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Foreign Direct Investment and Economic Growth: Evidence from Iran and GCC

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Abstract

FDI can create employment and reduce poverty, increase the host country's export capacity causing the developing country to increase its foreign exchange earnings. The aim of this study is to investigate whether FDI affect economic growth in GCC countries over the period 1980-2014 using ARDL approaches. The empirical results show that the FDI is one of the major drivers of economic growth in Iran and GCC countries. The result of bound test indicates that there is a long-run steady-state relationship between FDI and GDP in Iran and for individual country of GCC. Also results of Granger-causality test imply that a bidirectional causalities from FDI to real GDP growth in Qatar, Saudi Arabia and UAE; unidirectional causalities from FDI to real GDP growth rate in Iran and Bahrain and no causality between FDI and real GDP growth rate in Kuwait and Oman.

Keywords: FDI, Economic Growth, ARDL, Iran, GCC.
JEL Classification: C22, E21, F21.

1. Introduction

During the last decades, the analysis of economic growth has become increasingly popular in the macroeconomic literature (Barro and Sala-i-Martin, 1995). The factors that determine economic growth are among the most extensively studied subjects in existing economics literature. The growth literature is replete with empirical studies which have considered the impact of the conventional sources of growth including investment in physical and human capital, labor, trade, foreign direct investment (FDI) and a variety of other variables within

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the neoclassical growth model (Omri et al., 2015). The relationship between foreign direct investment (FDI) and economic growth is a well-studied subject in the development economics literature, both theoretically and empirically. In many developing countries, FDI is considered to be an important component of their development strategies. During the past two decades, foreign direct investment (FDI) has become increasingly important, with increasing volumes of direct investment flowing between and into the developed countries (Vu and Noy, 2009). FDI is generally seen as a composite bundle of capital stock and technology, and can augment the existing stock of knowledge in the host economy through labor training, skill acquisition and diffusion, and the introduction of new managerial practices and organizational arrangements (De Mello 1997). FDI can create employment and reduce poverty, increase the host country's export capacity causing the developing country to increase its foreign exchange earnings (Magnus et al, 2006). FDI increases the productivity not only on the firms which receive these investments, but potentially on all host-country firms (Rappaport, 2000). Also, FDI directly results in an injection of capital, new technologies, marketing techniques and management skills into the domestic economy, thus potentially raising its competitiveness and output growth and stimulates thus economic growth (Thangavelu and Narjoko, 2014).

Lower oil prices have impacted economic growth in the Gulf Cooperation Council countries. The GCC economies are set to grow by around 3.4 per cent this year and 3.7 per cent in 2016 lower than previous years. The six Gulf countries currently hold 30 per cent of the world's proven oil reserves with Saudi Arabia accounting for 15.7 per cent, Kuwait for 6 per cent and the United Arab Emirates for 5.8 per cent. Together, they produced 28.6 million barrels per day of oil in 2014, equivalent to 32.3 per cent of total global production. Oil prices have fallen from around $114 per barrel in June 2014, to around $50 in this year, dampening GCC government revenues. The ISIS insurgency and large military expenditures have hit the Iraqi's economy hard. Growth is expected to turn negative in 2015 following a contraction of 3.4 percent in 2014 due to the decline in economic activity in the areas occupied by ISIS (WDI, 2015). The remainder of the study is organized as follows: Section 2 description of FDI in the world and GCC. Section 3 briefly reviews some of the previous literature. Section 4 describes data and methodology. Empirical results are given and discussed in Section 5. Section 6 concludes the paper and gives some policy implication.

2. FDI in the World and GCC[1]

FDI has emerged as an important form of international capital flow. Recognizing the importance of investment with no borders, the World Bank has devoted its 2005 issue of "World Development Report" to the issue of trade and investment, discussing in detail the importance of foreign capital flow to the economies of the host countries. According to the World Bank, "few countries have grown without being open to trade"[2]. Generally, there is a wide agreement on the importance of openness that leads to FDI flows. The debate has been motivated by the recent economic crises in a number of countries of Southeast Asia. Hence, recognizing the importance of openness to economic growth, an increasing number of countries have adopted more liberal policies towards the flow of foreign capital. As a result, FDI inflow to developing countries increased from 0.1 percent of global GDP in 1970 to 10 percent in 2014 (World Bank, 2016).

On the global level, after financial crisis in 2008, global FDI inflow reached $1228 billion in 2014. Furthermore, there was a large increase in the share of developing countries in FDI inflow. Inflows to developing countries surged by 17.5%, to $681 billion, while those to the group of developed countries declined by 25%. As a result, the share of developing countries in world FDI inflows has increased to 55% of global FDI, the highest level since 1997 (UNCTAD, 2015). FDI flow into Asia, Latin America and Caribbean and Africa were $465, $53 and $159 billion. Factors advanced to explain this increase in FDI flow into the developing countries include intense competitive pressures in many industries of the source countries, higher prices for many commodities, which stimulated FDI to countries that are rich in natural resources, and higher expectations for economic growth. UNCTAD (1996) identifies some of the most important factors leading so such a surge in global FDI flows. They include the increasing trend in privatization and the resulting foreign firm's acquisition of domestic firms, production globalization, and global financial integration. According to UNCTAD (2015), FDI further increases in FDI to developing countries are expected in the near future due to expected favorable economic growth wide spread consolidation, corporate restructuring, profit growth persistence and the continuation of the pursuit of new markets by industries in the source countries. Figure 1 report the FDI inflows in the world in the period 2000-2014.

1. Gulf Cooperation Council
2. World Bank (2005)

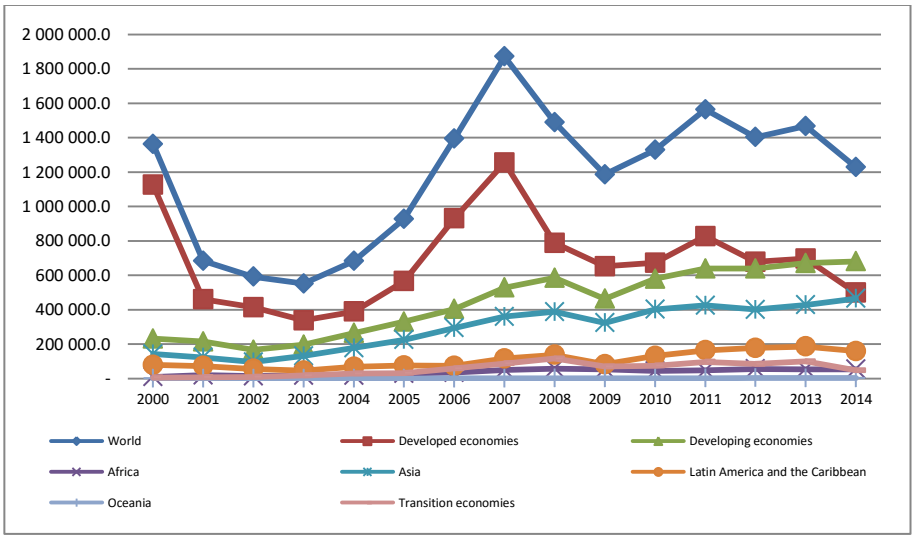

Figure 1: FDI inflows in the world

Resource: UNCTAD, FDI/TNC database (www.unctad.org/fdistatistics)

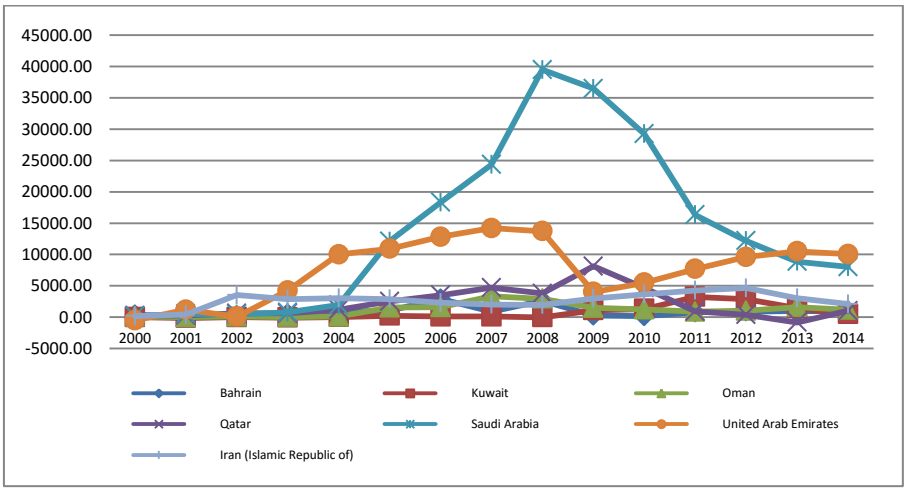

Figure 2: FDI net inflows to GCC

Resource: UNCTAD, FDI/TNC database (www.unctad.org/fdistatistics)

Among developing countries, Asia and Oceania region were the largest recipient as well as source of FDI. In 2014 FDI inflow to both regions amounted to $467 billion, $38 billion more than in 2013. This marked the largest increase ever to these regions, with China, Hong Kong and Singapore getting the lion share of the increase. China continued to be the largest developing country recipient with $128 billion in FDI inflows. Furthermore, a new destination of FDI has strongly emerged in West Asia with inflows $43 billion in 2014. Countries like Saudi Arabia, United Arab Emirates and

Turkey were identified as the major recipients in that region, receiving more than half of the total inflow to that region. In addition, Latin America and the Caribbean registered a significant upsurge of FDI inflows in 2014, reaching $159 billion. FDI inflows to South-East Europe and the CIS, a new group of economies under the United Nations reclassification, grew at an all-time high rate of more than 40% in 2014, reaching $46 billion.

GCC countries have recognized the importance of attracting FDI and hence have adopted new measures aiming at attracting foreign capital and encouraging foreign investment. The development priorities of GCC countries include achieving sustained economic growth away from oil by raising private investment rates; strengthening local technological capacities and skills; and improving the competitiveness of their exports in world markets, creating more and better employment opportunities away from government sector. Openness to foreign capital and inflow of FDI has been inspired by an expectation that they will bring in invisible financial resources, attracting modern technology and raising the efficiency with which existing technologies are used. In addition, FDI may provide access to export markets and raise marketing capabilities of local firms.

The recent profile of the FDI flow as a percentage of GDP in Iran and GCC countries is summarized in tables 1 and Figure 3, which shows that FDI flow has been an important form of GDP in Iran and most of GCC countries. As a percentage of GDP, FDI flow has accounted for more than the world average in two of the six GCC countries (Saudi Arabia, UAE and Qatar), while reporting a high share in the other GCC countries in most of the years presented. In general, FDI has been strongly present in the economies of the GCC countries and, therefore, the relationship between FDI and economic growth in these courtiers warrants careful analysis, as this relationship has not been studied, to the best of our knowledge.

Table 1: FDI (net Inflows) % of GDP in Iran and GCC

	2000	2005	2010	2014
Iran	0.2	1.3	0.8	0.5
Bahrain	0.4	6.6	0.6	2.8
Kuwait	0.0	0.3	1.1	0.3
Oman	0.4	4.9	2.1	0.9
Qatar	1.4	5.6	3.7	0.5
Saudi Arabia	-0.1	3.7	5.5	1.1
UAE	-0.5	6	1.9	2.5

Resource: UNCTAD, FDI/TNC database (www.unctad.org/fdistatistics)

Last January, the nuclear agreement between, Iran and the five permanent

members of the UN Security Council (US, China, France, Russia, UK), plus Germany and the EU became effective. Once approved and implemented, the JCPOA is expected to provide relief from sanctions in four broad areas: (1) export and transportation of hydrocarbon and hydrocarbon-related products; (2) banking and other financial services and transactions, including restored access to the international payment system (SWIFT); (3) access to foreign financial assets; and (4) the sale, supply of parts, and transfer of goods and services to the automotive and air-transportation sectors, and associated foreign investment. The post-sanctions growth dividend will also depend on the domestic macroeconomic policy response and the pace and content of structural reforms following the removal of the sanctions. Structural reforms of the business climate and labor and financial markets could play a key role in this respect. Macroeconomic policies will also need to be adjusted in the years ahead so that the authorities can achieve their goals of single-digit inflation, a competitive real exchange rate, and sustainably higher inclusive growth. In particular, additional fiscal consolidation would help contain the appreciation of the real exchange rate and support monetary policy in containing demand and achieving the desired reduction in inflation.

The simple response is that the nuclear agreement is necessary but not sufficient for Iran to attract FDI. Today, the rivalry for International FDI is more intense than ever before, due to stagnation in advanced economies and deceleration in emerging economies. As a result, Iran must push investment promotion, upgrade competitiveness, improve the business environment, and communicate its unique advantages, and so on. In the West, the conventional wisdom is that in 2015-16 the sanctions effect may keep Iran's growth still around 0.5% to -0.5%, whereas in 2016-17 real GDP growth will climb to 4%-5.5%. With sanctions, foreign investment plunged to just $80 million in 2013, returning to $2.5 billion last year. In the past, these projects have been in heavy industrial sectors, such as oil and natural gas, metals, coal and automotive. Iran and China have outlined a plan to broaden relations and expand trade up to $600 billion over the next 10 years. Iran's efforts to attract FDI are well aligned with China's 'One Belt One Road' initiative, which seeks to spread economic development from China and Asia to the Middle East, Africa and the Americas – as well as with the Asian Infrastructure Investment Bank and the BRICS New Development Bank.

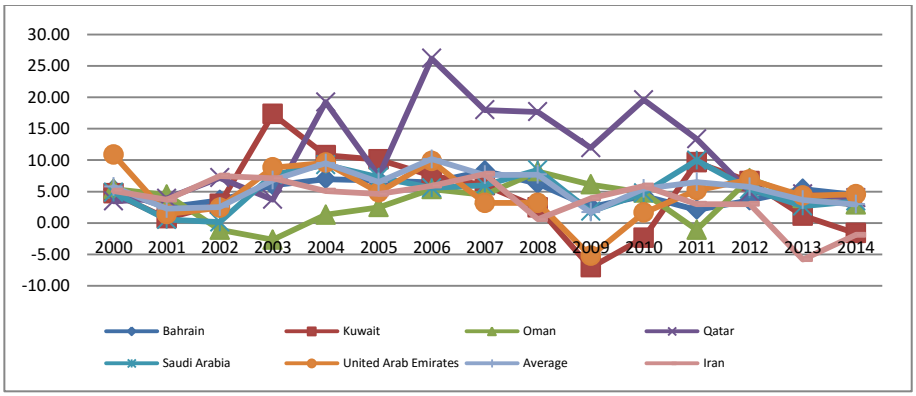

Figure 3: GDP Growth Rate in Iran and GCC
Resource: WDI, database (http://data.worldbank.org/indicator)

In macroeconomic terms, GDP has been one of the most volatility and unstable indicators in Iran and GCC countries. During the years 2005 - 2014, GDP growth in GCC (5.7%) has been higher than the MENA on an average 4-5 percent. In the same period, GDP growth rate in Iran (2.7%) has been lower than the MENA on an average 4-5 percent. The slowdown in economic growth in the region began in 2009 in almost all countries. The decline was particularly significant in 2002 (2.5 %), 2009 (1.7%) and 2014 (2.7%). The ISIS insurgency and large military expenditures have hit the Iraqi's economy hard. Growth is expected to turn negative in 2015 following a contraction of 0.5 percent in 2014 due to the decline in economic activity in the areas occupied by ISIS. Growth in Economic activity in Iran due to sanctions has not been positive

Iran's economy has grown not only through sanctions but also enjoyed growth has been negative and even negative growth rate. Real GDP growth could rise up to 5/5 percent in 2016/17 and 2017/18, while hovering around 3/5 - 4 percent annually in the years after. The most important driver of growth in the short term would be a recovery in oil production and exports, projected to increase by about 0.6 million barrels per day (mbpd) in 2016 and by about 1.2 mbpd over the medium term. Higher oil output would contribute about three quarters and two-thirds of the estimated economic growth in 2016/17 and 2017/18, respectively. Figure 3 report the growth rates of GDP for Iran and GCC countries in the period 2000-2014.

3. Literature Review

There is conflicting evidence in the literature regarding the question as to how, and to what extent, FDI affects economic growth. FDI may affect economic growth directly because it contributes to capital accumulation, and

the transfer of new technologies to the recipient country. In addition, FDI enhances economic growth indirectly where the direct transfer of technology augments the stock of knowledge in the recipient country through labor training and skill acquisition, new management practices and organizational arrangements (De Mello, 1999).

There are a significant number of studies which identified a positive relationship between FDI and economic growth, both in developed and developing countries (Lu et al, 1999; Zhang, 2001; Alfaro, 2004; Lee and Tan, 2006; Vu, 2009; Choong, 2010; Narjoko, 2014). The FDI contributes to economic growth in developing countries by complementing domestic savings which are usually low, improving the balance of payment and also as a source of knowledge transfer and spillovers (De Mello, 1997). The positive relationship between FDI and the effects generated in the economy requires the insurance of a minimum level of human capital, economic and financial stability and a degree of markets liberalization [UNCTAD, 1999]. Hsiao and Shen (2003), who point out that economic growth is one of the important factors attracting foreign investment in developing countries.

Murshed and Kinuthia (2015) investigate the determinants of direct investment in Kenya and Malaysia using vector autoregressive model for the period 1960–2009. The results do provide support for the role of FDI in Malaysia's industrial success but not for growth in Kenya. Brahmasrene and Lee (2013) examine the long-run equilibrium relationship among tourism, CO2 emissions, economic growth and foreign direct investment (FDI) using panel data of European Union countries from 1988 to 2009. The results from panel cointegration techniques and fixed-effects models indicate that a long-run equilibrium relationship exists among these variables. Also results show that FDI coefficients indicate that a 1 percent increase in FDI inflows increases economic growth by 0.083 percent. Mah (2010) investigate the relationship and causality between FDI inflows and economic growth in China during 1983-2001. The empirical results show that FDI inflows have not caused GDP. Sakar (2007) examine the relationship between FDI and economic growth in sample of 51 lesser developed countries over the period of 1970- 2002. The results show that growth Panel and time series data 51 lesser developed countries 1970- 2002. In the majority of cases there is no long term relation between FDI and economic growth.

Alfaro et al. (2007) investigate the effect of FDI on growth via financial markets using panel data approach fo72 countries over 1975-1995 periods. Factor accumulation – physical and human capital – does not seem to be the main channel through which countries benefit from FDI. Also, they find that countries with well-developed financial markets gain significantly from FDI

via TFP improvements. These results are consistent with the recent findings in the growth literature that show the important role of TFP over factors in explaining cross-country income differences. Li and Liu (2005) investigate the effects of FDI on growth for 84 countries over the period 1970-1999. The results imply that FDI affects growth directly and also indirectly through its interaction with human capital. They also found a negative coefficient for FDI when it is interacted with the technology gap between the source and host economies. Hermes and Lensink (2003) investigate the role the development of the financial system plays in enhancing the positive relationship between FDI and economic growth for 67 countries over the 1970-1995. Evidence obtained in their study indicates that there is a positive effect of FDI on economic growth for 37 countries (Latin America and Asia region).

Bengoa et al. (2003) examine the relationship between FDI and growth in a panel data for a sample of 18 Latin American countries for the period 1970-1999. The results imply that FDI affects growth positively. In order for a positive effect from FDI to be achieved, the country must have an adequate level of human capital, economic stability, and liberalized capital markets. Levine and Carkovic (2002) investigate the relationship and causality between FDI and economic growth using Generalized Method of Moment (GMM) estimators for the period 1960-1995 on 72 countries. The empirical results showed that FDI inflows do not exert an independent influence on economic growth. Borensztein et al. (1998) investigate the effect of FDI and economic growth for 69 LDCs in the period 1970-1989. The results show that inward FDI has positive effects on growth through its interaction with human capital. They also found that FDI contributed more to growth than domestic investment and that it also had the effect of increasing domestic investment.

4. Methodology and Data

Pesaran et al. (2001), Pesaran and Pesaran (1997), Pesaran and Shin (1997) have developed cointegration technique known as the 'Autoregressive Distributed Lag (ARDL)' Bound test. The ARDL bound test approach has several advantages over the Johansen's cointegration method following: First the ARDL model its ability to detect long run relationships and solve the small sample size problem. Second the ARDL approach can be applied irrespective of whether the underlying regressors are purely first order integrated, I(1), purely zero order integrated, I(0), or a mixture of both. Third advantage is in

ARDL, one can include dummy variable in the cointegration test process. Following Pesaran et al. (2001) we construct the vector auto-regression (VAR) of order p, denoted VAR (p), for the following tourism-led growth function.

$$Z_t = \mu + \sum_{i=1}^{p} \beta_i \; Z_{t-i} + \varepsilon_t \qquad (1)$$

where Z_t is the vector of both X_t and Y_t , where Y_t is the dependent variable defined as GDP growth rate and X_t = [FDI_t, TO_t , LF_t, GCF_t, ER_t,] is the vector matrix which represents a set of explanatory variables. There are five explanatory variables in this model, namely FDI (FDI), trade openness (TO), labor force (LF), Gross capital formation (GCF) and exchange rate (ER). $\mu = [\mu_y \mu_x]^{'}$, β_i is a matrix of VAR parameters for lag i. According to Pesaran et al. (2001), t y must be I(1) variable, but the regressor X_t can be either I(0) or I(1). We further developed a vector error correction model (VECM) as follows:

$$\Delta Z_t = \mu + \; \alpha t + \; \lambda Z_{t-1} + \sum_{i=1}^{p-1} \gamma_i \, \Delta \, y_{t-i} \; + \; \sum_{i=0}^{p-1} \gamma_i \, \Delta \, x_{t-i} \; + \varepsilon_t \quad (2)$$

Where Δ is the first difference operator. We then partitioned the long-run multiplier matrix λ as:

$$\lambda = \begin{vmatrix} \lambda_{yy} & \lambda_{yx} \\ \lambda_{xy} & \lambda_{xx} \end{vmatrix}$$

The diagonal elements of the matrix are unrestricted; therefore the selected series can be either I(0) or I(1). If λ_{yy}=0, then y is I(1) conversely. If λ_{yy}<0, then y is I(0). The VECM procedures described above are important in the testing of at most one cointegrating vector between dependent variable y_t and x_t. To derive our preferred model, we followed the assumptions made by Pesaran et al. (2001) in Case III, that is, unrestricted intercepts and no trends. After imposing the restrictions λ_{xy}=0, $\mu \neq 0$ and $\alpha = 0$, the tourism-led growth function can be stated as the following unrestricted error correction model (UECM):

$$\Delta \ln GDP_{i,t} = \beta_0 + \sum_{p=1}^{n} b_p \Delta \ln GDP_{i,t-p} + \sum_{p=0}^{n} c_p \Delta \ln FDI_{i,t-p} + \sum_{p=0}^{n} d_p \Delta \ln LF_{i,t-p} + \sum_{p=0}^{n} e_p \Delta \ln GCF_{i,t-p} + \sum_{p=0}^{n} f_p \Delta \ln ER_{j,t-p} + \sum_{p=0}^{n} g_p \Delta \ln TO_{i,t-p} + \lambda_1 \ln GDP_{i,t-1} + \lambda_2 \ln FDI_{i,t-1} + \lambda_3 \ln LF_{t-1} + \lambda_4 \ln GCF_{mi,t-1} + \lambda_5 \ln ER_{j,t-1} + \lambda_6 \ln TO_{mi,t-1} + \mu_t \qquad (3)$$

Here Δ is the first difference operator, μ_t is a white noise disturbance term, lnGDP is the log of GDP growth rate, lnFDI is the log of foreign direct investment, lnLF is the log labor force, lnGCF is the log gross capital formation, lnER is the log of exchange rate and lnTO is the log of trade openness. From the estimation of UECMs, the long run elasticities are calculated from the estimated respective coefficients of the one lagged level explanatory (independent) variables divided by the coefficient of the one lagged level dependent variable. For example, in equation (3), the long-run tourism elasticities are (λ_2 / λ_1).

The long run level relationship among the variables of interest is determined by using Wald-coefficient test or F-test. The F-test is used for testing the existence of long run relationships. The null hypothesis for no cointegration between the variables in Equation (3) is:

(H_0: $\lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6 = 0$)
(H_a: $\lambda_1 \neq \lambda_2 \neq \lambda_3 \neq \lambda_4 \neq \lambda_5 \neq \lambda_6 \neq 0$)

If the computed F-statistics is higher than the upper bound critical value (CV), the null hypothesis of no cointegration is rejected. If the computed F-statistics is smaller than lower bound critical value (CV), then the null hypothesis of no cointegration cannot be rejected. However, if the computed F-statistic falls inside the upper and lower bounds, a conclusive inference cannot be made without knowing the order of integration of the underlying regressors. In other words, unit root test of the variables need to be conducted before proceeding with the ARDL technique (Narayan, 2004).

The next stage involves constructing standard Granger-type causality tests augmented with a lagged error-correction term where the series are cointegrated. In the equations above, the lagged dependent variables are correlated with the error terms. The resulting model is:

$$\Delta GDP_{it} = \sum_{j=1}^{m} \alpha_j \Delta GDP_{it-j} + \sum_{j=1}^{m} \delta_j \Delta FDI_{it-j} + \Delta u_{it} \quad (4)$$

$$\Delta FDI_{it} = \sum_{j=1}^{m} \beta_j \Delta GDP_{it-j} + \sum_{j=1}^{m} \varphi_j \Delta FDI_{it-j} + \Delta \nu_{it}$$

To test for the causality, the joint hypotheses $\delta_j = 0 \quad for\ j = 1,.....,m$ and $\beta_j = 0 \quad for\ j = 1,.....,m$ is simply tested. The variable *FDI* is said not to Granger-cause the variable *GDP* if all the coefficients of lagged FDI in equation) are not significantly different from zero, because it implies that the history of FDI does not improve the prediction of *GDP*.

The null hypotheses tested are:

$\delta_j = 0 \quad for\ j = 1,.....,6$

$\beta_j = 0 \quad for\ j = 1,.....,6$

Table 2: Variables and Data Sources

Variable	Proxy	Description	Source
Economic Growth	GDP	Growth of GDP	World Development Indicator (WDI, 2016)
Foreign direct investment	FDI	Net inflows	UNCTAD, 2016
Trade Openness	TO	(Import + Export) / GDP	World Development Indicator (WDI, 2016)
Infrastructures	GCF	Gross capital formation (% of GDP)	World Development Indicator (WDI, 2016)
Exchange Rate	ER	Exchange Rate	International Financial Statistics (2016)
Labor	LF	Labor Force	World Development Indicator (WDI, 2016)

5. Empirical Results

The analysis is started by the unit root test of the data series used. First, the order of integration in each of the series is tested. Standard individual ADF test results are included for the all data series. The lag lengths were chosen using Akaike Information Criteria (AIC). The ADF results indicate that the null of a unit root for the individual series is not rejected for all of the series tested at their levels. On the other hand, the null of unit roots is strongly rejected at the 1% significance level for all series at their first difference. The results strongly support the conclusion that the series are stationary only after being differenced once. Hence, the ADF test indicates that the series are integrated of order one, i.e., I(1) at the 5% significance level.

Having established that the FDI and GDP series are integrated of the first order, the second step in testing the relationship between FDI and GDP is to test for the cointegration relationship between the two

variables. The test for the long-run relationship between both variables using bound test was conducted. Table 3 reports the bound test results. It can be seen from the test results in the table that F-computed statistics significantly reject the null of no cointegration. This implies a long run co-movement of FDI and GDP in the long run. That is, there is a long-run steady-state relationship between FDI and GDP for Iran and individual country of GCC.

Table 3: Results of Bound Test Cointegration

		1%		5 %	
		I(0)	I(1)	I(0)	I(1)
Country	**F-computed**	**2.57**	**4.04**	**2.86**	**4.19**
Iran	4.03				
Bahrain	5.05				
Kuwait	4.36				
Oman	4.99				
Qatar	5.46				
Saudi Arabia	6.37				
UAE	7.68				

Resource: Pesaran et al. (2001): 300–301 for F-statistics and pp. 303–304 for t ratios (case III: Unrestricted intercept and no trend).

Table 4 contains the estimated long-run regression coefficient estimates. The estimate of coefficient of FDI for all countries except Kuwait is positive and statistically significant. With considers to the role of FDI, results from table 4 indicates that this sector makes a significant contribution to economic growth in the long run. These findings of the current study are consistent with some previous studies which also found a significant positive effect of FDI to real GDP per capita for example (Murshed and Kinuthia, 2015; Brahmasrene and Lee, 2013). As can be seen from the Table 4, for example, if FDI increase by 10 percent, real GDP growth rate increases by 1.24 percent in Iran. The results obtained from this study are consistent with those in the study of Ahmadi and Mojtaba (2011) where found positive effect of FDI and Openness on economic growth for Iran, and study of Al-Irani and Al-shamsi (2007) where they found causation from FDI to real GDP growth in the long-run for GCC. Therefore, trade openness has a positive and significant effect on economic growth in GCC. In addition the result indicates that the estimate of the coefficient of labor force and gross capital formation

are positive and statistically significant effect on economic growth in GCC. However, labor force and capital formation is necessary for economic growth, but it is not a sufficient condition for growth. These results are consistent with some previous studies also found that a significant positive effect on economic growth (Awokuse, 2008; Keong et al., 2005; Habibullah et al., 2009).

Table 4: Estimation of Long Run Elasticities of the Model

Country	FDI	GCF	TO	ER	LF
Iran	**1.24***	**0.81****	**1.17****	**0.94**	**0.74***
Bahrain	0.14**	1.25*	0.68*	1.25***	3.14
Kuwait	2.65	0.98*	1.05***	2.36	0.65*
Oman	0.62***	1.36**	1.46*	1.95	1.63**
Qatar	1.02*	0.66**	3.71***	0.76	0.62
Saudi Arabia	2.06**	1.21*	0.87**	3.21	1.54***
UAE	3.014*	1.05*	2.04***	0.32*	0.81*

Note: Significance levels denoted as follows ****: (1%), **: (5%) and *: (10%)

Once we have established a cointegration relationship between FDI and GDP, then we may conclude that there exists a long-run relationship between the two variables. We therefore postulate that there is (Granger) causality between FDI and GDP at least in one direction and possibly in both directions. Therefore, after confirming the long run relationship between our variables, we next test for their causality hypothesis. The results of Granger causality test are reported in Table 5. On the basis of the bounds test results for cointegration, if the variables in the models are cointegrated, the Granger causality tests require a VECM in the case of each pair of variables under consideration. The results of Granger causality test in Table 5 show causal relationships among the variables. First, bidirectional causalities in the study were observed from FDI to real GDP growth in Qatar, Saudi Arabia and UAE. Second, unidirectional causalities from FDI to real GDP growth rate in Iran and Bahrain and no causality between FDI and real GDP growth rate in Kuwait and Oman. The results obtained from this study are consistent with those in the study of Al-Irani and Al-shamsi (2007) where they found causation from FDI to real GDP growth in the long-run for GCC.

Table 5: Granger Causality Tests

Lag level	**1**	**2**	**3**	
Null hypothesis	**F-Stat**	**F-Stat**	**F-Stat**	**Result**
(1) **Iran**				
FDI does not Granger cause GDP	4.24*	3.47*	2.73	FDI → GDP
GDP does not Granger cause FDI	0.87	1.02	0.93	
(2) **Bahrain**				
FDI does not Granger cause GDP	3.13***	0.87	4.55**	FDI → GDP
GDP does not Granger cause FDI	0.11	0.04	1.09	
(3) **Kuwait**				
FDI does not Granger cause GDP	0.14	0.04	1.35	FDI ≠ GDP
GDP does not Granger cause FDI	0.98	0.51	28.06	
(4) **Oman**				
FDI does not Granger cause GDP	1.24	0.10	1.12	FDI ≠ GDP
GDP does not Granger cause FDI	1.65	0.15	0.35	
(5) **Qatar**				
FDI does not Granger cause GDP	3.19***	5.76**	13.95*	FDI ↔ GDP
GDP does not Granger cause FDI	0.27*	0.36	0.63**	
(6) **Saudi Arabia**				
FDI does not Granger cause GDP	10.6*	6.34*	3.97**	FDI ↔ GDP
GDP does not Granger cause FDI	0.02*	1.52**	0.77	
(7) **UAE**				
FDI does not granger cause GDP	5.84**	3.50***	9.70*	FDI ↔ GDP
GDP does not granger cause FDI	1.25	3.40***	3.86***	

Note: Significance levels denoted as follows ****(1%), **(5%) and * (10%).

6. Conclusion and Policy Implication

This paper is devoted to explore the direction of interaction between FDI and economic growth in the GCC countries using ARDL model.

In this article, we used bound test cointegration relationship between FDI and GDP growth rate in Iran and GCC countries. Rather than presuming that FDI is one of the determinants of economic growth, to conduct such test, we use granger causality test to test for the possibility of causality running from FDI to GDP. In addition, we test for the possibility of reverse causality running from GDP to FDI. The result of bound test cointegration indicated that there is a long-run steady-state relationship between FDI and GDP in Iran and for individual country of GCC. The results indicate that, in the GCC, FDI has been an important factor in GCC economic growth.

The results of Granger causality test implied that, bidirectional causality from FDI to real GDP growth in Qatar, Saudi Arabia and UAE. In particular, our findings indicate that while FDI promote growth, GDP growth also attract more FDI inflows. In other word, higher growth of GCC countries' GDP is the driving force behind the surge in FDI inflows in addition to being a consequence of these inflows. This issue has important policy implications. The results suggest that there is a positive correlation between FDI inflows and growth in a bidirectional way. Thus, if GDP growth seems to attract more FDI inflows, then promotional policies to encourage inward flows of FDI only may become unnecessary. Instead, efforts should be directed to other potential sources of growth. Once growth is enhanced and stimulated, foreign capital will then be attracted.

Also, results indicate those unidirectional causalities from FDI to real GDP growth rate in Iran and Bahrain and no causality between FDI and real GDP growth rate in Kuwait and Oman. FDI externalities may have obvious effects if the links with local business were weak. Thus, policies should be adopted to strengthen the relationship between FDI and domestic investments and such relationship has to be complementary rather than competitive. Privatization is being used, with great success in many developing countries, as a vehicle to deepen capital markets and encourage foreign direct investment. While all GCC countries started the process of privatizing state-owned enterprises and opening up private investment opportunity in telecommunications, air-lines, tourism, and some industries such as petrochemicals, cement, and utilities, more effort should be put to expedite the process toward decreasing the role of the government in

the market and providing better incentives and institutional requirements for private investment.

Iran and GCC countries should work together to design and formulate adequate policies to attract stable investment flows. They must take policy measures that would substantially enlarge and diversify their economic base, policies that would improve local skills and build up a stock of human capital recourses capabilities, enhance economic stability and liberalize their market in order to benefit from long-term FDI inflows. The recent pattern of FDI flows to Iran and GCC countries has been toward the oil sector. Attracting FDI to the extractive sector, i.e. oil sector, proved not to be growth enhancing as much as other productive sectors. Oil sector is often an enclave sector with little backward and inward linkages with other sectors. Iran and the GCC countries could benefit from increased FDI into the oil sector if the sector is liberalized and integrated into the economy.

It is true that political instability increases perceived investment risk and is bringing less confidence and thus reach decline in FDI but other factors are important as well. To attract investments, countries are expected to adopt more liberal regimes of foreign trade and investment and meet international benchmarks in efficiency and design, with the potential economic and social consequences of adhering to international standards in a number of areas, such as property rights, technical norms and safety standards, without appropriate adjustment. To maximize the benefit of FDI, Iran and GCC countries should establish investment agencies, improve the local regulatory environment, develop the local financial market, and enhance transparency in macroeconomic policies. A sound and transparent legal system governing financial transaction should be put in place. They also should take a sound and transparent legal system governing financial transaction which will further attract more FDI, which in turn can lead to accelerate the process of economic growth in the region.

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