

THE IMPACT OF FDI ON ECONOMIC GROWTH UNDER FOREIGN TRADE REGIMES: A CASE STUDY OF PAKISTAN

Zeshan Atique, Mohsin Hasnain Ahmad and Usman Azhar¹

ABSTRACT

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. Liberalization of foreign investment regime is an integral part of growth of FDI. This paper investigates that the trade policy regime followed by Pakistan has influenced significantly both the amount of inward FDI received and economic growth. Our findings support the Bhagwati Hypothesis. The government should emphasize both export promotion policy and inward FDI to get the desired results of economic growth.

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 decade. 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. FDI enables 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

¹ Lecturer, Economics Department, University of Karachi & Project Economist/Faculty member, Applied Economics Research Centre, University of Karachi, Lecturer, Department of Management Sciences, Balochistan University of Information Technology and Management Sciences respectively

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.

The impact of FDI and Transnational Corporation (TNCs) on growth of a country depends on many factors. Among these factors one important factor that impact FDI to a great deal is the trade policy regime 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 which 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 reform in most developing countries, turning from import substitution strategy to export-oriented approach. Pakistan also follows export-oriented policies. Pakistan's trade policy has been moving towards more openness, fewer control and tariff rates have come tumbling 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.² The available studies have used cross sectional data that has restricted assumption of homogeneity due to which it can't 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 relation.

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

² Balaubramanyan et al., 1996; Althurokola and Chand, 2000.

II. AN OVERVIEW OF FDI POLICY IN PAKISTAN

Inclination of foreign investors always remains towards those countries which facilitate them in terms of both infrastructure and favorable policies for investments. Concrete policies from the host country also guide foreign investment into right areas where they are needed most.

Pakistan received relatively higher amount of FDI over the last two decades. Especially during the decade of 1990s, Pakistan adopted, market oriented policies, conducive environment for investment and declared the private sector as the engine of 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 frame work. However, under the new policy regime, it was expected to assume a larger role in catalyzing Pakistan economic development. It is observed that there has been a steady build up in FDI inflow in post-liberalization 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 been slower than other developing countries in Asia.³

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 nationalization 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 nationalization drive and excessive regulation of trade and commerce from the government.

³ See Appendix **Table:1**

The nationalized organization couldn't 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 nationalized organizations the 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 the 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. Liberalization of foreign exchange regime also spurred FDI in Pakistan. Due to this liberalization 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 frame work. Consider the following Cobb-Douglas production function.

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

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.

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

Where Y is output (gross domestic output (GDP)), L is labour, K is capital stock, and H is human capital stock. As Balasubramanyan 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.

$$A=g(FDI,FDI*OP).....E(3)$$

Substitute the E(3) in E(2)

$$Y=F(L,K,H,FDI,FDI*OP).....E(4)$$

There are different measure are used for openness of trade in empirical economic literature.⁴

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

$$Y=\beta_0+ \beta_1L+ \beta_2K+ \beta_3H+ \beta_4FDI+ \beta_5(FDI*OP)+u \quad \text{-----}E (5)$$

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

The coefficients $\beta_1, \beta_2, \beta_3$ show that how much output responds to the changes in the Labor, 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 β_4 as hypothesized 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).⁵All variables data were obtained from World Development Series and State Bank Annual report.

⁴ (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.

⁵ 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.

We used the Engle-Granger (EG) and Hansen method techniques for estimation instead of Johansen method for long run relation among the variable. The johansen-Juselius (1990) can find multiple co-integrating vectors.⁶The 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					
Level			First Difference		
Variables	t-statistics	k ⁷	t-statistics	k	
Y	-3.20	4	-3.81**	1	
K	-1.62	4	-4.58*	3	
L	-0.17	1	-4.36*	1	
H	-2.03	1	-5.52*	2	
FDI	-2.33	1	-3.84**	1	
OP	-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% and 1% levels, respectively.*

NOTE: The t-statistic reported in is the t-ratio on γ_1 in the following regression.

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

The table:3 show that the estimates of β_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.

⁶ There are no economic reasons to suggest more than one co-integration vector for the variable under this study.

⁷ Selection of lag length for ADF test. See Appendix **Table:2**

Table:3

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

The long run relationship is analyzed by EG and Hassen (1990) methods the residuals are stationary in both cases (Table: 4) and therefore the estimated equation show that there exists long run relationship.⁸

Table:4

Cointegration Tests			
EG⁹		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, privatization and private participation in the provision of infrastructure, and the reduction and simplification of tariffs. An integral part of this process has been the liberalization 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) regime by using data for Pakistan over the period 1970-2001. Our finding support the “Bhagwati” hypothesis.

⁸ 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.

⁹ See Critical value **Table:3** in Appendix

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 findings 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.

REFERENCES

Athukorala, P. and S. Chand., (2000). "Trade Orientation and Productivity Gains from International Production: A Study of Overseas Operation of United States TNCs", *Transnational Corporations*, 9(2):1-27.

Balasubramanyam, V.N., M.A. Salisu, and D. Sapsford., (1996) "Foreign Direct Investment and Growth in EP And IS Countries" *Economic Journal*, 106 (434) : 92-105.

Bhagwati, J.N., 1973. "The Theory Of Immiserizing Growth: Further Applications' In M. Connolly and a. Swoboda (eds.), *International Trade and Money*, University of Toronto Press, Toronto: 45-54

Bhagwati, J.N, (1978). *Anatomy and Consequences of Exchange Control Regimes*, Ballinger Publishing, New York.

Bhagwati, J.N 1985. *Investing Abroad: Esmée Fairbairn Lecture*, Lancaster University Press, Lancaster.

Bhagwati, J.N 1994. "Free Trade: Old and New Challenges", *Economic Journal*, 104 (423), pp.231-246.

Brecher, R.A. and Carlos F. Daiz Alejandro., (1977). "Tariffs, Foreign Capital And Immiserizing Growth", *Journal of International Economics*, 7(3): 317-322.

Brecher, R.A. and R. Findlay., (1983). "Tariff, Foreign Capital And National Welfare With Sectorspecific Factors" *Journal of International Economics*, 14:277-288.

Engle and Granger C, (1987), "Cointegration and Error correction: Representation, Estimation and Testing". *Econometrica*, Vol.55, pp.251-76.

Johansen, S.,(1988). ‘Statistical Analysis of Cointegrating Vectors’, *Journal of Economics Dynamics and Control*, 12(2): 231-54.

Johansen and Juselius (1990), “Maximum Likelihood Estimation and inference on Cointegration with Applications the Demand for money”, *Oxford Bulletin of Economics and Statistics*, Vol 52, No.2, pp169-210.

Mackinnon, J.G., (1991). ‘Critical values for Cointegration Tests’ in R.F. Engle and C.W.J.Granger (eds.), *Long-Run Economic Relationships: Readings in Cointegration*, Oxford University Press, Oxford: chapter 13.

Phillips C.B. and B.E. Hansen. (1990). “Statistical Inference In Instrumental Variables Regression With I(1) Processes”, *Review of Economic Studies*, 57: 99-125.

Perkins (2001) Dwight. *Economics of Development*, W.W. Norton & Company, New York.

Thomas R.L (1997) *Modern Econometrics: An Introduction*, Harlow: Addison-Wesley

State Bank of Pakistan, Annual Report (various issues)

World Bank, (2002), *Global Development Finance* Washington, D.C.: World Bank

World Bank, various issues, *World Development Indicators*.

APPENDIX

TABLE: 1

REAGON,COUNTRY	INWORDS FLOWS (Million of dollars)					
	1980	1990	1995	2000	2001	2002
WORLD	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)
ASIA	396 (0.72)	24264 (11.6)	79235 (23.7)	142091 (10.2)	106778 (12.9)	94989 (14.5)
SAARC	195 (.35)	547 (.26)	2952 (.88)	3992 (.29)	3982 (.48)	4581 (.70)
PAKISTAN	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

TABLE: 2

Variables	Level			First Difference		
	k	t-statistics	AIC	k	t-statistics	AIC
FDI	1	-2.33	-0.54	1	-3.84	-0.32
	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
	4	-3.2	2.09	4	-1.57	2.84
L	1	-0.17	1.29	1	-4.36	1.25
	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	3	-4.58	2.77
	4	-1.62	2.72	4	-3.34	2.78
H	1	-2.03	1.22	1	-4.76	1.38
	2	-1.84	1.32	2	-5.52	1.24
	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	1	-6.28	-4.14
	2	-3.09	-4.40	2	-3.64	-4.07
	3	-3.55	-4.46	3	-4.41	-4.13
	4	-2.53	-4.33	4	-3.3	-4.01

TABLE: 3

No. of variables	m=2			m=3			m=4		
	Significance levels								
Sample size	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
∞	-3.90	-3.33	-3.05	-4.30	-3.74	-3.45	-4.65	-4.10	-3.81

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