system can be said inclusive if it demonstrates the following features (Mehboob-ul Hassan, 2016):

(a) Time-based provision of Shari'ah compliant products: A full access of households, including entrepreneur, to a full variety of Shari'ah compliant products such as credit for capital expenditures, financing for short-and-long, small savings-based-investment schemes, pension collections,

domestic and international remittances, financing for seasonal and periodical projects, insurance and protections in case of the failure of the projects and or against the destruction of the capital goods and investments; and

(b) Cost Efficient: A low cost provision, services at lower cost than the regular banking and financial services. It includes the services charges, consultancy, and survey and feasibility fee.

By ensuring both of the above features into the financial policies and plans of the Islamic financial institutions, the financial service will reach to the vast majority of population and the rate of financial deepening in the society will be increased along-with achieving the objectives of increase of employment rate, skill development and poverty elimination. "Financial services for the poor" refers to microfinance and other financial products for the underserved lower-income segment of the population (Imboden, Kathryn, 2005). In a broader sense, it implies to bridge the gap between the unbaked and the already banked segment of the population.

The reasons for low financial inclusion in the Muslim world:

Financial inclusion means bringing the bankable population into financial network. Financial services in forms of microcredit, microfinance, safe savings, loans and stipends, on one hand is an effective tool to help the poor in building the income and assets stocks, managing risks, and try to come out of poverty, and on the other hand, it is considered as having the powerful implications in promoting economic activities,

reducing unemployment by creating new jobs and opportunities for the low-income and most likely poor segments of the society and economic development (Hassan, Mehboob-ul, 2016).

Despite the fact that world's real economy is shrinking because of geo-political issues especially the peace and security in various parts of the globe, financial sector is expanding. But the sad reality is that the fruit of financial growth is concentrated in few fortunate hands only who already are better off in many accounts. Financial sector today is exclusive of majority of adult population. Many social, economic, political and geographical factors too are held responsible along-with financial sector for this high rate of exclusion. These factor including, but not limited to; belief and convictions, family bindings and perceptions about financial sector. Moreover, the reasons for not dealing with the financial institutions are varying from region to region and impact differently on the people while considering age, class, gender, geographic location, family, profession, and race. These reasons deter the potential client of banking sector from understanding and utilizing the range of the banking and financial product and services available to them. We can classify these limitation, resulting in the low rate of financial inclusion, into the following categories (Hassan, Mehboob-ul, 2015):

Table 1(a): Reasons of low financial inclusion (demand side)

Voluntary Reasons	Involuntary Reasons
No need of banking	Identity requirements
Wrong perception (banks are for rich)	Insufficient incomes
Not interested in banking	Complex banking terms and conditions
Religious belief, and family bindings	Fear of discrimination or unfair treatment
No experience of bank dealings	Lack of information about the market
Lack of confidence about the project	Fear of coming under taxation network
Lack of trust on banking institutions	Complex processing
Miss-understanding about banking schemes	Limited banking products and services
Social and cultural believes	Collateral problems
Geographical reasons	Transactions costs
Dominance of in-formal sector	Physical access to bank

Developed from a case study conducted by the author during 2012-13

Table 1(b): Reasons of low financial inclusion (supply side)

Internal Factors	External Factors	
Owners Priorities	Socio-economic System	Non-Banking Clients
Banking Policies	Religious Belief	Limited Interaction
Priorities of Management	Political System	Limited Outreach
High Risk	Fear of Nationalization	Illiteracy in the Society
Low Profitability	Regulations Taxation	Competitors
Market Information	Feasibility of the Project	Geographical Reasons
Failure to understand the customer Needs	Lack of Trust between the Banking Clients	Complex Judiciary and Legal Procedure
Investors Influence	Lack of Infrastructure	Dominance of Informal Sector

Developed from a case-study conducted by the author during 2012-13

The complexity of the challenges, in respect to Muslim society, is such that only a social financing institution, having strong ethical orientation in its foundation and operations, can overcome the above reasons of low financial inclusion and can lead to an access to financial services that is so urgently needed by millions of unbanked Muslims.

Muslim economics demonstrates a model of banking and finance that shares the rewards and risks of a project in a fair and transparent manner without the involvement of interest in their operations. Islam essentially demands the linkage of money with the real economy and ensures that this link is maintained at each point of business process. Muslim banking and financial institutions attracted millions of those who were reluctant to use the conventional banking system because of their religious convictions. Islamic banking and financial institutions (IBFIs henceforth) operate in a holistic paradigm spirit that is human oriented and is entirely different from the conventional banking. Muslim banking and financial institution are expected to work for expanding their range, products and service accessible to a large segment of the society especially to the poor and financially vulnerable lots of the Muslims. One of the expected practices of IBFIs was to open their doors for extending financial services to those segments of the Muslim societies who, because of any reason, are out of the banking network. In addition to this, IBFIs were believed to be worked to achieve the economic objectives of Muslim *Shari'ah*, i.e. economic justice, shared prosperity, equality, poverty elimination and economic well-being of the whole society.

There is no deny in accepting that IBFIs showed a tremendous growth over the past three decades in terms of efficiency. However, the sad reality is that a large segment of the Muslim population is still without banking services, which means IBFIs had very little impact on society in terms of inclusiveness and effectiveness. And the fruits of development and growth in IBFIs, as like the conventional banking, benefited the few, and majority of the Muslims are still unserved. IBFIs are excessively focused on efficiency and profitability at the expense of effectiveness. The foundational objectives of socio-economic equality and well-being of all could not achieved as expected. One logical reasons of this poor achievement can be attributed to the inclination of IBFIs towards achieving the efficient performance and profit orientation like conventional banking does, while ignoring the founding objectives.

What Social Financing is and why is it needed especially in the Muslim world?

Despite the very late realization, social finance has got significant importance in the academic researches as well as in the development agendas of national and international authorities and communities.

Islam fourteen centuries ago has realized the significance and importance of social finance and substantially emphasized on investing on the projects of social finance. There are many textual insertions in the primary sources of Islam that motivate and make it obligatory for a well-off Muslim to spend his money in the cause of welfare and sustainability of humanity through obligatory and voluntary charity at individual as well as

collective levels such as, *zakat*, *sadaqat* and *awqaf*. Muslim social finance, in addition to traditional institutions based on philanthropy e.g. *zakat*, *sadaqat* and *awqaf*, comprises of *qard*, *kafalah*, microfinance, microcredit, micro-*takaful*, and welfare institutions. All the scholars and international communities are unanimously agreed that social finance is an approach to managing money which delivers a social dividend and an economic return. Social finance is also described as lending and investing in socially-responsible sustainable business and to financing the projects that making a dent on poverty.

Muslim world exhibits the poor level of economic and social livings. Short life expectancy, hunger, less production, unemployment, poor infrastructure, high maternal mortality rate, powerlessness, poor health, education, financial services and lack of clean drinking water, financial illiteracy and underdevelopment are some the contributing elements in this picture. More than two-third population of Muslim world is consisted of young or workable adults, and this large human resource can be a power generating hub if they are engaged into economic activities and are employed properly.

In the South Asian Muslim countries, especially in Pakistan and Afghanistan, the poverty picture is much darker. A large part of the population is deprived of employment, the right to work, adequate standard of living, health care and education, triggering poverty; the biggest challenge to socio-economic development. The stark reality is that the number of young population in both of these countries counted as much as 70% or more of the total population. So, in very reserved measurement,

more than three quarter of the population have no accounts or other kinds of financial transaction with the banking or financial institutions (World Bank, 2016). In both of these countries only 13% and 10% respectively of adult population maintain the accounts in formal banking institutions. The low financial involvement rate of workable adult population, is serious economic as well as social concern. Therefore, it is need of the time to develop a policy with an objective to bring the unbanked people into banking network. There is also a need to inculcate the sense of realizing the social obligations at bank levels to motivate and inspire the families for savings and investments and simultaneously incorporate the needs and demand of these unbanked people on priority. A financial system, where the Muslim banks do not operate not purely for commercial interest, rather they operate as social financing institutions with an approach to bring the neglected segments of the society into the banking network and work hand-to-hand with clients for achieving the objective of Shari'ah including the poverty elimination. The strategy will result in a greater functioning of the financial institutions and create a greater demand, eventually, this greater demand will inspire the others banks too to do the same that eventually will deepen the outreach of the banking and financial institutions.

For bringing a large segment of population into banking network, a wide variety of banking and financial services, will be an essential requirement. This approach will inspire the research and product development division of bank to find the financial solution for the client. Eventually it will expand the range of

activities and increase the coordination between the departments for developing and structuring the products and services to offer. Financial inclusion of the socio-economically marginalized requires an increased integration for the provision of supporting physical ad informational infrastructure, the regulations for accounting, disclosure, transparency, and distribution. A series of steps at banking and authority levels are required to bring the unbaked people into banking network. In the developing economic environment of Muslim world that necessitates access to financial services; effective inclusion requires substantial reforms in the approach of the bankers, internal policies of the banking and financial institutions, targeted allocation of resources from the banks, modified banking models and operations, and measuring the banking operations on the basis of effectiveness instead of efficiency. In the following passage we discuss these attempts in details. Meanwhile, it must be bear in mind that lack of any of these factors will impede the financial access of the poor.

Proposed initiatives to increase the financial inclusion in Muslim world:

This section intends to provide a list of proposed initiatives for increasing the financial inclusion level in Muslim world. For the ease of understanding we divide our proposed idea into two sections i.e. strategies for individuals and for institutions.

Increase in financial literacy through institutional and social media sources can eliminate the misunderstanding level about the banking institution from the society and increase the

understanding level and realization of the significance and importance of the baking institution in the society. Especially, educating the unbanked that borrowing and lending money is not disliked in religion, rather Prophet SAW frequently borrowed food and other stuff from his Muslim companions and non-Muslims neighbors. Increasing the literacy about the credit and the role of baking and financial institution can lead to a higher level of financial inclusion. In addition to this, there is need to educate the unbanked people that the operations of banks are not only for the rich, rather operates likes a quasi-public good where all individuals have equal right to utilize the facilities and services. Utilizing banking products and services is the right of every one and it is not benevolence to poor.

Many studies show that one of the main reasons for un-banking is the complex process for availing the banking services. Many customers believe that banking process is complex and require many identification, attestation, guarantees, and references, for opening a bank account, and demand further requirements for remittances and loan applications. While in informal sector there are no such requirements. To address the problem of unbanked, the banking processes needs a revision and has to make as easier as possible to attract new clients and to boost the banking activities/transaction level of the existing clients. To encourage the customers to take initiative for risky projects and business ventures, banking institution can sanction the financial sums to on the basis of *Musharkah* mode of Muslim banking with full coverage of risk at banks expense. This will significantly develop the confidence level of the customer and their

willingness to take business initiatives. In addition to this, many potential bankable individuals are voluntarily abiding the bank dealing because of the fear of losing their owned assets in case of the failure of their proposed business project or business venture goes unsuccessful. In such cases, IBFIs can assure the guarantee that the assets will remain under the ownership the clients. This can give a second or a side-income generating asset in form of cattle, machinery or creating a job for the family of the client, besides financing to his principal project, so that he may earn some additional income apart from his principal. This practice will help in increasing the earnings of the client, and he will feel happy with the bank and can focus more efforts on the project; the risk of business failure will decrease that will eventually assure the safe return of the finance of the bank, and bring the IBFIs close to their clients at personal and family level and will develop a mutual and pleasant relationship.

For incubating the entrepreneurship skills, government can ask the financial institutions to sanction financial sums the targeted potential individual with no service or administrative charges. This long-run investment for developing the most important factor of production in the form of human resource is essential for initiating the economic activities in the society. Supporting elements such as infrastructure are essential for the success and growth of a business project and or an industry. IBFIs infrastructure can support the existing business project and or an industry by providing a supporting infrastructure to that business project or industry. IBFIs can greatly help towards the poverty elimination and financial inclusion by providing

financial services for the poor of the poorest, those have high likelihood for growing out of poverty or those poor who are on the borderline poverty whom if not assisted have a high likelihood of falling into poverty. This practice is expected on the foundational objectives of IBFIs, i.e. to contribute for the socio-economic development of the neglected ones of the society. IBFIs by applying the holistic approach of Muslim Shari'ah to achieve the greater objective of sharing development, equitable distribution of income, mutual prosperity, increase in education and health of the people, sustainable development, and equally keeping the strategy for, long-run success, can sanction financial service through a special Muslim socio-economic provisions to those who are most like to extreme poor and unable to return the capital amount granted to them. This changed institutional position can be for the provision of shelter, means of income earning, health care, earning education and training, and to initiate a vending shop or kiosk. This socio-economic development based practice will enable these extreme poor to come out of the poverty trap and will surely become part of the baking sector in future. This practice will lead achieve the greater objectives of Shari'ah such as elimination of poverty, sharing development, equitable distribution of income, mutual prosperity, increase in education and health of the people.

Microcredit and microfinancing institutions have a long history than the IBFIs, and their role in economic growth and development is realized in many countries. Generating a small sum of money as loan with a specific purpose to a targeted individual or group has shown a significant impact on the

economic and social living standards. Microcredit can be of tremendous potential for financial inclusion in many parts of the world. IBFIs can increase their outreach to a large number of population my incorporating this financing and credit segment into their operation which will eventually increase the financial inclusion level.

For bringing the business firms into banking net-work, IBFIs can voluntarily cover more risk-weightage if the borrowing firms have small capacity of collateral and asset basis. This will encourage the borrowing firm to increase the production and the economic activities in the economy. On the other hand, the accountholders/investor of IBFIs will eventually bear more risk on their investments, so they will more cautious about the operation of the invested firm which will lead to an increased level of information sharing among all the stake holders. In summing up, the sharing of information and transparency in business operations will lead to higher trust level among the partners and success rate of the projects. From Supply side, the IBFIS, will likely be more desiring of the success of the project and will be motivated to extend technical assistance and professional advisory and if needed provide the market forecast too to its clients. This will lead to a provision of wider range of services apart from mere financing which will increase the positive linkage and integration between financial sector and the real sector in the economy. IBFIS's provision of the technical support advisory and supervisory services will increase the frequency of banking and client interaction, eventually a more transparent and trusted relationship and business conducive

culture will develop in the society. Business firms and management will inspire for further business initiatives and opportunities and to take the risk with confidence. By the provision of consultancy and supervisory service to the recipient firm, the investors of IBFIS will be regularly informed more about the operations of recipient firms. This will lead towards the development of awareness and education about the business in the society. And the borrower will feel a strong integration with the bank and will employ his full capacity for the success of the project. The core concept of the establishment of IBFIs is to provide financial services to the unbanked and financially excluded people. Muslim banks are established and working in a different paradigm. Muslim banking and financial institutions merely compare with their counterparts in terms of performance and outcomes, for example the worth of accumulated assets, percentage of market shares, number of banking branches, number of shareholders, and so no. Conventional banking is neither the competitor nor the rival of Muslim banking. So, for IBFIs there is no need to compare their performance and growth with the conventional banks on accounts of increase in assets, profit earnings, dividend per share, etc. Rather, their performance and competition is fight against the economic unjust, poverty, and underdevelopment. So, there is a need of reforms in understanding and recognition of the real opponents of IBFIs, i.e. poverty, underdevelopment, illiteracy in context of financial sector, unemployment and financial exclusion.

Conclusion:

Financial exclusion and poverty are closely interlinked issues and are considered as the real problems in developed and developing worlds. Muslim world exhibits the high rate of financial exclusion, illiteracy, unemployment, underdevelopment. Muslim Banking and Financial Institutions were established in 1980s as part of Muslim revival movement of the 1970s. The founding objectives of these institutions were to structure a financial system that incorporates the Muslim economic and social values of justice, reciprocity and the wellbeing of all, especially those who are neglected and ignored by conventional banking system. Having this holistic features and high expectations from the Muslims, Muslim banks have to operate in different paradigm with the human oriented approach and to work for expanding their range products and service accessible to a large segment of the society especially to the poor and financially less fortunate adult Muslim population. Financing to those who are neglected or ignored in the conventional banking and financing institutions was considered as an obligation of IBFIs. It must be noted that financing to these destitute and needy is not an exercise of charity or an act of alms, it is their right as mentioned in the *Qur'an*, 'that the right of needy and destitute is put in the wealthy and well-off'. And if Muslim banking and financial institutions properly sanction money to these ignored and financially excluded, they will be considered as matured entrepreneur, and this attitude of Muslim banking and financial institutions will attract other banking and financial institutions to do the same and the objectives of

equitable growth, shared prosperity and elimination of poverty could be achieved. Over the time, the role and contribution of Muslim banking and financial institutions towards growth and development of the society will also increase exponentially and the perception towards Muslim banking and finance will change accordingly. The emerging economic environments of Muslim world necessitates the access to financial services. Eventually that requires the substantial reforms at the approach of the bankers, internal policies, and allocation of resources. In this study, we discussed the importance of financial inclusion and suggested the measures that can help to widen the outreach of IBFIs to a larger population by addressing their demand, choice and preference. In addition to these attempts, some voluntarily measures to protect the dignity of the consumer, protecting their asset and owing proportionally more risk-weight and providing the risk-free credit can have significant impact on the demand of IBFIs and will eventually enlarge the financial market share of the IBFIs.

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