



Munich Personal RePEc Archive

## **The Behavior of FDI in South Asian Countries**

Majeed, Muhammad Tariq and Syed, Shabib Haider

Quaid-i-Azam University, Islamabad, Pakistan., Forman Christian College (A Chartered University), Lahore.

2006

Online at <https://mpra.ub.uni-muenchen.de/57705/>  
MPRA Paper No. 57705, posted 01 Aug 2014 13:57 UTC

# The Behavior of FDI in South Asian Countries

M Tariq Majeed and Shabib Haider Syed\*

## Abstract

This paper analyzes the behavior of FDI in South Asian countries using panel data for the period 1970-2004. We applied fixed effects model to identify the factors that determine FDI inflows. The analysis shows that GDP, trade openness, real exchange rate, labor force and health expenditures affect FDI positively and significantly. While the impact of military expenditures and external debt on FDI is negative and significant. These variables reflect the non-productive use of resources and create a negative signal for foreign investors. The study further finds that the relationship between FDI and domestic investment is complimentary but insignificant. This weak relationship explains the fact that domestic investment performance is poor in these countries.

*JEL Classification: F21*

*Keywords: Investment, Foreign Investment, and FDI.*

## I. Introduction

The international flow of financial resources takes two main forms that are private foreign investment and public development assistance, where the former subdivides further into portfolio and direct investment. A direct foreign investment is the amount invested by residents of a country in a foreign enterprise over which they have effective control. Foreign direct investment plays an extra ordinary and growing role in global business. It can provide a firm with new marketing channels, cheaper production facilities, access to new technology, skills, and financing.

Nearly all developing countries actively seek capital and technology from the advanced countries. Although private foreign direct investment is viewed with ambivalence by many developing countries, it is nonetheless true that direct investment remains a substantial source of capital and is sometimes the only source of specific technologies. Indeed, given slow growth in official external assistance, developing countries are becoming more, not less, dependent on foreign direct investment. As in developing countries, yearly foreign direct investment flows have increased from an average of less than \$10 billion in the 1970's to a yearly average of less than \$20 billion in the 1980's, to explode in the 1990's from \$26.7 billion in 1990 to \$179 billion in 1998 and \$208 billion in 1999 and now comprise a large portion of global FDI.<sup>1</sup>

Pakistan, the world's 7<sup>th</sup> most populated country with 140 million people, a relatively high growth rate of GDP (averaging around 6 percent), with a significant stock of natural resources and a variety of investment provisions has remained unattractive for foreign direct investment inflows. Foreign loans, grants and foreign private investment are the major external sources of funds to meet the obligations of external resource gaps and developmental goals in

---

\*The authors are Assistant Professor of Economics, Quaid-i-Azam University, Islamabad, and Associate Professor, Department of Economics, Forman Christian College (A Chartered University), Lahore respectively.

<sup>1</sup> (Source: UNCTAD)

Pakistan. Increasing external debt and declining share of official grants indicate that Pakistan will have to rely more on attracting private foreign investment inflows to meet its future requirements of sustained economic growth and to retire external debt.

Root & Ahmed (1997) identify the empirical determinants of direct foreign investment flows in the manufacturing sectors for a sample of 58 developing countries. For this purpose thirty-eight economic, social and political variables were tested for their significance with respect to non-extractive direct foreign investment. Out of which six variables- per capita GDP, GDP growth rate, economic integration, extent of urbanization, regular executive transfers, commerce and communication- were identified as essential determinants of FDI.

Using single equation econometric model Shamsuddin (1994) has examined the economic determinants of private foreign direct investment for 36 less developing countries for the year 1983. Author observed that most important factors in attracting foreign direct investment is the per capita GDP in the host country, followed by wage cost, per capita debt, per capita inflow of public aid, volatility of prices, the regional dummy for Latin America and the availability of energy in the recipient country.

Asiedu (2000) addresses the question, why Sub Saharan African countries have been relatively unsuccessful in attracting foreign direct investment? After applying OLS technique the results indicate that the factors that drive foreign direct investment to developing countries have a different impact on foreign direct investment to sub Saharan African. Specifically infrastructure development and a higher return on capital promote foreign direct investment to non-sub Saharan African countries. In contrast, these factors have no effect on foreign direct investment to sub Saharan African. Openness to trade promotes foreign direct investment to both sub Saharan African and non-sub Saharan African countries, however, the marginal benefit from increased openness is less for sub Saharan African – suggesting that trade liberalization will generate more foreign direct investment to non-sub Saharan African countries than sub Saharan African countries. This indicates that there is an “adverse regional effect” for sub Saharan African: a country in Sub Saharan African will receive less foreign direct investment by virtue of its geographical location. These results suggest that Africa is different.

Shah and Ahmed (2003) empirically investigate the determinants of foreign direct investment in Pakistan. The selected explanatory variables of foreign direct investment are cost of capital for foreign firms, per capita GNP, change in real GDP, tariff, real expenditures on transport and communication by the public sector and dummy variable of democratic government. Authors hypothesized that the size of the market and the expected growth potentials in output and its absorption might have positive effects on inward foreign direct investment. It also indicates that the public sectors developmental expenditures, specifically in providing good infrastructure, can attract more foreign direct investment. Finally, a democratic and stable government seems to have the capacity to get attention of transnational producers.

Khan (1997) investigates the reasons why Pakistan has not been able to attract sufficiently large foreign direct investment despite liberalization measures. He reviews the investment policies over the last 50 years and discusses the trends in foreign direct investment in Pakistan. The study points out that despite offering competitive incentives over the last 50 years, geographical location, and relatively large size of population, Pakistan could not attract foreign direct investment like those of many East and Southeast nations. These include the lack of political stability, unsatisfactory law and order situation, macroeconomic imbalances, slowing down of economic activity together with inconsistent economic policies, slow

bureaucratic process, inappropriate business environment, inadequate infrastructure facilities, and lack of trained, educated and disciplined labor laws.

Using multivariate regression analyses, Akhtar (2000) investigates the locational determinants of FDI in Pakistan. The results show that market size, imports of consumer goods, relative interest rates rate are the main determinants of foreign direct investment inflow in Pakistan. The variables such as market growth and political instability were consistently insignificant in the analyses. While the impact of the political regime and consumer goods imports is mixed in attracting FDI in Pakistan.

The objective of this study is to analyze the behavior of FDI in South-Asian countries using panel data over the period 1970-2004.

The remainder of the study is organized as follows: Section II elucidates the methodological framework. Section III describes the data and estimation procedure. Section IV presents the empirical results and interpretation. Section V concludes the main findings.

## **II. Methodology.**

In this section, we formulate a framework of analysis to determine the effect of various factors on FDI in the South Asian countries. The underlying objective is to explain the rationale for FDI. It is generally believed that MNCs invest in those countries where they expect higher rates of return. We introduce a variety of host country characteristics that determine the profits of firms on FDI.

### **Market Size**

The market size hypothesis argues that inward FDI is a function of the size of the host country market, usually measured by GDP and per capita income. We use GDP and per capita income as a proxy for market size. High demand, prospects of economies of scale, good economic health, and absorptive capacity are factors that give a green signal to foreign investors. The combined effect of such factors can be captured by market size. Larger market size is expected to have a positive effect on FDI.

### **Trade Openness**

In the literature, the ratio of trade (imports + exports) to GDP is often used as a measure of openness of an economy. The impact of openness on foreign direct investment depends on the type of investment. When investments are market seeking, trade restriction (and therefore less openness) can have a positive impact on foreign direct investment. The reason stems from the “tariff jumping” hypothesis, which argues that foreign firms that seek to serve local markets may decide to set up subsidiaries in the host country if it is difficult to import their products to the country. In contrast, multinational firms engaged in export-oriented investments may prefer to locate in a more open economy. Since increased imperfections that accompany trade protection generally imply higher transaction cost associated with exporting.

### **Military Expenditures**

Large part of budget on defense expenditures reveals uncertainty about future, cut in development expenditures and wastage of resources. Such factors create an adverse climate for investment. Moreover weapon accumulation race adversely effect the foreign relations. So we expect a negative influence of military expenditures on FDI.

### **Exchange Rate**

The exchange rate affects FDI in several ways. Froot and Stein (1991) have discussed the relative wealth effect of exchange rates. A rise in the exchange rate in terms of the host country’s currency over the home country’s currency implies a depreciation of the former’s currency. A

real depreciation of the host country's currency favors the home country's purchases of host country assets, and therefore leads to an increase in inward FDI in the host country. Cushman (1987) emphasizes the effect of exchange rate changes on relative labor cost. A real depreciation of the host country's currency allows home country investors to hire more labor for a given amount of the home country's currency, and is therefore associated with an increase in inward FDI in the host country.

### **External Debt**

External debt burden shows the imbalances in a country. It has an inverse relation with FDI. Higher debt burden creates constraints in terms of new private lending and FDI (Nunnenkamp, 1991).

### **Labor Force**

Another determinant is the growth rate of the labor force. This variable measures the availability of labor as being particularly imported for labor-intensive, efficiency seeking foreign direct investment- rather than the cost of labor. Nevertheless, it may be taken as assumption that a natural consequence of the abundance of this sense implies not only abundance but also low cost relative to productivity. Hence, we expect positive relation with FDI.

### **Health Expenditures**

High health expenditure is an indicator of healthy people, healthy labor force. MNCs attract more towards a country making high health expenditure. It reduces their much other expenditure related with poor labor health. Hence, we expect positive relation with FDI.

### **Domestic Investment**

Foreign investors avoid investing in those countries, in which domestic investment is already high. Therefore, we expect inverse relation with FDI. On the basis of the arguments above, we can specify the FDI equation as follow:

$$FDI = \alpha + \beta_1 GDP + \beta_2 OP + \beta_3 RER + \beta_4 LF + \beta_5 ED + \beta_6 GE + \beta_7 DI + \beta_8 ME + \beta_9 HE + \beta_{10} T + \beta_{11} FDI_{-1}$$

Where,

FDI = Foreign direct investment net inflow (% of GDP),

GDP = Gross domestic product (constant 2000 US \$),

OPEN = Openness measured as export plus import as percentage of GDP,

RER = Real exchange rate. It is obtained by multiplying the nominal exchange rate with US CPI and then divided by domestic CPI

LF = Labor force, total,

ED = External debt, total (DOD, Current US\$),

GE = Gross national expenditure (% of GDP),

DI = Gross capital formation (% of GDP),

ME = Military expenditure (% of GDP),

HE = Health expenditure, total (% of GDP),

T = Taxes on goods and services (% of revenue),

FDI (-1) = Foreign direct investment net inflow of previous year (% of GDP).

### **III. Data and Estimation Procedure**

Data for this study have been taken from World Development Indicators (WDI) 2005.

All variables are measured in US dollars at constant prices.

Foreign direct investment is net inflows of investment to acquire a lasting management interest (10 % or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows in the reporting economy.

GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2000 U.S. dollars.

Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. Imports of goods and services represent the value of all goods and other market services received from the rest of the world.

Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar).

Total labor force comprises people who meet the International Labor Organization definition of the economically active population: all people who supply labor for the production of goods and services during a specified period. It includes both the employed and the unemployed.

Total health expenditure is the sum of public and private health expenditure. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation.

Gross capital formation consists of outlays on additions to the fixed assets of the economy, net changes in the level of inventories, and net acquisitions of valuables. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress."

Military expenditures data from SIPRI are derived from the NATO definition, which includes all current and capital expenditures on the armed forces, including peacekeeping forces; defense ministries and other government agencies engaged in defense projects; paramilitary forces, if these are judged to be trained and equipped for military operations; and military space activities.

We now discuss estimation procedure for our model .We used time series data from 1970–2004 for a panel of South Asian countries. The model is estimated by using panel data approach for South Asian countries. Since the FDI is a long term phenomenon, its long term fluctuations caused by structural and political characteristics of different counties being analyzed can be effectively captured by this approach because it allows uniform shifts across cross sectional units while assuming the slope coefficients as common. Further, the panel data approach has the advantage of providing a large number of degree of freedom leading to efficiency gains of parameters.

## V. Empirical Results and Interpretation

The strength of econometric analysis largely depends upon the measurement of variables, model specification, data consistency, statistical and economic significance of variables in the analysis, number of observations and the fact that all the important variables are included in the analysis. A deficiency on any of these fronts is expected to jeopardise the reliability of estimates.

While regressing the explanatory variables against the dependent variable, an attempt has been made to take into account the number of degrees of freedom. Caution has been taken to avoid any inferior results by not overloading the equation with too many explanatory variables.

An assessment of the tests of significance and the regression equation indicates that the results of the parameters in the equation are consistent with economic theory and are statistically significant. The magnitude of the adjusted  $R^2$  indicates the fact that the equation has performed reasonably well. The value of the F-statistics, significant at 1 per cent in the equation, allows us to reject the null hypothesis that all the estimated coefficients are not significantly different from zero. The Durbin-Watson statistic is in the acceptable range and there is no serious concern for the presence of positive or negative serial correlation. This indicates that there are no specification errors in the equation.

**Table 1: Estimates of Fixed Effects Model**

Variables	Coefficients
GDP	.00561 (2.95)*
OPEN	.029 (1.81)**
RER	-0.002 (-3.92)*
LF	.0468 (2.97)*
ED	-.377e (-4.75)*
GE	-.06 (-3.03)*
HE	.87 (2.61)**
DI	.012 (0.49)
ME	-0.3546 (-5.59)*
T	-.057 (-1.08)
Nepal	-5.90E-11
Pakistan	1.53E-11
Sri Lanka	5.99E-10
India	-5.19E-10
Maldives	-5.80E-11
Bangladesh	4.88E-10
<i>R-Square</i>	0.99
<i>Adjusted R-Square</i>	0.99
<i>F-Test</i>	234.34 (0.000)
<i>D W</i>	2.74

Note: (a) The results in parentheses show t-values.

(b) The symbols \*, \*\* and \*\*\* denote statistical significance at the 1 percent, 5percent, and 10 percent levels, respectively.

Gross domestic product (GDP) is used as a proxy for market size. It turned out to be highly significant. As, the higher GDP represents the stable economic environment and it also indicates higher aggregate demand. Large market size offers higher demand and absorptive capacity in an economy and therefore, foreign investors are attracted to put their stake in that concerned economy. Once these foreign firms get established they can take the oligopolistic advantages due to their large size, technical know-how and other facilities they possess. These relative advantages pay them in the form of higher profits. Thus, we can safely conclude that GDP play a crucial role in attracting FDI.

Trade openness shows a magnitude of trade liberalization. The effect of openness is significant with positive sign. The MNCs are attracted to the countries to take the location advantages with the motive of exporting their products to large markets. Less trade barriers make imports of raw material, such as plant machinery, convenient. On the other hand they can easily export their intermediate and final products. Moreover, due to liberalization policy the MNCs also take advantage of export promotion facilities. With these factors in mind, we can conclude that our positive relation between openness and FDI is theoretically sound.

The variable domestic investment turns out to be insignificant with a positive sign. Domestic investment is an indicator of investment climate in the economy. The country with high domestic investment attracts FDI inflows. The real exchange rate appears significant with negative sign. Devaluation causes to increase the price of imports and decreases the price of exports. Therefore, devaluation raises the burden of foreign debt on a country. It shakes the confidence of foreign investors. Thus it decreases the foreign direct investment.

The variable military expenditure is significant with a negative sign. A country with high military expenditure does not attract FDI. High military expenditures indicate that a country is making less expenditure on economic development. Thus, it creates public unrest, a cut to development expenditure and macro economic instability. Foreign investors suspect hurdles and avoid investing in such countries.

The variable tax turns out to be insignificant however the sign is negative. Due to higher taxes foreign investors will avoid making investment. Government expenditure is significant and has a reverse relation with FDI. High government expenditure results a budget deficit. This represents poor economic conditions. Thus MNCs are not attracted towards these countries.

The effect of external debt on FDI is negative and significant. The debt burdens adversely affect the investment climate of a country. The variable health expenditure has a positive relation with FDI. A country with high health expenditure will attract more foreign firms for investment. Because, due to it the learning capacity of workers increases, fewer working days are lost, decrease losses caused by their illness.

Government expenditure is significant and has a reverse relation with FDI. Higher govt. expenditure results a budget deficit. This represents poor economic conditions. Thus MNCs do not attract towards these countries for investment. The variable labor force is an important determinant of FDI. It turned out to be positive. Higher labor force means MNCs can substitute labor with capital.

## **V. Conclusion and Policy Implication**

The objective of the study was to empirically investigate the determinants of FDI in South-Asian countries over the period 1970-2004. The data has been derived from the world development indicator (WDI) 2005. The model is estimated using fixed effects model.



The analysis shows that GDP, trade openness, real exchange rate, labor force and health expenditures affect FDI positively and significantly. While the effect of military expenditures and external debt on FDI is negative and significant. These variables reflect non-productive use of resources and create a negative signal for foreign investors. The study further finds that the relationship between FDI and domestic investment is complimentary but insignificant. This weak relationship explains the fact that domestic investment performance is poor in these countries. The effect of taxes on FDI is negative implying that lack of fiscal incentives is a hurdle for FDI.

Thus, we can suggest that in order to attract FDI government needs to use those policies through which a country can attain macroeconomic stability and investment climate. A stable exchange rate policy has to be ensured in order to avoid the exchange rate risk attached to the assets, import prices and profit considerations of direct investors in Pakistan. As the domestic investment and foreign direct investment are compliment to each other, government may follow such fiscal incentives that are favorable for both types of the investments. Finally, in order to attract FDI, the government of host country also needs to divert its expenditure from the non-productive sectors to the productive sectors.

## References

- Akhtar, Mohammad H (2000). The Determinants of Foreign Direct Investment in Pakistan: An Economic Analysis, *The Lahore Journal of Economics*, 5(1), 1-22.
- Asiedu, E. (2002). On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? *World Development*, 30(1), 107-119.
- Cushman, D. (1987). The Effects of Real Wages and Labor Productivity on Foreign Direct Investment. *Southern Economic Journal*, 54(1), 174-185.
- Froot, K.A., and Stein, J.C. (1991). Exchange Rates and Foreign Direct Investment: An Imperfect Capital Market Approach. *Quarterly Journal of Economics*, 106(4), 1191-1217.
- Khan, Ashfaq H (1997). Foreign Direct Investment in Pakistan: Policies and Trends *The Pakistan Development Review*, 36 (4), 959-985.
- Nunnenkamp, P. (1997). Foreign Direct Investment in Latin America in the Era of Globalized Production, *Transnational Corporations*, 6 (1), pp. 51-81.
- Root, Franklin R., and Ahmed A Ahmed (1979). Empirical Determinants of Manufacturing Direct Foreign Investment in Developing Countries, *Economic Development and Cultural Change* 27(4), 751-768.
- Shah and Ahmed (2003). The Determinants of Foreign Direct Investment in Pakistan: an Empirical Investigation. *The Pakistan Development Review*, 42(4), 697-714.
- Shamsuddin, Abul, F.M (1994). Economic Determinants of Foreign Direct Investment in Less Developed Countries. *The Pakistan Development Review*, 3(31), 41-51.