

# IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN PAKISTAN

**Nuzhat Falki**

*Foreign direct investment (FDI) is often seen as an important catalyst for economic growth in the developing countries. It affects the economic growth by stimulating domestic investment, increasing human capital formation and by facilitating the technology transfer in the host countries. The main purpose of the study is to investigate the impact of FDI on economic growth in Pakistan, for the period 1990-2006. The relationship between FDI and economic growth will be analyzed by using the production function based on the endogenous growth theory, other variables that affect economic growth such as Trade, domestic capital, labour and human capital will also be used. The expected results of the study are a positive and statistically significant relation between the real per-capita GDP and FDI. Policy recommendations could be suggested in the light of the results obtained, regarding the FDI in Pakistan.*

Field of Research: International trade, International development

## **1. Introduction**

Foreign Direct Investment (FDI) has emerged as the most important source of external resource flows to developing countries over the 1990s and has become a significant part of capital formation in the developing countries despite their share in global distribution of FDI continuing to remain small or even declining (Kumar and pardhan, 2001). The role of the foreign direct investment (FDI) has been widely recognized as a growth-enhancing factor in the developing countries (Arshad, 2008). The effects of FDI in the host economy are normally believed to be increase in the employment, increase in productivity, and increase in exports and, of course, increased pace of transfer of technology.

---

**Lecturer** COMSATS Institute of Information Technology, 43600, Attock Campus, Pakistan  
**Email:** [nuzhatnaveed02@hotmail.com](mailto:nuzhatnaveed02@hotmail.com)

The potential advantages of the FDI on the host economy are it facilitates the use and exploitation of local raw materials, it introduces modern techniques of management and marketing, it eases the access to new technologies, Foreign inflows could be used for financing current account deficits, finance flows in form of FDI do not generate repayment of principal and interests (as opposed to external debt), it increases the stock of human capital via on the job training. The local enterprises are able to *learn by watching* if the economic framework is appropriate (Bhagwati, 1994) it stimulates the investment in R&D (Calvo and Robles, 2003).

The amount of foreign direct investment increased significantly for developing economies during 1985 to 2000. The share of developing countries in world FDI inflows and outflows has risen from 17.4% in 1985-90 to 26.1% during 1995-2000. For Pakistan the amount of FDI inflows increased from \$ 0.24 billion in 1990 to \$ 55 billion in 2007(WDI indicators 2008).

The present paper tries to empirically estimate the effect of FDI on economic growth in Pakistan, using the conventional neo-classical production function where FDI is considered to be an additional input.

The paper is organized as follows Section 2 describes the literature review, Section 3 explains the research methodology and design, and section 4 discusses the expected results and section 5 gives recommendations.

## **2. Literature Review**

A number of studies have analyzed the relationship between FDI inflows and economic growth, the issue is far from settled in view of the mixed findings reached.

Most of these studies have typically adopted standard growth accounting framework for analyzing the effect of FDI inflows on growth of national income along with other factors of production. Within the framework of the neo-classical models (Solow, 1956) the impact of the FDI on the growth rate of output was constrained by the existence of diminishing returns in the physical capital. Therefore, FDI could only exert a level effect on the output per capita, but not a rate effect. In other words, it was unable to alter the growth rate of output in the long run. It is not surprising, thus, that FDI was not considered seriously as a drive engine of growth by mainstream economics.

In the contrast, the New Theory of Economic Growth, however, concludes that FDI may affect not only the level of output per capita but also its rate of growth. This literature has developed various arguments that explain why FDI may potentially enhance the growth rate of per capita income in the host country, the identified channels to boost economic growth include increased capital accumulation in the recipient economy, improved efficiency of locally owned host country firms via contract and demonstration effects, and their exposure to fierce competition, technological change, and human capital augmentation and increased exports. However, the extent to which FDI contributes to growth depends on the economic and social condition or in short, the quality of environment of the recipient country (Buckley, Clegg, Wang, & Cross, 2002). This quality of environment relates to the rate of savings in the host country, the degree of openness and the level of technological development. Host countries with high rate of savings, open trade regime and high technological product would benefit from increase FDI to their economies.

Many empirical works are available in the economic literature showing the causal relationship between FDI and growth. At the firm level, several studies provided evidence of technological spillover and improved plant productivity. At the macro level, FDI inflows in developing countries tend to “crowd in” other investment and are associated with an overall increase in total investment. Most studies found that FDI inflows led to higher per capita GDP, increase economic growth rate and higher

productivity growth (see e.g. De Mello 1997, Kumar and Siddharthan 1997, & Saggi 2000, for recent reviews of literature)

FDI increases technical progress in the host country by means of a contagion effect, (Findlay, 1978) which eases the adoption of advanced managerial procedures by the local firms. Similarly (De Gregorio, 1992) analyzed a panel of 12 Latin American countries in the period 1950-1985. His results suggest a positive and significant impact of FDI on economic growth. In addition the study shows that the productivity of FDI is higher than the productivity of domestic investment. While, (Fry, 1992) examined the role of FDI in promoting growth by using the framework of a macro-model for a pooled time series cross section data of 16 developing countries for 1966-88 period. The countries included in the sample are Argentina, Brazil, Chile, Egypt, India, Mexico, Nigeria, Pakistan, Sri Lanka, Turkey, Venezuela, and 5 Pacific basin countries viz. Indonesia, Korea, Malaysia, Philippines, Thailand. For his sample as a whole he did not find FDI to exert a significantly different effect from domestically financed investment on the rate of economic growth, as the coefficient of FDI after controlling for gross investment rate was not significantly different from zero in statistical terms. FDI had a significant negative effect on domestic investment suggesting that it crowds-out domestic investment. Hence FDI appears to have been immiserizing. However, this effect varies across countries and in the Pacific basin countries FDI seems to have crowded-in domestic investment.

FDI inflows had a significant positive effect on the average growth rate of per capita income for a sample of 78 developing and 23 developed countries as found by (Blomström et.al, 1994). However, when the sample of developing countries was split between two groups based on level of per capita income, the effect of FDI on growth of lower income developing countries was not statistically significant although still with a positive sign. They argue that least developed countries learn very little from MNEs because domestic enterprises are too far behind in their technological levels to be either imitators or suppliers to MNEs. In this regard, another study was conducted by (Borensztein, et.al, 1995) he included 69 developing countries in his sample. The study found that the effect of FDI on host country growth is dependent on stock of

human capital. They infer from it that flow of advanced technology brought along by FDI can increase the growth rate only by interacting with country's absorptive capability. They also find FDI to be stimulating total fixed investment more than proportionately. In other words, FDI crowds-in domestic investment. However, the results are not robust across specifications.

Export-oriented strategy and the effect of FDI on average growth rate for the period 1970-85 for the cross-section of 46 countries as well as the sub-sample of countries that are deemed to pursue export-oriented strategy was found to be positive (Balasubramanyam et.al, 1996) and significant but not significant and some times negative for the sub-set of countries pursuing inward-oriented strategy. Accordingly (Sanchez-Robles, 1998) explored empirically the correlation among public infrastructure and economic growth in Latin America in the period 1970-1985. She also found a positive and significant impact of FDI on the economic growth of the countries of this area.

Another economist (De Mello 1999) also conducted time series as well as panel data estimation. He included a sample of 15 developed and 17 developing countries for the period 1970-90. The study found strong relationship between FDI, capital accumulation, output and productivity growth. The time series estimations suggest that effect of FDI on growth or on capital accumulation and total factor productivity (TFP) varies greatly across the countries. The panel data estimation indicates a positive impact of FDI on output growth for developed and developing country sub-samples. However, the effect of FDI on capital accumulation and TFP growth varies across developed (technological leaders) and developing countries (technological followers). FDI has a positive effect on TFP growth in developed countries but a negative effect in developing countries but the pattern is reversed in case of effect on capital accumulation. De Mello infers from these findings that the extent to which FDI is growth-enhancing depends on the degree of complementarity between FDI and domestic investment, in line with the eclectic approach given by (Dunning, 1981). The degree of substitutability between foreign and domestic capital stocks appears to be

greater in technologically advanced countries than in developing countries. Developing countries may have difficulty in using and diffusing new technologies of MNEs.

Findings of (Xu, 2000) for US FDI in 40 countries for the period 1966-94 also support the finding of De Mello that technology transfer from FDI contributes to productivity growth in developed countries but not in developing countries, which he attributes to lack of adequate human capital. (Agosin and Mayer, 2000) analyzed the effect of lagged values of FDI inflows on investment rates in host countries to examine whether FDI crowds-in or crowds-out domestic investment over the 1970-95 period. They conclude that FDI crowds-in domestic investment in Asian countries crowds-out in Latin American countries while in Africa their relationship is neutral (or one-to-one between FDI and total investment). Therefore, they conclude that effects of FDI have by no means always favourable and simplistic policies are unlikely to be optimal. These regional patterns tend to corroborate the findings of (Fry, 1992) who also reported East Asian countries to have a complementarity between FDI and total investment. In another study by (Pradhan, 2001) found a significant positive effect of lagged FDI inflows on growth rates only for Latin American countries. He used a panel data estimation covering 1975-95 period for 71 developing countries. The study sheds light that the effect of FDI was not significantly different from zero for the overall sample and for other regions.

A number of early studies have generally reported an insignificant effect of FDI on growth in developing host countries. FDI may have negative effect on the growth prospect of the recipient economy if they give rise to a substantial reverse flows in the form of remittances of profits, particularly if resources are remitted through transfer pricing and dividends and/or if the transnational corporations (TNCs) obtain substantial or other concessions from the host country. For instance, Singh, (1988) found FDI penetration variable to have a little or no consequences for economic or industrial growth in a sample of 73 developing countries. In the same way (Hien, 1992)

reported an insignificant effect of FDI inflows on medium term economic growth of per capita income for a sample of 41 developing countries.

For studies conducted in Pakistan a study was conducted by (Shabir and Mahmood, 1992) analyzed the relationship between foreign private investment FPI and economic growth in Pakistan. The study used the data for 1959-60 to 1987-88; the study concluded that net foreign private investment (FPI) and disbursements of grants and external loans (DISB) had a positive impact on the rate of growth of real GNP. However they did not treat FDI as a separate variable. Similarly (Ahmed, Butt, and Alam, 2003) examined the causal relationship between FDI, exports and output by employing Granger non-causality procedure over the period 1972 to 2001 in Pakistan. They found significant effect from FDI to domestic output, in contrast to the above mentioned studies.

### **3. Methodology and Research Design**

#### **3.1 Research Methodology**

The main purpose of the study is to assess/quantify the impact of FDI on economic growth in Pakistan. The Time period for study is 1990-2006, based on the grounds that Pakistan started receiving significant amount of FDI inflows after the 1990s. The theoretical model that is used to investigate the interaction of FDI and Economic growth is based on the following production function.

$$Y = A K^a L^b$$

Where **Y** is the output, **K** is capital and **L** is labour and **A** is the technology or the efficiency of production.

The model is based on the endogenous growth theory, as developed by (Balasubramanyam, Salisu, and Sapsford, 1996) and (Borensztein, Gregorio, & Lee 1998). The model is based on the assumption that FDI contributes to economic growth directly through new technologies and other inputs as well as indirectly through

improving human capital, infrastructure, and institutions and the level of a country's productivity depends on the FDI, trade, domestic investment. As the variable **A** captures the total factor productivity (TFP) effect on growth in output and it is assumed that the effect of FDI on growth operates through variable **A**, and the effect of FDI on **A** also depends on the human capital.

The main purpose of the study is to assess/quantify the impact of FDI on economic growth, in order to achieve the desired objective, other independent variables which are assumed typically to influence the economic growth will be included in the model. It is expected that this inclusion will reduce or eliminate the specification error.

To test the hypothesis empirically, the effects of FDI on economic growth, the model used can be specified as follows:

$$g = a + b_1 L + b_2 K + b_3 FDI + b_4 TRD + b_5 HC + b_6 GC + e$$

Where Dependent Variable is

*g* is the per capita *GDP* growth rate.

And the Independent Variables are

*FDI* is the foreign direct investment

*TRD* the trade (exports plus imports) of goods and services

*L* is economically active labour force

*K* is the domestic capital investment

*HC* is the stock of human capital

And *GC* is government consumption.

The stationarity of the variables series will be checked by using the Dickey Fuller test of stationarity. If the variables are not stationary at the level or it will be stationary at different levels then co-integration will be used to apply the OLS.

## 3.2 Data Description

The study will be based on the 17 annual observations over the period 1990 to 2006. Following the previous literature such as (Borensztein, Gregorio, & Lee, 1998) and (De Mello, 1997) the variables are defined as Dependent Variable  $g$  is the per capita *GDP* growth rate, measured as the real per capita *GDP* and the Independent Variables are, *FDI* is the foreign direct investment, measured as the ratio of *FDI* inflows to *GDP*, *TRD* the trade (exports plus imports) of goods and services measured as ratio to *GDP*, *L* is economically active labour force, *K* is the domestic capital investment measured as ratio of *GDP*, *HC* is the stock of human capital, measured as education expenditure as percentage of *GDP* And *GC* is government consumption.

## 3.3 Data Sources

The data on the variables will be taken from the *Handbook of Pakistan Economy-2005* published by the State Bank of Pakistan. And the World Bank Development Indicators-2008 CD-ROM.

## 4. Expected Results

After checking the stationarity of the variables series by using the Dickey Fuller test of stationarity. If the variables are not stationary at the level or it will be stationary at different levels then co-integration will be used to apply the OLS.

We anticipate that  $b_1$ ,  $b_2$ ,  $b_4$ ,  $b_5$  will be positive;  $b_3$  is indeterminate, if the *FDI* complements domestic capital formation, it will have a positive sign, otherwise negative. Similarly the  $b_6$  is also indeterminate depending on whether or not government expenditure crowds out private consumption. If government expenditure crowds out private consumption expenditure it will be negative, otherwise positive.

## 5. Recommendations

In the light of results obtained some policy recommendations could be suggested regarding the FDI policy in Pakistan.

## 6. REFERENCES

Ahmad M.H., Alam S. And Butt M.S., (2003) "Foreign Direct Investment, Exports, and Domestic Output in Pakistan" *The Pakistan Development Review* 42:4 pp. 715-723

Agosin, MR, and Ricardo Mayer (2000) "Foreign Investment in Developing Countries: Does it Crowd in Domestic Investment?" UNCTAD Discussion Paper No 146, Geneva: UNCTAD.

A. Enisan Alinlo, (2004), "Foreign Direct Investment and Growth in Nigeria: An Empirical Investigation", *Journal of Policy modeling* 26, pp 627-639.

Balasubramanya, V.N., Salisu, M. And Sapsford, D., (1996) "Foreign direct investment and growth in EP and IS countries", *The Economic Journal*, Vol, 106, No 1, pp.92-105.

Borensztein, E., De Gregorio, J. & Lee W. (1998),"How does foreign direct investment affects economic growth?" *Journal of International Economics*, Vol.45, No 1, pp.115-135

Bhagwati, J.N. (1994), "Free trade: Old and new challenges", *Economic Journal*, 104, pp.231-246

Blomstrom, Magnus, Robert E. Lipsey, and Mrio Zejan (1994) What Explains the Growth of Developing Countries? In Baumol, William J.Nelson, Richard R. and Wolff, Edward N. (eds.), *Convergence of productivity*, Oxford University Press, New York;243-256

Dunning, J.H. (1993), *Multinational Enterprises and Global Economy*, Wokingham, Addison-Wesley

De Gregario, J. (1992), "Economic growth in Latin America". *Journal of Development Economics* 39, pp. 59-83

De Mello Jr Luiz R., (1999) " Foreign Direct Investment-led growth: evidence from time series and panel data", *Oxford Economic Papers*, 51:133-154

De Mello Jr Luiz R., (1999) " Foreign Direct Investment in developing Countries and Growth: A Selective Survey", *The Journal of Development Studies*,34(1):1-34

Findlay, R. (1978) "Relative backwardness, Direct Foreign Investment, and the transfer of technology: a simple dynamic model", *Quarterly Journal of Economics*, 92, pp.1-16

Fry, Maxwell J. (1992) "Foreign Direct Investment in a Macroeconomic Framework: Finance, Efficiency, Incentives and Distortions", PRE Working Paper, Washington DC: The World Bank

Ghatak, A. and Halicioglu, F. (2006), "Foreign direct investment and economic growth; some evidence from across the world", MPRA Paper 3563

Hein, Simeon (1992) "Trade Strategy and the Dependency Hypothesis: A Comparison of Policy, Foreign Investment, and Economic Growth in Latin America", *Economic Development and Cultural Change*, 40(3); 495-521

Kumar, Nagesh, and N.S. Siddharthan(1997) *Technology, Market Structure and Internationalization: Issues and Policies for Developing Countries*, Routledge and UNU Press, London and New York.

Khan Ashfaq H. (1997) FDI in Pakistan: Policies and Trends. *The Pakistan Development Review* 36:4 pp 959-985

Pradhan, Jaya Prakash (2001) *Foreign Direct Investment and Economic Growth: The Case of Developing Countries*, Unpublished M.Phil Dissertation submitted to Jawarhlal Nehru University, New Delhi

Saggi, Kamal(2000) Trade Foreign Direct Investment, and International Technology Transfer: A Survey, issued as WT/WGTI/W/88, dated 19 September 2000, Geneva: World Trade Organization.

Singh, R.D. (1998) "The Multinational's Economic Penetration, Growth, Industrial Output and Domestic Savings in Developing Countries: Another Look", *The Journal of Development Studies*, 25(1):55-82

Shabbir T., And Mahmood A., (1992) "The Effects of Foreign Private Investment on Economic Growth in Pakistan", *The Pakistan Development Review* 31:4 pp.831-841

Xu, B. (2001) "Multinational enterprises, technology diffusion and host Country productivity growth", *Journal of Development Economics*, 62:477-494

.