

Role of Foreign Direct Investment in Economic Growth of Pakistan

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Abstract

Foreign direct investment (FDI) is often seen as a significant factor of economic development in developing countries like Pakistan. The aim of this article is to investigate the effect of FDI on Pakistan's economic growth during 1972–2012. Besides FDI, three other variables such as trade openness, political instability and terrorist attacks are also used in this study. Least square method has been applied to check the effect of these variables on GDP of Pakistan. The results show that FDI has positive significant effect on economic growth of Pakistan.

Keywords: FDI inflows, trade openness, political instability, terrorist attacks

1. Introduction

Nowadays Foreign Direct Investment (FDI) became the largest source of capital formation in the world especially in the developing countries like Pakistan. FDI is an important part of economic development of host economies especially if it is accompanied by sound economic policies and greater openness to trade. FDI is often taken as the biggest form of production in the sense of technology transfers, unemployment reduction, skill acquisition and market competition. Khan (2007) recognized that FDI plays an important role to improve the economic growth of developing countries.

FDI provides much needed resources to developing countries such as capital, technology, managerial skills, entrepreneurial ability, brands and access to markets. These are essential to industrialize, develop and create more jobs and reducing poverty situation in developing countries. As a result, most developing countries recognized the potential value of FDI and liberalized their investment regimes.

FDI has increased considerably for developing countries during the period of 1985–2000. FDI accounted for 45% of net foreign inflows to developing countries in 1997 that was only 16% in 1986 (Perkins, 2001). Furthermore developing countries received 36% of total FDI inflows in 1997 (World Bank, 2002).

During 1990–1999, Pakistan has received greater amount of FDI due to its favorable environment for investors. In late 1980s and early 1990s, no special registration was required for FDI in order to facilitate foreign investment and same rules and policies on commencement of business were implemented to foreign investors and domestic investors. FDI was also allowed in the sectors of telecommunications, banking, agriculture and energy by Government which was not allowed before. But the amount of FDI remained small due to rapid changes in political environment and inconsistency in policies.

According to Board of Investment in Pakistan, in 2001–2002 the amount of FDI was \$485 million after which it was rapidly increased for the next six years. FDI was \$5409 million during 2007–2008. Since then, the level of FDI decreased in 2011–2012. There may be many reasons behind this decline. The main reasons are Global Financial Crisis, Terrorist attacks and flood situation. Table 1 shows FDI inflows.

Table 1. Foreign direct investments in Pakistan (\$Million)

Years	Green Field Investments	Privatization Proceeds	Total FDI
2001–2002	357.00	128.00	485.00
2002–2003	622.00	176.00	798.00
2003–2004	750.00	199.00	949.00

2004–2005	1161.00	363.00	1524.00
2005–2006	1981.00	1540.00	3521.00
2006–2007	4873.20	266.40	5139.60
2007–2008	5276.60	133.20	5409.80
2008–2009	3719.90	—	3719.90
2009–2010	2150.80	—	2150.80
2010–2011	1634.80	—	1634.80
2011–2012	812.60	—	812.60
2012–2013(Jul–Mar)	621.90	—	621.90
Total	23960.80	2805.60	26766.40

Source: Board of Investment, Pakistan.

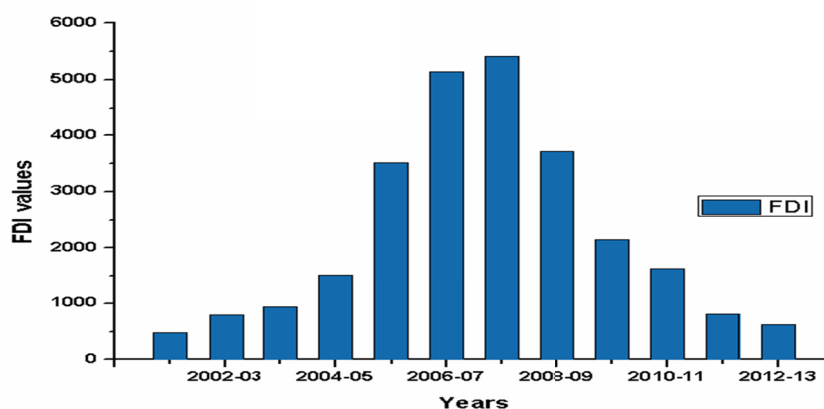


Figure1. Foreign direct investments, Pakistan 2001–02 to 2012–13

Since 2004, there has been a significant rise in the net FDI inflows. FDI reached \$5.15 billion in 2007–2008 which was 443% greater than 2004. The reason behind the rise of FDI in 2006 can be the privatization proceeds while the increase in the subsequent years is mainly attributed to green field investments. Pakistan lacks adequate infrastructure, the dominance of green field investment in the composition of FDI signifies the creation of long term jobs and influx of technology and knowledge which improve a county's human capital.

Despite the impressive rise in FDI in Pakistan, FDI remained insufficient when it compared with other developing countries. In 2007, the capital inflows were 4% in Pakistan while it was 7.5% in other developing countries. The reasons for small amount of FDI are unstable political environment, past disputes between government and foreign investors, inadequate infrastructure, poor law and order situations and terrorism in Pakistan.

This paper is an attempt to evaluate the impact of FDI on economic growth of Pakistan from 1972 to 2012. The relevant factors will include trade openness, terrorist attacks and political instability. The rest of the paper is organized as follows: Section 2 discusses the review of literature on the relationship between FDI and economic growth. Methodology is described in section 3 while section 4 describes the definition and explanation of variables. Data analysis and empirical results are interpreted in section 5 while Concluding remarks are provided in section 6.

2. Literature Review

Many studies have investigated the relationship between FDI and GDP. Arshad (2012) evaluated the long run relationship among FDI, GDP and trade in Pakistan. The time period of the study was 1965–2005. The Vector Auto-regressive model (VAR) was estimated. The results showed that both import and export affect GDP but FDI has no effect on GDP in the long run.

Falki (2009) analyzed the impact of FDI along with domestic capital, foreign owned capital and labor force on GDP of Pakistan. The time period was 1980–2006. Ordinary Least Square method was used. The results found that FDI has a negative and insignificant relationship with GDP. Atique et al. (2004) discussed the effects of FDI on GDP of Pakistan from 1970–2001. The study concluded that the impact of FDI is greater under export promotion trade regime as compared to import substitution trade regime.

Khan et al. (2011) studied the empirical relationship between industry-specific FDI and output under framework of Granger causality and panel Co-integration for Pakistan over the period 1981–2008. To evaluate the relationship between FDI and growth, 23 industries were taken into account for period of 1981–2008. The results suggested that FDI promote output in primary and services sectors while FDI contributed very small in manufacturing sectors. Thus policy makers should focus on attracting FDI in these sectors in order to attain short term growth. Aurangzeb et al. (2012) investigated the impact of foreign capital inflows on economic growth of Pakistan. Four variables FDI, GDP, remittance and external debt were tested using multiple regression analysis technique. Data for this study covered the period from 1981–2010. Results indicated that all the three variables i.e. FDI, remittance and external debt are having positive and significant relationship with economic growth.

Louzi et al. (2011) studied the effect of foreign direct investment on Jordanian economy. The study covered the time period from 1990–2009. The mechanism of Co-integration and error correction was used. The study showed that foreign direct investment does not impact economic growth in Jordan while domestic investment and trade liberalization have positive effect on GDP growth rate.

Tiwari and Matascu (2011) studied the relationship between economic growth and FDI for Asian countries using Panel data approach. The time period for this study was 1986–2008 and it included data of 23 countries. The results indicated that foreign direct investment and exports boost the economic growth. Hermes et al. (2003) investigated that financial sector development plays an important role in economic growth. Development of financial sector of the host country is a pre-condition for FDI to effect economic growth positively. The study has taken 67 countries in which 37 countries have developed financial system.

Yousaf et al. (2008) studied the economic impact of foreign direct investment in Pakistan. They studied the impact of FDI on exports and imports of Pakistan. Time period of study was from 1973–2002. Co-integration and error correction technique was used and it was concluded that FDI has positive impact on real demand for imports in short and long run. The study also concluded that FDI negatively affect exports in short run but has a positive relation for exports in long run. Borensztein et al. (1998) investigated the effect of FDI on economic growth and they included 69 developing countries. The study concluded that FDI contributed much to growth than domestic investment. They also described that growth impact of FDI is dependent on stock of human capital available in the host country.

3. Methodology

The aim of our article is to analyze the relationship between FDI and GDP in Pakistan. The data used has spanned over the period of 1972 till 2012. There are five variables in our model, gross domestic product (GDP), foreign direct investment (FDI), trade openness as a percentage of GDP (TOP), political instability (POL) and terrorist attacks as number of terrorist incidents in Pakistan (TRA).

The model for the regression analysis is as follows:

$$LGDP = \alpha + \beta_1 LFDI + \beta_2 TOP + \beta_3 POL + \beta_4 TRA + \varepsilon. \quad (1)$$

Table 2. Determinants of economic performance in case of Pakistan

Variables	Proxy	Data Source
Dependent Variable: Economic Growth	Natural log of GDP	World Development Indicators
Explanatory Variables: Foreign Direct Investment	Natural log of FDI	World Development Indicators
Trade Openness	TOP	World Development Indicators
Political Instability	POL	Polity IV database
Terrorist Attacks	TRA	Global Terrorism Database (GTD)

4. Definition and Explanation of the Variables

4.1 Gross Domestic Product (GDP)

Our dependent variable in this case is GDP in Pakistan in million US dollars. We transformed the values into natural logarithm form to avoid sharpness in time series data.

4.2 Foreign Direct Investment (FDI)

Foreign Direct Investment is essential and significant forecaster of the economic growth (Kowalski, 2000). Foreign Direct Investment provides external resources and advance technology to the economy which act as an engine to the economic growth. However we are trying to estimate the effect of this variable on economic growth of Pakistan. The proxy used for foreign direct investment is FDI in million US dollars.

4.3 Trade Openness

Trade openness has been commonly used with a proxy of trade to GDP ratio in various literatures for example (Beck et al., 2000) and (Saqib et al., 2013). We used TOP (Imp+Exp/GDP) as a proxy in our study.

4.4 Political Instability

Political Instability has been a frequent phenomenon in Pakistan. Pakistan is a main economic power in Asia but the political instability in the country poses a serious threat to not only to its economic growth but also on the investment in the country. It was, therefore, intended to estimate the effect of this factor on economic performance of developing countries such as Pakistan. The data used is taken from polity IV database (Marshall & Jaggers, 2000). This widely used data set provides a picture of political situation of a country on annual basis from 1800–2012.

4.5 Terrorist Attacks

Terrorism has become a burning issue in today's world. Terrorism is destroying political, social and economic setup in the world. The terrorist activities in Pakistan are increasing at an alarming rate. War against terror is continuous in tribal areas of Pakistan which is greatly influencing Pakistan's economic growth. Unemployment, income inequality, poor law and order situations, illiteracy rate and poverty can be the major reasons of terrorism in Pakistan. It is, therefore, intended to investigate the impact of this factor on economy of Pakistan. We use TRA as a proxy in our study. The data on this variable is taken from Global Terrorism Database.

5. Data Analysis

Table 3. Summary statistics

Variables	N	Min	Max	Mean	Std. Deviation
LGDP	41	22.57	26.17	24.5474	0.89892
LFDI	41	6.90	22.44	19.0300	2.62027
POL	41	-7.00	8.00	1.0000	6.59545
TOP	41	27.72	38.91	33.8048	3.00000
TRA	41	0.00	1026	139.5610	238.62356

The above table shows the summary statistics of all the variables. LGDP is a dependent variable and LFDI, POL, TOP and TRA are independent variables. The model is comprised of 41 observations.

Table 4. The unit root test of augmented dickey fuller

Variables	ADF at level	ADF with first difference
LGDP	-2.01	-8.85
LFDI	-9.85	-----
POL	-1.91	-5.98
TOP	-3.13	-6.68
TRA	-3.55	-----

Note: McKinnon critical value for trend and intercept at 5% level= -3.53.

Before testing the long run association among the variables, we must analyze the stationarity of our data. For this purpose an augmented dickey fuller test is carried out.

Table 4 highlighted the results of augmented dickey fuller test. Here equation is used to check the stationarity in the data with trend and intercept at 5% level of significance. From table 4 it is clear that LGDP, TOP and POL are non-stationary at level but became stationary at first difference, it means they are integrated at order one. LFDI and TRA are stationary at level, it means they are integrated at order zero.

Table 5. Results of OLS

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	20.0388	0.8274	24.2203	0.0000
LFDI	0.2464	0.0335	7.3543	0.0000
TOP	-0.0102	0.0274	-0.3710	0.7128
POL	-0.0054	0.0126	-0.4309	0.6691
TRA	0.0012	0.0004	3.4409	0.0015
R-squared	0.8014	Mean dependent var	24.5474	
Adjusted R-squared	0.7794	S.D dependent var	0.8989	
S.E of regression	0.4222	Akaike info criterion	1.2274	
Sum squared resid	6.4183	Schwarz criterion	1.4363	
Log likelihood	-20.1608	Hannan-Quinn criterion	1.3035	
F-statistics	36.3236	Durbin-Watson stat	1.5502	
Prob (F-statistics)	0.0000			

The estimated results of Ordinary Least Square can be seen in table 5. The dependent variable is gross domestic product. TOP, LFDI, TRA and POL are independent variables. The estimated value of adjusted R^2 is 0.78 and F-statistics is 36.32 that shows the goodness of our model. The p-value is 0.000 which is less than 0.05, which shows the significance of our model. The value of Durbin Watson statistics for dependent variable is 1.55 and if the value lies between 1.5–2.5, it means that there is no autocorrelation exists in the study. In our case it is near to 2.00 which means that there is no autocorrelation exists in our study and the regression model assumes that error deviations are uncorrelated.

The constructed model is as below.

$$LDGP = 20.04 + 0.25(LFDI) - 0.01(TOP) - 0.005(POL) + 0.001(TRA) \quad (2)$$

In Pakistan, the calculation for GDP is based on the following equation:

$$GDP = Consumption + Investment + Government Expenditure + N(E-I) \quad (3)$$

before formally taking a start of defining the coefficient of all the variables, there is need to discuss the components like consumption, investment, government expenditure and N (E-I), which are incorporated to calculate the GDP in the above mentioned equation.

Consumption:

Consumption is represented in the equation with capital C, which includes the amount that households spend on durable and non-durable goods and services. But the exception case is that, as per the rule of investment, the expenditure on buying of new housing is not included in this calculation of C. But expenditure should spend only by the households not by the government or businesses.

Investment:

Investment is represented in the equation with capital I, it includes the amount spent by businesses in purchasing goods and services to maintain the business.

Government Expenditures:

The government, in addition to businesses and households, can spend money on goods and services and can invest in capital and the other items as per the requirement of situations like expenditures related to defense equipment. These types of expenditures occurred by the government are represented by the capital letter G. Transfer payments like the welfare and social security are not included in this category.

Net Exports (NX):

In equation 3, the net exports are mentioned as N (E-I). GDP only calculates the products which are produced domestically, so imports are subtracted from exports in the equation.

By putting the above mentioned components in the right side of the equation, the resulted amount is GDP, which is the best known macroeconomics identity as:

$$GDP = Consumption + Investment + Government Expenditure + N(E-I) \quad (4)$$

The coefficient of our focus variable FDI is positive and significant and the value is 0.25. This means that FDI positively effects Economic growth; if FDI increases then Gross domestic product will also increase. For one unit increase in FDI, GDP increases by almost 25%. Trade openness variable was found having negative relationship with economic growth over the year but the result was not found significant.

The coefficient of POL is found negative but not significant, which shows that political instability does not have any impact on economic growth of Pakistan. The reason behind this may be that individual political instability indicators are generally poor proxies for the dimensions of political instability.

The coefficient of last variable of study is positive and significant and the value is 0.001. It is concluded that terrorist attacks have very little positive impact on economic growth; For one unit change in terrorist attacks, the GDP increases by 0.1%. If we look at the way to calculate as described above, in the expenditure, as per the annual budget of Pakistan, because of the terrorist attacks, the developmental expenditures are declining as the terrorist attacks are increasing (The trends can be checked on the official website of SBP and SECP, Pakistan) but on the other hand, the non-developmental expenditures are increasing in the right side of annual budget of Pakistan. So as the terrorist attacks in Pakistan increasing, expenditures on the aspects of defense and security are increasing continuously because of which the productive and developmental projects are behind the priorities as for them the blood of growth like capital is not enough. So if the terrorist attacks increasing and GDP is also increasing, it's not in the sense of productivity, indeed implicitly, it is in sense of defending. As per this research work, so it's the first time, that someone incorporated this factor for GDP, indeed it includes a lot of limitations, as to measure this non-economic factor, which not only sensitive itself but also for the model. It's in immature stage as a variable to incorporate in the model but if internationally any index has been generated then the results can be more directly linked to reality.

6. Conclusion

FDI is playing a significant role in shaping economies. This paper has examined the relationship between FDI and GDP using time series data taking Pakistan a case of study. As our result shows that FDI is playing a positive significant role in economic growth of Pakistan for the period of 1972–2012. Foreign direct investment is a key for economic growth of any economy. It is recommended that the policy makers and governments should focus on improving infrastructure, creating transparency in the trade policy, stabilize political environment, increase human resources and creating a stable macroeconomic framework for attracting more and more foreign cash inflows in order to increase economic growth of Pakistan.

Nowadays, Government is spending too much on departments directly engaged in combating terrorist activities, mostly on defense and homeland security. The government must pay her attention to distribute the fruits of economic growth on equal basis to control terrorism. It is recommended that Government should decrease anti-terrorism expenditures in order to attain the maximum social welfare. The Government must ensure that they should not overspend on defensive and offensive anti-terrorism measures.

References

- Arshad, M. (2012). Impact of foreign direct investment on trade and economic growth of Pakistan: A co-integration analysis. *Int. J. Eco. Res.*, 3(4), 42–75.
- Atique, Z., Ahmad, H. M., & Azhar, U. (2004). The impact of FDI on economic growth under foreign trade regimes: A case study of Pakistan. *The Pakistan Development Review*, 43(4), 707–718.
- Aurangzeb, & Haq, A. U. (2012). Impact of foreign capital inflows on economic growth in Pakistan. *European*

Journal of Economics, Finance and Administrative Sciences, 46, 6.

- Beck, T., Levine, R., & Loayza, N. (2000). Finance and the sources of growth. *Journal of Financial Economics*, 58, 261–300. [http://dx.doi.org/10.1016/S0304-405X\(00\)00072-6](http://dx.doi.org/10.1016/S0304-405X(00)00072-6)
- Borensztein, E., De, G. J., & Lee, W. (1998). How does foreign direct investment affects economic growth. *Journal of International Economics*, 45(1), 115–135. [http://dx.doi.org/10.1016/S0022-1996\(97\)00033-0](http://dx.doi.org/10.1016/S0022-1996(97)00033-0)
- Falki, N. (2009). Impact of foreign direct investment on economic growth in Pakistan. *International Review of Business Research Papers*, 5(5), 110–120.
- Hermes, N., & Lensink, R. (2003). Foreign direct investment, financial development and economic growth. *The Journal of Development Studies*, 40(1), 142–163. <http://dx.doi.org/10.1080/00220380412331293707>
- Khan, A. (2007). *Foreign direct investment and economic growth: The role of domestic financial sector*. PIDE Working Paper.
- Khan, M. A., & Khan, S. A. (2011). *Foreign direct investment and economic growth in Pakistan: A Sectoral Analysis*. Pakistan Institute of Development Economics Working Papers 67.
- Kowalski, E. (2000). *Determinant of economic growth in East Asia*. Research Honors Project.
- Louzi, B. M., & Abadi, A. (2011). The impact of foreign direct investment on economic growth in Jordan, *IJRRAS*, 8(2), 253–258.
- Perkins, D. H. (2001). *Economics of development*. New York: W. W. Norton and Company.
- Saqib, N., Masnoon, M., & Rafique, N. (2013). Impact of foreign direct investment on economic growth of Pakistan. *Advances in Management & Applied Economics*, 3(1), 35–45.
- Tiwari, A. K., & Matascu, M. (2011). Economic growth and FDI in Asia: A panel data approach. *Economic Analysis and Policy*, 41(2), 173–188.
- World Bank. (2010). *World development indicators*. World Bank, Washington D.C.
- Yousuf, M. M., Hussain, Z., & Ahmad, N. (2008). Economic evaluation of foreign direct investment in Pakistan. *Pakistan Economic and Social Review*, 46(1), 37–56.

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