

## Foreign Direct Investment and Economic Performance of Pakistan: Is There Any Relation?

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**ABSTRACT** Foreign Direct Investment (FDI hereafter) has a number of economic consequences on the capital receiving country that's may be positive or negative. According to the accessible literature, the positive developmental role of FDI in general is well documented. In this paper an attempt has been made to explore the relationship between FDI and economic performance for Pakistan by using OLS regression analysis and time series data. The nature of FDI's impact is elucidated by tracing through its effect on GDP, export, import, per capita income, employment and manufacturing. It is scrutinized that in Pakistan, FDI effects on domestic output, employment, exports and overall growth are positive but the impact of FDI on imports is negative. If FDI is concentrated in import substitution industries, then it is expected to affect imports negatively and export positively because the goods that were imported are now produced in the host country by foreign investors. These results advocated that FDI is complementary to local enterprises and capabilities after a certain level of development.

### 1. INTRODUCTION

One of the most important problems confronting the world today is that of underdevelopment. Many of the most potent sources of international conflict, regarding the terrible poverty, found among the underdeveloped states in the third world. For this reason and others, the promotion of growth and development in the third world is seen as fundamentally important. In grappling with the problem of what forces may be useful for promoting development, a considerable degree of attention has focused upon foreign investment (portfolio investment and FDI), especially FDI, because of its stability. FDI is investment of foreign assets into domestic structures, equipment, and organizations and it measures the overseas investment of transnational corporations (parents) in foreign companies (affiliates) that

may or may not be wholly owned by the parents. As such, it is distinct from official development assistance and commercial bank loans.

According to the IMF and OECD definitions, it reflects the objective of obtaining a lasting interest by a resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise"). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise. Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises both incorporated and unincorporated.

It is generally accepted that the distinguishing characteristics of FDI are its stability and ease of services relative to commercial debt or portfolio investment, as well as its inclusion of non-financial assets in production and sales processes. That is why FDI has become instrumental in the development of the country. Actually, it is an equity fund invested in other nations and is critical in both developed and developing countries on the ground that on one hand it is taken as great blessing and on the other to plunder the real

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wealth. The motive for a foreign investment is crucial in determining that how the linkages and externalities could develop. There are four main motives for investment:

- To search for the natural resources
- To look for the new markets
- To restructure existing foreign production
- To rummage around for the new strategic assets

These can be placed into two categories. The first includes the first three motives: asset exploiting, to generate economic rent by using existing firm-specific assets. The second is the fourth motive: asset augmenting, to acquire new assets that protect or enhance existing assets. In general, developing countries are unlikely to attract the second category of FDI; they primarily attract the first category. The relative importance of each motive partly reflects the stage of economic development.

The impacts of FDI on the economy of the host country, as a whole, may be positive or negative. According to recent empirical studies it depends on a number of factors like privatization and globalization of production, the degree of political stability, the nature of government policy, trade and investment regime, openness of the host countries and size of the market.

Some of the empirical studies reflected a positive link between higher GDP and FDI inflows. However, the link did not hold for all regions. FDI produces a positive effect on economic growth in host countries. One convincing argument for that is that FDI consists of a package of capital, technology management and market access. FDI tends to be directed at those manufacturing sectors and key infrastructures that enjoy actual and potential comparative advantage. In those sectors with comparative advantage, FDI would create economies of scale and linkage effects and raise productivity. For FDI, repayment is required only if investors make profit and when they make profit, they tend to reinvest their profit rather than remit abroad.

Another benefit of FDI is a confidence building effect. While the local economic environment determines the overall degree of investment confidence in a country, inflows of FDI could reinforce the confidence, contributing to the creation of a virtuous cycle that affects not only local and foreign investment but also foreign trade and production. This phenomenon well matches the directions of historical flows

of FDI in the Asian and Pacific region. Initially, FDI had surged into the newly industrialized economies (NIEs, that is, Hong Kong, China, Korea, Singapore, and Taipei, China) and thereafter moved to ASEAN countries. Recently, it has been changing its direction to People's Republic of China (PRC), India, and Viet Nam. This changing stream of FDI flows suggests that the degree of confidence building, inflows of FDI, and the pace of economic growth seem to have a positive interrelation in the Asian and Pacific region.<sup>1</sup>

## 2. FDI AND ECONOMY'S PERFORMANCE: SOME EVIDENCES

It is obvious from the existing literature over the subject that the flows of FDI have positive short run effect on growth, while FDI of stock, on the other hand, have negative long-run impact.<sup>2</sup> The higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital. Thus, FDI contributes to economic growth only when a sufficient absorptive capability of the advanced technologies that it brings is available in the host economy. The results suggest that most of the effect of FDI on economic growth likely derives from efficiency gains rather than an overall higher induced level of investment.<sup>3</sup>

By examining relationship between FDI and domestic employment with focus on two case industries, food and manufacturing and textiles, Hudson et al. (2005) discussed two type of FDI. One is horizontal, that is used when trade barriers, transport cost are high and firm invests in production facilities at both home and abroad. Second is vertical FDI that is employed to take advantage of factor-cost differences. They observed different results between two sectors when the motivations of horizontal and vertical FDI are considered. It is concluded that textile and apparel production are more labor intensive than food manufacturing, the labor that is required is likely more skilled for textiles. For food manufacturing tariff structures are more complicated, transport costs are higher and local dietary custom and demands make vertical FDI less appealing. It is argued that the impacts of FDI on domestic employment are difficult to generalize. The impacts and motivations of FDI are drive by economic fundamentals.

Now the question arises that are there any productivity spillovers from FDI to domestic

firms, and if so, how much should host countries be willing to pay to attract FDI? To examine these questions Haskel et al. (2002) used a plant-level panel covering UK manufacturing from 1973 through 1992. Across a wide range of specifications, they estimate a significantly positive correlation between a domestic plants's TFP and the foreign-affiliate share of activity in that plant's industry. This is consistent with positive FDI spillovers. They do not generally find significant effects on plant TFP of the foreign-affiliate share of activity in that plant's region. Typical estimates suggest that a 10 percentage-point increase in foreign presence in an UK industry raises the TFP of that industry's domestic plants by about 0.5%. They also use these estimates to calculate the per-job value of these spillovers. These calculated values appear to be less than per-job incentives governments have granted in recent high-profile cases, in some cases several times less.

Zahir (2003) analyzed the attractiveness of (FDI) in Pakistan with special emphasis on the cost of capital element in effecting the rate of return and the internal cash flow for investment of the investing firms by using the Jorgenson's Neo-classical Investment Model. This study elaborated fiscal provisions and their implications on the investment environment specifically available to foreign investors in Pakistan. The computed results show consistent and influencing impact of the cost of capital on FDI inflows. It is argued that fiscal incentives are more appropriate in attracting FDI as these have no direct drain over public resources and increase the after tax return by availing the tax holidays and depreciation allowances. It is suggested that the emergence of globalization and a consistently growing environment for international competition in resource utilization needed required elements of acceptance. Changing perceptions, attitudes and competitive outlook does change the restrictive and protectionist policy stance in favor of liberalized and outward looking policies. The resource gap, declining official inflows and technological advancement can only be achieved by reducing public burden and by the encouragement of private business activities in the country.

In more recent literature there has been referred to the impact of foreign investment enterprises on industry efficiency as foreign investment enterprises may affect efficiency by increasing productivity through their own activities and spillover effects on domestic enterprises.

### 3. METHODOLOGY AND DATA

The first step at the formal level of this empirical investigation is to check the stationarity and the investigation of stationarity (or non-stationarity) in a time series, that is, tests for unit roots. Existence of unit roots in a series denotes non-stationarity. For testing whether a series is stationary, the Dickey Fuller test (DF) and Augmented Dickey Fuller test (ADF) tests are employed. The ADF test for unit roots indicates whether an individual series is stationary by running an OLS regression.

If the variables are stationery in level then the Ordinary Least Square (OLS) regression analysis is used for empirical analysis. Regression errors in all the estimated equations are tested for autocorrelation with the help of Durbin Watson (D-W) test. If correlation is found in an equation, it is estimated by Iterative two-steps Least Square (ILS) method for auto regression AR (1), AR (2) or moving average MA (1) specification. All the regression equations are specified in double log forms. The general log form of regression equation is given below:

$\log Y = a + b \log X$ , We are to observe the interdependency of dependent variables in the following way:

- Model 1:  $GR = f(FDI)$
- Model 2:  $Exp = f(FDI)$
- Model 3:  $Imp = f(FDI)$
- Model 4:  $Manf = f(FDI)$
- Model 5:  $PCI = f(FDI)$
- Model 6:  $Emp = f(FDI)$

This research consists of five variables where FDI is independent variable and total exports (Exp), imports (Imp), manufacturing production (Manf), employment (Emp), per capita income (PCI) and growth rate (GR) are dependent variables. Manufacturing production is used as a proxy of domestic output. Data for FDI imports, exports, manufacturing production are obtained from the Annual Reports of State Bank of Pakistan. Data on growth rate and employment is obtained from Pakistan Economic Survey (Various Issues).

### 4. RESULTS OF PARAMETRIC ANALYSIS

The results of ADF test show that all the variables are stationary at level. It means, for this type of data co-integration techniques are not suitable so for the sake of better results we ap-

**Table 1: Results of model 1**

Variable	Coefficient	Std. error	t-statistic
C	1975.578	1037.092	1.904921
LFDI	0.314180*	0.048549	6.471404
AR(1)	1.162319*	0.183311	6.340682
AR(2)	-0.292277	0.185765	-1.573370
R-squared	0.980861	Log likelihood	-249.7438
Adjusted R-squared	0.978881	Durbin-Watson stat	2.057400
Mean dependent var	5018.630	Inverted AR Roots	0.79
S.D. dependent var	3437.378		

\* Indicates significance at 1%

plied OLS regression technique to analyze the relationship between dependent and independent variables. If autocorrelation is found in an equation, it is re-estimated by auto regression AR (1) or AR (2) or MA (1). The results of estimations are reported below.

#### Model 1: $GR = f(FDI)$

The immediate reaction of growth rate to the inflow of FDI is estimated using equation (1) as formulated in the preceding section. The results are reported in Table 1. These results are consistent with the theoretical underpinning and have expected sign, for the sake of more clarification the association between dependent variable and independent one is very strong and positive.<sup>4</sup> To remove autocorrelation, AR (1), AR (2) are used and now Durbin-Watson (D-W) statistic provides no evidence of autocorrelation. P value shows that results are statistically significant at all levels. R square shows 98 percent variation of variable. In particular, the coefficient of FDI suggests that growth rate increases by 0.314 percent for 1 percent increase in the FDI.

#### Model 2: $Exp = f(FDI)$

By using the OLS with AR (1) and AR (2) the equation has goodness of fit and the Durbin-Watson statistic in Table 2, shows no evidence of autocorrelation. R square shows 96% varia-

tions in exports. With the p value=00 the coefficient of FDI is statistically significant at all levels and has expected sign. Coming to the behavior of regression coefficient, we find that the estimated coefficient do not contradict the theory. In particular, the coefficient of FDI suggests that exports rises by 0.38 percent for the 1 percent increase in FDI. Foreign direct investment gives advantages in terms of export market access arising either from foreign firms' economies of scale in marketing or from their ability to gain market access abroad. Besides their contributions through joint ventures, foreign firms can serve as catalysts for other domestic exporters.<sup>5</sup>

#### Model 3: $IM p = f(FDI)$

The results of model 3 are presented in Table 3, by the end of this section and it is obvious that the results are in accordance with the theory. The results are statistically significant at 5 percent level and the sign of coefficient makes economic sense. D-W test provide no evidence of autocorrelation. The coefficient of FDI suggests that imports decreases by 6.23 percent for 1 percent increase in FDI.

#### Model 4: $Manf = f(FDI)$

The results of model 4 are expressed in Table 4 by the end of this section. The results are statistically significant at all level. To remove auto

**Table 2: Results of model 2**

Variable	Coefficient	Std. error	t-statistic
C	3216.267	1225.636	2.624163
LFDI	0.383393*	0.071678	5.348839
AR(1)	1.276557*	0.197131	6.475664
AR(2)	-0.449207	0.196373	-2.287513
R-squared	0.957815	Log likelihood	-74.33214
Adjusted R-squared	0.953451	Durbin-Watson stat	1.879465
Mean dependent var	6920.067	Inverted AR Roots	0.64
S.D. dependent var	3782.361		

\* Indicates significance at 1%

**Table 3: Results of model 3**

Variable	Coefficient	Std. error	t-statistic
C	5.744123	0.498396	11.52522
LFDI	-6.23E-05**	3.62E-05	-1.721495
AR(1)	1.276557*	0.197131	6.475664
AR(2)	-0.449207	0.196373	-2.287513
R-squared	0.824504	Log likelihood	-74.33214
Adjusted R-squared	0.645598	Durbin-Watson stat	1.879465
Mean dependent var	5.137143	Inverted AR Roots	0.75
S.D. dependent var	2.143264		

\* Indicates significance at 1% and \*\* Indicates significance at 5% level

correlation AR (1) AR (2) and MA (1) are applied and D-W test shows that there is no evidence of auto correlation. According to the results R square obtains 99 percent variations of manufacturing. The coefficient of FDI is statistically significant and has positive relationship with the dependent variable. It also shows that manufacturing production increases by 17.56 percent for 1 percent increase in FDI.

#### Model 5: $PCI = f(FDI)$

Literature shows that the international movement of capital has facilitated development of the world's natural resources and has been instrumental in transmitting the direct effect of industrial revolution from area to area. Thereby it has helped to increase the quantities and varieties of goods and services generally available and

has raised living standards for some or most of world's population. The positive impact of FDI on PCI in Pakistan supports the theoretical evidence. Table 5 shows that the results of this equation are significant at 1 percent level and R square shows 99 percent variations of per capita income. After applying AR (1) the results show that there is no evidence of auto correlation. The coefficient of FDI is statistically significant and is of expected sign. It also shows that per capita income increases by 0.0003 percent for 1 percent increase in FDI.

#### Model 6: $Emp = f(FDI)$

The results in Table 6 are significant at all levels where p value is 0.00 and R square is 0.809 that means 81 percent variations of employment. In this equation after applying AR (1) the D-W

**Table 4: Results of model 4**

Variable	Coefficient	Std. error	t-statistic
C	-63497.15	44993.38	-1.411256
LFDI	26.45622*	2.715682	9.742017
AR(1)	0.397052*	0.213367	1.860883
AR(2)	0.310231	0.274047	1.132033
MA(1)	0.927885	0.453748	2.044933
R-squared	0.995896	Log likelihood	-364.2918
Adjusted R-squared	0.995310	Durbin-Watson stat	1.755532
Mean dependent var	209381.6	Inverted AR Roots	0.79
S.D. dependent var	238821.3	Inverted MA Roots	-0.93

\* Indicates significance at 1%

**Table 5: Results of model 5**

Variable	Coefficient	Std. error	t-statistic
C	38.88226	21.39933	1.816985
LFDI	0.000303*	0.000131	2.320058
AR(1)	0.967250	0.042620	22.69454
R-squared	0.991053	Log likelihood	-32.57891
Adjusted R-squared	0.990476	Durbin-Watson stat	2.289367
Mean dependent var	29.41235	Inverted AR Roots	.97
S.D. dependent var	6.769446		

\* Indicates significance at 1%

**Table 6: Results of model 6**

Variable	Coefficient	Std. error	t-statistic
C	-47.09928	98.57312	-0.477811
LFDI	0.035988*	0.006603	5.449892
AR(1)	0.579293	0.171198	3.383769
R-squared	0.809436	Log likelihood	305.4588
Adjusted R-squared	0.797142	Durbin-Watson stat	359.8456
Mean dependent var	-219.6673	Inverted AR Roots	0.58
S.D. dependent var	1.707376		

\* Indicates significance at 1%

statistics show no auto correlation. The FDI coefficient is positive and significant that shows that 0.36 percent change in employment is due to 1 percent change in FDI. These results are consistent with the theoretical underpinning.

## 5. CONCLUSION

This study has been organized to capture the impact of FDI on economic performance in Pakistan by measuring the effects of FDI on growth rate, imports, exports, manufacturing, per capita income and employment through six models respectively (as mentioned in section 3). The analysis is based on annual time series data for the period of 1972-2008.

The results shows that in , FDI effects on domestic out put, employment, trade income level and over all growth are positive. Growth rate of GDP is positively affected by FDI during 1972-2008. The effect of FDI on economic growth is an empirical question, as it seems to depend upon a set of conditions in the host country economy. According to the results, impact of FDI on imports is negative but on exports it is positive. If FDI is concentrated in import substitution industries, then it is expected to affect imports negatively and export positively because the goods that were imported are now produced in the host country by foreign investors.

The results of manufacturing production (proxy of domestic output) show positive impact of FDI. The literature shows that FDI by itself does not provide growth opportunities unless a domestic industrial sector exists which has the necessary technological capacity to profit from the externalities from MNEs (Multi National entrepreneurs) activity. Positive impact of FDI on employment and per capita income shows the expansion of industrial sector and rise in living standard through FDI inflow in Pakistan.

The results suggest that FDI is complemen-

tary to local enterprises and capabilities after a certain level of development. Strong local capabilities raise the possibility of attracting high value systems and of capturing skill and technology spillovers from them; these capabilities need selective policies.

Policies of host countries have an important influence on foreign investment decisions because attracting FDI may not be enough to ensure that a host country derives its full economic benefits. Free markets may not lead foreign investors to transfer enough new technology or to transfer it effectively and at the depth desired by a host country. But policies can induce investors to act in ways that enhance the development impact by building local capabilities, using local suppliers and upgrading local skills, technological capabilities and infrastructure.

## NOTES

- <sup>1</sup> The debate is well documented in Khan and Kim 1999.
- <sup>2</sup> See, Borschier, Dunn and Rubinson 1978, for an inspiring detail about the overall short run (positive) and long run (negative) impact of FDI on growth.
- <sup>3</sup> For further details, see Borensztein et al. 1998.
- <sup>4</sup> The positive developmental role of FDI in general is well documented in Chen 1992.
- <sup>5</sup> For further details, see Aitken et al. 1997.

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