

The Effect of Foreign Direct Investment on Economic Growth

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Abstract

This study examines the causal relationship between FDI and economic growth in selected MENA countries in the period 2005-2010. The results show that FDI has positive and significant effect on economic growth, so that an increase of 1 percent of its value, growth, 0.03 percent increased.

Keywords: FDI, Growth, Panel data, MENA Countries.

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Introduction

One of the most important and sensitive areas for developing countries is foreign direct investment (FDI). It is now defined as not only a simple transfer of money, but as a mixture of financial and intangible assets such as technologies, managerial capabilities, marketing skills and other assets. There is a major debate in the literature regarding the impact of FDI on economic growth. The traditional argument states that an inflow of FDI improves economic growth and thereby enhances employment opportunities. Most studies (Hill and Athukorala, 1998) have shown that FDI's social and distributional impact on the host country has been generally favorable in developing countries of various regions. Apart from bringing in a package of highly productive resources into the host economy there have been a visible positive impact on the creation of jobs not only in those sectors attracting FDI inflows but also in the supportive domestic industries (Abbas and Nishat, 2009). FDI is defined as an investment involving the transfer of a vast set of assets, including financial capital, advanced technology and know-how, better management practices, etc. This investment

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is carried out by an entity (a firm or an individual) in foreign firms, involving an important equity stake in, or effective management control (UNCTAD, 2007). Since capital formation and technological improvement are the motor of economic growth, FDI is expected to promote host countries' economic growth (Wang, 2009). In 2002, OECD reports that countries with weaker economies consider FDI as the only source of growth and economic modernization. For this reason, many governments, particularly in developing countries, give special treatment to foreign capital (Carkovic and Levine, 2002). It is common that countries have public agencies whose aim is to attract foreign investments using public funds, which shows that governments are willing to bear some costs to attract such investments (Ford et al., 2008). Recently, foreign capital globalisation, particularly FDI inflow has increased significantly in developing countries, due to the fact that FDI is the most stable and prevalent component of foreign capital inflows (Adams 2009). The importance of FDI has emerged from the role played by MNCs in creating positive externalities in economic growth through providing financial resources, creating jobs, transferring technological know-how, managerial and organisational skills, and enhancing competitiveness (Kobrin 2005; Adams 2009). The growth in globalisation of capital flows suggests that the world economy is becoming increasingly interconnected as economic activities are extended globally. FDI can play a crucial role in economic growth in developing countries by generating more benefits to the host economies rather than filling the short-term capital deficiency problems. FDI can transfer technologies and its spillovers affect domestic firms, which may make them more competitive and of a higher standard to that necessary to compete with foreign firms and products. FDI can also bring positive externalities to the economy such as training and labour management opportunities from MNCs. These may then be made generally available in the economy, and lead to an increase in the standards of production. The UNCTAD (2008) reports that FDI inflows have the potential to create employment, increase productivity, transfer skills and technology, boost exports and continue the long-term economic growth and development of developing countries. The empirical investigations demonstrated that FDI played a significant positive role in the growth process for the transition countries. In the past 20 years, the inflow of FDI has increased tremendously in the world economy. In particular, it grew from 13 to 31% of GDP on average for all developing economies (Henriot, 2003). Thus, Foreign Direct Investment (FDI) has gained significant importance over the past three decades or so as the tool for accelerating growth and development of economies in transition as well as MPEC countries. So, this study attempts to examine the impact of FDI on growth in 20 countries of MPEC in period 2005-2009.

Literature Review

FDI is directly linked to the globalisation of capital inflows that provides the opportunities to integrate the domestic economy with the world economy. Growth literatures show that FDI is positively related to economic growth in the recipient countries (Balasubramanyam et al. 1996; De Mello 1997 and 1999; Borensztein et al. 1998). However, there are controversies as some empirical studies argue that the relationship between FDI and growth is non-linear. These findings make the relationship between FDI, DI and growth a complex issue. MNCs invest in general across the world with the aim of maximising their profits. Thus, economies are offering the most suitable investment environment to MNCs to attract their investment. These



offers include policy reforms, political stability, domestic growth related factors, increased domestic entrepreneurial skills, all factors that might cause growth in FDI in host countries. Borensztein et al. (1998), Campos and Kinoshita (2002), Chakraborty and Basu (2002), Elfakhani and Matar (2007), Frimpong and Oteng-Abayie (2006) and Chudnovsky and Lopez (2008) find that FDI alone has an insignificant impact on economic growth and the positive impact of FDI on economic growth is conditional on host country factors. The relationship between FDI, DI and economic growth is one of the well studied subjects in the field of economic development. With the development of endogenous growth theory that was pioneered by Romer in his 1986's article, this relationship became more essential for long-run economic growth (Romer 1990; Barro and Sala-I-Martin 1995; Borensztein et al. 1998; De Jager 2004). The research interest in this field has increased after the 1990s wave of globalisation, massively increased FDI across the globe and the growth of FDI in receiving countries.

Economic theory provides an explanation of the role played by FDI in accelerating economic growth in developing economies. Modern economic growth theories demonstrate that FDI plays a crucial role in transferring technological progress and in creating new ideas for determining economic growth rate (Grossman and Helpman 1994; Barro and Sala-I-Martin 1995). FDI is also seen as the most important channel in which advanced technologies can be transferred to developing economies (Findlay 1978; Blomstrom 1991). On the other hand, empirical literature on the growth effects of FDI provides mixed evidence. However, FDI literature offers four explanations to justify the controversy of the empirical evidence on the growth effects of FDI. Firstly, the growth effect of FDI depends on the host country absorptive capacity, such as the quality of human capital, the development of the financial sector, the technology gap, the development of infrastructure, etc. Thus, the recipient country needs to reach a minimum threshold of such absorptive capacity, before they can benefit from the growth effects of FDI (Borensztein et al. 1998; Campos and Kinoshita 2002; Chakraborty and Basu 2002; Frimpong and Oteng-Abayie 2006; Elfakhani and Matar 2007; Chudnovsky and Lopez 2008). Secondly, the types of FDI inflows are important in generating positive externalities to host countries. For example, Alfaro (2003) argues that the effect of FDI on economic growth relies on FDI operations. FDI contributes positively to economic growth, if FDI operates in the manufacturing sector, negatively in the primary sector and unclearly in the service sector. Thirdly, Razin (2003) points out that the effects of FDI on economic growth depends on the nature of foreign capital inflows into host country, such as FDI inflows, portfolio investment and loans inflows. Lastly, Agosin and Mayer (2000) argue that FDI in the form of mergers and acquisitions (M&A) leads, in some way, to transfer the existing assets from domestic to foreign investors. FDI, therefore, has not contributed to accumulation of capital formation, and subsequently economic growth of the host economy. Thus, it is interesting to see how FDI has contributed to the economic growth and domestic investment in developing countries. This thesis investigates different aspects of the relationship between FDI, domestic investment and economic growth at the macroeconomic level using aggregated data for FDI. The choice of this topic is to allow for the opportunity of finding results that can offer knowledge about the nature of this relationship, which may help policy makers of the host country make suitable decisions.

Ketabforoush and Mohamadvand (2013) investigated the causal relationship between FDI and economic growth in the period 2003-2009 using panel data for 13 selected developing countries. The results showed that FDI and the degree of economic openness have a significant positive effect on growth, so that an increase of 1 percent of its value, growth, respectively, 0.05 and 0.04 percent increase. Also employment and manufacturing value added, as well as a have significant and positive effect on economic growth.

Farkas (2012) examined the impact of FDI on economic growth for the period of 1975 – 2000. The results showed that the contribution of FDI to economic growth is positive and significant depending on the level of human capital and the development of financial markets, but its presence in developing countries must complement rather than substitute a set of other growth determinants.

Ray (2012) tries to analyze and empirically estimate the effect of FDI on economic growth in India, using the cointegration approach for the period, 1990-91 to 2010-11. The empirical analysis on basis of ordinary Least Square Method suggests that there is positive relationship between foreign direct investment(FDI)investment and GDP and vice versa.

Emin (2011) studied the long run relationship between GDP growth and the macroeconomic variables of foreign direct investment, trade and inflation for Turkey using the data set which covers the period of 1970 - 2008 and the results showed that foreign direct investment, inflation and trade surplus have positive and statistically significant effect on GDP growth.

Agrawal and Aomir Khan (2011) studied impact of FDI on GDP Growth Using panel data for the period 1993-2009. The study confirms that FDI promotes economic growth and further provides an estimate that one dollar of FDI adds about 7 dollars to the GDP of each of the five countries.

Chaitanya and Tamazian (2010) examined growth effects of foreign direct investment and economic policy reforms for 22 Latin American countries over 1980-2006 period. The results demonstrate the importance of FDI inflows and policy reforms on economic output growth. Though the interaction between the two highlights complimentary affect, the results are not significant.

Jafari et al (2010) investigated the relationship between the FDI and GDP growth for the period 2000-2006 in OIC countries and results showed that FDI inflow and Openness are important to GDP growth in these countries.

Karimi and Zulkornain (2009) studied the causal relationship between FDI and economic growth in Malaysia and concluded a positive and significance relationship between the two variables.

Duasa (2007) examined the causality between FDI and output growth in Malaysia. The study found no strong evidence of causal relationship between FDI and economic Growth.

Research Method and introduce the model and variables

Panel Data

Panel data is data from a (usually small) number of observations over time on a (usually large) number of cross-sectional units like individuals, households, firms, or governments. In other words panel data analysis is a method of studying a particular subject within multiple sites, periodically observed over a defined time frame. With repeated observations of enough cross-sections, panel analysis permits the researcher to study the dynamics of change with short time series. The combination of time series with crosssections can enhance the quality and quantity of data in ways that would be impossible using only one of these two dimensions (Gujarati, 2003). Some more advantages of panel data as given in 'Basic Econometrics' by Gujarati are:

- Since panel data relate to individuals, firms, states, countries, etc over time, there is bound to be heterogeneity in these units. The techniques of panel data estimation can take such heterogeneity explicitly into account by allowing for individual-specific variables.
- By studying the repeated cross section of observations, panel data are better suited to study the dynamics of change.
- Panel data can better detect and measure effects that simply cannot be observed in pure cross-section or pure time series data.
- By making data available for several thousand units, panel data can minimize the bias that might result if we aggregate individuals or firms into broad aggregates.

Panel Data Regression

Panel data analysis endows regression analysis with both a spatial and temporal dimension. The spatial dimension pertains to a set of cross-sectional units of observation. These could be countries, states, counties, firms, commodities, groups of people, or even individuals. The temporal dimension pertains to periodic observations of a set of variables characterizing these cross-sectional units over a particular time span. There are several types of panel data analytic models. There are constant coefficients models, fixed effects models, and random effects models etc. The Constant Coefficients Model has constant coefficients, referring to both intercepts and slopes. In the event that there is neither significant country nor significant temporal effects, we could pool all of the data and run an ordinary least squares regression model. This model is also called the pooled regression model. The Fixed Effects Model would have constant slopes but intercepts that differ according to the cross-sectional (group) unit—for example, the country. Although there are no significant temporal effects, there are significant differences among countries in this type of model. While the intercept is cross-section (group) specific and in this case differs from country to country, it may or may not differ over time. The Random Effects Model assumes a regression with a random constant term (Greene, 2003). One way to handle the ignorance or error is to

assume that the intercept is a random outcome variable. The random outcome is a function of a mean value plus a random error. But this cross-sectional specific error term which indicates the deviation from the constant of the cross-sectional unit must be uncorrelated with the errors of the variables.

Data and Variables

The study population consisted of 11 selected MENA countries, Algeria, Bahrain, Iran, Libya, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, and Yemen. The model presented in this research paper as follows:

$$LGDPC_i = \beta_0 + \beta_1 L(FDI_i) + \beta_2 L(OPEN_i) + U_i \quad (1)$$

LGDPC_i: Logarithm of GDP of country i

LFDI_i: Logarithm of foreign direct investment in dollars for country i

LOPEN_i: Logarithm of the degree of economic openness (the ratio of the sum of exports and imports to GDP) as a percentage of GDP for country i

Empirical Analysis

Results of F- Lymr and Houseman test

Table 1 shows that the value of F test statistic using fixed effects would be more appropriate. Houseman also test statistic indicates the suitability of the method for estimating the random effects model.

Table 1: Results of F- Lymr and Houseman test of the estimated model

| Test | F- Lymr Test | Houseman Test |
|------------|--------------|---------------|
| Statistics | 84.18 | 6.19 |
| Prob. | 0.0000 | 0.2881 |

The Estimation results

Accordingly, the results of model estimation is introduced to determine the effect of foreign direct investment on labor productivity using a random effects panel data are presented in Table 2. It is due to the logarithmic nature of the model, the coefficients of variables are expressed traction.

Table 2: Results of estimating the effect of FDI on economic growth

| Variable | Coefficient | Std. Error | T-Statistic | Prob. |
|----------|------------------------|-------------------------|-------------|--------|
| C | 4.325789 | 0.09033 | 47.8887 | 0.0000 |
| LFDI | 0.039614 | 0.00990 | 4.0040 | 0.0000 |
| LOPEN | 0.035783 | 0.00307 | 11.6557 | 0.0000 |
| | R ² =0.8543 | R ⁻² =0.8423 | D.W=2.53 | |

The results show that all the coefficients of the variables using a random effects model was statistically significant and have the theoretically expected signs. As you can see, effects of FDI on growth in the countries depend on the one hand to an appropriate degree of development and the ready substrates in these countries. On the other hand the share of FDI in these countries depends on financial need. Therefore we can say that the more developed a country the size of substrates and conditions for foreign investment and technology transfer requirements that may be provided, FDI can have more power to affect the growth of its workforce. Openness has a positive and significantly effect on GDP growth. Degree of economic openness, more competition in the manufacturing sector, which increases the impact on employment and labor productivity affects. That enhance the quality and diversity of our product is that it increases productivity and increase economic growth. R^2 Estimated by the model is equal to 0.85.

Conclusions

Given the current rapid growth and globalization of the world economy in general and the growth of international flows of foreign direct investment (FDI) in particular, it is important to understand the relationship between FDI and economic growth. The uneven growth of FDI and the lack of a consensus on the precise role of FDI in the global economy underscore the need to get a better handle on precisely how FDI affects economic welfare. In this paper, we examined the effect of FDI on economic growth in 11 MENA selected countries. The results showed that the effect of FDI on growth is positive and significant.

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