

# The effect of Foreign Direct Investment on economic growth of Pakistan

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## Abstract

This study assesses the relationship between foreign direct investment and economic growth of Pakistan. The method of ordinary least square (OLS) has been used, utilizing time series data for the period 1980-2013. Our study found that, in case of Pakistan the results are significant showing that there is important relationship between economic growth and foreign direct investment. The study also give some recommendations including; making law & order situation better, provision of electricity, political stability and establishment of separate bench on the ministry of finance to attract foreign investment.

**Key words:** Economic growth, foreign direct investment, developing country.

## Introduction

According to the international monetary funds, foreign direct investment, commonly known as FDI....” Refers to an investment made to acquire lasting or long-run interest in enterprise, operating outside of the economy of the investor.” The investment is a direct one because the investor which could be a foreign company, group or individual person would seek to control, manage, or have significant influence over that business. Economic growth of a country is influenced by multiple factors. For all economies in general and developing economies in particular, foreign direct investment (FDI) has been identified and observed as a significant factor. It affects the economic growth by the stimulation of domestic investment, technological transfer, increase in human capital formation and by providing external finance to those countries which have limited amount of capital.

The relationship between Foreign Direct Investment (FDI) and economic growth has been a major issue for several decades. The policy makers of a large number of countries engaged in studying and providing incentives to attract the inflow of investment, because it is assumed to effect the economic growth and development of the host country positively. The inflow of foreign direct investment (FDI) has been increased in almost every region of the world for the past two decades. There has been a long debate over the benefits and associated costs of FDI both in academia and policy spheres. But indeed we can see that inflow of FDI help the host country in many ways including; spillover effects, technology transfer, direct capital financing, productivity gains and the introduction of new processes and managerial skills (Lee, 2013).

Pakistan is historically a reputed investment area where British companies dominated two hundred years. In 1970s, specifically in Zulfikar Ali Bhutto Regime, Pakistan started to have nationalization process. However, after few decades, it has been realized to show the attitude towards privatization to catch-up globalization process. Pakistani economy is not matured enough to play a part in globalization process to get benefits to a large extent, and consequently this economy is facing difficulties. There are many studies on the relationship between economic growth and foreign direct investment (FDI) with reference to Pakistan. They show mix effects some (Saqib et al, 2013; & Ali, 2014) say that FDI has negative impact on the economic growth of Pakistan, while others (Muntah et al, 2015; & Naseer, 2013) have just the opposite result, finding that economic growth is positively affected by inflow of foreign direct investment.

The basic objective of the study is to examine the impact of foreign direct investment on economic growth of Pakistan. According to the previous empirical literature, the FDI inflows have a positive impact on economic growth of host countries. This paper focuses on the FDI – led growth hypothesis in the case of Pakistan.

Organization of the study is as follows: Next section presents empirical literature, third section deals with data & methodology, fourth section is about results & discussion, while fifth section concludes the topic, followed by references & appendix.

### **Empirical Literature**

There are various studies conducted on the relationship between economic growth and inflow of foreign direct investment (FDI). The results of these studies are mix some say that economic growth is affected positively by inflow of FDI (Tiwari & Mutascu, 2011; Chakraborty & Nunnenkamp, 2008; Omri et al, (2014); Ahmadi & Ghanbarzadeh, (2015); Antwi et al, 2013; Bhandari et al, 2007; & Hassen & Anis, 2012) while the result of some studies (Belloumi, 2014; Saqib et al, 2013; & Ali, 2014) showed negative effect of the inward FDI on economic growth of a country. Some studies say that the effect is not clear as indicated by (Alfaro et al, 2004). They examined various links among foreign direct investment (FDI), financial markets, and economic growth. They explored that better financial system can exploit FDI more efficiently. They employed cross country data for 1975-1995, results shows that the only role of FDI on economic growth is ambiguous.

Roy (2012) examined the causal relationship between foreign direct investment (FDI) and economic growth for selected Asian economies covering the period from 1981-2008. The study has been done for China, India, Pakistan, Sri Lanka, Indonesia, Malaysia, Philippines, Singapore and Thailand. The method of Granger-Causality is used. It has been observed that for the countries like China, India, Pakistan, Sri Lanka, Indonesia, Philippines and Singapore, the direction of causality runs from economic growth to FDI and not the other way round. However, for Malaysia there is no causality between FDI and GDP which confirms Granger-neutrality. Only in case of Thailand, bidirectional causal relationship exists. The varied nature of direction of causality confirms that uniform policy recommendation relating to FDI and growth may not work for these Asian countries. Bhandari et al, (2007) examined the effect of foreign direct investment and foreign aid in the Czech Republic, Estonia, Hungary, Latvia, Lithuania and Poland. Pooled annual time series is used for the period 1993-2002. Results indicated that an inflow of foreign direct investment and an increase in the stock of domestic capital are significant factors which affect the economic growth positively in the above mentioned countries.

The impact of foreign direct investment (FDI) on the economic growth of Asian countries has been analyzed. A panel data for the period 1986 to 2008 was used to carry out the analysis.

The result concludes that foreign direct investment enhances the process of economic growth. In addition, labour and capital also play an important role in the growth process of Asian countries (Tiwari & Mutascu, 2011). Omri et al, (2014) investigated the causality links between CO2 emission, economic growth and FDI using the method of Simultaneous-equation. Panel data have been used for a global panel of 54 countries over the period 1990-2011. Results provide evidence of bidirectional causality between inflows of FDI and economic growth. For the policy makers these insights are of particular interest.

Previous studies have recognized that the benefits from foreign direct investment (FDI) to recipient countries can only be realized when those countries have reached a certain level of financial development. However, the dynamic interrelationships among FDI, financial development, and real output, including the long-run equilibrium as well as causality, have not been analyzed. (Lee & Zhang, 2009) fill this gap and conducted this study covering the period from 1970 to 2002. Panel cointegration and error correction models for a set of 37 countries have been used. Causality among FDI, financial development, and economic growth is explored and

solid and convincing result has been obtained. Furthermore, the financial development indicators have a larger effect on economic growth than does FDI. (Pourshahabi et al, 2011) investigates the relationship between Foreign Direct Investment (FDI), economic freedom and growth in OECD countries during 1997-2007 using the method of Panel data to estimate two models. First model was employed to examine the factors which stimulate FDI; the result of this model indicated that Human Capital, Market Size, Political Stability and Inflation have positive and significant impact on FDI in these set of countries. While the other model was used to find the growth factors in OECD member countries.

Bagli & Adhikary (2014) assessed the impact of FDI inflow along with some other potential variables on economic growth in India. The analysis was based on a secondary data for the period 1980-1990, by using the method of linear regression model followed by the generalized version of the Solow-Swan growth model. The result demonstrates the real GDP, and some other selected macroeconomic aggregates have grown in a favorable direction in the era of strong liberalization (1991-2010) in contrast to the moderate liberalization era (1980-1990).

Further it revealed that the growth of domestic capital formation has a positive and significant impact on economic growth. The Booming foreign direct investment (FDI) in post-reform India is widely believed to promote economic growth. (Chakraborty & Nunnenkamp, 2008) assessed this proposition by utilizing industry specific FDI and output data using the method of Granger causality tests within a framework of cointegration. It was found that the growth effect of FDI varied greatly across sectors. FDI in the services sector appears to have promoted growth in the manufacturing sector through cross-sector spillovers.

Belloumi (2014) used bounds testing (ARDL) approach to cointegration for the period from 1970 to 2008 to check the relationship between foreign direct investment (FDI), trade openness and economic growth. The results clarified that variables of interest are bound together in the long run when foreign direct investment is dependent variable. This result also indicates that there is no significant Granger causality from FDI to economic growth, from economic growth to FDI, from trade to economic growth and from economic growth to trade in the short run. Even though there is a widespread belief that FDI can generate positive spillover externalities for the host country, our empirical results fail to confirm this belief for the case of Tunisia. Throughout the last decades, the global economy has been completely sophisticated. It has developed much more quickly, given the mechanism of free trade free flow of goods & services, the most important being investment. It is necessary to study the impact of foreign direct investment on economic growth of host country like Tunisia. The empirical results suggest that FDI help boost the process of long-term economic growth (Hassen & Anis 2012).

Ahmadi & Ghanbarzadeh (2015) study's examined the impact of openness and foreign direct investment on economic growth for Iran during 1970-2008, employing Bounds testing approach suggested by Pesaran *et al.* The empirical results indicate that openness is positively associated and statistically significant determinant of growth, both in short run and the long run. The result also suggested that foreign direct investment is positively associated in the short run but negatively related in the long run.

According to (Antwi et al, 2013) foreign direct investment (FDI) is a major source of growth for Ghana. They studied the relationship between FDI and economic growth for Ghana, using time series data for the period 1980-2010. They employed simple ordinary least square (OLS) regression methods. The result was significant showing that FDI has a role in economic growth. Mun et al, (2008) explored that the relationship between foreign direct investment (FDI) and economic growth for Malaysia for the period 1970-2005 using time series data by employing ordinary least square (OLS) regressions model. There was sufficient evidence to show that there is significant relationship between economic growth and foreign direct investment inflows (FDI) in Malaysia.

Foreign direct investment is assumed to benefit poor countries, like Jordan. The investment opportunities and the policies which the Jordan's government adopted are conducive in attracting investment into the country. The FDI led growth hypothesis was tested for Jordan using time series data from 1990 to 2009 by utilizing Cointegration and error correction method. The results are significant. Based on this Jordan government has to attract FDI so that it can achieve the desire development (Louzi & abadi 2011).

The study attempted to empirically determine the effects of foreign direct investment on economic growth and sustainable development in Nigeria utilizing ordinary least square method for the time period 1980-2013. Various sources have been used for collection of data including World Bank, central bank of Nigeria and National Bureau of Statistics. The result shows that FDI, inflation rate and balance of payment are significant. It

is clear from the result of this study that if Nigeria wants to achieve sustainable development and economic growth, it should have to focus on improvement of infrastructural development, entrepreneurship, human resource and stable macro economic framework (Idoko et al 2015).

Foreign direct investment (FDI) in Pakistan is one of the major external Sources of funding to meet obligation of resources gap and goal achievement. FDI has played a vital role in the economic growth of Pakistan. It contributed significantly in the human resource development, capital formation, and organization and managerial skills of the people in the country. The role that FDI plays in economic growth of a country is a crucial one (Muntah et al, 2015). FDI is not the only factor which affects economic growth; there are various factors which affect the growth process of Pakistan. (Naseer, 2013) focused on Pakistan for the period 1980-2012, by using Johansson Co-integration method to do an empirical investigation of the causal relationship among FDI (foreign direct investment), trade, real effective exchange rates and economic growth. The results of ECM suggest that there is a significant relationship between the variables. The findings of this study suggest that foreign income, foreign direct investment, GDP, trade and real effective exchange rate significantly affect trade. The Granger causality test shows that export causes increase in economic growth and economic growth attracts the inflow of FDI.

Saqib et al, (2013) take the case of Pakistan, given the contrasting evidence which can be found in literature about FDI and economic growth of a country. To study the relationship between FDI and four other variables including Debt, trade, inflation and domestic investment, the method of ordinary least square has been used for the period 1981-2010. Their findings indicate that Pakistan's economic performance is negatively affected by foreign direct investment while its domestic investment has benefitted the economy. Moreover, the nation's debt, trade and inflation have found to have negative impact on its GDP. Ali (2014) focused on the examination of effects of FDI on economic growth in Pakistan for the period 1972-2013 by utilizing the method of Johanson Cointegration technique and Granger causality. The results reveal negative impacts of these flows on economic growth of the economy in long run. Short run analysis confirmed unidirectional causality running from debt service, FDI, inflation and literacy rate to growth. Causality from domestic investment is not concluded but it run from growth to domestic investment. Bidirectional causality between remittances and growth has been found.

### Data & Methodology

The method of ordinary least square (OLS) is used to analyze the relationship between foreign direct investment and economic growth. There are various variables utilized in the literature to examine this relationship. In our study the variables of interest are Gross domestic product (GDP) used as a proxy for economic growth, Foreign direct investment (FDI), trade as percentage of GDP and Inflation as GDP deflator (annual %). Time series data have been taken on the above variables from World Development Indicator (World Bank) covering a period from 1980-2013.

### Model Specification

The relationship between economic growth and FDI for the period 1980-2013 may now be represented by a mathematical formula. GDP being the dependent variable is measured as a function of independent variables such as foreign direct investment (FDI), Trade (T) and inflation (INF).

$$GDP = f(FDI, T, INF) \dots\dots (1)$$

The mathematical model will be

$$GDP = \beta^0 + \beta_1 FDI + \beta_2 T + \beta_3 INF \dots\dots (2)$$

As we know the relationship between economic variables is not exact, rather it is inexact. As in our model there are three variables which affect the dependent variable, but in addition to these Variables there are some other variables which affect the economic growth (GDP). To allow for the inexact relationship, the model may be modified as follows

$$GDP = \beta^0 + \beta_1 FDI + \beta_2 T + \beta_3 INF + \mu \dots\dots (3)$$

Where  $\mu$  is known as disturbance or error term. The error term " $\mu$ " may well represent all those factors that affect economic growth (GDP), but are not taken into account explicitly.

### Description of Variables

The dependent variable is GDP taken in log form as (LogGDP). It shows the economic growth and sustainable development of a country. It is taken in log form so that it can be interpreted with ease.

The independent variables included in the model are:

**Foreign Direct Investment:** It is the foreign investment that comes to a host country. FDI will get into those countries that pay higher return on capital. It has a positive impact on the economy of the recipient country. It is also expressed in log form as (LogFDI).

**Inflation Rate:** it is defined as the rise in the general level of prices of goods and services over a period of time usually one year in any given economy. Here it is used as GDP deflator (annual %).

**Trade:** It is the quantity or value of goods and services exported or imported. It is taken as percentage of GDP. The final model for the analysis is

$$\text{LogGDP} = \beta^0 + \beta_1 \text{LogFDI} + \beta_2 T + \beta_3 \text{INF} + \mu \dots (4)$$

### Results and Discussion

Various diagnostics tests have been conducted in order to ensure the reliability of the data. After that ordinary least square has been used to analyze the data for the period 1980-2013. The results of the diagnostic tests are given at the Appendix.

The model summary has been presented in table no 1. The value of coefficient of determination i.e.  $r^2$  is 0.62 which is an acceptable value, it means that about 62 percent of the variation in the dependent variable is explained by the independent variables, showing that a good fit. Adjusted  $r^2$  value is 0.59, it is a bit lower than the original r-square value and the reason is that, it is adjusted for the number of explanatory variables. Standard error of the estimate is about 0.28 which is not very high.

Table No: 1

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793 <sup>a</sup>	.629	.592	.2827069

a. Predictors: (Constant), lfdi, Trade, Inflation

The overall significance of the model is given in table 2 showing the Anova table. It shows whether all the explanatory variables play a role in explanation of the dependent variables. In this we check the join or overall significance of the independent variables;

$$H_0: \beta_1 = \beta_2 = \beta_3 = 0$$

H1: at least one of the  $\beta$  is different from zero.

As we can see from the Anova table that the probability is very low and we can reject the null hypotheses meaning that independent variables has a role in explanation of the dependent variable, which is confirmed by the high F value. The regression sum of squares and residual sum of square are also given.

Table No: 2

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.064	3	1.355	16.951	.000 <sup>a</sup>
	Residual	2.398	30	.080		
	Total	6.462	33			

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b. Dependent Variable: lgdp

The main result of our study is shown in table no 3. All the variables are significant except inflation. Foreign direct investment has expected sign and is significant, having small p-value i.e. less than 5 percent and “t” value greater than 2 in absolute term. It shows that there is a positive relation between foreign direct investment and economic growth, when FDI increases by 1 unit, GDP (economic growth) will increase by 0.39 percentage points. A negative relationship between inflation and economic growth has been documented in the literature and so we expect the sign for inflation to be negative. But in our study inflation has unexpected sign portraying positive relationship between inflation and economic growth, moreover it is insignificant because of the high p-value and less than 2 t-statistic in absolute terms.

We have used Trade as a percentage of GDP as a proxy for trade variable and expect this variable to have a negative sign because of high imports as compared to exports. The sign for trade is negative as expected and also significant. It means that if our imports increase compared to exports, so it will have a negative impact on the economic growth. If trade increase by 1 unit, our economic growth will decrease by 0.62 percentage points.

Table No: 3

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.485	.706		44.573	.000
	Trade	-.062	.020	-.352	-3.120	.004
	Inflation	.007	.010	.081	.695	.492
	lfdi	.394	.064	.714	6.182	.000

a. Dependent Variable: lgdp

Based on the above results, the effect of foreign direct investment on growth of Pakistan is positive. With the increase in foreign direct investment, the economic growth of Pakistan will enhance. Thus, FDI can play an important role for economic growth in Pakistan through capital accumulation and knowledge spillovers that is a way to increase productivity growth. It creates employment opportunities and also increases the living standard of the people. The government of Pakistan is trying their best to attract foreign investors by focusing on the law & order situation of the country, give tax incentives and providing security to foreigners. One of the major and key factors in attracting foreign investment is the political stability. Previously the situation was not so good, but now there political stability and government hopes to attract more foreign investment.

Inflation is another important factor that helps in economic growth of Pakistan. In developing countries like Pakistan, most of the investors are in favor of inflation, because with the rise in the price of product, the productivity of the investor also increases. Our result shows that inflation has a positive but insignificant effect on economic growth of Pakistan. High inflation rate serves as an incentive for investors.

In addition we also examined the relationship between trade and economic growth; we find that this variable has a negative impact on economic growth of Pakistan. The effect of trade is significantly different from zero. There are two reasons for this. First the imports of Pakistan are greater than exports. Second, many of our exports are based on raw material and some low quality products which do not bring us the required foreign exchange.

### Conclusion and Policy Recommendations

This paper examines the dynamic relationship among economic growth, foreign direct investment (FDI), trade and inflation rate in Pakistan for the period 1980-2013. The required data was taken from world development indicator, World Bank. The method of ordinary least square (OLS) is used to investigate the relationship among

the above stated variables. Before estimation, various diagnostic tests were carried out to ensure the validity of the data. The results of our study confirm the widespread belief that FDI can lead to positive effects on productivity i.e. that there is positive relationship between economic growth and foreign direct investment in case of Pakistan. It can therefore be concluded that inflow of FDI to Pakistan help in increasing economic growth, and economic growth will in turn lead to the ultimate survival of the economy.

### Policy Recommendations

- Looking at the deteriorating law & order situation in Pakistan, nobody is ready to come and invest, so the government needs to solve this issue on emergency basis.
- Electricity is the basic necessity for industries. Pakistan is currently facing severe shortage of electricity, due to which the domestic investors are shifting their business to other countries. Government needs to pay attention to this issue and start such projects, so that the short fall of electricity can be overcome and investors can be motivated to come here and invest.
- There is political turmoil which leads to frequent changes of national policies. It is one the biggest problem. Because foreign investors will have no safety and so they are shy to come here. If the government of Pakistan wants to achieve rapid growth & development they should stabilize their policies.
- The government of Pakistan has to establish a separate bench under the ministry of finance for making dealings with foreign investors and convincing them to invest in our country.
- Government of Pakistan should give them tax holidays and other monetary concession to the investing firms.

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## Appendix

### Collinearity Diagnostics<sup>a</sup>

Model	Dimens ion	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Trade	Inflation	lfdi
1	1	3.056	1.000	.00	.00	.02	.02
	2	.806	1.947	.00	.00	.02	.83
	3	.136	4.749	.01	.01	.91	.12
	4	.002	35.294	.99	.99	.05	.03

a. Dependent Variable: lgdp



### Correlations

		lgdp	Trade	Inflation	lfdi
Pearson Correlation	lgdp	1.000	-.296	.294	.702
	Trade	-.296	1.000	-.113	.092
	Inflation	.294	-.113	1.000	.244
	lfdi	.702	.092	.244	1.000
Sig. (1-tailed)	lgdp	.	.045	.045	.000
	Trade	.045	.	.261	.303
	Inflation	.045	.261	.	.083
	lfdi	.000	.303	.083	.
N	lgdp	34	34	34	34
	Trade	34	34	34	34
	Inflation	34	34	34	34
	lfdi	34	34	34	34

### Descriptive Statistics

	Mean	Std. Deviation	N
lgdp	2.928229E1	.4425133	34
Trade	3.425764E1	2.5142226	34
Inflation	9.781370E0	5.1383629	34
lfdi	-.376376	.8023439	34

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