# A Long-Run Dynamic Analysis of FDI, Growth and Oil Export in GCC Countries: An Evidence From VECM Model

Fatimah Kari[a]; Ahmed Saddam[b],*

[a]Associate professor. PhD. Faculty of Economics and Administration, University of Malaya, Kuala Lumpur, Malaysia.
[b]PhD candidate. Faculty of Economics and Administration, University of Malaya, Kuala Lumpur, Malaysia.
*Corresponding author.

## Abstract

This study investigates a long-run dynamic relationship of GDP, crude oil export and FDI inflows in GCC countries; The United Arab Emirates, Bahrain, Saudi Arabia, Oman, Qatar and Kuwait. The methodology adopted is based on Error Correction Model (VECM) which involves 195 stationary balanced observations over the period 1998-2008. Two major objectives were tested, which are: impulse response function and variance decomposition method. The empirical analysis shows that a shock of FDI inflows will cause a parallel negative influence on the oil export and GDP, and FDI inflows are highly linked to GDP compared to oil export.

**Key words:** FDI; GCC; GDP; Oil export; VECM

## INTRODUCTION

The linkage amongst foreign direct investment (FDI), export and economic growth are still a vital subject in the developing economies. In practice, FDI inflows consider a one of the determinants of a long run economic growth (Bosworth, Collins et al. 1999). An increase in the level of export is also a significant policy towards the reinforcement level of economy (Tyler, 1981).

Theoretically, the neoclassical growth theory postulates that FDI could enhance the level of economic growth by increasing efficiency of investment. As well as it is leading to various technologies to the host countries (Romer, 1986). Furthermore, the endogenous growth theory indicated that an open trade policy will promote level of investment in sectors that have a comparative advantage in trade (Balasubermanyan, 1996), where a more open trade economy allows a country to reorient factors of production to increase the level of GDP. Based on these views, many developing countries embarked their steps for attracting foreign investors in order to utilize their comparative advantages for achieving a stable economic growth. Furthermore, focusing on enhancing levels of production and increase export were other justification in this respect.

Practically, Since 1980s, the GCC countries have agreed to an agreement to arrange their economic policies especially that pertaining to foreign direct investment and international trade (Bouzas, 1999). In 2003, the GCC Free Trade Area had been implemented; this agreement emphasized on utilizing of surpluses of oil export revenues in enhancing the level of non-oil trade and growth as a major target (Ab Rahman & Abu-Hussin, 2009). Accordingly, in this paper we will try to find out to which extent oil export and FDI are linked and affected on economic growth in GCC countries, and vice versa. Where the main objective is to investigate the interaction amongst the variables studied on the long-run. For this purpose Johansen trace test will be conducted to check the presence of co-integration amongst the variables of study. In addition, the impulse response and variance decomposition functions will be adopted for more accurate analysis of this paper. However, the main contribution of the current paper is to document which theory is applicable to the case of GCC countries. Therefore, the econometric model is built to be involved two major variables pertaining to the said theories. Hence,

the oil export variable will be a proxy of that view which related to endogenous growth theory in its emphasis on pursuit an open trade policy. While FDI inflows are for testing the neoclassical growth theory. Finally, this paper will be derived its significance from analyzing the role of FDI inflows and crude oil export as key determinants of economic growth in GCC countries. It is an assessment of the unified economic policy of GCC over the period studied. We therefore believe that the empirical result will state accurately whether or not the targeted policies for these economies are achieved in practice. As well as the obtained result will be utilized for setting a policy implication for the GCC countries.

# 1. LITERATURE REVIEW

The role of FDI and foreign trade have largely increased particularly in countries that follow a policy to encourage export and attracting more FDI for enhancing the level of economic growth (Rodrik, 1999; Fischer, 2003). This policy leads to increasing the gross domestic product GDP and improved terms of trade. Therefore many studies emerged in that respect, which emphasize on a positive relation between foreign trade and economic growth (Balasubramanyan, 1995; Spanu, 2003). As well as, The capital movement across countries encouraged the continued flow of foreign direct investment (FDI) as a key mechanism for achieving an economic growth (Brems, 1970; Romer, 1986; Li & Liu, 2005). However, there is a consensus that the foreign trade and FDI have a positive impact on the host economies particularly for physical investment (Dunning, 1993; Grossman & Helpman, 1993). Hence, the increase of the level of production would enhance the portion of good exported, and this means the efficient producing companies can meet the local market needs, as well as exporting their surpluses abroad (Pack, 1993). On the contrary, other studies represent that trade and the local market size are the major determinants of economic growth (Alcalá & Ciccone, 2003; Chaudhry, 2010). These studies emphasize on the local economy as a main target of its trading policy. Furthermore, other scholars suggest that the fixed cost of selling goods in the global market is higher than that of the local market, where this finding could be justified by the linkage between the foreign trade sector and other local sectors in a local economy (Al-rifai, 2005), however, it reflects a robust relationship between trade and GDP level in a country.

In addition, other studies stated that a stable macroeconomic environment is the most major reasons for attracting FDI to developing countries (Dunning, 1993). However, the growth of GDP is considered one of the most significant determinants of FDI (UNCTAD, 1996). Accordingly, we can say that these findings cannot ensure a definite impact on the host economy due to the factors that related with it. However, Fact of this

opinion asserted by Bouklia (2001) and Hanson (2009) which illustrated that the positive effect of FDI is very little and it may have a negative impact on economic development and growth, where the relationship between FDI stock and economic growth could not be consistent. Thus, we note that the function of FDI is not unified, it is mixed with that of engaging the monopolist advantages and diversifying the production levels (Hymer, 1976). Therefore, the role of FDI has a link to foreign trade and economic growth in host economies through the exploitation of comparative advantage of these countries for increasing levels of foreign trade in terms of two sides, import and export. As well as the economic policy in host countries attempts for more open trade policy, and this will lead to sustain economic growth, which could be achieved by increasing the level of value added in industrial sectors (Aizenman, 1992). Hence, there are many reasons for attracting FDI, where the most important is represented in Market-related factors such as the appropriate investment climate, availability of raw materials, cheap labor forces and infrastructure, which would significantly contribute in achieving a high profit and lead to a positive impact on economic growth in the host country (Khalil, 1995). Accordingly, the association among FDI, foreign trade and growth is almost positive, this fact revealed by Argiro (2001) which affirmed the causality between FDI inflows and growth in 14 European countries. Moreover, the relationship between economic growth and FDI is significantly depends on governmental policies (Trufin, 2010). However, it is obvious that FDI is an important factor for enhancing economic growth in host economies (Myriam, 2009), which could be represented through improving levels of production, and then exported goods (Pfaffermay, 1994). Moreover, we can say that FDI is a major way of the increase of fixed capital formation, technological progress, and that these investments are good catalysts for the reinforcement level of the industrial sector, and then improve economic growth (Dosse Toulaboe, 2008), it is, however, a vehicle for technology transfer (Borensztein, De Gregorio, & Lee, 1998). Consequently, we note that the mainstream of studies related to the topic of this paper was focusing on a major target which infers that the FDI and foreign trade are the driver of economic growth. In this study our contribution will be differentiated from other studies via measuring the influence of the said variables—FDI inflows, oil export and GDP—on each other, as well as forecasting how much each variable studied could affect other variables in the long-run. The main purpose for that is to empirically extrapolate the conjunction amongst the variables studied in order to specify the key variable that leads to economic growth over the period of the study. As well as, It is an assessment of the unified economic policy of GCC countries which been adopted since 1980s.

## 2. METHODOLOGY

The empirical method of this study employs a restricted Vector Autoregressive model (VAR), which is commonly called Vector Error Correction Model-VECM in order to analyze the impulse response function, as well as, variance decomposition of the variables studied. The study uses annual series data from 1998-2008. Three variables are involved in the analysis, which are; GDP, FDI inflows, and crude oil export. However, the specific model is written in equation 1 below:

$$GDP = f \ (oil \ export, \ FDI) \qquad (1)$$

Where the variables above are measured by million USD, equation 1 could be specified in its logarithmic econometric model by the following form:

$$Log \ (GDP) = \alpha + \beta 1 \ log \ (oil \ export)_t + \beta 2 \ log \ (FDI)_t + u_t \qquad (2)$$

Where ($\alpha$) denotes the intercept term, $\beta 1$, $\beta 2$ are coefficients to be estimated, which assumed to be more than zero ($\beta 1$ and $\beta 2 > 0$). And ($u_t$) is the error term, and the subscripts ($t$) are for the dating of variables in time periods. Since the technique is based on the Vector Error Correction Model (VECM), so it could be specified as follows:

$$Log \ GDP = \alpha_0 + \beta 1 \ log \ (GDP)_{t-1} + \beta 2 \ log \ (oil \ export)_{t-1} + \beta 3 \ log(FDI)_{t-1} + u_{t1} \qquad (3)$$

$$Log \ (oil \ export) = \alpha_1 + \beta 4 \ log \ (oil \ export)_{t-1} + \beta 5 \ log \ (GDP)_{t-1} + \beta 6 \ log \ (FDI)_{t-1} + u_{t2} \qquad (4)$$

$$Log \ (FDI) = \alpha_2 + \beta 7 \ log \ (FDI)_{t-1} + \beta 8 \ log(GDP)_{t-1} + \beta 9 \ log(oil \ export)_{t-1} + u_{t3} \qquad (5)$$

However, a group unit root test is conducted for the series data of this study. It is shown in Table 1 and reported that the result for the unit root tests for stationary of all observations. The null hypothesis assumes that there is a unit root process for the data of the study. And according to the result obtained, we note that the probability value of Breitung t-stat for the common unit root process is statistically significant at the 1 percent level. As well as the P-value of IM pesaran and Shin W-stat, ADF-Fisher chi-square and PP-Fisher chi-square are also statistically significant at the 1 percent level. We therefore reject the null hypothesis and accept the alternative one. This means, there is no unit root and the data are stationary, and statistically valid for running the specific model. Hence, we can rely on this model for analyzing the empirical results of this study.

**Table 1**
**Group Unit Root Test for the Variables of Study**

Series: FDIN, GDP, OILX
Date: 02/04/13 Time: 15:03
Sample: 1 66
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

| Method | Statistic | Prob.** | Cross-sections | Obs |
|---|---|---|---|---|
| Null: Unit root (assumes common unit root process) | | | | |
| Levin, Lin & Chu t* | -1.06358 | 0.1438 | 3 | 195 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin W-stat | -2.30747 | 0.0105 | 3 | 195 |
| ADF - Fisher Chi-square | 15.6567 | 0.0157 | 3 | 195 |
| PP - Fisher Chi-square | 16.0672 | 0.0134 | 3 | 195 |

Source: By the author based on Eviews software.
** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Furthermore, and for obtaining an ideal lag for the model adopted in this study, we used a VAR lag order selection criteria. However, five criteria of this manner exhibit that lag 1 is the optimal lag length, as shown in Table 2.

**Table 2**
**VAR Lag Order Selection Criteria**

Endogenous variables: FDIN GDP OILX
Exogenous variables: C
Date: 02/04/13 Time: 14:53
Sample: 1 66
Included observations: 60

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|---|---|---|---|---|---|---|
| 0 | -386.9200 | NA | 88.56287 | 12.99733 | 13.10205 | 13.03830 |
| 1 | -278.3146 | 202.7301* | 3.203092* | 9.677154* | 10.09602* | 9.840996* |
| 2 | -275.9506 | 4.176407 | 4.006526 | 9.898354 | 10.63137 | 10.18508 |
| 3 | -267.8105 | 13.56688 | 4.148726 | 9.927016 | 10.97419 | 10.33662 |
| 4 | -263.3204 | 7.034480 | 4.877586 | 10.07735 | 11.43867 | 10.60983 |
| 5 | -258.7490 | 6.704634 | 5.760175 | 10.22497 | 11.90044 | 10.88034 |
| 6 | -256.3366 | 3.297042 | 7.378339 | 10.44455 | 12.43418 | 11.22280 |

Source: By the author based on Eviews software.
* indicates lag order selected by the criterion
FPE: Final prediction error
SC: Schwarz information criterion
LR: sequential modified LR test statistic (each test at 5% level)
AIC: Akaike information criterion
HQ: Hannan-Quinn information criterion

**Table 3**
**Johansen Trace Test Result for Cointegration**

Date: 02/04/13 Time: 15:01
Sample (adjusted): 4 66
Included observations: 63 after adjustments
Trend assumption: Linear deterministic trend
Series: FDIN GDP OILX
Lags interval (in first differences): 1 to 2

**3-a**
Unrestricted Cointegration Rank Test (Trace)

| Hypothesized | | Trace | 0.05 | |
|---|---|---|---|---|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None * | 0.291085 | 35.11885 | 29.79707 | 0.0111 |
| At most 1 | 0.118451 | 13.44561 | 15.49471 | 0.0995 |
| At most 2 * | 0.083642 | 5.502907 | 3.841466 | 0.0190 |

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

**3-b**
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized | | Max-Eigen | 0.05 | |
|---|---|---|---|---|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None * | 0.291085 | 21.67324 | 21.13162 | 0.0419 |
| At most 1 | 0.118451 | 7.942700 | 14.26460 | 0.3845 |
| At most 2 * | 0.083642 | 5.502907 | 3.841466 | 0.0190 |

Source: By the author based on Eviews software.
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

In the Table 2, it can be seen obviously that the lag 1 represents the ideal selection due to the result of the criteria adopted via Eviews software.Therefore, the analysis of the specific model will be economically meaningful. Moreover, the Johansen trace test for cointegration is regressed to find out whether there is a long-run association amongst the variables of the study. However, two of Johansen's Eigen value result and trace test for cointegration were statistically significant at the 0.05 percent level, as shown in Table 3:

However, Table 3 illustrates the presence of cointegration for the variables adopted in this study, where it is statistically valid. This implies that there is a long-run relationship amongst GDP, oil export and FDI inflows. Accordingly, the variables involved in the regression equation will move together (Engle & Granger, 1987). Meaning that, the data series are drifting at the same trend. Hence, we can distinguish between a long-run relationship amongst GDP, crude oil export and FDI. In this case, the three variables drift upward together, and the short-run dynamic, that is, the relationship between deviation of GDP from its long-run trend and deviation of crude oil export and FDI from its long-run trend (Greene & Zhang, 2003) Thus, the result obtained will be analysed as a long-run relationship of the variables adopted as a major goal of this paper.

# 4. EMPIRICAL RESULTS AND DISCUSSION

## 4.1 Impulse Response

The impulse response function is used in order to trace out the responsiveness of the dependent variables to shocks to each of the other variables (Pesaran & Shin, 1998; Rafiq, 2009). It shows the dynamic impacts of various shocks in the future. However, the result is presented in Figure 1, it employs for ten year horizon for all GCC countries as one regional area. Figure (1:a) is the impulse response of foreign direct investment inflows (FDI) to other variables of the study. We note that the FDI inflows are slumped over the forecasted period. This response is due to its own shock in which is starting to be negative for the sixth year through the end period. Also, a shock of FDI will cause a negative influence on GDP started from the first year until the end period. While for the oil export, FDI shock will lead to a positive impact for the first two years, and begins to be negative from the third period until the tenth year.
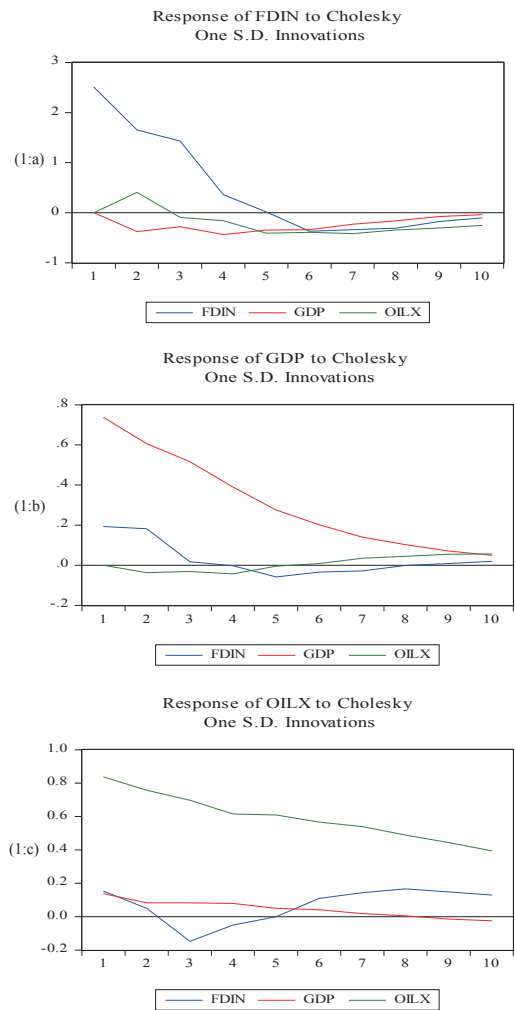


**Figure 1**
**Impulse Response Function of All Variables to One Standard Deviation Shock to FDI, GDP and Oil**
Source: By the author based on Eviews software.

Accordingly, we can say that the FDI inflows to GCC countries have an important impact on the whole GCC economies as well as level of oil exported. However, a shock to FDI inflows is a crucial factor that determines the level of economic growth in GCC countries. Hence, attracting more FDI could be considered a good policy towards the increase of the level of economic growth in general.

Figure (1: b) depicts a gradual slowdown response of GDP started from the first period through the end year, this response is due to its own shock. While FDI inflows would witness a steady response begins in the first year, and then it started its declining from the second year to be negative by the fourth year through the end period; whereas oil export is negatively responded to a shock of GDP from the first to the fourth period. Furthermore, FDI began to be positive after fifth period forecasted until the tenth year. However, figure (1:b) infers a high linkage between GDP and oil export, which implies the significant role of these exports. In other words, oil exports are still remaining as a major factor of economic growth in GCC countries. In Figure (1:c) we see that the downward of oil export is because of its own shock. And the GDP has faced a slight dropping over the forecasted period. However, the two responses are almost correspondent. This asserts that the oil sector and its export have a direct impact on the level of GDP. Furthermore, we noted that the FDI inflows have witnessed a sharp decline for the first two years, and then begins to be increased from the third through the end period. This implies that with a low level of oil export, the FDI is significantly needed in future. In other words, sustaining of level of oil export is highly linked to foreign companies which have advanced technologies for maintaining the oil industry in GCC countries. As well as its role in increasing the level of oil produced.

## 4.2 Variance Decomposition

Variance decomposition is regressed to measure the contribution of each type of shocks to the forecast error variance (Campbell, 1991). In respect of FDI inflows, the result obtained indicates in Table 4. It exhibits that 100 percent of FDI inflows variance could be interpreted by current FDI in the first period, and the percentages are still significant over the forecasted period. Furthermore, we note that GDP has a slight a gradual increase in its contribution compared to crude oil export. However, GDP variance is increased from 1.6 percent in the second period reaching to 12.8 percent in the tenth year; while crude oil export has achieved only 6.23 percent as a higher ratio at the end period. This result, however, ensures that the FDI inflows are linked to the GCC economies more than that of crude oil export.

Consequently, it could be considered as a logic reason if we take into account that oil export is highly linked to fluctuations of global oil prices, not with the level of economic growth of the local economy.

**Table 4**
**Variance Decomposition of FDI**

| Period | S.E. | FDIN | GDP | OILX |
|---|---|---|---|---|
| 1 | 2.462808 | 100.0000 | 0.000000 | 0.000000 |
| 2 | 3.012593 | 96.18877 | 1.677505 | 2.133726 |
| 3 | 3.346095 | 95.95966 | 2.305733 | 1.734608 |
| 4 | 3.400503 | 93.94622 | 4.305054 | 1.748723 |
| 5 | 3.448573 | 91.35036 | 5.980227 | 2.669415 |
| 6 | 3.526442 | 88.71917 | 7.764729 | 3.516100 |
| 7 | 3.597959 | 86.30124 | 9.157414 | 4.541344 |
| 8 | 3.658019 | 84.27855 | 10.49375 | 5.227698 |
| 9 | 3.701956 | 82.49293 | 11.69351 | 5.813560 |
| 10 | 3.739351 | 80.89700 | 12.87015 | 6.232851 |

Source: By the author based on Eviews software.

Table 5 illustrates that 94.08 percent of the GDP variance for the first year, while FDI inflows and crude oil export have contributed by only 5.91 percent and 0.0 percent respectively. This means that the shock of GDP is largely related to its own shock and slightly to FDI.

**Table 5**
**Variance Decomposition of GDP**

| Period | S.E. | FDIN | GDP | OILX |
|---|---|---|---|---|
| 1 | 0.790319 | 5.914533 | 94.08547 | 0.000000 |
| 2 | 1.084245 | 5.885726 | 93.93742 | 0.176856 |
| 3 | 1.291929 | 4.188662 | 95.58123 | 0.230113 |
| 4 | 1.477293 | 3.213659 | 96.33244 | 0.453906 |
| 5 | 1.638398 | 2.640086 | 96.81669 | 0.543219 |
| 6 | 1.787870 | 2.217749 | 97.15424 | 0.628014 |
| 7 | 1.924954 | 1.913209 | 97.43415 | 0.652642 |
| 8 | 2.054149 | 1.693503 | 97.63964 | 0.666856 |
| 9 | 2.175400 | 1.529448 | 97.80472 | 0.665832 |
| 10 | 2.290583 | 1.405774 | 97.92897 | 0.665252 |

Source: By the author based on Eviews software.

We note also that the shocks of FDI are starting to be reduced gradually from the first period until the end forecasting. However, this ratio has declined to 1.40 percent at the end period. Meaning that, the role of FDI is a significant in comparison to crude oil export. In addition, Figure (1:c) represents that the crude oil export of GCC countries is crucially linked to its own shock. GDP and FDI have contributed by only 2.1 and 3.2 percent respectively. This asserts that the crude oil exports are strongly affected by other factors out of this model which could be attributed to fluctuations of global oil prices.

Table 6 illustrates that the forecast error variance of crude oil export is significantly linked to its own shock. While the contribution of FDI inflows and GDP does not exceed 3.00 percent all over the forecasted period.

However, this result is consistent with that of which obtained in Figure 1. In this context, it is more evident that the shocks of crude oil export are not highly linked to the local economy, as far as, its link to the global economy and its volatilities.

**Table 6**
**Variance Decomposition of Crude Oil Export**

| Period | S.E. | FDIN | GDP | OILX |
|--------|------|------|-----|------|
| 1 | 0.884973 | 3.238728 | 2.132981 | 94.62829 |
| 2 | 1.228130 | 2.037502 | 1.445405 | 96.51709 |
| 3 | 1.494923 | 1.999169 | 1.222767 | 96.77806 |
| 4 | 1.705663 | 1.624082 | 1.308558 | 97.06736 |
| 5 | 1.909179 | 1.304767 | 1.325144 | 97.37009 |
| 6 | 2.098837 | 1.210623 | 1.392683 | 97.39669 |
| 7 | 2.282159 | 1.270864 | 1.422308 | 97.30683 |
| 8 | 2.454198 | 1.450059 | 1.452521 | 97.09742 |
| 9 | 2.615586 | 1.572918 | 1.465246 | 96.96184 |
| 10 | 2.765767 | 1.649554 | 1.475850 | 96.87460 |

Source: By the author based on Eviews software

# CONCLUSIONS AND POLICY IMPLICATIONS

The role of FDI inflows in the GCC countries is empirically a significant factor that affects the level of economic growth more than crude oil export. While, the linkage between crude oil export and GDP is still highly related. However, the result pertains to crude oil export implies that its obtained revenues are not invested crucially in enhancing the level of non-oil sectors and increase value added. It indicates that the GCC's open trade policy has not led to reorienting factors of productions. This finding has been extrapolated via variance decomposition of crude oil export variable, which was highly related to its own shock. This explains also that these exports are not linked to the local economy. It is, however, a dependent to the changes occur in other variables such as the global economy and oil prices.

For policy implication, we can say that the GCC countries still in a high need to pursue a sound economic policy for utilizing the crude oil export revenues. This policy ought to be emphasized on redirecting surplus revenues to be invested in non-oil sectors for reducing the negative shocks that occur in oil sectors and its export prices. However, this policy could enhance the interaction between the whole local economy and oil sector, as well as improving levels of economic growth and mitigate impacts of crude oil price fluctuations on the local economy of GCC. On the contrary, this policy will lead to reinforcement macroeconomic stability in the long-run, which consider an important factor that stimulate attracting more FDI to GCC economies.

# REFERENCES

Ab Rahman, A. B., & Abu-Hussin, M. F. B. (2009). GCC economic integration challenge and opportunity for Malaysian economy. *Journal of International Social Research*, *2*, 50.

Aizenman, J. (1992). Foreign direct investment as a commitment mechanism in the presence of managed trade national bureau of economic research. NBER Working Paper No. w4102. Retrieved from SSRN: http://ssrn.com/abstract=226807

Alcalá, F., & Ciccone, A. (2003). Trade, extent of the market, and economic growth 1960-1996. Universitat Pompeu Fabra Working Paper 765.

Al-rifai, A. (2005). A study of the economic effect between the foreign trade sector and other economic sectors. *Journal of Tishreen for Studies and Scientific Research: A Series of Economic Science*, *27*(2), 171-192.

Argiro. (2001). Foreign direct investment and economic growth: Evidence from 14 European Union countries. Retrieved from http://www.iefs.org.uk/papers/moudatsou.pdf.

Balasubramanyan, V. N., Salisu, M., & Sapsford, D. (1995). Foreign direct investment and growth in EP and IS countries. *The Economic Journal*, *106*(434), 92-105.

Borensztein, E., De Gregorio, J., & Lee, J.-W. (1998). How does foreign direct investment affect economic growth?. *Journal of International Economics*, *45*(1), 115-135.

Bosworth, B. P., & Collins, S. M. (1999). Capital flows to developing economies: Implications for saving and investment. *Brookings Papers on Economic Activity*, (1), 143-180.

Bouklia, R. A. Z., & Nagat. (2001, March 30). *The FDI determinants and its effect on the economic growth in South and East Mediterranean*. Round Table Conference, France.

Bouzas, R. (1999). Regional trade arrangements: Lessons from past experiences. In M. R. Mendoza, P. Low, & B. Kotschwa (Eds.), *Trade rules in the making: Challenges in regional and multilaterial negotiations* (p.180). Organization of American States.

Brems, H. (1970). A growth model of international direct investment. *The American Economic Review*, 320-331.

Campbell, J. Y. (1991). *A variance decomposition for stock returns*. National Bureau of Economic Research.

Chaudhry, I. S., Malik, A., & Farid, M. Z. (2010). Exploring the causality relationship between trade liberalization, human capital and economic growth: Empirical evidence from Pakistan. *Journal of Economics and International Finance 2*(8), 175-182.

Dosse Toulaboe, D., Terry, R., & Johansen, T. (2008). Foreign direct investment and economic growth in developing countries. Retrieved from http://www.ser.tcu.edu

Dunning, J. H. (1993). *The theory of transnational corporations*. Taylor & Francis.

Engle, R. F., & Granger, C. W. J. (1987). Co-integration and error correction: Representation, estimation, and testing. *Econometrica: Journal of the Econometric Society*, 251-276.

Fischer, S. (2003). Globalization and its challenges. *The American Economic Review*, *93*(2), 1-30.

Greene, W. H., & Zhang, C. (2003). *Econometric analysis* (Vol.5). Prentice hall Upper Saddle River, NJ.

Grossman, G. M., & Helpman, E. (1993). *Innovation and growth in the global economy*. MIT press.

Hanson, G. H. (2009). *Should countries promote foreign direct investment?*. UNCTAD, Geneva-United Nations.

Hymer, S. (1976). *The international operations of national firms: A study of direct foreign investment*. Cambridge, MA: MIT Press.

Khalil, M. (1995). Foreign investment and its impact on development. *The Scientific Journal Business*, 44-68.

Li, X., & Liu, X. (2005). Foreign direct investment and economic growth: An increasingly endogenous relationship. *World Development*, *33*(3), 393-407.

Myriam, O., & Bazoumana. (2009). Foreign direct investment and economic growth in Mauritius: Evidence from bounds test cointegration. *Journal of International Economics, 7*(2), 47-61.

Pack, H. (1993). *Technology gap between industrial and developing countries: Are there dividends for late-comers?*. The World Bank annual conference on development economies, Washington D.C.

Pesaran, H. H., & Shin, Y. (1998). Generalized impulse response analysis in linear multivariate models. *Economics Letters, 58*(1), 17-29.

Pfaffermay. (1994). Foreign direct investment and export: A time series approach. *Applies Economics*, (3), 337-351.

Rafiq, S., Salim, R., & Bloch, H. (2009). Impact of crude oil price volatility on economic activities: An empirical investigation in the Thai economy. *Resources Policy*, *34*(3), 121-132.

Rodrik, D. (1999). *The new global economy and developing countries: making openness work*. Overseas Development Council, Washington, DC.

Romer. (1986). Increasing returns and long run growth. *Journal of Political Economy*, *95*(5), 1000-1032.

Spanu, V. (2003). *Liberalization of the international trade and economic growth: Implications for both developed and developing countries* (Unpublished thesis). Harvard's Kennedy School of Government, Cambridge..

Trufin, O. S. (2010). Foreign direct investment and economic growth In Romania's development region North-East. *CES working papers*, (2), 11.

Tyler, W. G. (1981). Growth and export expansion in developing countries: Some empirical evidence. *Journal of Development Economic*s, *9*(1), 121-130.

UNCTAD. (1996). *World investment report*. New York & Geneva: United Nations Press.