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## **The Impact of FDI on Economic Growth under Foreign Trade Regimes: A Case Study of Pakistan**

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### **I. INTRODUCTION**

Foreign Direct Investment (FDI) as a growth-enhancing component has received great attention of developed countries in general and less developed countries in particular in recent decades. It has been a matter of great concern for many economists that how FDI affects economic growth of the host country. In a closed economy, with no access to foreign saving, investment is financed solely from domestic savings. However, in open economy investment is financed both through domestic savings and foreign capital flows, including FDI. The investments in form of FDI enable investment-receiving (host) countries to achieve investment levels beyond their capacity to save.

Over the last couple of decades FDI has remained the largest form of capital flow in the developing countries far surpassing portfolio equity investment, private loans, and official assistance. In 1997, FDI accounted for 45 percent of net foreign resource flows to developing countries, compared with 16 percent in 1986 [Perkins (2001)]. Moreover, the World Bank (2002) reported that in 1997 developing countries received 36 percent of total FDI flows.

Most developing countries now consider FDI as an important source of development, but its economic effects are almost impossible to either predict or measure with precision. However, many empirical studies have shown significant role of FDI in economic growth of host developing countries, through its contribution in human resources development, technological transfer, capital formation and international trade.

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The impact of FDI and Transnational Corporation (TNCs) on growth of a country depends on many factors. Trade policy regime is one of the key factors that impact FDI to a great deal in host countries. In the decision of foreign investor the trade policy regime plays a decisive role. A great amount of work followed by Bhagwati (1973) has explored the importance of trade regime in benefiting the host countries in terms of economic growth and economic activity [Bhagwati (1978, 1994); Brecher and Findlay (1983); Brecher and Diaz-Alejandro (1977)]. The main premise of the studies conducted is that those countries gain more from FDI that follow the export promotion trade regime rather than those working under the protection of Import substitution policies.

The main reason that makes the impact of the trade policies different for the countries operating under different trade regimes is that countries working under IS target very small domestic market of the consumers whereas the countries with more open policies of EP have bigger international target customer market. Due to this the countries with EP regime attract more foreign investment as compared to the countries operating under IS trade policies.

Since the middle 1970s, there has been considerable progress in trade reforms in most developing countries, turning from import substitution strategy to export-oriented approach. Pakistan's trade policy has also been moving towards more openness; fewer control. Steadily the tariff rates have tumbled down.

Only few studies are available that have tested the "Bhagwati" hypothesis for developing countries and in case of Pakistan, in the best of our knowledge, no such study is available.<sup>1</sup> Moreover, the available studies have used cross sectional data that has restricted assumption of homogeneity due to which it cannot capture the difference among the countries despite considerable variations among developing countries in relation to various structural features and institutional aspect, which have direct bearing on FDI-growth relationship.

The aim of this paper is to analyse the effects of trade policy regime on the contribution of FDI to economic growth using time series data over the period 1970-2001 from Pakistan economy.

The plan of the paper is as follows: Section 2 presents the overview of FDI policy, while methodology and data series are discussed in Section 3, analysis and empirical results in Section 4 and Section 5 presents a concluding summary.

## II. AN OVERVIEW OF FDI POLICY IN PAKISTAN

Concrete policies, strong infrastructure, and investment friendly policies of countries always give confidence to foreign investors for investments in those countries. The policies representing the true interests of the host countries also guide foreign investments into right areas where they are needed most.

<sup>1</sup>Balasubramanyam, *et al.* (1996); Athukorala and Chand (2000).

Pakistan has received comparatively higher amount of FDI over the last two decades. Especially during the decade of 1990s, Pakistan received high amount of FDI due to its market-oriented policies, conducive environment for investment and reemphasis on of the private sector for economic growth.

The dimension of the FDI flows into Pakistan can be explained in terms of its size and percentage of gross capital formation (GCF). The size of FDI inflows in Pakistan was not significant until 1991 due to the regularity policy framework. However, under the new policy regime, it was expected to assume a larger role in catalysing Pakistan economic development. It is observed that there has been a steady build up in FDI inflows in post-liberalisation period (Table 1). Actual inflows have increased from \$41 million in period (1970-74) to \$5009 million in (1990-99). However, the pace of FDI inflows to Pakistan has remained slower as compared with other developing countries in Asia.<sup>2</sup>

Table 1

*Foreign Direct Investment Net Inflows in Pakistan 1970-2001*

Period	Value (\$ million)	% GCF
1970-74	41	0.53
1975-79	138	0.98
1980-84	322	1.22
1985-89	764	2.31
1990-99	5009	4.75
2000	308	3.17
2001	383	4.09

Source: World Development Indicator.

Over the decades the trade policies of Pakistan have swung between import substitutions and export promotion. In early 1970s Pakistan went for nationalisation that made the government biggest player in the economy. During 1990s Pakistan opened its economy and changed its stance and allowed foreign investments to flow in.

In 1960s the pronounced role of local sector in the provision of major services of banking, insurance, and commerce hindered the foreign investment. The foreign investment was not allowed in the fields of banking, insurance and commerce during 1960s. In 1970s the foreign investors discouraged more due to nationalisation drive and excessive regulation of trade and commerce from the government.

The nationalised organisation could not come up to the expectations of the government and could not bring the desired results in terms of economic activity and growth of the economy. Due to the failure of the nationalised organisations the

<sup>2</sup>See Appendix Table 1.

government softened its stance on foreign investments and gradually started allowing the foreign investment in the country. Initially it allowed only joint equity participation with local investors and in the areas where advanced technology, technical skills, and marketing expertise were involved. In early 1980s government showed more interest in foreign investment and established Export Promotion Zones (EPZ) for facilitation of export-oriented industries. Moreover, government also encouraged the overseas Pakistanis to send their investments in EPZ on non-repatriable investment basis.

The effect of the facilities provided by the government mitigated due to highly regulated policies and laws. The deterrents included high public ownership, strict licensing, and the price controls of government of Pakistan. In late 1980s and early 1990s Pakistan tried overcoming these barriers by giving free hand to the foreign investors and applied all those policies for registration and commencement of business which were applied to the domestic investors. The government also waved condition for government approval with exception of few industries. Liberalisation of foreign exchange regime also spurred FDI in Pakistan. Due to this liberalisation the investors were allowed to bring in, possess and take out foreign currency and hold certificates of foreign currency.

Establishment of special industrial zones (SIZs) was another milestone in the history of Pakistan. In these SIZs with foreign investors all overseas Pakistanis were also encouraged to participate. In New Investment Policy foreign investment was also allowed in Agriculture and services in which initially the foreign investment was not allowed. Such policies of the government over the years have improved the situation of FDI in Pakistan.

### III. THE MODEL

The model to investigate the interaction of FDI and trade policy regime in economic growth is derived using the production function framework. Consider the following Cobb-Douglas production function.

$$Y = AK^aL^b \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \quad (1)$$

Neo Classical growth theory takes technology as an exogenous factor that is the major weakness of the model. To deal with the problem of exogeneity we use a variant of this model presented by new growth theorists in 1970s that explains technology as a controllable factor through investment in human and physical capital. The following modification can be made in production function to incorporate the factor of human capital.

$$Y = f(A, L, K, H) \dots \dots \dots \dots \dots \dots \dots \quad (2)$$

Where  $Y$  is output (gross domestic output (GDP)),  $L$  is labour,  $K$  is capital stock, and  $H$  is human capital stock. As Balasubramanyam, *et al.* (1996) have observed, the

endogenous growth theory for the most part explores the mainsprings of technical progress. It postulates that human capital accumulation is one of the key factors that generate fast technical progress through learning by doing. The variable  $A$  captures the total factor productivity (TFP) effect on growth in output. This study implicitly assumes that the effect of FDI on growth operates through variable 'A'. Significantly, the effect of  $FDI$  on  $A$  also depends on the trade policy regime. The present study uses openness of trade policy regime ( $OP$ ) as a proxy variable to incorporate its effect on economic growth.

$$A = g(FDI, FDI*OP) \dots \dots \dots \dots \dots \dots \dots \quad (3)$$

Substitute the Equation (3) in Equation (2)

$$Y = F(L, K, H, FDI, FDI*OP) \dots \dots \dots \dots \dots \quad (4)$$

There are different measure are used for openness of trade in empirical economic literature.<sup>3</sup>

In this study, we used the total trade to GDP ratio as proxy of openness of trade due to its superior than other proxies because of the inclusion of non-trade activities.

The estimated equation used in this paper in the empirical analysis, is

$$Y = \beta_0 + \beta_1 L + \beta_2 K + \beta_3 H + \beta_4 FDI + \beta_5 (FDI*OP) + u \dots \dots \quad (5)$$

$$\beta_1 > 0 \quad \beta_2 > 0, \beta_3 > 0 \quad \beta_4 < 0 \quad \beta_5 > 0$$

The coefficients  $\beta_1, \beta_2, \beta_3$  show that how much output responds to the changes in the Labour, Capital, and Human capital. Whereas, the change in the output due to change in FDI can be gauged by partially differentiating the function with respect to FDI. The term  $\beta_4 + \beta_5*OP$  show that the overall impact of the  $FDI$  on economic growth is positive despite the negative sign of  $\beta_4$  as hypothesised by Bhagwati.

### Data and Estimation

The model consists of five variables, Gross domestic product ( $Y$ ), foreign direct investment ( $FDI$ ), labour force ( $L$ ), gross capital formation as a percentage of GDP ( $K$ ), education expenditure as a percentage of GDP ( $H$ ), ratio of total merchandise trade (import +export) to GDP ( $OP$ ).<sup>4</sup> All variables data were obtained from World Development Series and State Bank Annual report.

We used the Engle-Granger ( $EG$ ) and Hansen method techniques for estimation instead of Johansen method for long run relation among the variable. The

<sup>3</sup>(1) the ratio of total merchandise trade(import-export) to GDP (2) ratio of export to gross output in manufacturing sector (3) ratio of world price to domestic price indexes of manufacture product.

<sup>4</sup> $K$  and  $H$  are used as proxy of capital stock and human capital stock, due to the lack of an appropriate direct measure of these variables.

Johansen-Juselius (1990) can find multiple co-integrating vectors.<sup>5</sup> The main interest here is in the long run relation postulated by Bhagwati hypothesis, the short run dynamics are not considered.

#### IV. EMPIRICAL RESULTS

Priory to testing the long run co-integration relation, it is necessary to establish the order of integration presented. To this end, an Augmented Dickey Fuller (ADF) was carried out on the time series levels and difference forms. The results are given in Table 2 and as this table shows, all the variables have a unit root in their levels and are stationary in their first difference. Thus all six variables (*Y*, *L*, *K*, *H*, *FDI* and *OP*) are integrated of order one I (1).

Table 2

##### *Test of the Unit Root Hypothesis*

Variables	Level		First Difference	
	<i>t</i> -statistics	<i>k</i> <sup>6</sup>	<i>t</i> -statistics	<i>k</i>
<i>Y</i>	-3.20	4	-3.81**	1
<i>K</i>	-1.62	4	-4.58*	3
<i>L</i>	-0.17	1	-4.36*	1
<i>H</i>	-2.03	1	-5.52*	2
<i>FDI</i>	-2.33	1	-3.84**	1
<i>OP</i>	-3.55	3	-6.28*	1

The optimal lags (*k*) for conducting the ADF test were determined by AIC (Akaike Information Criteria). \*\*and \* indicate significance at the 5 percent and 1 percent levels, respectively.

Note: The *t*-statistic reported in is the *t*-ratio on  $\gamma_1$  in the following regression.

$$\Delta X = \gamma_0 + \gamma_1 X_{t-1} + \sum_{i=1}^p \beta_i \Delta X_{t-i} + \gamma_3 T + u_t$$

The Table 3 show that the estimates of  $\beta_5$  is statistically significant with theoretical expected sign, our finding supports the “Bhagwati” hypothesis that the growth impact of FDI on the Pakistan economy seem to have been enhanced by the country’s trade policy regime shift from import substitution strategy to export oriented approach. Moreover, the coefficient of *FDI*,  $\beta_4(-0.03)$  is negative but its coefficients size less that interaction term of *FDI* and *OP*,  $\beta_5(0.12)$ . So over all effect of *FDI* on growth is positive for Pakistan economy.

<sup>5</sup>There are no economic reasons to suggest more than one co-integration vector for the variable under this study.

<sup>6</sup>Selection of lag length for ADF test. See Appendix Table 2.

Table 3

<i>Long Run Determinants of Economic Growth</i>		
Variables	Coefficients	<i>t</i>
Intercept	-24.7	-7.3
<i>K</i>	0.51	2.06
<i>L</i>	1.96	22.7
<i>H</i>	1.91	2.17
<i>FDI</i>	-0.03	-1.68
<i>FDI*OP</i>	0.12	2.79

The long run relationship is analysed by Phillips and Hansen (1990) methods the residuals are stationary in both cases (Table 4) and therefore the estimated equation show that there exists long run relationship.<sup>7</sup>

Table 4

<i>Cointegration Tests</i>			
	EG <sup>8</sup>		Hansen
DF	-4.62	DF	-4.77
ADF(1)	-4.11	ADF(1)	-4.25
ADF(2)	-3.92	ADF(2)	-3.67
ADF(3)	-3.81	ADF(3)	-3.52

DF: Dickey Fuller.

ADF: Augmented Dickey Fuller.

## V. CONCLUSION

FDI has been one of the defining features of the world economy over the past two decades. It has grown at an unprecedented pace for more than a decade. The past decade has witnessed an unparalleled opening and modernism of the economies in all regions, encompassing deregulation, demonopolisation, privatisation and private participation in the provision of infrastructure, and the reduction and simplification of tariffs. An integral part of this process has been the liberalisation of foreign investment regime.

Although Pakistan has not received any considerable amount of FDI as yet, but has remained relatively greater over the past couple of decades as it adopted market oriented policies.

The present study found that the growth impact of FDI tends to be greater under an export promotion (EP) trade regime compared to an import-substitution (IS)

<sup>7</sup>Phillips and Hansen (1990) has suggested a simple test of cointegration by applying a Cochrane-Orcutt procedure to correct for serial correlation in residuals of cointegration equation.

<sup>8</sup>See critical value Table 3 in Appendix.

regime by using data for Pakistan over the period 1970–2001. Our finding support the “Bhagwati” hypothesis.

The effect of FDI in import substitution industries may be different from those of export-oriented industries since former target mostly the limited domestic market, while the latter target the larger international market. Moreover, it is more likely to generate more employment and, therefore spillover due to the expected larger production capacity associated with larger market.

FDI can stimulate human resources development through investment in education and training. This enhances the stock of human capital, and increases productivity of labour and other factors of production.

In short, these finding suggest that Pakistan’s capacity to progress on economic development will depend on her performance in attracting FDI. Pakistan’s outward looking development strategy should include FDI as an essential part in addition to export promotion strategy.

### Appendices

Appendix Table 1

Region, Country	Inwards Flows (Million of Dollars)					
	1980	1990	1995	2000	2001	2002
<b>World</b>	54957	208670	333818	1392957	823825	651189
Developed Countries	46530 (84.67)	171076 (81.98)	204116 (61.15)	1120528 (80.44)	589379 (71.75)	460334 (70.69)
Developing Countries	8392 (15.27)	36959 (17.71)	114891 (34.42)	246057 (17.66)	209431 (25.42)	162145 (24.09)
<b>Asia</b>	396 (0.72)	24264 (11.6)	79235 (23.7)	142091 (10.2)	106778 (12.9)	94989 (14.5)
<b>SAARC</b>	195 (.35)	547 (.26)	2952 (.88)	3992 (.29)	3982 (.48)	4581 (.70)
<b>Pakistan</b>	64 (0.12)	250 (.12)	719 (.22)	305 (.02)	385 (.05)	823 (.13)

Source: UNCTAD (2003).

Note: Figure in parentheses is the share in total.



Appendix Table 2

Variables	Level			First Difference		
	<i>k</i>	<i>t</i> -Statistics	AIC	<i>k</i>	<i>t</i> -Statistics	AIC
FDI	<b>1</b>	<b>-2.33</b>	<b>-0.54</b>	<b>1</b>	<b>-3.84</b>	<b>-0.32</b>
	2	-2.75	-0.52	2	-3.21	-0.31
	3	-2.63	-0.52	3	-3.11	-0.27
	4	-2.59	-0.48	4	-3.13	-0.25
Y	1	-3.46	2.34	1	-3.81	2.69
	2	-3.37	2.38	2	-2.44	2.76
	3	-3.35	2.48	3	-1.26	2.78
	<b>4</b>	<b>-3.2</b>	<b>2.09</b>	4	-1.57	2.84
L	<b>1</b>	<b>-0.17</b>	<b>1.29</b>	<b>1</b>	<b>-4.36</b>	<b>1.25</b>
	2	-0.45	1.32	2	-4.13	1.29
	3	1.27	1.29	3	-3.18	1.39
	4	1.37	1.36	4	-2.56	1.49
K	1	-1.55	3.08	1	-4.00	3.00
	2	-1.84	2.94	2	-5.45	2.78
	3	-1.23	2.78	<b>3</b>	<b>-4.58</b>	<b>2.77</b>
	<b>4</b>	<b>-1.62</b>	<b>2.72</b>	4	-3.34	2.78
H	<b>1</b>	<b>-2.03</b>	<b>1.22</b>	1	-4.76	1.38
	2	-1.84	1.32	<b>2</b>	<b>-5.52</b>	<b>1.24</b>
	3	-1.80	1.31	3	-2.32	1.25
	4	-1.07	1.26	4	-2.54	1.30
OP	1	-7.21	-4.45	<b>1</b>	<b>-6.28</b>	<b>-4.14</b>
	2	-3.09	-4.40	2	-3.64	-4.07
	<b>3</b>	<b>-3.55</b>	<b>-4.46</b>	3	-4.41	-4.13
	4	-2.53	-4.33	4	-3.3	-4.01

Appendix Table 3

No. of Variables	Significance Levels								
	<i>m</i> =2			<i>m</i> =3			<i>m</i> =4		
<b>Sample Size</b>	0.01	0.05	0.10	0.01	0.05	0.10	0.01	0.05	0.10
25	-4.37	-3.59	-3.22	-4.92	-4.10	-3.71	-5.43	-4.56	-4.15
50	-4.12	-3.46	-3.13	-4.59	-3.92	-3.58	-5.02	-4.32	-3.98
100	-4.01	-3.39	-3.09	-4.44	-3.83	-3.51	-4.83	-4.21	-3.89
$\infty$	-3.90	-3.33	-3.05	-4.30	-3.74	-3.45	-4.65	-4.10	-3.81

Source: Thomas (1997) based on MacKinnon (1991).

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