

IMPACT OF GDP GROWTH RATE AND INFLATION ON THE INFLOW OF FOREIGN DIRECT INVESTMENT (FDI) IN PAKISTAN

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Abstract

Countries with high economic growth rates afford enviable quality of life to its citizens. On the other hand, countries that do not make economic progress are found stuck in poverty, crime and social backwardness. Foreign Direct Investment (FDI) occupies a significant importance in the socio-economic development of any economy. High inflow of Foreign Direct Investment (FDI) leads to the reduction in poverty, unemployment and to high economic growth in developing countries like Pakistan. However, domestic economic progress and stability leave significant impact (i.e. both positive and negative) on the inflow of FDI in home country. In this connection, the major objective of this research paper is to find out the extent to which economic scenario in Pakistan has become successful in attracting FDI. Therefore, this research paper has been focused on finding out the impact of GDP growth rate and rate of inflation on the inflow of Foreign Direct Investment (FDI) in Pakistan. For estimation, ABDL approach was applied on time series secondary data (i.e. from 1970 to 2015). The empirical evidence confirms that there is significant impact of selected independent variables (i.e. Gross Domestic Product growth rate and Rate of Inflation) on the inflow of FDI in Pakistan during mentioned time period. On the basis of study results it is suggested that government of Pakistan needs to make its monetary policy more effective to ensure stable and increasing economic growth in the country.

Keywords: *Foreign Direct Investment (FDI), Gross Domestic Product, Inflation, Economic Growth, Time Series Data, Pakistan.*

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Introduction

Economic growth is considered indispensable for a better standard of living (Hossain & Hossain, 2012). Countries with high growth rates afford enviable quality of life to its citizens. On the other hand, countries that do not make economic progress are found stuck in poverty, crime and social backwardness (Shima, et al., 2016). If a country was a lonely island on a planet, it would grow only by its indigenous resources. But no country actually lives in isolation. When a country fails to develop from within, it usually resorts to external assistance in the form of foreign aid, trade or investment. However, it is controversial if a country can make sustainable progress through aid only. Trade has been considered a real promoter of economic growth (Dogru, 2012). However, now than ever before, Foreign Direct Investment (FDI) is brought into increasing attention due to its tangible contribution to economic growth (Poon, and E. Thompson, 1998). Receiving foreign direct investment is highly correlated with economic growth and development. A country like Pakistan, with retarded economic growth and stunted development, direly needs foreign direct investment. However, Pakistan also suffers from various economical and non-economic problems, which drive away foreign investors. Therefore, this study aims to find out impact of major economic determinants on the inflow of FDI in Pakistan. The study is divided in three major parts: part one gives introduction and consolidated review of literature; part two presents research methodology including analytical frame work. Finally, part three presents study results, conclusion and recommendations of the study.

Literature Review

"A Foreign Direct Investment (FDI) is an investment in the form of a controlling ownership in a business in one country by an entity based in another country" (Shima, et al., 2016). An abundant amount of research has been done, emphasizing the importance of Foreign Direct Investment (FDI) for the economic growth of a country. Chen, &

Funke (2009) says, *“By bridging the gap between domestic savings and investment and bringing the latest technology and management know-how from developed countries, Foreign Direct Investment (FDI) can play important role in achieving rapid economic growth in the developing countries.”* Borensztein & et al. (1998) stated that FDI contributes to transfer of technology, which contributes more to economic growth than domestic investment itself. Durham (2004) states that FDI not only brings finance for host country but it moves associated with the number of other advantages for the recipient like efficient management techniques, advanced technologies and jobs for the people as a whole. However, Foreign Direct Investment (FDI) does not work as magic. According to Wang (2009), countries with larger GDP and high GDP growth rate and business friendly environment with abundant modern infrastructural facilities, such as internet can successfully attract Foreign Direct Investment (FDI) and Foreign Direct Investment (FDI) on the other hand, significantly affects economic growth of a country.

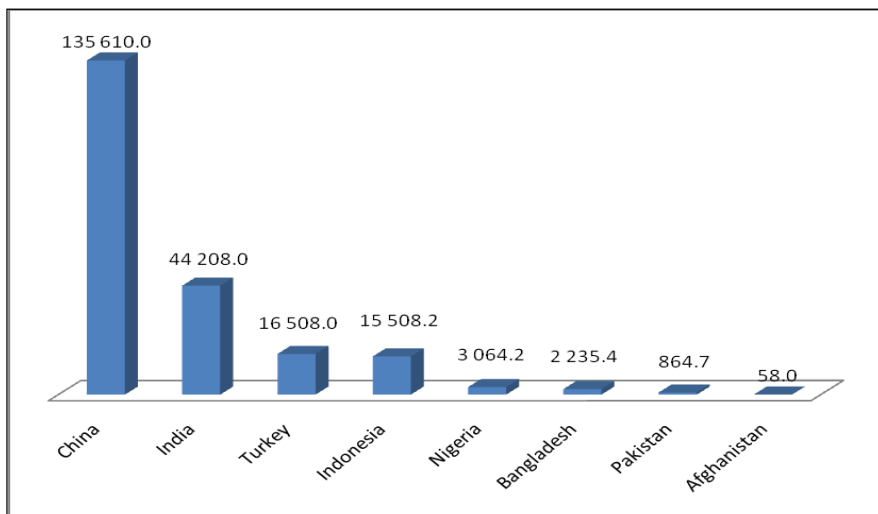
Inflation refers to the *“sustained rise in the general level of prices of goods and services in the economy over a period of time”* (McLean, et al., 2016). Rate of inflation is a major economic factor that can influence the inflow of foreign direct investment both positively and negatively. Rate of inflation in any economy shows the level of economic stability in a country. Low and stable rate of inflation signifies the domestic economic stability in a country and boosts up the confidence of foreign investors for investment and this leads to inflow of foreign direct investment. On the other hand, unstable and high rate of inflation indicates domestic economic instability linked with inappropriate fiscal and monetary policies[§] and discourages foreign

[§] Fiscal and monetary policies consider as the tool to reach economic prosperity of the nation. Fiscal policy is deals with taxes and government expenditure whereas; monetary policy is concern with money and banking.

investors to invest due to uncertainty and this leads to less inflow of foreign direct investment.

Figure 1 shows FDI inflows in selected country. Presented figures highlight that comparatively Pakistan's received FDI amount is not encouraging. United Nations Publication (2016) reported that in the year 2015, Pakistan was ranked 66th globally among the countries receiving FDI. There are various economic and non-economic factors supposed to be responsible for less encouraging inflow of FDI in Pakistan.

Figure 1: Trends of FDI Inflow by Country (US Millions \$) n=8



Data Source: World Bank Official Website 2016 (<http://data.worldbank.org>)

To sum up, Foreign Direct Investment (FDI) can play a significant role in the economic growth & development of a country on other hand, sustainable economic development can play important role to attract the FDI. However, due to economic and non-economic factors amount of FDI inflows in Pakistan is not encouraging. Therefore, this research focused to find out the impact of GDP growth rate and inflation on the inflow of Foreign Direct Investment (FDI) in Pakistan.

Methodology

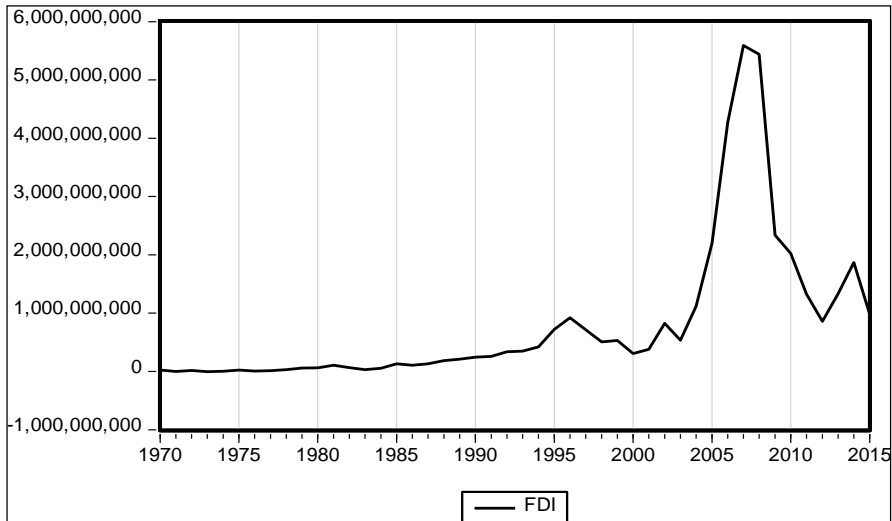
The primary objective of this research is to determine the impact of major economic factors on the inflow of FDI in Pakistan. In this connection, Gross Domestic Product (GDP) growth rate and rate of inflation were selected as independent variables. The study is based on annual time series data covering a period of 45 years (i.e. from 1970 to 2015). The data was collected from World Bank official website. Eviews 9 and MS-Excel were used to analyze the data and to present the findings.

Unit Root Test and Estimation Technique

In this study all variables are in time series so, Augmented Dickey-Fuller (ADF) was applied to check the existence or absence of a unit-root for each variable. On the basis of ADF test results Auto Regressive Distributed Lag (ARDL) was used as suitable estimation technique which is also known as bound testing approach. ARDL bound testing approach does not care about integrating order of variables and can be used for small sample size. ARDL approach also allows one to estimate short run and long run relationship simultaneously. Therefore, ARDL approach was selected for estimation. However, this study only pays attention to finding out long run relationship.

Study Results

High and stable inflow of Foreign Direct Investment (FDI) is supposed to be encouraging for economic development and social welfare of a country.

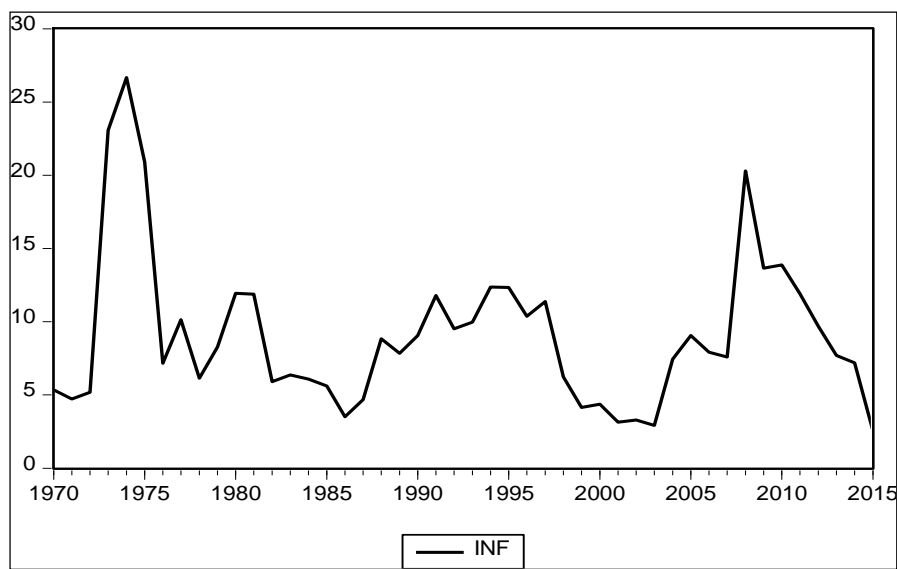
Figure 2: Trends of FDI Inflow in Pakistan (US \$) n=45

Data Source: World Bank Official Website 2016 (<http://data.worldbank.org/>)

FDI= Foreign Direct Investment

However, presented trends in figure 2 shows low and unstable inflow of foreign direct investment in Pakistan during past decades. Energy, textile, manufacturing, IT and telecommunication, oil exploration and mining are the major sectors that comparatively attract more FDI in Pakistan. FDI inflows reach at peak in 2007. However, unsuitable environment for foreign investors (i.e. due to terrorism, economic instability etc) leads to decrease in inflow of foreign direct investment in Pakistan.

Inflation is also a very important economic indicator that has great potential to negatively or positively affect inflow of FDI in a country. Low and stable rate of inflation reflect economic stability and attract foreign investors however, presented inflationary trends in figure 3 shows unstable and high inflationary trend in Pakistan during past decades.

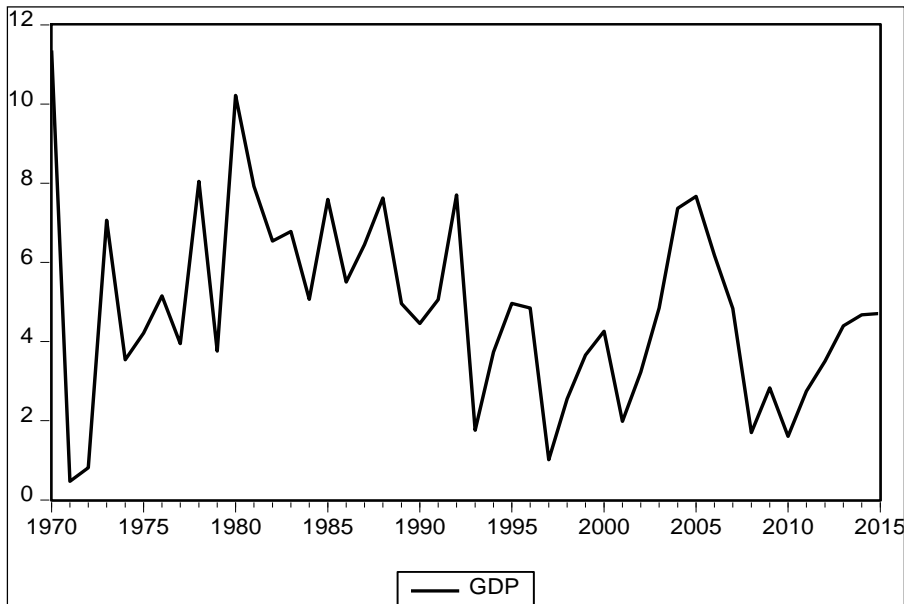
Figure 3: Rate of Inflation in Pakistan (%) n=45

Data Source: World Bank Official Website 2016
(<http://data.worldbank.org/>)**

INF = Rate of Inflation

High and increasing GDP growth rate is the indication of economic progress and creates more constructive environment for investment on other side, high and increasing GDP growth rate itself indicate high investment with effective utilization of resource. Presented data in figure 4 highlights unsteady and low GDP growth rate in Pakistan during mentioned period of time.

** The World Bank consists of two financial organizations that is International Development Association (IDA) & International Bank for Reconstruction and Development (IBRD). The primary objective of World Bank is to provide financial assistance to countries of the world (World Bank Official Website, 2016).

Figure 4: Trend of Annual GDP Growth Rate in Pakistan (%) n=45

Data Source: world Bank Official Website 2016 (<http://data.worldbank.org/>)

GDP= Gross Domestic Product

In this study data in time series is used. Therefore, ADF test is applied to determine the level of stationary of variable. Table 1 presents the result of ADF test and reported results indicate that FDI is integrated of order one or I (1) whereas, GDP growth rate and rate of inflation becomes stationary at level or I (0). In the light of ADF results, as most suitable technique, Auto Regressive Distributed Lag (ARDL) Bound Testing Approach^{††} is used for estimation.

^{††} Auto Regressive Distributed Lag (ARDL) Bound Testing Approach is an econometric tool used for estimation in empirical analysis.

Table 1: Augmented Dicky Fuller (ADF) test Results

Variables	At Level			At First Difference		
	Constant	Constant & Trend	None	Constant	Constant & Trend	None
FDI	-2.699 (0.082)	-3.383 (0.066)	-2.199(0.0283)	-4.371* (0.001)	-4.318* (0.007)	-4.426* (0.000)
GDP	-6.005* (0.000)	-6.047* (0.000)	-0.987 (0.284)	-8.919* (0.000)	-8.846* (0.000)	-9.023* (0.000)
INF	-3.369* (0.008)	-3.787* (0.026)	-1.530 (0.116)	-6.421* (0.000)	-6.396* (0.000)	-6.497* (0.000)

Data Source: World Bank Official Website 2016 (<http://data.worldbank.org/>)

- Note: Values in parentheses () Indicates probabilities and * indicates probability is < 5%.
- Lag lengths are determined by the Akaike Information Criterion with maximum number of 2 lags.
- Variables used are defined as: FDI= foreign direct investment, GDP= gross domestic product annual growth rate, INF= rate of inflation.

Bound test is used to ensure the existence of long run relationship between variables. Table 2 presents bound testing results. Test results indicate that value of F-statistics is higher than upper and lower bound critical values, which confirms the existence of long run relationship or co-integration between variables in equations.

Table 2: Bound Testing Results

F-Statistics	Lag Length	Significant level	Bound Critical Values	
			Lower Bound	Upper Bound
7.591	2	10 %	2.63	3.35
		5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5

Data Source: World Bank Official Website 2016 (<http://data.worldbank.org/>)

After confirming the existence of co-integration between variables, ARDL approach can be used for long run and short run estimation. However, this study is focused to estimate impact of GDP annual growth rate and rate of inflation on the inflow of Foreign Direct Investment (FDI) in long run in Pakistan. Therefore, for estimation ARDL approach is applied only for long run model. Table 3 shows results of long run analysis. Value of R^2 (i.e. 0.55) indicates that the model is a good fit whereas significant value of F-Statistics indicates that equation as whole is statistically significant. Insignificant value of LM test (i.e. 2.320) shows no autocorrelation. Statistical value of Durbin-Watson (i.e. 2.0) indicates that model fulfills the requirements of good model without any numerical error.

Table 3: Summary of ARDL Long Run Model

Statistical Measures	Results
R-Square	0.55
Adjusted R^2	0.54
F-Statistics	2.39 (0.02)
LM-Test	2.320 (0.313)
DW -Statistics	2.04

Data Source: World Bank Official Website 2016 (<http://data.worldbank.org/>)

Table 4 presents variables in long run equation for Auto Regressive Distributed Lag (ARDL) model. Values of t-statistics for both independent variables are significant however; annual GDP growth rate has positive impact. Whereas, rate of inflation has negative impacts on FDI inflows in Pakistan.

Table 4: Long run Equation Results

Independent Variables	Co-efficient	T-Statistics	Probability
In GDP_t	4063678	2.163	0.032
In INF_t	-2814379	-2.056	0.043

Data Source: World Bank Official Website 2016 (<http://data.worldbank.org>)

Conclusions & Recommendations

It is concluded that FDI takes up great importance in relation to economic growth of a developing country like Pakistan. However, the review literature suggests that the inflow of FDI is highly correlated with economic and non-economic stability in the country. For past decades, economy of Pakistan has undergone various economic and non-economic issues. Therefore, this research has been focused to find out the impact of selected economic indicators (i.e. rate of inflation and annual GDP growth rate) on the inflow of FDI in Pakistan. Empirical results confirm that there is a long run relationship between dependent (i.e. FDI inflow) and independent variables (GDP growth rate and rate of inflation). Whereas, GDP growth rate has positive and rate of inflation negative impact on the inflow of FDI in Pakistan. This indicates that controlled price level and effective economic growth is required for encouraging foreign investors to promote inflow of foreign direct investment in the economy of Pakistan and to achieve socio-economic welfare in the country.

In the context of study results, it is suggested that Government of Pakistan should take serious initiatives in order to achieve high and stable GDP growth rate. This requires availability of highly productive environment (i.e. skilled labor, advance technology, political stability, law and order situation, supportive infrastructure etc). In addition, at policy level, Government of Pakistan should make further efforts to reach macroeconomic stability. This requires more effective fiscal and monetary policy with special attention on price control.

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