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Economic growth, FDI and Budget Deficit in Pakistan: 1971-2007: Evidence from Causality and Cointegration Analysis

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ABSTRACT

This paper investigates the causal relation among economic growth measured by GDP per capita, foreign direct investment and budget deficit in Pakistan, by applying co-integration tests and Granger causality analysis, during the period of 1971-2007. The empirical findings drawn from the Johansen co-integration analysis suggest the existence of a long run relationship among these variables. Furthermore, Granger causality test indicates that there is bi-directional causal links on the FDI-GDP and GDP-BD relationship. However, there is a two way causality running from FDI to and from GDP to budget deficit as results for the one, two, three and four years lags imply, strongly indicating that foreign direct investment Granger-cause economic growth in Pakistan. Diagnostic tests confirm that the residual is normally distributed. There is neither serial correlation nor ARCH affect in the model. Foreign direct investment is necessary for economic growth of Pakistan. If Pakistan wants FDI to be significant contributor for economic development then government should focus on improving infrastructure and human resources. These will speed up the development of the country. Budget deficit has long run association with GDP of Pakistan. It is a good sign for the welfare of the masses because budget deficit means government is investing more for the welfare of the nation. However, the spending must be at right track.

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INTRODUCTION

The basic aim of this paper is to investigate the causal relation among Gross Domestic Product, budget deficit and foreign direct investment of Pakistan. Planning is considered as a key for the progress of the country. Good planning about financial activities leads to success and vice versa. Sustainable growth and macroeconomic stability is the dream of every developed, developing and underdeveloped country. Economic growth and sound macroeconomic policies are the major determinants of welfare of the successive generations. Sustainable growth is the most important factor that can change the living standard of the people. The main objective of every government in any country is to achieve high economic growth. Those countries who have achieved high economic growth served as a model for developing countries.

The financial planning is known as budget. Budget can be balance, deficit or surplus. Balance budget means the situation where revenues equal to expenditures. Budget deficit is the situation where

the expenditures exceed its revenues and when revenues exceed from expenditures it is called surplus budget. The connection between budget deficit and economic growth has remained question. There are three school of thoughts concerning the relationship between budget deficit and economic growth: Neo-classical, Keynesian and Ricardian. Keynesian says that there is a positive relation between budget deficit and economic growth. On the other hand Neo-classical are in a view that there is an inverse relationship between budget deficit and economic growth while Ricardian says that there is neutral relation between budget deficit and economic growth. We know that Neo-classical and Ricardian schools focus in the long run while Keynesian emphasizes in short run.

FDI means the direct investment of a country to other country in production or business sector. Foreign direct investment is considered as an engine for the economic growth of the country. It is considered the major channel for the access to advance technologies, marketing network, organizational and managerial skills. Foreign direct investment produces positive impact on economic

growth of the host country as it raises productivity and economies of scale. If foreign investors earn profit then they will reinvest it in order to get more profit and in this way capital inflow will remain within the country. Inflow of FDI in Pakistan was ever meager as compared to other developing countries. The major reason is urban violence, bureaucracy and government economic policies. Pakistan government is concentrating only on few areas and mostly in power sector. FDI in power sector results in foreign remittances and exchange costs.

Foreign direct investment success can be judged by the size of the inflow of capital in Pakistan. Pakistan has been making efforts to attracting FDI. The visa policy for Pakistan has been modified many times to attract foreign investors. The determinants of FDI in Pakistan are political stability, law and order, economic strength, government economic policies, government bureaucracy, local business environment, infrastructure, labor force, quality of life and welcoming attitude. If these determinants are at right track then FDI inflow will increase otherwise vice versa. Foreign investors are not taking the initiatives for their investment in Pakistan because of international press and media coverage in recent years make it corrupt country in the world.

GDP, FDI and Budget Deficit trend in Pakistan:

After the separation of Bangladesh (1971), Pakistan under the leadership of Zulfikar Ali Bhutto chalked out a friendly foreign policy with every

country of the world. This brings huge foreign direct investment from every big world economic power. Russia invested in Karachi steel mill that became the main source of FDI in Pakistan. Another milestone was OIC summit in 1974. This summit opens the gates of Pakistani manpower in Middle Eastern Countries that bring remittances to the national exchequer. Oil was offered in deferred payment and heavy investment was made in different sectors. Bhutto's government cordial relationship with China also helps to make economy strong. Balanced foreign policy is a key for FDI. In 1973 GDP was 6332.886mls\$, foreign direct investment 3 mls\$ and budget deficit was 4600 mls\$. Because of Bhutto's good policies and relation with other countries the volume of FDI increased from 3 mls\$ to 11.7 mls\$ and GDP 6332.886 to 15126.26 mls\$ till 1977. 1977 is a momentous year in the politics of Pakistan. In this year elected government was toppled by Zia's army regime. The coming episode change the economic scenario of the country (internally and externally). Islamic revolutions in his courtyard (Iran) in 1979 divert the Western interest in Pakistan. This also came in the shape of investment after losing their alley in this region. Russia's invasion was another blessing in disguise for the country. Within night Pakistan became the America's front line alley. America helps it economically and politically. Huge investment was incurred in many sectors. Zia's regime too continues good relation with Middle Eastern Muslim's countries. Remittances also increased. The yearly trend is shown in the table 1 below.

Table 1:

Years	GDP	FDI	Budget Deficit
1973	6332.886	3	4600
1974	8772.727	3	5196.97
1975	11230.3	3.2	11581.82
1976	13167.68	4.1	12362.63
1977	15126.26	11.7	12707.07
1978	17811.11	23.7	13380.81
1979	19688.89	45.3	18178.79
1980	23654.55	60.9	13478.79

Source WDI

Year 2000 was another military era in Pakistan. After the successful coup of General Pervez Mushraf army explore new avenues for money. Huge military and civilian aid was granted to Pakistan from America after 9/11 as his role front line alley, and soon twin's tower attacks give them a chance to make their lot. America once again needs Pakistan's help in his war against terror. Huge money was poured in coalition support fund. World's biggest monetary agencies give what Pakistan want without any hindrance. UAE and other countries invested billions of dollar in telecom, real estate and banking sector. Pakistani Diaspora in western countries sent record remittances after security threats. In 2000 the GDP of Pakistan was 61424.84 mls\$, foreign direct investment 414.3 mls\$ and budget deficit

33233.64mls\$. While in 2007 GDP increased from 61424.84 mls\$ to 120300 mls\$, foreign direct investment from 414.3 mls\$ to 3317 mls\$ and budget deficit from 33233.64 mls\$ to 61805.65 mls\$. These three variables show positive trend with the time. This trend is reported in table 2.

Review of previous empirical work:

In this section we will see the previous work that shows the relation between GDP, budget deficit and foreign direct investment. The effect of budget deficit on economic growth is a controversial and long standing topic in economic growth, development, empirical research and policymaking. There are several empirical evidences from panel and time series data that show the relationship between

budget deficit and economic growth. NurHayati (2012) explores the relationship between budget deficit and economic growth in Malaysia. She uses quarterly data for the period of 2000-2011 for her analysis. She finds no significance relation between budget deficit and economic growth in the long run. She suggests that government should increase

national income, per capita income and there is need to improve the quality of life so that Malaysia can be in the list of developed countries till 2020. She says that there is no role of budget deficit in economic growth and the shocks in the Malaysian economy can be controlled with the help of productive expenditures.

Table 2:

Years	GDP	FDI	Budget Deficit
2000	61424.84	414.3	33233.64
2001	58450.42	343.6	25112.15
2002	59094.22	593.3	29349.65
2003	68686.23	684	24293.72
2004	80500	951	26431.84
2005	92400	1128	41704.79
2006	106300	2579	54058.1
2007	120300	3317	61805.65

Source WDI

Bose (2007) finds positive relation between budget deficit and economic growth in 30 developing countries while Ghali (1997), Kormendi and Meguire (1985) finds no relation between budget deficit and economic growth. Here is Huynh (2007) who says that there is negative impact of budget deficit on economic growth in Vietnam while Saleh (2003) concluded it by saying that budget deficit has diverse effect on GDP. Gohar Fatima (2012) finds negative relation between budget deficit and economic growth in Pakistan. She suggests balance budget for economic growth. She says that budget deficit is because of short of resources to meet expenses in the long run. Savings are not enough to meet the expenses. YayaKeho (2010) finds the mix results about the relation of budget deficit and economic growth in seven West African Countries. The author finds no causality between budget deficit and economic growth in three countries and four countries show negative relation between budget deficit and economic growth. Most governments' in Pakistan faced budget deficit. It is because of lesser revenues and high expenditures. Government can increase revenues by increasing taxes, using previous surplus. Government can also print money and borrow it by using internal and external sources.

ParvizSaeidi (2012) says that budget is the only instrument that a government can use to achieve the desirable inflation rate and unemployment. His findings show that budget deficit has meaningful effect on these variables (inflation and unemployment) in Iranian economy. He says that budget deficit means planned exceed to income. This condition is in most of the countries. Budget deficit can cause more inflation in the economy. He finds an inverse relation between budget deficit and unemployment. AntoninoBuscemi (2012) points out by saying that Government in developing countries put economic growth as a fundamental objective of their policy. He is in a view that sustainable growth is the only factor that can change the living standard of the people as it measures the welfare of the

coming generations. The author finds positive and significant relation between fiscal deficit and economic growth while Ranjan Kumar examines the relation between fiscal deficit and economic growth in India. He uses Johansen co-integration test, Granger Causality and vector error correction model to find his objectives. He finds negative and significant relation between fiscal deficit and economic growth in the long run. Thus his results confirm the Neo-classical theory i.e. fiscal deficit has inverse relation with GDP. Fischer (1993), Easterly and Rebelo (1992) finds negative relation between budget deficit and economic growth. TokunboSimbowale (2006) also talks about the budget deficit and economic growth.

Foreign direct investment is an important tool for economic development. It means stirring the assets into another country. More FDI means more economic growth of that country as foreign companies bring huge amount of funds and new technologies. Economy face low development and growth rate when foreign investors are not taking part in local economic development (Akhilesh Sharma, 2012). Foreign direct investment plays vital role for the economic growth and development. It brings all factors that are necessary for economic growth like capital investment, technology, management. FDI creates employment and brings advance technologies. This advance technology is helpful in producing the skilled workers. Foreign direct investment enhances productivity and fulfills the demand of the consumers. However during policy making government should take care about the future of domestic producers (Samuel Antwi, 2011). Mehdi Behname (2011) investigates the influence of FDI on economic growth in South Asian Countries. He finds positive and significant effect of foreign direct investment on economic growth. The author concluded by saying that there is a need to attract FDI for the welfare and growth of the country. He adds that human capital and capital infrastructure are

the major source of attracting foreign direct investment in any Asian country.

Najid Ahmad (2012) explores the relation between foreign direct investment and economic growth in Pakistan. He uses co-integration and vector error correction model to investigate the relation. He finds positive and significant relation in short and long run. He is in a view that if we want to see Pakistan among developed countries then we must attract foreign investors while Aviral Kumar (2011) examines the effects of foreign direct investment on economic growth in Asian countries. He says that foreign direct investment and exports enhances economic growth. Luiz (1999) shed light on the importance of foreign direct investment for the economic growth. The author investigates the effect of foreign direct investment on capital accumulation, output and total factor productivity in recipient country. Parviz (2011) finds no significant relation between foreign direct investment and economic growth in Canada. Oluwatos and Adeniyi (2012) find the association between foreign direct investment and economic growth. OkonJ. Umoh (2012) finds positive relation between FDI and economic growth in Nigeria. Iqbal Mehmood (2011), Abu- Nurudeen (2010) Abdul Khaliq (2007), Zeshan Atique (2004), Niazi (2011), Mahar (2008), Falki and Hussein (2009) consider FDI as an important engine for economic growth.

Data Collection and Methodology:

The data are annual Pakistan observations expressed by a natural logarithms sample period running from 1971 to 2007. Data were sources from World Development Indicators (WDI) which includes GDP that measure economic growth mls\$, FDI and Budget Deficit of Pakistan mls\$. The empirical model used to test whether FDI cause GDP, Whether GDP Cause BD or whether a one-way or a two way causal relationship exist between GDP and FDI and GDP and BD. In this paper we apply Granger causality within ECM to identify the relationship between GDP, FDI and BD.

The Functional form is:

$$GDP = f(FDI, BD) \quad (1.1)$$

$$LGD P_t = \alpha_0 + \beta LFDI_t + \beta_1 BD_t + \varepsilon_t \quad (1.2)$$

Where

LGDP= Ln (Gross Domestic Product)

LFDI= Ln (Foreign Direct Investment)

BD= Budget Deficit

α_0 is the constant term, t is the time trend,

ε is a random error term

Empirical Results:

Table 3 reports the descriptive statistics for the sample of the three variables under investigation. Overall, calculations indicate that GDP, FDI are normally distributed and BD is not normally distributed and is characterized as negatively skewed.

Test of Unit root (ADF):

Table 4 displays the estimates of the ADF unit root test in levels and in first differences of the data with an intercept, with an intercept and trend and with no intercept or trend. According to these calculations the null hypothesis of a unit root in the time series cannot be rejected at 1 percent level of significance in variable levels and for all three types of ADF procedure. However, when the data sets are transformed into their first differences, all types of ADF test results imply that GDP per capita, FDI and BD are stationary. So, these variables are integrated of order one i.e. I (1). We proceed to apply cointegration tests between the variables to detect any possible long-run equilibrium between the series. The null of no co-integrating vector can be rejected for all the variables used in the study and the empirical findings reinforce the conclusions about the presence of long run relationship between GDP, FDI and budget deficit. The tests have been performed on the basis of 1 percent significance level, using the McKinnon Critical Values.

Table 3: Descriptive Statistics.

	GDP	FDI	BD
Mean	4.542125	2.075676	4.332266
Median	4.600537	2.299725	4.399884
Maximum	5.080266	3.520745	4.791028
Minimum	3.801602	0.447158	3.369549
Std. Dev.	0.323072	0.882410	0.316850
Skewness	-0.573962	-0.604676	-1.106966
Kurtosis	2.507152	2.378194	4.062524
Jarque-Bera	2.405971	2.850811	9.296948
Probability	0.300296	0.240411	0.009576
Sum	168.0586	76.80001	160.2938
Sum Sq. Dev.	3.757514	28.03131	3.614171
Observations	37	37	37

Cointegration test:

The variables GDP, FDI and BD must be nonstationary before taking the first difference, and

become stationary after the first difference. Trace Statistics shows that P-value less than 0.05, meaning that we can reject H_N . What is H_N ? H_N is that there is

no cointegration. So we have to accept H_A . Meaning that there are 2 cointegration equations. That's mean GDP, FDI and BD has a LR association. It is the outcome of Trace Statistics. Similarly with Max-

Eigen value statistics, that variables are cointegrated. Empirical results from co-integration test are shown in Table 5. We can easily run VECM to check the Causality between GDP, FDI and BD.

Table 4: Augmented Dickey – Fuller Unit Root Test Results.

	Test with Intercept		Test with Intercept and Trend		Test with no Intercept or Trend	
	Levels	1st Differences	Levels	1st Differences	Levels	1st Differences
FDI	0.88931	-3.9075* (0.005)	-2.6156	-3.8749* (0.024)	2.7534	-3.1712* (0.0024)
GDP	-1.00577	-4.83077* (0.0004)	-2.3853	-4.7688* (0.003)	2.5427	-3.7437* (0.0005)
BD	-1.446015	-9.2764* (0.000)	-2.5169	-9.53489* (0.000)	1.08818	-8.3292* (0.000)

*McKinnon Critical Value at 1 percent significance level.

- () denotes to p-value

Source: Author's Estimation using Eviews 6.0

Table 5: Johansen's test for multiple cointegrating vectors^a

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.610106	52.74579	29.79707	0.0000
At most 1 *	0.417960	19.77999	15.49471	0.0106
At most 2	0.023642	0.837426	3.841466	0.3601
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.610106	32.96579	21.13162	0.0007
At most 1 *	0.417960	18.94257	14.26460	0.0085
At most 2	0.023642	0.837426	3.841466	0.3601
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999)				

Source: Author's Estimation using Eviews 6.0

Error Correction Model (VECM):

As, GDP, FDI and BD are co integrated, a VECM (vector error correction model) representation

$$\Delta GDP_t = \sum_{i=1}^k \beta_1 \Delta GDP_{t-i} + \sum_{i=1}^k \alpha_1 \Delta FDI_{t-i} + \sum_{i=1}^k \alpha_2 \Delta BD_{t-i} + Z_1 EC1_{t-1} + \varepsilon_{1t} \tag{1.3}$$

$$\Delta FDI_t = \sum_{i=1}^k M_1 \Delta GDP_{t-i} + \sum_{i=1}^k N_1 \Delta FDI_{t-i} + \sum_{i=1}^k \alpha_3 \Delta BD_{t-i} + Z_2 EC2_{t-2} + \varepsilon_{2t} \tag{1.4}$$

$$\Delta BD_t = \sum_{i=1}^k G_1 \Delta GDP_{t-i} + \sum_{i=1}^k J_1 \Delta FDI_{t-i} + \sum_{i=1}^k \alpha_4 \Delta BD_{t-i} + Z3 EC3_{t-3} + \varepsilon_{3t} \tag{1.5}$$

where Δ is the difference operator; k, is the numbers of lags, β_1, α_1, M_1 and N_1, G_1 and J_1 are all short run coefficients to be estimated, $EC1_{t-1}$ represents the error correction term derived from the long-run co integration relationship and ε_{1t} and ε_{2t} the serially uncorrelated error terms in equation (1.3), (1.4) and (1.5) respectively. (Yoo, 2006). Unidirectional causality from Granger causes GDP will occur in the equation, if the set of estimated coefficients on the lagged FDI (α_1) coefficient are not zero (SR causality), and if the error correction coefficient ($Z1^*$) of $EC1_{t-1}$ is negative and significant. Meaning that FDI Granger causes GDP in the LR. Similarly. Unidirectional causality from GDP to FDI (GDP Granger causes FDI) will occur in

would have the following form, in equation (1.3), (1.4) and (1.5).

the equation (1.3). If the set of estimated coefficients on the lagged GDP (M) coefficients are non-zero (SR Causality). And the error correction coefficient ($Z2^*$) of $EC2_{t-2}$ is significant (LR causality). If both variables Granger causes each other, then it is said that there is a two-way feedback relationship between FDI and GDP. Error correction term has LR information as it is derived from the LR co-integrating relationship. Also, if the set of estimated coefficients on the lagged GDP (G1) coefficients are non-zero (SR Causality). And the error correction coefficient ($Z3^*$) of $EC3_{t-3}$ is significant (LR causality). If both variables Granger causes each other, then it is said that there is a two-way feedback relationship between GDP and BD. Error correction

term has LR information as it is derived from the LR co-integrating relationship.

The results of the Granger causality tests of the model are reported in Table 7, which also reports the tests used to choose the lag lengths.

From table 6 you can see that the EC term (-0.2688) and P-value is significant, It suggests the validity of LR association ship among variables

when the EC term is negative and significant. Meaning that the speed of adjustment towards long run equilibrium state is 26.9%.

Now we talk about SR causality. Whether our variables such as FDI can cause GDP and GDP can cause BD or not. That is we have to check first, because our hypotheses are the variable such as FDI causes GDP and GDP causes BD.

Table 6:

Dependent Variable: D(GDP)				
Method: Least Squares				
D(GDP) = C(1)*(GDP(-1) - 0.482329671275*FDI(-1) + 0.424993672961				
*BD(-1) - 5.38578152599) + C(2)*D(GDP(-1)) + C(3)*D(GDP(-2)) +				
C(4)*D(FDI(-1)) + C(5)*D(FDI(-2)) + C(6)*D(BD(-1)) + C(7)*D(BD(-2)) +				
C(8)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.268823	0.114455	-2.348724	0.0267
C(2)	0.043582	0.149626	0.291269	0.7732
C(3)	-0.070979	0.145139	-0.489042	0.6289
C(4)	0.019216	0.046046	0.417328	0.6799
C(5)	-0.017681	0.055351	-0.319439	0.7519
C(6)	0.181810	0.055163	3.295855	0.0028
C(7)	0.088611	0.062985	1.406854	0.1713
C(8)	0.028505	0.007412	3.845639	0.0007
R-squared	0.444446	Mean dependent var		0.037608
Adjusted R-squared	0.294874	S.D. dependent var		0.038187
S.E. of regression	0.032067	Akaike info criterion		-3.839682
Sum squared resid	0.026735	Schwarz criterion		-3.480538
Log likelihood	73.27459	Hannan-Quinn criter.		-3.717204
F-statistic	2.971446	Durbin-Watson stat		1.659913
Prob(F-statistic)	0.019859			

Source: Author's Estimation using Eviews 6.0

Granger Causality Test Results:

After determining that the variables are co-integrated, we proceed to the Granger-causality analysis in order to examine the causal links between the variables under examination. As a testing criterion the F-statistic was used. Table 7 reports the estimation of the Granger causality tests. Results show that the null hypothesis (H_N) of "FDI does not Granger-cause GDP per Capita" is not rejected, since none significance was found at any accepted

significance level for the tested 1, 2, 3, and 4 year lags (see Appendix A: A1,A2 and A3). On the other hand, evidences indicate that the null hypothesis of "GDP per capita does Grange-cause FDI" is strongly rejected H_N in 1, 2, 3 and 4 year lags at one percent significance level. And BD does Granger Cause GDP and GDP dose granger cause BD is strongly rejected H_N and FDI does cause granger BD in 1 and 2 years lags we can reject H_N .

Table 7:Granger Causality Test Results.

Pairwise Granger Causality Tests			
Sample: 1971 2007			
Lags: 1			
Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause GDP	36	3.32438	0.0773
GDP does not Granger Cause FDI		4.70965*	0.0373
BD does not Granger Cause GDP	36	5.29232*	0.0279
GDP does not Granger Cause BD		5.08811*	0.0308
BD does not Granger Cause FDI	36	2.74319	0.1071
FDI does not Granger Cause BD		5.65330*	0.0234

* Reject the null hypothesis at the 5 percent significance level.

Source: Author's Estimation using Eviews 6.0

What about SR causality from GDP to FDI and from GDP to BD, we can also check that. We shall use Chi-Square (value Wald statistics) to check SR Causality from GDP to FDI and BD.

The result of Wald test indicates that The Ch-squares probability value 0.7812 which is greater than 0.05, meaning that we cannot Reject H_N .rather

accept H_N , meaning that all the FDI having 2 lags. Jointly cannot cause GDP, meaning that there is no SR causality coming from FDI to GDP.

We can also check the SR Causality from BD to GDP, we found that the Ch- squares probability value 0.0044 which is less that 0.05, meaning that we can reject H_N .and accept H_A , meaning that all the

BD having 2 lags. Jointly can cause GDP, meaning that there is SR causality coming from BD to GDP when we consider GDP is a dependent variable and BD independent variable

To check whether the model has serial correlation or not. Chi-square prob(P-value)=0.1328 which is greater than 0.05, meaning that we cannot reject H_N , rather accept H_N , meaning that there is no serial correlation in this mode.

Now we check for Histogram-Normal-distribution, It is the Jarque-Bera statistics and corresponding p-value=0.7273 which is greater than 0.05, meaning that we cannot reject H_N , rather accept H_N . Meaning that the residual is normally distributed.

Finally, we check for the ARCH affect. We found that R^2 Prob. (p-value) = 0.4428 which is greater than 0.05, meaning that we cannot reject H_N , rather accept H_N , meaning that there is no ARCH affect.

Concluding Remarks and Policy Implications:

The study has attempted to provide the empirical evidence concerning the relation between GDP, foreign direct investment and budget deficit of Pakistan. The analysis was based on Johansen cointegration and Granger causality analysis for Pakistani time series data for the period of 1971-2007. The unit root test shows that all variables are non stationary at level and become stationary when data set is transformed into their first differences. Johansen cointegration test indicates that there exist a long-run relationship between GDP, budget deficit and foreign direct investment. The Granger causality test shows that there is bi-directional causal links on FDI-GDP and GDP-Budget Deficit. There is two way causality running from foreign direct investment to GDP and from GDP to budget deficit. Pakistan is surrounded by various socio-economic problems. Low volume of FDI and budget deficit are the alarming issues for policy makers. The main source of income for the government is tax but its volume is low as compared to expenditures. In this way, budget deficit is ever increasing. Pakistan should rely not only in internal capital flow but also at external capital inflow.

The study emphasis on the importance of foreign direct investment in the long run. Government of Pakistan should redefine its policies while making foreign policies. Foreign direct investment is an important tool for the development of the country. Government of Pakistan should make such type of policies that attract foreign investors. The first step for this is to be political stable and to overcome the terrorism activities. Foreign direct investment stimulates development by encouraging investment in education and training. This increases the stock of human capital and productivity of factors of production. Pakistan's development depends on foreign direct investment. If Pakistan wants FDI to be a significant contributor of economic growth then

government should focus on improving infrastructure, human resources as these will speed up the development of the country. Pakistan should provide facilities and incentives to foreign investors for the promotion of FDI in Pakistan. The correlation between budget deficit and economic growth has been source of contention for economists. It is because of budget deficit has serious implication on the welfare of the nation. Our results show that there is a long run association between economic growth and budget deficit. This deficit is increasing with the passage of time. It means government expenditures are higher than its revenues. It is a good sign for the economy as government is investing more for the welfare of the nation. But this spending must be at right track. Investment in wrong conceived projects like defense programs and temporary consumption may not induce economic growth.

Authors' Contribution:

Both authors contributed equally to this work.

Conflicts of Interest:

The authors declare no conflict of interest.

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Appendix A:**Table A1**

Pairwise Granger Causality Tests			
Date: 02/09/13 Time: 13:23			
Sample: 1971 2007			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause GDP	35	1.95436	0.1593
GDP does not Granger Cause FDI		7.71700	0.0020
BD does not Granger Cause GDP	35	9.24649	0.0007
GDP does not Granger Cause BD		5.72021	0.0079
BD does not Granger Cause FDI	35	1.72818	0.1948
FDI does not Granger Cause BD		1.76868	0.1879

Table A2

Pairwise Granger Causality Tests			
Date: 02/09/13 Time: 13:27			
Sample: 1971 2007			
Lags: 3			
Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause GDP	34	1.05943	0.3826
GDP does not Granger Cause FDI		6.54026	0.0018
BD does not Granger Cause GDP	34	2.17163	0.1145
GDP does not Granger Cause BD		4.64339	0.0096
BD does not Granger Cause FDI	34	1.18275	0.3348
FDI does not Granger Cause BD		3.59110	0.0264

Table A3

Pairwise Granger Causality Tests			
Date: 02/09/13 Time: 13:27			
Sample: 1971 2007			
Lags: 4			
Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause GDP	33	2.38170	0.0798
GDP does not Granger Cause FDI		6.59932	0.0010
BD does not Granger Cause GDP	33	0.67090	0.6185
GDP does not Granger Cause BD		2.60160	0.0614
BD does not Granger Cause FDI	33	0.57364	0.6844
FDI does not Granger Cause BD		2.08845	0.1138