

# The Role of Financial Markets Development in the Foreign Direct Investment Effect on Economic Growth (The case of D8 with Emphasizing on Iran)

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## **Abstract**

Financial development has an important role in absorbing foreign direct investment (FDI) in order to achieve economic growth, according to the emerging literature on FDI. This paper provides support for this hypothesis in the context of D8 countries. The results show that positive impact of FDI on the growth depends on absorptive capacities. The financial development is one of the most important among the capacities. Empirical analysis, using cross-country data between 2004 and 2013 shows that FDI could not have an independent effect on the growth of D8 countries. Independent effect of FDI on growth could be obtained when FDI is interacted with a threshold level of financial development equal to 3.39. Therefore, focus on the internal changes in the financial markets is necessary in the countries studied before the process of attracting foreign direct investment. More importantly, based on the findings domestic investment can play an ambiguous role in contributing to economic growth.

**JEL Classification:** F43, F36.

**Key words:** Foreign Direct Investment (FDI), Financial Development, D8 countries.

## **1- Introduction**

The two past decades were marked by the increasing role of foreign direct investment (FDI) in total capital flows. In 1998, FDI accounted for more than half of all private capital flows to developing countries. This change in the composition of capital flows has been synchronous with a shift in emphasis among policymakers in developing countries to attract more FDI. (Alfaro, Chanda, Kalemli-Ozcan, and Sayek, 2004)

Despite government have provided incentives to attract foreign direct investment, the empirical evidence of the benefits of FDI at the firm level and international level is sobering. The positive effects of FDI on the growth depends on the availability of absorptive capacities, and prime among these capacities are sound macroeconomic management, decent

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infrastructure, and given 'thresholds' of human capital and, increasingly, financial development. (Omran and Bolbol, 2003)

Schumpeter recognized the importance of well-developed financial intermediaries in enhancing technological innovation, capital accumulation, and economic growth almost two centuries ago. Financial markets are important in some ways. First, it is unlikely that spillovers are restricted to only costless improvements in the organization of the workforce. In particular, to take advantage of the new knowledge, local firms need to alter everyday activities and, more generally, reorganize their structure, buy new machines, and hire new managers and skilled labor. Although some local firms might be able to finance new requirements with internal financing, the greater the technological-knowledge gap between their current practices and new technologies, the greater the need for external finance. In most cases, external finance is restricted to domestic sources. Furthermore, the lack of financial markets also can constrain potential entrepreneurs (Alfaro et.al, 2004).

Due to the fact that, FDI is one of the major issues in economic growth of developing countries and development of financial market plays main role in absorbing foreign direct investment, the aim of this paper is to examine the role of financial development on foreign direct investment effect on economic growth using panel data methods over the period 2004-2013 in D-8 countries.

Eight Islamic developing countries (D8), also known as Developing-8, is an organization for development cooperation among the following countries: Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey. The establishment of D8 was announced officially through the Istanbul Declaration of Summit of Heads of State/Government on June 15, 1997. The objectives of D8 Organization for Economic Cooperation are to improve member states 'position in the global economy, diversify and create new opportunities in trade relations, enhance participation in decision-making at international level, and improve standards of living. D8 is a global arrangement rather than a regional one, as the composition of its members reflects. Organization for Economic Cooperation (D8) is a forum with no adverse impact on bilateral and multi-lateral commitments of the member countries, emanating from their membership to other international or regional organizations.

D-8 countries are classified in three groups based on leading economic indicators by The World Bank:

1. The oil exporting countries such as Indonesia, Iran and Nigeria.
2. The countries with medium revenue such as Pakistan, Turkey, Malaysia and Egypt.
3. The low developed countries which among D8 countries only Bangladesh can be placed in this group.

The worth of Foreign Direct Investment inflows (US \$, million) of D-8 member countries during 2004-2013 are presented in table1. As table1 shows, Turkey has been most successful in attracting foreign direct investment during 2005-2008, while this ranking in 2010-2013 was owned by Indonesia. While the highest GDP growth rate had belonged to

Turkey after 2009.(GDP growth<sup>2</sup> (%) is 9.1 and 8.7 in 2010 and 2011, respectively). Despite the fact that Indonesia has been successful in FDI, the GDP growth has changed slowly.(GDP growth(%))6.2, 6.5, 6.3, 5.8 during 2010-2013, respectively)

Therefore it is very important to examine how much foreign direct investment has contributed to economic growth and how effective is the financial development of D-8 countries.

**Table1: FDI( inflows in US \$, million)**

Year country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bangladesh	-	813	697	652	973	700.16	913.3	1,136.40	990	997.2
Egypt	1,253	5,375	10042	11,578	9,494	6,711.6	6,385.60	-482.7	6,880.70	5,553
Indonesia	-	8,336	4,914	6,928	9,318	4,877.4	13,770.60	19,241.30	19,852.60	20,105
Iran	326	917	317	1,658	1,492	29,836	3,649	4,277	4,662	3,050
Malaysia	4,624	3,966	6,076	8,453	7,375	1,453	9,060	12,197.60	10,073.90	11,853
Nigeria	1,874	4,982	8,823	6,032	3,635	8,649.5	6,099	8,915	7,127.40	5,609
Pakistan	1,118	2,201	4,273	5,590	5,438	5,573	5,548	1,326	859	1,307
Turkey	2,875	10,031	20,185	22046	18299	8,663	9,036	16,047	12,419	13,684

Source: IMF, International Financial Statistics 2014

<sup>2</sup> Reference of GDP growth(%): [www.developing8.org](http://www.developing8.org)

The paper proceeds as follows. Literature review is presented in section 2. Section 3 introduces the conceptual foundation and the model. Section 4 turns to analyzing the results and Section 5 concludes.

## **2- Literature review**

The determinants of FDI are studied in the African countries by Asiuda(2001). Some variables such as returning of the investment to the host country, development of substructures, opening the host country, financial liability of GDP rate, consuming government to the GDP ratio, inflation and growth rate are used in the study. The results show that the cross-sectional data of 22 countries (in African arid area) during 1970- 99 caused higher yield, and developing of substructures for attracting the FDI is not effective for African deserts, but opening of economy increased the FDI.

The determinants of FDI are surveyed by Chakerabati (2001) as the ways of friction analysis and it is basic for scholars. He divided all the variances into eight groups and their main are determinants of FDI such as market scale, worker cost, business impediments, growth rate, opening the economy, shortage of business. Interest rate and tag rate. He divided the determinants to three groups, first, the distinct determinants, second, arbitrary determinants, third, doubt determinants. Distinct determinants as market value are acceptable for scholars. Doubt determinants as inflation rate, government budget shortage, internal investment, political stability, government expenditure, arbitrary determinants as, host country wage, opening the currency and tariff. He says that the relation between FDI and other determinants depends on the data accessible.

Kersan Skakbik and Orlic (2007) divided the determinants into three groups, first, traditional determinants FDI as market value, opening the business, economic stability and product cost. Second, the determinants that are transmittal specify as privation of level-tag variance and development of substructure. Third, determinants that is acceptable to European countries as wages, decay level, Europe union settlement and privation.

Dennis, Laincz, and Zhu (2008) obtained the relation between the currency rate and runaway of currency rate (measured by variance) in Japan. The controlling variables are market value, total revenue, worker cost, worker interest, prospect yield and opening the business. They found that the effect of currency runaway rate to attract FDI depends on compassing the foreign investment. If the product inputs which get foreign investment return to origin country, it will increase the currency rate and therefore leading to FDI decreasing.

Chien-Chiang Lee(2009) For the first time, we explore the directions of causality among FDI, financial development, and economic growth and obtain solid, convincing evidence of a fairly strong long-run relationship by applying recent advances in panel co integration and panel error correction models for a set of 37 countries using annual data for the period 1970-2002. Furthermore, the financial development indicators have a larger effect on economic growth than does FDI. From the panel causality tests, while the evidence of a short-run relationship is weak, that of a long-run relationship among the variables is

unequivocal. Overall, the findings underscore the potential gains associated with FDI when coupled with financial development in an increasingly global economy.

Chee and Nair (2010) empirically examines if financial sector development is an important precondition for foreign direct investment (FDI) to enhance economic growth in the Asia-Oceania region. The study has also examined whether the impact is dependent on the stages of development of the countries. Panel data methods (fixed effects-estimator and random effects-estimator) were used to analyze the relationship between FDI, financial sector development and economic growth on a sample of 44 Asia and Oceania countries for the period 1996-2005. The empirical analysis showed that financial sector development enhances the contribution of FDI on economic growth in the region. It also showed that the complementary role of FDI and financial sector development on economic growth is most important for least developed economies in the region. Key strategies to enhance the role of FDI and financial development on economic growth in developing and least developed Asia and Oceania countries are also discussed in the paper.

Esfandyari and Pourshahabi(2014) study the effect of Foreign Direct Investment (FDI), Financial Development and interaction between FDI and financial development on economic growth of 10 developing countries during 1980-2011. Their results show that FDI, domestic investment and openness have a positive effect on economic growth of this set of countries. But inflation has positive and insignificant effect on economic growth. Also, financial development has negative effect on economic growth. The interaction effect of FDI and financial development don't have significant effect on economic growth but in negative sign.

Essein, G. (2014) examines the various links among foreign direct investment (FDI), financial systems, and economic growth in African countries. This paper further applies the bank-based vs. market-based debate to investigate which financial structure would be better in improving this effect. The study is conducted over the period 1990-2010 and employed panel data for 12 African countries. The estimation method used is the Pooled Mean Group (PMG) estimation method of Pesaran, Shin and Smith (2003) in the form of, the dynamic fixed effect (FE) estimator. Results obtained showed that developing the overall financial system of African countries is more beneficial than developing either the banks or financial markets. Overall financial development improves FDI effect on economic growth in African countries. As a result, policy makers should concentrate on formulating and implementing structural reform strategies that encourage the development of banks and financial markets.

### **3- Data and model**

The model is based on Omran and Bolbol (2003) which estimated growth equations as follows:

$$PCYG = \alpha + b_1R + b_2T + b_3C + e \quad (1)$$

The vector R contains variables explain growth, T is foreign Direct Investment and financial development, C is a vector of control variables such as inflation and the degree of the economy opening and e is the error component.

Since FDI seems to affect mostly investment efficiency and since this effect is conditioned by the degree of financial development, this relationship can be modeled by having the interaction between FDI and financial development as a determinant of investment efficiency or total factor productivity (TFP). Using a Cobb–Douglas production function, one can specify: (Omran et al.,2003)

$$Y = A(FS.FI)L^{\alpha}K^{\beta} \tag{2}$$

A= Total factor productivity

FS= Stock of foreign direct investment

FI= Variable of financial development

L= Labor

K= Capital

$\alpha$ = Share of labor

$\beta$ = Share of capital

Equation2 is written in log differential as follow:

$$\hat{Y} = (A' (FS.dFI+FI.dfs))/A + \alpha \hat{L} + \beta \hat{K} \tag{3}$$

Where  $\hat{\phantom{x}}$  presents variable growth rate and  $\dot{A}$  is derivative of A respect to FS.dFI. With the assumption that  $dFS = FDI$  and  $\frac{\dot{A}}{A} = \theta$ , we can get equation4:

$$\hat{Y} = \theta(FS.dFI)/Y + \theta(FI.dFI)/Y + \alpha \hat{L} + \beta \hat{K} \tag{4}$$

Suppose that IPCY is Per capita income and  $\frac{I}{GDP}$  is the substitute for K, therefore with the equation1 becomes:

$$PCYG = \alpha + b_{11}IPCY + b_{12}FDI/GDP + b_{13}I/GDP + b_{14}FI + b_2FI.FDI/GDP + b_3C + e \tag{5}$$

(5)

Equation5 is estimated for D8 countries and the results are presented in section4.

#### 4- Results

As mentioned before, the model is estimated by using the method of Panel Data for D8 countries (Iran, Nigeria, Pakistan, Turkey, Egypt, Indonesia, Bangladesh, Malaysia) during 2004- 2013. The data for all variables are taken of World Bank. The estimation results of five models with deferent independent variables are shown in table 2.

As table 2 shows, it estimated different models; the variable of per capita income (ipcy) has significant and negative effect which is along with the results of Omran and Bolbol (2003) and Alfaro et.al (2002).

**Table 2: The results based on regression using the ratio of the private sector credits to the GDP as financial development index.**

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5
constant	-246.7 (-3.7)	-246.5 (-3.7)	-231.99 (-3.6)	-221.4 (-3.36)	-95.29 (-1.6)
ipcy	-0.004 (-3.43)	-0.004 (-3.39)	-0.004 (-3.48)	-0.004 (-3.48)	-0.002 (-1.86)
l	1.03 (4.28)	1.03 (4.2)	0.98 (4.19)	0.95 (3.96)	0.42 (1.87)
fdi	$-7.43 \times 10^{-10}$ (-0.86)	$-7.97 \times 10^{-10}$ (-1.42)	$-7.77 \times 10^{-10}$ (-0.91)	$-8 \times 10^{-10}$ (-0.93)	$-2.26 \times 10^{-9}$ (-2.9)
fi	-0.085 (-1.45)	-0.08 (-1.42)	-0.1 (-1.75)	-0.1 (-1.79)	-0.07 (-1.64)
Fdi*fi	$2.3 \times 10^{-13}$ (0.39)	$2.56 \times 10^{-13}$ 0.43	$2.64 \times 10^{-13}$ (-0.91)	$2.69 \times 10^{-13}$ (0.47)	$9.07 \times 10^{-13}$ (1.9)
g	-	0.06 (0.28)	0.11 (0.48)	0.11 (0.47)	0.19 (1.02)
vs	-	-	0.06 (2.01)	0.06 (2.07)	0.1 (3.73)
op	-	-	-	-0.45 (-0.8)	-0.46 (-1.03)
cpi	-	-	-	-	0.05 (4.44)

R <sup>2</sup>	45%	45%	51%	52%	70%
D-W	2.3	2.28	2.3	2.3	3.11

Resource: Research Results

Investment has positive and significant effect. However, foreign direct investment, financial development and economic openness have negative and few significant impact. These results are in line with Omran et al. (2003) for Arab countries. The government expenditures (g) have a positive and insignificant effect. So the government expenditures and the trade's regime of D-8 countries have not explained economic growth. The value of shares (VS) has a positive and significant effect on economic growth which shows the importance of capital market in economic growth of D-8 countries.

If equation 5 is derived respect to FDI and then putting equal to zero, we can calculate the threshold level of financial development needed for economic growth.

$$b12 + b2FI = 0 \implies FI = 3.39\%$$

Based on Iran economy, low limit of financial development is 1.51% according to data during 2004-2013.

### 5- Concluding Remarks

This paper studies the role of financial markets in absorbing foreign direct investment on the economic growth of D8 countries.

The results show that the positive effect of foreign direct investing on economic growth depends on absorbing capacities of each country and one of the most important capacities is financial development. Our empirical results show that FDI have no effect on economic growth of D-8 countries. Independent effect of FDI on growth could be obtained when FDI is interacted with a threshold level of financial development equal to 3.39. The results imply that D-8 countries should promote their domestic financial markets before absorbing FDI. It is more important that based on the results of study, domestic investment is more capable in economic growth.

However, capacities and potentials of developing countries have not been used completely. Certainly, the use of available facilities requires the identification of national sources and long time planning based on principles and rules governing in these countries. Based on the conclusions the following suggestions are presented:

- By the poor function of financial markets, it is required that efficient regulations and policies are applied in order to optimally allocate resources. D-8 joint financial markets formation plays an important role in improving these countries economic strengths.
- Due to the fact that government expenditures in D-8 countries have not lead in economic growth, the combination of government spending should be changed toward productive activities and improvement of infrastructures.



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