Impact of Foreign direct investment on Economic Growth of Pakistan: A Time Series Analysis

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Abstract:

Foreign direct investment (FDI) is often seen as an important catalyst for economic growth in the developing countries. Foreign Direct Investment (FDI) in Pakistan is one of the major external sources of funding to meet obligations of resources gap and goal achievement. FDI has played a vital role in the economic growth of Pakistan. This study attempts to test the influence of FDI on economic growth using variables that include the Capital formation, FDI and Labor Force Participation Rate through different statistical techniques. 40 years data from 1971 to 2010 is used to find out the time trend between the desired variables. The results showed that FDI promote economic growth. The second major finding is that capital formation is an important determinant of economic growth. Thus policy makers must encourage private domestic savings by augmenting the interest rate.

Key words: Foreign direct investment, capital formation, economic growth, time series,

Introduction:

The importance of economic growth cannot be overemphasized. Economic growth has often been used as a deciding factor for membership into group of influential Countries. The literature on economic growth shows diverse channels through which growth can be achieved. A prominent channel is through investment. The role played by externally financed investment in spurring growth is huge. Countries therefore lay emphasis on various efforts to drive Foreign Direct Investment (FDI).

Economic growth is driven by certain economic activities which among other things, include policies and directives instituted by the government; as the government policies and institutions that make up the infrastructure of an economy determine investment and productivity, and therefore also determine the wealth of nations.

In recent times, developing countries, especially in Africa see the role of FDI as crucial to their development. FDI is seen as an engine of growth as it provides the much needed capital for investment, increases competition in the host country industries, and aid local firms to become more productive by adopting more efficient technology or by investing in human and/or physical capital. FDI contributes to growth in a substantial manner because it is more stable than other forms of capital flows because of its ownership structure. The benefits of FDI include serving as a source of capital, employment generation, facilitating access to foreign markets, and generating both technological and efficiency spillover to local firms.

The empirical evidence to date on the effect of FDI on economic performance, however, is not conclusive. While some studies have indicated a positive impact of FDI on economic growth, other studies report otherwise. A third group of studies suggest that the effect of FDI on a host country's economy is dependent on the country's absorptive capacity in terms of its human capacity, the level of development, and financial development. The point to which FDI contributes to growth depends on several factors. These include rate of savings in the host country, the degree of openness and the level of technological development, among others. FDI will have a positive effect on the growth prospect of the recipient economy if the host country has a high savings rate; an open trade regime and high technology. FDI play positive role in economic development and is major determinant of consolidation of developing regions in the economy (Ogutucu, 2002). Similarly, human capital and trade openness are considered as important determinants of economic growth (Barro and Martin, 2004). Inflation rate is thought to be an indicator of macroeconomic stability. According to Fisher inflation is not good for longer-term economic growth. Barro also supported the argument that price stability is important for

economic growth of an economy. Although these macro indicators are considered important for economic growth, to the author knowledge, no rigorous study has been conducted to test the impact of FDI on economic growth after controlling for these variables. The present study focuses on roles of FDI in economic growth after controlling for capital investment, trade openness, human capital and inflation. I want to check that how much FDI inflow in Pakistan from period 1991-2012 and its impact on growth of Pakistan economy.

The objective of this study is to check the impact of FDI on the economic growth of Pakistan.

The rest of the study is organized as follows. Next section briefly provides the historical trends of FDI and economic growth in Pakistan. Section three briefly reviews the time series studies on FDI and growth. Data has been described in section four while the methodological issues and model specification are in section five. In section six, empirical results along with their interpretations are reported. Section seven sums up the study with some policy implications.

Literature Review:

Foreign direct investment (FDI) is the amount invested by citizens of a country in a foreign enterprise over which they have effective control. Countries lacking capital accumulation and technological progress usually grow much slower than countries with high investment rate and huge research and development expenditures. Through FDI, multinational corporations can provide countries with both capital and new technology. Some recent studies conclude that FDI has been one of the most effective means of transferring technology and knowledge (Dunning and Hamdani, 1997). Since Pakistan is a developing country and generally a developing economy is characterized by low income level, lack of capital, low level of industrialization, low saving, rapid growth of population, burden of external debt, paucity of foreign aid, deficit in balance of payment, lack of technical and managerial skills, and heavy reliance on export of primary goods etc. Also the domestic resources are inadequate to finance the development needs, therefore FDI can be an important instrument of overcoming these weaknesses necessary for economic development.

Ahmed et al investigates the relationship between foreign direct investment and economic growth in Pakistan. Foreign direct investment has been recognized as an important resource for economic development. Most developing countries such as Pakistan considered foreign direct investment as the major external source of funding. Foreign direct investment is considered as a growth enhancing component. We can find an extensive literature that shows foreign direct investment increases gross

domestic product like Iqbal and Mahmood (2011) says that foreign direct investment plays vital role in the development of a country. For the support of this theory he takes FDI as dependent variable and democracy, manufacturing products, real exchange rate, real exports, import duty and enrollment at secondary schooling as independent variables. The results suggest that democracy, population, enrollment at secondary schooling have positive relation with foreign direct investment and other variables are negatively related with foreign direct investment. This paper is also closely related to Niazi (2011) paper who discusses the relationship among foreign direct investment, growth and inflation in Pakistan. He took foreign direct investment as dependent variable and GDP growth and inflation as independent variables. The data was taken from 2001 to 2010. The results suggest that there is a positive relation between FDI and GDP i.e. if gross domestic product increase then there will be increase in foreign direct investment while there is a negative relation in FDI and inflation. So there is need to control inflation of the country and increase GDP so that foreign investors come to invest.

Foreign direct investment (FDI) is often seen as an important catalyst for economic growth in the developing countries. It affects the economic growth by stimulating domestic investment, increasing human capital formation and by facilitating the technology transfer in the host countries. Foreign Direct Investment (FDI) has emerged as the most important source of external resource flows to developing countries over the years and has become a significant part of capital formation in these countries, despite their share in global distribution of FDI continuing to remain small or even declining. A number of studies have analyzed the relationship between FDI inflows and economic growth, the issue is far from settled in view of the mixed findings reached. Most of these studies have typically adopted standard growth accounting framework for analyzing the effect of FDI inflows on growth of national income along with other factors of production. Within the framework of the neo-classical models (Solow, 1956) the impact of the FDI on the growth rate of output was constrained by the existence of diminishing returns in the physical capital. Therefore, FDI could only exert a level effect on the output per capita, but not a rate effect. In other words, it was unable to alter the growth rate of output in the long run. It is not surprising, thus, that FDI was not considered seriously as a drive engine of growth by mainstream economics.

Ranaljaz et al. 2010, shows the Economic Determinants of Foreign Direct Investment (FDI) in Pakistan. Economic development of a country involves utilization of resources for increasing productive capacity. In many developing countries such as Pakistan, utilization of resources is rendered impossible by the scarcity of domestic capital. Lizondo (1991) acknowledged a better choice by developing countries of foreign direct investment (FDI) rather than to depend on bank loans and bonds. These countries could

promote their economic growth, by receiving FDI (China is a classic example, where in 1997, FDI contributed about 15 percent of domestic investment, 41 percent of total exports, 19 percent of industrial output, 13 percent of tax revenue and 18 million employment).

Sami et al. shows the impact of Foreign Aid Volatility Economic Growth in Pakistan. Foreign aid plays an essential role in fulfilling saving gap, accumulating physical and human capital stock, developing infrastructure in the host countries (McGillivrary, 2009), and thus promote economic growth in recipient countries. Studies on growth effect of foreign aid in the developing countries, in 70s, found zero correlation between growth and aid, but came under criticism that during 1970s and 80s the concept of aid, its implementation process, and evaluation methods were new (Doucouliagos and Paladam, 2009).

This paper was an attempt to explore the benefits of FDI, trend and pattern of FDI in Pakistan. Both host and foreign countries take interest in foreign investment because both have some objectives. These objectives of the foreign investors naturally to earn high profit and repatriate it to their home countries. The host developing countries are interested to increase the level of economic growth in order to improve social welfare of the community. FDI inflow in the year 2004-05 has reached US$ 1524 million as the highest if compared with last year FDI inflow in Pakistan. It has found that a few sectors have comparatively attracted more FDI during last five years i.e. Textile sector, oil exploration sector, communication (IT and Telecom) and the financial business sector respectively. Further, it has been analyzed that currently, important areas for FDI in Pakistan are such as; energy sector, manufacturing sector, mining sector, engineering sector, tourism, IT sector, telecommunication, value added textiles. Though the Government of Pakistan is well aware of the importance of FDI, therefore the management authorities should chalk out such policies through which more FDI take place and it will positively affect economic growth of the country. Foreign direct investment has positive relation with gross domestic product in short and long run in Pakistan. If we want to increase our GDP or make economic progress then there is a need to invite foreign investors because foreign investment increase gross domestic product that is economic growth. So government of Pakistan should try to increase the weight of foreign direct investment in order to promote economic growth of Pakistan. FDI can stimulate human resource development through investment in education and training. This enhances the stock of human capital and increases productivity of labor and other factors of production. In short, the above findings suggest that Pakistan's capacity to progress on economic development will depend on her performance in attracting FDI.

The relationship between FDI and economic growth is analyzed by using the production function based on the endogenous growth theory; other variables that affect economic growth such as trade, domestic

capital and, labors are also used. The results of the study show a negative and statistically insignificant relation between the GDP and FDI Inflows in Pakistan. Policy recommendations are suggested in the light of the results obtained, regarding the FDI in Pakistan. The regression results confirmed that an increase in GDP growth rate has positive effect on inflow of FDI in Pakistan. Hence the authorities should positively concentrate on maximum utilization of resources to increase GDP growth rate. The important finding of the study is that export demand that is shown by the bulk of exports is major determinant of FDI in Pakistan. The national trade policy should focus on exports by increasing export processing zones, global market orientation and adjusting fiscal policies. A co-efficient of import tariff suggested an important role of the government in promoting the foreign investment in the country. It needs effective and encouraging import policies from the public sector to restore the confidence of the investors. It shows that foreign aid and economic growth are positive associated while foreign aid volatility is negatively associated with economic growth. On the basis of study findings, it is recommended that foreign aid should make sustainable for economic growth of Pakistan.

Atif et al investigate the relationship between Foreign Direct Investment and Current Account Balance of Pakistan. Foreign Direct Investment (FDI) is considered to be an important source to build up physical capital, create employment opportunities, develop productive capacity, and enhance skills of local labor and managers through transfer of technology, and integration with rest of the world. According to State Bank of Pakistan (SBP) data on International Investment Position, total stock of FDI in Pakistan up to the end of year 2011 was US $ 21.88 billion and FDI inflows in Pakistan remained less than US $ 1 billion up to year 2003. Annual FDI inflows in year 2007 and 2008 were recorded US $ 5590 million and US $ 5438 million respectively. The decline in FDI in Pakistan after 2008 was mainly due to deteriorated law and order situation, political instability, energy crisis, weak economic activity along with global recession. A detailed analysis of FDI reveals that major decline was recorded in telecommunication and oil and gas exploration sectors. The decline in telecom is obvious as this sector has already reached a saturation point in the country. In case of the oil & gas exploration, a growing circular debt and the deteriorating law & order situation seem to be the major hurdles in attracting fresh FDI.

Existing empirical literature on the impact of FDI inflows in Pakistan is largely influenced by positive aspects thus ignoring negative effects including implications for current account balance. This study contributes in the existing empirical literature showing negative impacts of FDI inflows in Pakistan. The study finds that in case of Pakistan FDI inflows have worsened CABECT both in the long-run and short-run for the period 1983-2011. Furthermore, by using ARDL approach of co integration the study finds that FDI inflows have worsen income account of current account balance in Pakistan.

Policy implications on the basis of findings of the study include that government should promote domestic savings and investment along with attracting FDI inflows. Further, sector-wise composition of FDI inflows needs to be diversified from current bias towards services sector.

Ayaz et al investigate the Export performance under the Role of Foreign Direct Investment in Pakistan. The importance of exports and FDI has been increasing with the passage of time. We are living in the age of globalization and those nations who are recognized as the world leaders in the prevailing times are improving their economies through increasing trade for mutual benefits. This current structure of nations to trade with other countries is not an instant process. Different countries experienced different situations with international trade depending upon their factor endowments. As occurred in the history of the developing world, countries had Import Substitution policies in the late 1950s as well as in the early 1960s are considering international trade between nations (on the basis of their incomplete specialization) significantly and optimistically. They are reaping advantages of mutual gain, promotions of relations, reasonable prices and market expansions. Exports and FDI are considered as the major growth enhancing factors for the development of the economy. FDI is one of the most important tools which make nations especially the developing ones to achieve the investment levels beyond their levels of saving because every country has limited opportunities to grow and save in autarky condition.

This study analyzed the impact of FDI on exports using annual times series data from 1970 to 2011 by employing ARDL technique. The results conclude that there is short run as well as long run positive relationship between exports and FDI, whereas output has positive impact on FDI in the long run but statistically no significant impact in the short run. All variables are non-stationary at their level except FDI, which is trend stationary at level.

The study advocates that exports may be increased due to enlarging FDI. The policy makers should make policies to attract FDI in prominent exports sectors (textile manufacturing) or in those which indirectly contribute to exports (power generation) to make it competitive in the international market. The work also proposes that law and order conditions should be improved in the country to attract comparatively more FDI. This inflow of FDI in manufacturing sector can be helpful to increase exports and economic growth which will lead to prosperity in the country. Increase in FDI leads to stabilization of the deficit in balance of payment in two ways that is directly due to inflow of foreign exchange and indirectly due to increase in export receipts.

Aurangzeb et al investigate the Impact of Investment Activities on Economic Growth of Pakistan. Investment plays an important role in driving growth through increase in productivity levels. Foreign

direct investment brings technology and creates employment. It helps to adopt new methods of production and enhances productivity by bringing competition in the economy. Foreign direct investment also introduces to novice management and organizational skills, and explores hidden markets in the economy. It reduces the barriers in adoption of technology and brings improvements in the quality of labor and capital inputs in the host economy.

With rising macroeconomic imbalances and rising investment needs to grow at a faster pace in the developing countries, foreign investment has played crucial role in providing much needed macroeconomic stability. Foreign direct investment (FDI) has emerged as a major source of private external flows for Pakistan as well amidst widening savings-investment gap. Since current account deficits has generated need for financing, the FDI inflows has provided important source of non-debt creating inflows.

This study examines the impact of investment on economic growth of Pakistan on a yearly data for the period of 1981 – 2010. Multiple regression technique is used to analyze the relationship between dependent variable (gross domestic production) and independent variables (public investment, private investment and foreign direct investment). It is concluded all independent variables have significant and positive impact on the economic growth. The granger causality test found the bi directional relationship of gross domestic production with foreign direct investment & public investment while unidirectional relationship of gross domestic production is found with private investment.

It is recommended that Pakistan should make stronger efforts to attract as much FDI as possible to the foreign exchange sectors in the short term. Taking into account unfavorable balance of payments prospects, it should refrain from attracting any further massive FDI in the non-foreign-exchange-earning sectors for some years in the future. Political stability and satisfactory law and order are likewise critical to attract FDI. In an environment of large fiscal deficit and precarious foreign exchange reserves position, foreign investors are unlikely to increase their participation. Pakistan's fiscal situation and foreign exchange reserves position will remain under considerable strain for some time making the macroeconomic environment less conducive for foreign investors. Inconsistent economic policies discourage foreign investors in undertaking projects of medium to long-run duration.

Asmat et al investigate the Foreign Direct Investment and Sector Growth of Pakistan Economy.

Pakistan's economy has lost significant growth momentum, especially during the last three years; economic growth averaged around 2.6% against a 5.3% in the preceding eight years. There are many

possible reasons for the deceleration of growth momentum, such as the terms of trade shock of 2008, global financial crises, and acceleration of war on terror, security hazards and high profile killings.

Investment is the key to reviving economic growth but both total investment and fixed investment have shown a dismal picture. The total investment has declined from 22.5% of GDP in 2006 to 2007, to 13.4% of GDP in 2010 to 2011 and gross fixed investment has decreased to 18.1% of GDP from 20.4% of GDP last year, shown in the Figure 2 (Ministry of Finance, 2010-2011).

Main findings are FDI's inflow in Pakistan supports the industrial sector (GINDS) in term of growth formation of capital and technical progress but this result is statistically insignificant. We have found out that the impact of FDI on growth of industrial sector is positive but insignificant whereas it had negative but significant effect on growth of agricultural sector (GAGR). Availability of water (SPWR), public sector development program (PSDP), number of tractors (TRCTR), growth of industrial sector (GINDS), and growth of service sector (SS) had positive effects on the growth of agriculture sector (GAGR), in which SPWR and PSDP were significant contributors. In case of growth of industrial sector (GINDS), we confirmed the positive significant effects of the terms of trade (TOT), growth of real GDP (GGDP) and growth of service sector (SS) on real growth rate of industrial sector (GINDS) whereas exchange rate (ER) and PSDP had negative significant affects on GINDS.

Growth of service sector (SS) effected positive and significantly from growth of real GDP (GGDP) and negative significantly by the literacy rate (LIT). GINDS had negative insignificant and GAGR had positive insignificant effect on SS. On the basis of the study it concluded that the inflow of FDI is essential along with other variables for sector growth in the economy especially it is more useful in case of industrial sector. On the basis of findings of the aforementioned study, it is suggested that government should make a proper incentive package to attract foreign investors to cover capital deficiencies in industrial sector at particular. This further enlarged the practicability of economic policy regarding attracting foreign investor to invest in agriculture sector.

Data and Methodology:

This section first build up and econometrics framework and informed about suitable methodology. In first part, I describe few applications of the fixed effect, random effect, unobservable time effect and idiosyncratic term in the model. This chapter defines variables and also mentions how these macro variables were constructed.

Model

The present study focuses on roles of FDI in economic growth after controlling for key macro variables. Time series data is used to investigate unobservable individual effect and unobservable time effect. Some benefits of time series data estimation includes, controlling individual heterogeneity; remove endogeneity problem; give more degree of freedom; reduce the problem of co linearity; more suitable to study the dynamic adjustment and allow for testing of Common Dynamic Trends (CDT). The econometric model for this study is specified as follows

$$GDP_{it} = \beta_0 + \beta_1(FDI_{it}) + \beta_2(K_{it}) + \beta_3(LFP_{it}) + \varepsilon_{it}$$

Description of Data and Sources

The relationship between FDI and economic growth is examined using data from Pakistan over the period of 40 years from 1971 to 2010. Data is collected on each macro-economic variable from Pakistan Bureau Statistics, World Development Indicators published by the World Bank, International Financial Statistics published by the IMF, World Investment Report by the UNCTAD and UNDP.

Data on GDP per capita, capital, FDI and Labor Force Participation Rate is obtained from the WDI database. The capital, FDI and Labor Force Participation Rate are taken as a percentage of GDP and one variable GDP per capita is used in logarithmic form. The detail description on the macro variables and sources I have used in this study is given below.

GDP per capita

In most of previous studies, GDP per capita is used as a proxy for economic growth. Following the previous studies, I used GDP per capita in log form for economic growth. GDP per capita based on Purchasing Power Parity is constant in 2005 international dollars.

Capital Formation

Gross fixed capital formation is a value of net additions to fixed assets. It is statistically includes fixed assets exist in an economy for instance, plant, machinery, roads, hospitals etc. gross fixed capital formation exclude land sales and purchases. Many of the previous used Gross fixed capital formation as a substitute for capital formation. Capital data used as a percentage of GDP and data taken from WDI.

FDI

FDI net inflow is the sum of equity capital, reinvestment of earnings and long term capital etc. FDI includes all inward flows but that foreign investment in stock exchange market does not included in FDI inflow. A negative value show that the capital outflow exceeds that inflow FDI net inflow data are also used as a percentage of GDP.

Labor Force Participation Rate

Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for production of goods and services during a specific period.

Estimations and Results:

Descriptive Statistics Analysis

Descriptive data analysis performs an important role in the understanding of the study. It helps the researcher and the viewer to prepare their minds for further explanation of the econometric analysis of the specified model of the study.

If we look at the values of FDI, it has some different results from GDP growth. It has mean value less then median value which indicates that the distribution of FDI is negatively skewed; it is also supported by the negative measures of skewedness. These descriptive statistics explain that the distribution of FDI is not symmetrical. Standard deviation, 1.23, of FDI indicates that there is huge dispersion in the data supported by the high value of measure of kurtosis 3.94 indicating that the distribution of the FDI values is leptokurtic (Table 1).

Table 1 Descriptive Statistics of the Variable Regarding GDP Growth and FDI in Pakistan

	LNGDP	LNCAPITAL	LNFDI	LNLABOR
Mean	24.72200	22.96114	-0.812738	17.31916
Median	24.81380	23.08412	-0.640640	17.34554
Maximum	25.58708	23.76251	1.299735	17.47675
Minimum	23.72682	22.07612	-4.663633	16.80785
Std. Dev.	0.584799	0.503281	1.236944	0.123758

Skewness	-0.234208	-0.386135	-0.783203	-1.843938
Kurtosis	1.809167	1.980756	3.948503	8.357306
Jarque-Bera	2.729163	2.725431	5.588809	70.50193
Probability	0.255488	0.255965	0.061151	0.000000
Sum	988.8801	918.4455	-32.50952	692.7664
Sum Sq. Dev.	13.33761	9.878372	59.67118	0.597323
Observations	40	40	40	40

Short-run and Long-run Analysis

Table 2 Vector Autoregression Estimates

	GDP	FDI	INFLATION	TRADE
GDP(-1)	0.198666	-0.007239	-0.822254	0.179235
	(0.17755)	(0.03902)	(0.43177)	(0.20522)
	[1.11893]	[-0.18554]	[-1.90437]	[0.87337]
GDP(-2)	0.329312	-0.030879	-0.208131	-0.028693
	(0.18544)	(0.04075)	(0.45096)	(0.21434)
	[1.77582]	[-0.75776]	[-0.46153]	[-0.13387]
FDI(-1)	1.403293	1.257324	-0.387628	1.316832

	(0.84057)	(0.18472)	(2.04413)	(0.97158)
	[1.66945]	[6.80683]	[-0.18963]	[1.35535]
FDI(-2)	-1.798917	-0.455308	1.632366	-1.438478
	(0.85000)	(0.18679)	(2.06706)	(0.98248)
	[-2.11637]	[-2.43757]	[0.78970]	[-1.46413]
INFLATION(-1)	0.086722	-0.004043	0.333873	0.041392
	(0.07971)	(0.01752)	(0.19384)	(0.09213)
	[1.08800]	[-0.23081]	[1.72246]	[0.44928]
INFLATION(-2)	-0.030248	-0.002658	-0.141453	-0.131696
	(0.06815)	(0.01498)	(0.16574)	(0.07878)
	[-0.44381]	[-0.17748]	[-0.85347]	[-1.67176]
TRADE(-1)	0.233886	-0.005599	0.595837	0.528826
	(0.15609)	(0.03430)	(0.37959)	(0.18042)
	[1.49840]	[-0.16323]	[1.56971]	[2.93112]
TRADE(-2)	-0.100639	0.015480	-0.287641	-0.001276
	(0.14271)	(0.03136)	(0.34704)	(0.16495)
	[-0.70522]	[0.49363]	[-0.82884]	[-0.00774]
C	-2.489297	0.092253	1.960802	16.26371

	(4.34586)	(0.95500)	(10.5684)	(5.02318)
	[-0.57280]	[0.09660]	[0.18553]	[3.23774]
R-squared	0.363085	0.807534	0.364678	0.500047
Adj. R-squared	0.187385	0.754440	0.189417	0.362129
Sum sq. resids	125.2337	6.047481	740.6068	167.3117
S.E. equation	2.078076	0.456655	5.053530	2.401951
F-statistic	2.066501	15.20949	2.080767	3.625677
Log likelihood	-76.57897	-18.99872	-110.3475	-82.08284
Akaike AIC	4.504156	1.473617	6.281445	4.793833
Schwarz SC	4.892006	1.861466	6.669294	5.181683
Mean dependent	4.953111	0.841739	10.42848	33.94859
S.D. dependent	2.305255	0.921530	5.613012	3.007444

Determinant resid covariance (dof adj.)	101.4077
Determinant resid covariance	34.39761
Log likelihood	-282.9004
Akaike information criterion	16.78423
Schwarz criterion	18.33563

Table 3   VECM

Cointegrating Eq:	CointEq1
GDP(-1)	1.000000

	FDI(-1)			
	1.433462			
	(1.10938)			
	[1.29213]			
INFLATION(-1)	0.979184			
	(0.20779)			
	[4.71238]			
TRADE(-1)	0.806379			
	(0.29328)			
	[2.74953]			
C	-43.82052			
Error Correction:	D(GDP)	D(FDI)	D(INFLATION)	D(TRADE)
CointEq1	-0.079567	-0.045139	-0.234189	-0.339811
	(0.08646)	(0.01633)	(0.22928)	(0.09372)
	[-0.92028]	[-2.76407]	[-1.02141]	[-3.62569]
D(GDP(-1))	-0.634941	0.052422	-0.566050	0.287466
	(0.19418)	(0.03668)	(0.51494)	(0.21049)
	[-3.26988]	[1.42929]	[-1.09926]	[1.36569]
D(GDP(-2))	-0.263339	0.034327	-0.239595	-0.014648
	(0.18195)	(0.03437)	(0.48250)	(0.19723)

	[-1.44735]	[0.99886]	[-0.49657]	[-0.07427]
D(FDI(-1))	1.656639	0.418628	-0.513998	1.170812
	(0.91447)	(0.17273)	(2.42505)	(0.99129)
	[1.81159]	[2.42364]	[-0.21195]	[1.18110]
D(FDI(-2))	0.215811	-0.269641	3.062536	1.057722
	(1.25555)	(0.23715)	(3.32957)	(1.36103)
	[0.17189]	[-1.13700]	[0.91980]	[0.77715]
D(INFLATION(-1))	0.124922	0.032357	-0.195571	0.266207
	(0.08307)	(0.01569)	(0.22029)	(0.09005)
	[1.50380]	[2.06221]	[-0.88778]	[2.95625]
D(INFLATION(-2))	0.110160	0.035336	-0.200901	0.207743
	(0.07449)	(0.01407)	(0.19754)	(0.08075)
	[1.47885]	[2.51142]	[-1.01702]	[2.57272]
D(TRADE(-1))	0.276339	0.006502	0.652648	-0.212502
	(0.14746)	(0.02785)	(0.39104)	(0.15984)
	[1.87402]	[0.23346]	[1.66901]	[-1.32943]
D(TRADE(-2))	-0.003036	0.003303	0.402730	-0.104319
	(0.14211)	(0.02684)	(0.37686)	(0.15405)

	[-0.02137]	[0.12304]	[1.06864]	[-0.67718]
C	-0.032358	0.005460	-0.371568	-0.190079
	(0.37885)	(0.07156)	(1.00467)	(0.41068)
	[-0.08541]	[0.07630]	[-0.36984]	[-0.46284]
R-squared	0.520509	0.471097	0.363652	0.426219
Adj. R-squared	0.360678	0.294796	0.151536	0.234959
Sum sq. resids	126.4175	4.510153	889.0237	148.5494
S.E. equation	2.163823	0.408709	5.738188	2.345598
F-statistic	3.256633	2.672115	1.714400	2.228478
Log likelihood	-75.23116	-13.56587	-111.3160	-78.21572
Akaike AIC	4.607090	1.273831	6.557624	4.768417
Schwarz SC	5.042473	1.709214	6.993007	5.203801
Mean dependent	0.030476	0.032607	-0.096779	0.067218
S.D. dependent	2.706214	0.486694	6.229569	2.681707

Determinant resid covariance (dof adj.)	107.0146
Determinant resid covariance	30.34530
Log likelihood	-273.1368
Akaike information criterion	17.14253
Schwarz criterion	19.05821

Conclusion

The present study attempts to test the influence of FDI on economic growth using threshold and variables that include the Capital formation, FDI and Labor Force Participation Rate. A time series data covering the period 39 years was used to employ OLS, Correlation Matrix of the Variables Regarding GDP Growth and FDI in Pakistan. The results showed that FDI promote economic growth. The existing literature suggests that developing countries have capacity to achieve growth with FDI. The FDI is a combined bundle of foreign capital and technology development and FDI impel economic growth in long run through technology diffusion.

According to Ahmed (2012), FDI has short run positive impact on economic growth similarly as human capital and labor force participation rate. The empirical findings of this study suggest that FDI and Capital enhance economic growth but Labor Force Participation Rate has insignificant impact. This is in line with the findings of Mahmood and Iqbal (2010) that basic education has an insignificant role but vocational training and higher-level education is most crucial factor to attract FDI. The country through mobilizing domestic resources (labor; Human Capital) can attract new inflow of FDI.

Policy Implications

Since FDI short run has positive impacts on economic growth, it follows that the Pakistan should articulate policies directed at inviting FDI into key sector of the economy. This can be achieved by creating investment incentives by developing rudimentary infrastructure, by devising dogmas to encourage technology transfers from abroad and by taking wits to encourage FDI in the R&D sector. The last two strategies are particularly important for building innovative capacities in Pakistan which will subsequently lead to technological progress.

The second major finding is that capital formation is an important determinant of economic growth. Thus policy makers must encourage private domestic savings by augmenting the interest rate. Moreover, there is the need to create conductive investment environment and improve the infrastructural base of the economy to increase capital formation. Policies that only enhance domestic saving without the development of economic infrastructure may not be adequate to advance capital formation and so the growth. For policies to root a sustainable development, all components (such as the saving rate, the lending rate, the exchange rate, the inflation rate, the private domestic investment and pubic domestic investment etc) must be addressed simultaneously.

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