

FOREIGN DIRECT INVESTMENT, TRADE AND ECONOMIC GROWTH: A COMPARISON OF SELECTED SOUTH ASIAN COUNTRIES

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Abstract

The present study estimates link among Foreign Direct Investment (FDI), Trade and Economic Growth in four South Asian economies namely, India, Bangladesh, Sri Lanka and Pakistan using data from 1973 to 2010. The study employs Generalized Method of Moments (GMM). Results indicate that FDI has mixed impacts on output expansion in different countries, while Exports have positive impact upon output growth in all countries. Domestic Investment (DI) and Labor force (LF) have also positive impact upon Growth. Sum of both of the coefficients is less than one which exhibits decreasing returns to scale in all the countries.

Key words: FDI, GDP, DI, LF, GMM, FDI-LED GROWTH, DI-LED GROWTH.

1. INTRODUCTION

South Asian countries experienced a large increase to inward FDI flows in 1990s coupled with the speedy globalization of production in developing countries (Chakraborty & Basu, 2002). Domestic investment is replaced or complemented by FDI and the latter can also have extra burden on current account balance at least in the short run. The connection between capital inflows and growth derived from production functions (PF) have been analyzed by different studies, using time series data. The fight and efficiency in home markets is increased and superior technology and management methods are introduced by the FDI inflows. To accelerate economic growth, a more liberal policy towards FDI was adopted by many developing countries since the mid 1980,s. In particular in our country, FDI does not accelerate growth (Romeo 1980). Macro level analysis by utilizing FDI inflows for different countries, normally advocate a helpful function of FDI on growth (Borensztein et al 1995). Economic growth is boosted by FDI in the neoclassical perspective through addition in level of investment or its effective use (Solow 1956). FDI is comprises capital and technology and thus increase the current level of knowledge (DE Mello 1999). FDI is more helpful for those economies where export promotion instead of import substitution strategies were adopted (Balasubramanyan et al 1996). The impact of globalization on GDP growth is significant but it affects FDI flows negatively. Both GDP growth and FDI are positively affected by domestic investment and negatively by government expenditures (Hassan 2005). Pakistan and other countries in South Asia open doors to FDI like other underdeveloped countries.

However, these countries except India are not as successful as China in receiving significant and reliable FDI inflows. Moreover, the small inflows these countries received have not been utilized properly to increase the growth (Le and Atallah 2006). FDI inflows are persistently low enough and economic reforms are believed to be responsible for alteration in nature and type of FDI (Chakraborty and Nunnenkamp 2008). For growth the forms and structural composition of FDI play a much role.

Some questions need answers based on empirical analysis like, what is the contribution of FDI in achieving growth targets in selected South Asian countries, particularly; does FDI significantly contribute to economic growth? Does trade affect the pace of economic growth? The word “selected” is used for South Asian countries due to arising difficulties regarding data of the small countries namely Bhutan, Maldives, and Nepal. However, analysis is conducted for four countries namely Pakistan, India, Bangladesh and Sri Lanka. These four countries are also part of South Asian Association for Regional Cooperation (SAARC) agreement aiming at promotion of regional trade with least barriers to promote welfare of the people of the region.

The remainder part of the study is organized as follows: Section 2 describes review of literature. Section 3 explains conceptual framework. Methodology and data issues are given in Section 4. Results are described in section 5 and last section presents conclusions and policy suggestions.

2. LITERATURE REVIEW

The issue of FDI, Trade and Economic Growth has been addressed both theoretically and empirically. Literature on FDI related issues is of two types. On one side, is the growth theory, having FDI as one of the regressors and describing output growth (Balasubramanyam et al 1996; Borensztein et al 1995). Technology transfers implicit in FDI are transmitted to local firms by multinationals firms. Foreign investments boost the productivity of all the firms in the recipient economy (Rappaport 2000). Developing countries benefit from these spillovers only if they have proper skilled workforce (Nelson and Phelps (1966). This consideration leads to FDI-led growth theory.

Contrary to the belief described above, in growth-driven FDI theory, chances for higher rewards in the host nation are a source of attraction for FDI. According to this theory, there is capital inflow in the form of FDI to fill the excess demand that exists in the home country as a result of economic growth (Markusen 1995). As a result FDI is attracted due to the existence of investment friendly atmosphere and higher rates of profits in the destination country.

Many studies show that economic growth of recipient country has positive effect on FDI inflow (Veugelers, 1991; Grosse and Trevino, 1996). FDI has positive impact upon growth (Dunning, 1993; Ericsson and Irandoust, 2000; Trevino and Upadhyaya, 2003) and in some cases, it has negative effect on growth too (Moran, 1998). Positive effect of FDI on economic growth occurs when FDI comes into markets, while negative effects occurs when FDI comes into protected industries (Encarnation and Wells, 1986). It is generally believed that not the smaller rather the greater part of domestic investment is substituted by FDI. However, positive relationship between FDI and DI is greater as compare to that between DI and foreign portfolio investment (Bosworth and Collins, 1999). In order to attract FDI, wages, education level, tax laws, and political and macroeconomic conditions of country in addition to market size play an important role. Corporate taxes have negative (Hsiao, 2001) while infrastructure, import tariffs, political and macroeconomic stability generally have positive impact upon FDI inflows (Mallampally and Sauvart, 1999; Biswas, 2002). The present study follows the important study by Borensztein et al (1995) that investigates the impact of FDI on growth using cross-sectional data finds that FDI is a determinant of growth if a nation is capable of absorption of modern technology.

GDP growth rates, Net inflows and FDI as % of GDP in four South Asian countries are shown in Table 1, 2 and 3. It is evident from the tables that GDP growth rates are not the same in four South Asian countries. GDP growth rate in Bangladesh is almost stable in the recent years i.e. in the range of 6% and 6.1 in the years 2009 and 2010, respectively. India has the highest growth rate in the region and the same is 9% and 8.8% in the years 2009 and 2010, respectively. The GDP growth rate in Pakistan is not stable over the period and same varied between 1.6% to 7.7% from 2005 to 2009 and 4.1% in 2010. Sri Lanka has almost sustained GDP growth rate of almost 6% in recent years from 2005 and onward with 8.0% in 2010. The trends shows that net inflows of FDI decline in the last four years in these South Asian Countries. The share of FDI in GDP has declined from 2.6 % (2009) to 1.4% (2010) in India and 1.4 % (2009) to 1.1 % (2010) in Pakistan. The share of FDI in GDP in 2009 in two other South Asian countries i.e. Bangladesh and Sri Lanka remains as 0.79% and 1%, respectively and 0.96% and 1% in 2010.

As far as net inflows of FDI are concerned, it declined from \$ 35595.9(2009) to \$24159.2(2010) in India and \$2338(2009) to \$2016(2010) in Pakistan. FDI net inflows increased in Bangladesh from \$713.4(2009) to \$967.6(2010) and the same declined in Sri Lanka from \$404(2009) to \$478.2(2010).

Table.1 GDP Growth Rate

Years	Bangladesh	India	Pakistan	Sri Lanka
1985	3.2	5.2	7.6	5.0
1990	5.9	5.5	4.5	6.4
1995	4.9	7.6	5.0	5.5
1996	4.6	7.6	4.8	3.8
1997	5.4	4.1	1.0	6.4
1998	5.2	6.2	2.6	4.7
1999	4.9	7.4	3.7	4.3
2000	5.9	4.0	4.3	6.0
2001	5.3	5.2	2.0	-1.5
2002	4.4	3.8	3.2	4.0
2003	5.3	8.4	4.8	5.9
2004	6.3	8.3	7.4	5.4
2005	6.0	9.3	7.7	6.2
2006	6.6	9.3	6.2	7.7
2007	6.4	9.8	5.7	6.8
2008	6.2	4.9	1.6	6.0
2009	5.7	9.1	3.6	3.5
2010	6.1	8.8	4.1	8.0

(Source WDI 2011)

Table.2 FDI as % of GDP

Years	Bangladesh	India	Pakistan	Sri Lanka
2000	0.595	0.8	0.4	1.1
2001	0.167	1.1	0.5	1.1
2002	0.110	1.1	1.1	1.1
2003	0.517	0.7	0.6	1.2
2004	0.794	0.8	1.1	1.1
2005	1.349	0.9	2.0	1.1
2006	1.126	2.1	3.4	1.7
2007	0.954	2.1	3.9	1.9
2008	1.269	3.6	3.3	1.8
2009	0.798	2.6	1.4	1.0
2010	0.964	1.4	1.1	1.0

(Source WDI 2011)

Table.3 FDI Net Inflows (BoP, Current US\$)

Years	Bangladesh	India	Pakistan	Sri Lanka
1997	139.4	3577.3	716.3	430.1
1998	190.1	2634.7	506.0	193.4
1999	179.7	2168.6	532.0	176.4
2000	280.4	3584.2	308.0	172.9
2001	78.5	5471.9	383.0	171.8
2002	52.3	5626.0	823.0	196.5
2003	268.3	4322.7	534.0	228.7
2004	448.9	5771.3	1118.0	232.8
2005	813.3	7606.4	2201.0	272.4
2006	697.2	20335.9	4273.0	479.7
2007	652.8	25482.7	5590.0	603.0
2008	1009.6	43406.3	5438.0	752.2
2009	713.4	35595.9	2338.0	404.0
2010	967.6	24159.2	2016.0	478.2

(Source WDI 2011)

Summary statistics of the variables: GDP, FDI, Exports, Imports and Domestic investment is presented in Tables: 4, 5, 6 & 7.

Table.4 Summary Statistics for Bangladesh

	GDP	FDI	Exports	Imports	DI	LF
Mean	37416.31	173.16	4755.97	6644.82	7727.71	47.87
Median	31242.55	7.35	2332.00	4424.65	5007.08	47.65
Maximum	82979.50	1009.60	15797.30	17345.60	22175.19	71.01
Minimum	15860.30	-8.00	549.20	1288.10	1811.30	29.36
Std.Dev	19025.78	300.84	4784.66	4822.21	6129.21	13.58
Skewness	0.879	1.67	1.22	1.015	0.96	0.21
Kurtosis	2.68	4.39	3.26	2.85	2.66	1.732.81
Jarque-Bera	5.05	20.81	9.59	6.565	6.069	2.81
Probability	.080	0.000003	0.008	0.038	0.0048	0.24

(Authors calculation)

Table.5 Summary Statistics for India

	GDP	FDI	Exports	Imports	DI	LF
Mean	362108.6	5485.65	51726.09	55722.83	90595.25	334.16
Median	280862.5	4135	21327.65	21471.65	59727.92	328.06
Maximum	963404.7	43406	216560.1	234568.7	294242.9	459.95
Minimum	122380.4	-36.1	6212.80	6020.50	21245.39	239.00
Std.Dev	231889.7	10603.5	60446.03	65412.33	76857.99	72.70
Skewness	1.05	2.34	1.49	1.57	1.35	0.25
Kurtosis	3.13	7.52	3.94	4.30	3.69	1.73
Jarque-Bera	7.07	63.67	15.64	18.34	12.30	2.94
Probability	0.029	0.000	.0004	0.0001	0.002	0.22

(Authors calculation)

Table.6 Summary Statistics for Pakistan

	GDP	FDI	Exports	Imports	DI	LF
Mean	57020.51	822.45	8567.04	10474.92	10062.85	35.67
Median	54826.45	283.20	8541.55	9917.250	10631.24	33.23
Maximum	116055.2	5590	20238.20	19387.30	19168.26	60.01
Minimum	18747.40	-4.00	1829.80	4635.800	3758.59	20.64
Std.Dev	28997.46	1407.69	5692.82	4001.090	41.0745	12.14
Skewness	0.441754	2.428307	0.59	0.741007	0.29	0.56
Kurtosis	2.129268	7.982279	2.17	2.861942	2.43	2.11
Jarque-Bera	2.436370	76.64884	3.32	3.507761	1.05	3.26
Probability	0.295766	0.00	0.18	0.173101	0.58	0.19

(Authors calculation)

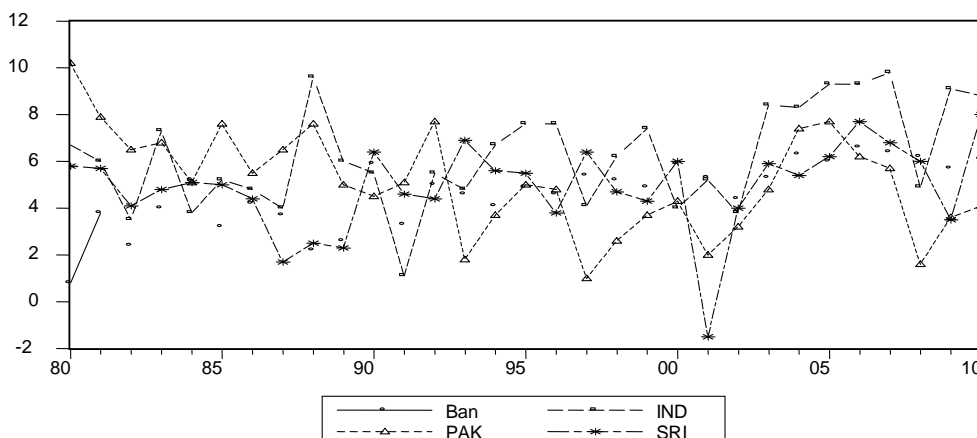
Table.7 Summary Statistics for Sri Lanka

	GDP	FDI	Exports	Imports	DI	LF
Mean	12301.18	157.8816	4145.663	10474.92	3268.570	7.98
Median	10499.55	61.55000	3258.450	9917.250	2484.222	7.11
Maximum	27029.20	752.2000	8522.100	19387.30	8340.031	45.01
Minimum	4574.400	-1.20000	1475.000	4635.800	482.6674	4.96
Std.Dev	6286.164	184.4877	2340.386	4001.090	2077.577	6.26
Skewness	0.721653	1.554292	0.540780	0.741007	0.919398	5.64
Kurtosis	2.501036	4.815505	1.816903	2.861942	3.036888	33.92
Jarque-Bera	3.692484	20.51897	4.068361	3.507761	5.355680	1715.89
Probability	0.157829	0.000035	0.130788	0.173101	0.068711	0.000

(Authors calculation)

The growth rates of GDP for the four South Asian countries are shown in Figure 1. As it is apparent from the figure, GDP growth rates in four South Asian countries vary over the period of 1980 to 2010.

Figure.1 GDP Growth Rates of South Asian Countries in Sri Lanka



3. CONCEPTUAL FRAMEWORK

The Cobb-Douglas production function in its stochastic form may be expressed as follows:

$$Y = \beta L^{\beta_2} K^{\beta_3} e^{\mu} \tag{1}$$

Where Y, L, K are: output, capital and labor, respectively. μ is stochastic disturbance term, and e is base of natural logarithm. The nonlinear relationship between output and the two inputs can be log-transformed as under:

$$\begin{aligned} \ln Y &= \ln \beta + \ln L + \ln K + \mu \\ \ln Y_t &= \beta_1 + \beta_2 \ln L_t + \beta_3 \ln K_t + \mu_t \end{aligned} \tag{2}$$

Where $\beta_1 = \ln \beta$

Equation (2) is a log-linear model, where β_2 is the partial elasticity of output with respect to the labor input; β_3 is the partial capital elasticity of output and the sum of ($\beta_2+\beta_3$) represents returns to scale. Thus, the general form of equation 2 with a k-variable log-linear model can be written as:

$$\ln Y_t = \beta_1 + \beta_2 \ln L_t + \beta_3 \ln K_t + \dots + \beta_k \ln X_k + \mu_t \quad (3)$$

where X_k is a set of other variables other than labor and capital.

Splitting stock of capital into domestic and foreign, equation (2) can be re-written as:

$$\ln Y_t = \beta_1 + \beta_2 \ln L_t + \beta_3 \ln K_t + \beta_4 \ln FDI_t + \mu_t \quad (4)$$

where FDI represents foreign capital.

Following Bagwati (1978), imports and exports are included as separate variables in equation in order to allow for the balance of payments effects. Thus equation (4) can be written as:

$$\ln Y_t = \beta_1 + \beta_2 \ln L_t + \beta_3 \ln K_t + \beta_4 \ln FDI_t + \beta_5 \ln X_t + \beta_6 M_t + \mu_t \quad (5)$$

where, X_t represents the exports, and M_t represents the imports.

Equation (5) is assumed to determine the potential level of output when all factors of production are fully utilized. However, the realized output may deviate from its potential level because of technology inefficiency and adjustment costs. Assuming linear partial adjustment mechanism, lag of dependent variable Y is added resulting in following equation:

$$\ln Y_t = \beta_1 + \beta_2 \ln L_t + \beta_3 \ln K_t + \beta_4 \ln FDI_t + \beta_5 \ln X_t + \beta_6 M_t + \ln \beta_7 Y_{t-1} + \mu_t \quad (6)$$

Finally, by introducing dummy variable to represent structural shift or period of liberalization with expected negative coefficient, equation (6) can be written as:

$$\ln Y_t = \beta_1 + \beta_2 \ln L_t + \beta_3 \ln K_t + \beta_4 \ln FDI_t + \beta_5 \ln X_t + \beta_6 M_t + \ln \beta_7 Y_{t-1} + \beta_8 D_t + \mu_t \quad (7)$$

Where $D = 1$ for the period of 1990's & 2000's and 0 otherwise.

3.1 DETERMINANTS OF FDI

Following Li and Xiaming (2005), the determinants of FDI can be written as:

$$\ln FDI_t = \theta_1 + \theta_2 \ln Y_t + \theta_3 \ln DI_t + \theta_4 \ln open + \theta_5 D_t + \theta_6 FDI_{t-1} + \mu_t \quad (8)$$

Where *open* is trade openness.

3.2 DETERMINANTS OF EXPORTS AND IMPORTS

Following Sharma (2000), determinants of exports and imports are shown by the following equations:

$$\ln X_t = \gamma_1 + \gamma_2 \ln Y_t + \gamma_3 \ln DI_t + \gamma_4 \ln FDI_t + \gamma_5 \ln RER + \gamma_6 D_t + \gamma_7 X_{t-1} + \mu_t \quad (9)$$

$$\ln M_t = \lambda_1 + \lambda_2 \ln Y_t + \lambda_3 \ln DI_t + \lambda_4 \ln FDI_t + \lambda_5 \ln RER + \lambda_6 D_t + \lambda_7 M_{t-1} + \mu_t \quad (10)$$

Where RER is the real exchange rate.

4. DATA AND METHODOGY

The Generalized Method of Moments (GMM) is a generalized form of the classical Method of Moment (MM). The study uses GMM, developed by Holtz-Eakin, and Rosen (1990). In this study, instruments for endogenous regressors as proxy are used due to the fact that the endogenous regressors have correlation with the error terms of the equation in which they appear as regressors. So these instruments have zero correlation with the disturbance terms in equation.

Consider estimation of the parameters of equation system:

$$Y_1 = h_1(\beta, X) + \varepsilon_1$$

$$Y_2 = h_2(\beta, X) + \varepsilon_2$$

.....

$$Y_m = h_m(\beta, X) + \varepsilon_m$$

Non-zero correlation between X_{it}^0 and ε_{it} is allowed in general formulation of the above model. A set of instrumental variables Z_t is as follows:

$$E[z_t \varepsilon_{it}] = 0, \quad t = 1 \dots T \quad \text{and} \quad i = 1 \dots M$$

Zero correlation between Z_t and $[\varepsilon_{it}]$ is allowed (Greene, W., H.)

The empirical results are based on time series data covering the period 1973-2010 for the following variables: GDP, Exports (X), Imports (M), FDI (Net Inflows) and DI (Gross fixed Capital Formation) among others but some values fills by taking average of two nearest figures.. All these variables are in million US dollars on constant prices of year 2000 and in logarithm form. Trade openness is measured as: $[(X+M)/ GDP]$. Real rate of interest (IR) is calculated as nominal interest rate minus inflation (growth of Consumer Price Index) of respective country. Real exchange rate (RER) is the product of nominal exchange rate (local currency per dollar) and CPI of the United States and then dividing this product by GDP deflator of the respective country. The data on exchange rate and interest rate are extracted from International Financial Statistics (IFS) and data on all other variables, from World Development Indicator (WDI). Variables and their definitions are presented in Table. 8

Table.8 Variables and Data Sources

Variable	Definition	Data Source
Log of GDP	Real GDP	World Development indicator
Log Labor Force	Total labor force	WDI
Log Foreign Direct Investment	It is the sum of equity capital, reinvestment of earnings, other long term capital, and short term capital as shown in Balance of Payments	WDI
Trade openness	Sum of exports and imports as ratio of GDP.	WDI
Log of Domestic Investment	Fixed capital formation	WDI
Log of Exports	Real Exports	WDI
Log of Imports	Real Imports	WDI
Exchange Rate	Real exchange rates	IFS

5. EMPIRICAL RESULTS OF SIMULTANEOUS EQUATION MODEL

Stationarity of the included series have been checked using Philips Perron (1988) and all the series are found to be integrated of I (1). The results are presented in tables: 9, 10, 11 and 12.

Table.9 Results for unit root at level & 1st difference Bangladesh

Variables	PP at level (intercept & linear trend)	Order of Integration	PP at 1st difference (intercept & linear trend)	Order of Integration
LEXP	-0.37089	I(0)	-3.46727	I(1)
LFDI	-1.08865	I(0)	-8.61387	I(1)
LGDP	0.619059	I(0)	-9.61436	I(1)
LIMP	-1.76252	I(0)	-5.15642	I(1)
LDI	1.702783	I(0)	-4.05146	I(1)

Critical value is - 4.2242, -3.5348 and -3.1988 at 1%, 5% and 10% respectively level of significance

Table.10 Results for unit root at level & 1st difference India

Variables	PP at level (intercept & linear trend)	Order of Integration	PP at 1st difference (intercept & linear trend)	Order of Integration
LEXP	1.684667	I(0)	-6.51009	I(1)
LFDI	-1.89781	I(0)	-3.7764	I(1)
LGDP	2.254372	I(0)	-10.4576	I(1)
LIMP	1.285455	I(0)	-5.59916	I(1)
LDI	1.83354	I(0)	-4.073	I(1)

Critical value is – 4.2242, -3.5348 and -3.1988 at 1%, 5% and 10% respectively level of significance

Table.11 Results for unit root at level & 1st difference Pakistan

Variables	PP at level (intercept & linear trend)	Order of Integration	PP at 1st difference (intercept & linear trend)	Order of Integration
LEXP	0.997855	I(0)	-4.91936	I(1)
LFDI	-2.42171	I(0)	-3.80662	I(1)
LGDP	-0.20362	I(0)	-8.28211	I(1)
LIMP	-0.80087	I(0)	-5.88179	I(1)
LDI	0.157707	I(0)	-4.54185	I(1)

Critical value is – 4.2242, -3.5348 and -3.1988 at 1%, 5% and 10% respectively level of significance

Table.12 Results for unit root at level & 1st difference Sri Lanka

Variables	PP at level (intercept & linear trend)	Order of Integration	PP at 1st difference (intercept & linear trend)	Order of Integration
LEXP	-1.91841	I(0)	-6.38021	I(1)
LFDI	-1.10184	I(0)	-7.76222	I(1)
LGDP	0.029912	I(0)	-8.80736	I(1)
LIMP	-2.80211	I(0)	-5.88179	I(1)
LDI	0.157707	I(0)	-4.54185	I(1)

Critical value is – 4.2242, -3.5348 and -3.1988 at 1%, 5% and 10% respectively level of significance

Variables in the analysis are checked Equations 7 to 10 are identified and estimated value of R^2 is large in all countries are presented in Tables: 13 to 16. Estimation of output equation (Equation 7) yields that FDI is negatively related to real output in case in all the countries (same as Xu, 2000; Durham 200). Results also show that 1% increase in DI will increase the real output by 0.29%, 1.02%, and 0.29 % in Bangladesh, India and Sri Lanka respectively but -0.05% decrease in Pakistan. Exports have positive impact on real output in Pakistan and Sri Lanka but it is significant only in Pakistan. Exports have negative and significant impact on real output in India and Bangladesh. Imports have positive and significant effect in all countries except India.

The regression coefficient of liberalization dummy is positive in two countries i.e., Sri Lanka and India, suggesting that level of real GDP during 1990's and 2000's was significantly higher than the period before this and negative in case of i.e., The coefficient of lagged dependent variable is positive and significant in India and Pakistan indicating positive association between current and previous year's output but positive and insignificant in Bangladesh Results of FDI equation (Equation 8) show that the regression coefficient of liberalization dummy is positive in all countries but significant in Bangladesh and Sri Lanka indicating that level of FDI during 1990's and 2000's was insignificantly higher than the level during earlier years. There is positive and significant relationship between FDI and trade openness in all countries but significant only in India. Finally the current level of FDI is positively and significantly related to FDI in the previous year in all countries. GDP has positive and significant impact on FDI in all countries except Sri Lanka.

Results of Equation 9 show that coefficient of liberalization dummy is positive and significant in all the countries Pakistan except Bangladesh where it is insignificant. FDI is positively and significantly related to exports in Bangladesh and India. The effect of real exchange rate on exports is positive and insignificant in Bangladesh but negative in other three countries. Real GDP has positive and significant effect on export in all countries. Finally, the results of exports equation show significant inertia as indicated by the statistical significance of coefficients of lagged dependent variables in all countries. Results of Imports equation (Equation 10) show a negative and insignificant value of liberalization dummy in all countries except India. FDI is positively and significantly related to imports in all countries of the sample. The effect of real exchange rate on imports is negative and insignificant in Pakistan and Sri Lanka but significant in Pakistan. However, the same effect is positive and insignificant in Bangladesh and India. Real GDP has positive and significant effect on imports in all countries. Finally, the results of imports equation show significant inertia

Table.13 (GMM) Estimation Results GDP

	Bangladesh	India	Pakistan	Sri Lanka
Ind.Var \ Dep. Var.	Log Real GDP	Log Real GDP	Log Real GDP	Log Real GDP
Log Labor Force	0.26 (0.70)	-0.21 (-0.75)	-0.01 (-0.18)	-0.073 (3.20)
Log DI	0.29 (2.85)*	1.02 (3.51)	-0.05 (-0.68)	0.29 (4.25)*
Log FDI	-0.02 (-4.95)*	-0.04 (-5.51)*	-0.03 (-2.98)*	-0.04 (-6.13)**
Log Export	-0.18 (-2.40)	-0.14 (-1.77)	0.21 (3.75)*	0.06 (1.19)*
Log Import	0.20 (2.39)*	-0.31 (-2.04)**	0.16 (3.70)*	0.124 (4.56)*
Dummy	-0.06 (-0.98)	0.21 (2.88)*		0.08 (3.77)
Lag Dependent	0.18 (0.93)	0.01 (0.06)*	0.42 (1.87)***	
R-SQUARED	0.88	0.87	0.94	0.93

Note: (t-values are in parentheses). *Significance at 1% level of significance.
** Significance at 5% level of significance. *** Significance at 10% level of significance.

Table.14 (GMM) Estimation Results FDI

	Bangladesh	India	Pakistan	Sri Lanka
Ind.Var \ Dep. Var.	Log FDI	Log FDI	Log FDI	Log FDI
Log Real GDP	7.04 (3.74)*	5.37 (1.66)***	0.50 (6.30)*	-2.61 (1.55)
Openness	12.54 (1.28)	9.75 (2.96)*		1.70 (1.55)
Log DI	-4.09 (-3.41)*	-2.57 (-1.55)		1.17 (2.11)**
Dummy	4.17 (3.54)*	0.28 (0.77)	0.25 (1.03)	0.90 (-1.65)***
Lag Dependent	0.54 (2.78)*	0.58 (5.91)*	0.58 (6.01)*	0.73 (14.94)*
R-SQUARED	0.60	0.88	0.86	0.84

Note: (t-values are in parentheses). *Significance at 1% level of significance.
** Significance at 5% level of significance. *** Significance at 10% level of significance.

Table.15 (GMM) Estimation Results Exports

	Bangladesh	India	Pakistan	Sri Lanka
Dep. Var.	Log Export	Log Export	Log Export	Log Export
Ind. Var.				
Log Real GDP	0.34 (2.11)**	0.62 (2.59)*	1.67* (2.38)	0.24 (2.02)
Log DI	-0.10 (-0.44)	-11.69 (- 2.61)*	-0.12 (-0.33)	0.01 (0.24)
Log FDI	0.02 (1.61)	0.05 (2.73)*		
Log RER	0.10 (0.50)	-0.12 (-0.87)	-1.29 (-3.37)	-0.11 (-1.66)***
Dummy	0.08 (1.18)	0.10 (1.62)	0.74 (4.02)	0.04 (1.82)***
Lag Dependent	0.86 (8.45)*	0.68 (6.69)*	0.71 (3.05)*	0.93 (14.69)*
R-SQUARED	0.91	0.92	0.87	0.97

Note: (t-values are in parentheses). *Significance at 1% level of significance.
 ** Significance at 5% level of significance. *** Significance at 10% level of significance.

Table 16 (GMM) Estimation Results Imports

	Bangladesh	India	Pakistan	Sri Lanka
Dep. Var.	Log Imports	Log Imports	Log Imports	Log Imports
Ind. Var.				
Log Real GDP	0.94 (6.22)*	0.93 (4.48)*	1.49 (3.23)*	0.62 (1.91)***
Log FDI	0.06 (3.47)*	0.19 (4.49)*	0.05 (1.84)**	0.02 (1.51)
Log RER	0.05 (0.28)	0.04 (0.45)	-0.99 (-3.27)*	-0.14 (-1.53)
Dummy	-0.10 (-0.99)	-0.02 (-0.47)	-0.04 (-0.57)	-0.20 (-2.45)*
Lag Dependent	0.47 (5.22)*	0.39 (3.18)*	0.61 (3.74)*	0.79 (5.56)*
R-SQUARED	0.92	0.90	0.82	0.83

Note: (t-values are in parentheses). *Significance at 1% level of significance.
 ** Significance at 5% level of significance. *** Significance at 10% level of significance.

6. CONCLUSION AND POLICY IMPLICATIONS:

By testing different hypotheses to check the association among FDI, Trade and Growth and comparing FDI-led growth and Export-led growth, it is concluded that FDI has positive effect on growth in all the countries except Sri Lanka while exports have positive impact upon output in all the nations. Imports have positive and significant impact on output only in Pakistan and Sri Lanka. Both labor force and domestic investment have positive effect on growth and the sum of the coefficients of both these variables is less than one in all the countries, indicating decreasing returns to scale in all the countries. Openness is statistically significant, suggesting that the more open the economy, the more stimulus it has on FDI in short run. The regression coefficients of liberalization dummy have different signs and magnitudes, suggesting varying effect of liberalization on different variables in sample economies.

As a policy measure, it is suggested that FDI is the most important variable among others that should be targeted in order to enhance growth. To reap fruits of spillover effects of FDI and growth, the former should be attracted through improvements in economic, political and social atmosphere in a country, as a part of policy measures.

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