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2012

Online at <http://mpa.ub.uni-muenchen.de/51069/>

MPRA Paper No. 51069, posted 5. January 2014 06:44 UTC



Impact of Foreign Direct Investment on Economic Growth: A Case Study of Pakistan

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ABSTRACT

Purpose- This research paper aims to analyze the impact of foreign direct investment (FDI) in Pakistan for the period 1981 to 2010. It evaluated the GDP growth performance and assessed the historical trends of the FDI and CPI in Pakistan.

Methodology/Sample- The link between gross domestic product (GDP,) foreign direct investment and Inflation is measured with the help of multiple regression models. GDP in this model is used as dependent variable whereas FDI and inflation (CPI) are measured as independent variables.

Findings- According to the results, the model is overall significant with the positive and significant association of GDP and FDI while a negative and significant relationship found between GDP and inflation.

Practical Implications-On the basis of the empirical results acquired, Policy proposals are advised to attract FDI in Pakistan. Foreign direct investment (FDI) is an essential factor for economic growth in the developing countries. FDI allows the transfer of technology, uplift competition in the domestic input market, contributes to human capital development and Profits created by FDI contribute to corporate tax revenues in the host country.

Keywords : GDP, FDI, CPI.

Jel classification : E200

*The material presented by the author does not necessarily portray the viewpoint of the editors and the management of the Institute of Business & Technology (IBT) or IBA, Karachi, Civil Aviation College, Karachi & KASB Institute of Technology (KASBIT) Karachi.

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1. INTRODUCTION

Foreign direct investment (FDI) has become to be known as one of the most effective method of drawing flows from external sources. The use of this technique has also become a significant aspect of building capital in developing countries around the world. However, the share of investment from these countries in other states has been declining over the past years. For developing countries, the positive impact of foreign direct investment is becoming increasingly popular as a tool for economic growth and strengthening (Muhammad 2007). The most strongest positives of implementing FDI is the increase in aggregate productivity, increased opportunities of employment, greater outflow of exports and exchange of technological advancement between the investor and country.

Having foreign direct investment in a developing country enables the employment and exploitation of natural and human resources, to implement innovative businesses practices, in terms of management and marketing, and facilitates in reduction of budget deficit. Another benefit of FDI is that it does involve the risks and regulations of external debt and adds value to the human capital through provision of on the job training. For countries that face a scarcity of capital and technological expertise usually experience growth slower than those that do. According to a number of studies, foreign direct investment can serve as a means of transfer of technology and knowledge (Dunning & Hamdani 1997).

This research paper aims to analyze the impact of foreign direct investment (FDI) in Pakistan for the period 1981 to 2010 and to observe the relationship between inflation (CPI) and economic growth. Pakistan is a young country with an ancient history and with rapidly growing populations. Her economy primarily depends on agriculture, a per capita income is low, and much of the population lives in poverty. Therefore policies to slow down inflation rate and to draw FDI in the country are the central objectives of the macroeconomic policy makers. Pakistan is striving to make its way in the modern world and being the foremost member of SAARC (South Asian Association for Regional Cooperation) and one of the most important country of this region blessed with massive quantity of resources in the form of mineral assets, population (man power), agriculture technology and other God gifted natural resources. FDI and Inflation plays a very vital role in its future growth and development.

2. LITERATURE REVIEW

Various studies on the subject of inflation, Foreign Direct Investment and growth have been presented. The majority of this research work has been done internationally. Some of these important empirical studies have been critically reviewed to develop objectives in the context of Pakistan and, further, to analyze it to draw some important conclusions and policy recommendations.

Falki (2009) conducted a study on the impact that FDI had on the economic development of Pakistan. The study included data on FDI gathered from the Handbook of Pakistan economy of 2005. Data ranged from 1980 and 2006 and held variables such as domestic variables, labor force and foreign invested capital. Falki used the endogenous theory of growth and a regression analysis, Falki was able to conclude that FDI had a statistically negative effect on the gross domestic product and foreign direct investment in the country. Similarly, Agarwal (2000) in his study found that the increase of FDI in South Asian countries was in association with the exponential investment by local investors, providing evidence to belief that the relationship between FDI and GDP and the influence of FDI on GDP was negative till the year 1980. In the following years, early 80s, the link was mildly positive and strengthened over the years in the late eighties into the nineties.

In contrast, Adam & Tweneboah (2009), economists from Ghana, conducted an independent study on the FDI and stock market development in the country conclude that FDI in Ghana had a positive impact on the development of the economy and the stock

market. The examination included data of market capitalization as a proportion of the Local GDP and Ghana cedi and Dollar exchange and the net FDI influx of the quarters between the years 1991 to 2006. With the use of multivariate co-integration analysis and the Vector Error Correction Model., the study revealed that the relationship between FDI and the Ghanaian stock market will be beneficial in the long run for the country.

Barro (1995) examines the issue and finds a significant negative relationship between inflation and economic growth, considering variables like fertility rate, education, etc constant. The study contains a large sample data of more than 100 economies for the period 1960 to 1990 and to assess the effects of inflation on growth, a system of regression equations is used, in which many other determinants of growth are held constant. This framework is based on an expanded view of the neoclassical growth model as stated by Barro and Martin (1995). The study indicates that there exists a statistically significant negative relationship between inflation and economic growth. More specifically, an increase in the average annual inflation by 10 percentage points per year lowers the real GDP growth by 0.2 to 0.3 percentage points per year.

Similarly another important study by Mubarik (2005) estimates the threshold level of inflation in Pakistan using annual data for the period 1973 to 2000. The empirical results from his study suggest 9 percent threshold level of inflation for the economy of Pakistan, above which inflation is very unfavorable for economic growth. The study follows the work of Khan and Senhadji (2001) in which they calculate threshold level for both the developing, including Pakistan, and developed economies. They use panel data for 140 developing and developed economies for the period 1960 to 1998 and suggest threshold levels, 1-3 percent and 7-11 percent, for both groups of countries respectively.

In addition, Munir *et al.* (2009) analyze the non linear relationship between inflation level and economic growth rate for the period 1970-2005 in the economy of Malaysia and found significant effect from Inflation to domestic output, in contrast to the above mentioned studies of Muabrik (2005) and Khan & Senhadji (2001). Using annual data and applying new endogenous threshold autoregressive (TAR) models proposed by Hansen (2000), they find an inflation threshold value existing for Malaysia and verify the view that the relationship between inflation rate and economic growth is nonlinear. The estimated threshold regression model suggests 3.89 percent as the structural break point of inflation above which inflation significantly hurts growth rate of real GDP. In addition, below the threshold level, there is statistical significant positive relationship between inflation rate and growth.

An important study by Abbas *et al.* (2011) conducted an examination on the influence of FDI and CPI on the GDP's of SAARC member nations. The study concluded that the general model in these countries developed a positive relationship between Foreign Direct Investment and GDP while negative relationship between Consumer Price Index and GDP. This conclusion was tested using the multiple regression models. The data of the SAARC countries ranged from the year 2001 to 2010. Wu & Chiang (2008) endeavored to find if FDI can facilitate economic development. The study applied the threshold regression analysis. The empirical analysis concluded that FDI does play a defining role in the economic development. This was found out after an analysis of data of 62 countries from the year 1975 to 2000. The study found that FDI depends significantly on the initial GDP and human capital. This means that countries that have a significant GDP and human prior to FDI showed a positive relationship. Alfaro *et al* (2004) also carried out a similar examination of the association of FDI and GDP growth. The study also showed that countries with a strong financial system are more capable of exploiting the potential of FDI. Through empirical analysis of the data between 1975 and 1995, it was found that FDI had a greater impact in countries with a stable financial system.

For studies conducted in Pakistan, a study by Shabir and Mahmood (1992) analyzed the relationship between foreign private investment FPI and economic growth

in Pakistan. The study used the data for 1959-60 to 1987-88; the study concluded that net foreign private investment (FPI) and disbursements of grants and external loans had a positive impact on the rate of growth of real GNP. However they did not treat FDI as a separate variable. Similarly (Ahmed, et.al, 2003) examined the causal relationship between FDI, exports and output by employing Granger non-causality procedure over the period 1972 to 2001 in Pakistan. They found significant effect from FDI to domestic output.

3. RESEARCH METHODOLOGY

The purpose of this research paper is to examine the relation of Pakistan's GDP with FDI and inflation (CPI). Study covers the time period from 1981-2010. As World Bank is considered as an authentic source of data collection therefore, secondary data of the mentioned variables is collected from this reliable source. To examine the relation of Pakistan's GDP with FDI and inflation (CPI), the following theoretical model is used.

GDP=F (FDI & CPI)

The core intention of the paper is to study the effect of FDI on GDP of Pakistan. The trend of foreign Direct Investment inflows is also observed with relevance to GDP growth and inflation of Pakistan. To examine the relation of Pakistan's GDP with FDI and inflation (CPI), the following multiple regression model is used,

$$\text{GDP} = \alpha + \beta_1 \text{FDI} + \beta_2 \text{CPI} + \mu$$

Where,

FDI = Foreign Direct Investment

GDP = Gross Domestic Product

CPI = Inflation Rate

Level of Significant: 5 to 10 percent

The aforementioned Multiple Regression Model was run on E-Views to find out the Impact of FDI and CPI on the Gross Domestic Product of Pakistan. In this multiple regression model, GDP is used as dependent variable whereas FDI and CPI are measured as independent variables. To estimate the effect of FDI on GDP of Pakistan, Multiple Regression Model is applied over the period of 1981 to 2010. Two inputs are used; foreign direct investment and inflation. Descriptive statistics of GDP, FDI and CPI are as follows,

3.1 Measures the Output (GDP)

We used GDP, as an output growth indicator in the Multiple Regression Model, specified in equation 1. Data series covers the period from 1981 to 2010 and is taken from the World Bank. GDP is measured in million US Dollars. It is used as dependent variable in the proposed model. The vertical axis (X-axis) is the year and horizontal axis (Y-axis) is GDP (in Million Us Dollars). Growth of GDP in these mentioned thirty years is showing the trend of fluctuations.

Figure 1
GDP

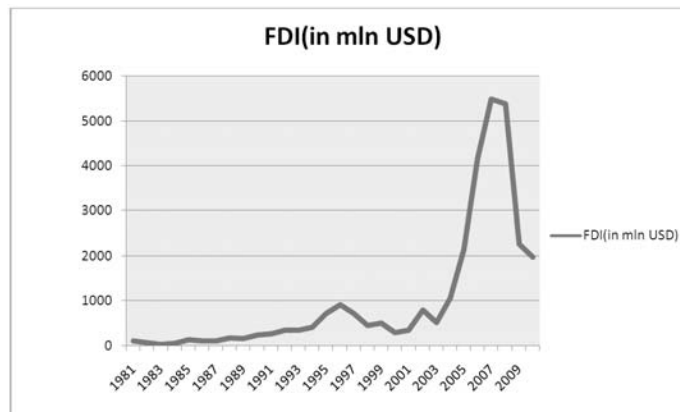


Source: World Bank

3.2 Measures the Input (FDI)

We used FDI, as an input growth indicator in the Multiple Regression Model, specified in equation 1. Data series covers the period from 1981 to 2010 and is taken from the World Bank. FDI is measured in million US Dollars. It is used as independent variable in the proposed model and found highly effective and significant. The vertical axis (X-axis) is the year and horizontal axis (Y-axis) is FDI (in Million Us Dollars). FDI in these mentioned thirty years is showing the trend of fluctuations

Figure 2
FDI

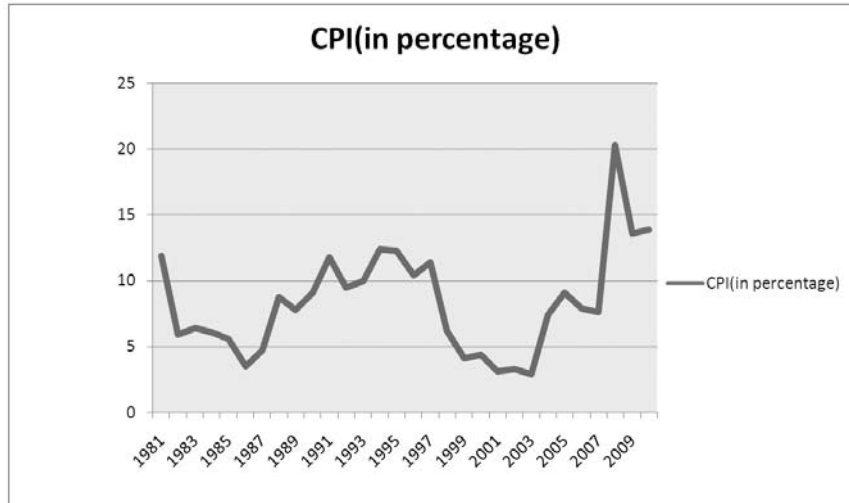


Source: World Bank

3.3 Measures of Input (CPI)

We used CPI, as an input growth indicator in the Multiple Regression Model, specified in equation 1. Data series covers the period from 1981 to 2010 and is taken from the World Bank. FDI is measured in million US Dollars. It is used as independent variable in the proposed model and found significant. The vertical axis (X-axis) is the year and horizontal axis (Y-axis) is CPI (in percentage). CPI in these mentioned thirty years is showing the trend of fluctuations.

Figure 3
CPI



Source: World Bank Empirical

4. EMPIRICAL RESULTS

We used the following multiple regression model for the study

$$GDP = \alpha + \beta_1 FDI + \beta_2 CPI + \mu$$

Table 1
Empirical results of GDP, FDI and CPI

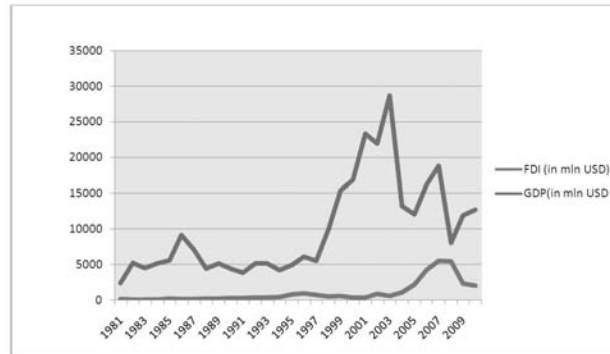
Country	Variable	Coefficients	T Values	P Values	F Statistic	R Square
Pakistan	FDI	0.394659	15.53548	0.000	192.2058	0.936649
	CPI	-1.136519	-16.52626	0.000		

The proposed model empirical results are depicted by the above table. The slope coefficients of the inputs (FDI) in the multiple regression analyses have positive impact on GDP whereas the slope coefficients of the inputs (CPI) have negative impact on GDP.

If one percent change in FDI occurs, it will bring about 0.39% change in GDP while 1 percent change in CPI will bring- 1.13% change in GDP by holding other variables constant. Estimates (FDI and CPI) are highly significant. As the value of F is too high i.e., 192.2058 and the value of P is so small i.e., 0.000 we can deduce that model is overall very much significant and the results are not by chance. The r-square of this model is 0.94 that means 6% variation in the model is unexplained by FDI and CPI whereas remaining variation (94%) is explained by FDI and GDP.

5. CRITICAL ANALYSES

Figure 4
GDP&FDI



Source: World Bank

Relative changes in growth of inputs and output are illustrated in figure 4 that represents the pattern of output growth with different arrangements of factors input growth. Above figure shows GDP response to FDI which is highly encouraging. Here slowdown increases of FDI pulled down the growth of output (GDP). Investors attracted from the year 2000 to invest in Pakistan economy due to the rise in the infrastructure and investment chances in the country. Encouraging investment facilities attracted a large no of investor in Pakistan but unfortunately this increasing development persist till 2007 and 2008 and a massive turn down started in FDI from 2009 to 2010. In this period the investment inflow of American and European markets decreases across the world which severely affect the developing countries and Pakistan was one the foremost victim of huge FDI decline. Therefore, this decline was in fact the impact of the entire world economic conditions as the developing countries FDI is highly depended on the world economic conditions.

6. CONCLUSION

Investments play a significant role in the economic growth, increment in assets and infrastructure in any developing country. In an economy, direct investment are indicative of a positive trend of investment with eventually translates in increase in GDP and economic growth of the country. This can also be proved from the aforementioned studies in the literature review. All efforts made in this regard must keep into consideration the economic, political and social situation of the country. There must be present for the investor's concrete benefits and opportunities in order for the FDI to have an impact on the economy. Without these, any investment made would be unable to yield the results that were desired. Here we must understand that it is the responsibility of the local government to devise policies and strategies in such a manner that would support the efforts and investments being made. For a country like Pakistan, the need of the hour is to concentrate on infrastructure development, human resource training, encouraging local entrepreneurs, creation of a stable macroeconomic environment and ensuring opportunities that would be conducive for investors and provide momentum to the developmental process.

7. POLICY RECOMMENDATIONS

Our results are likely to provide an opportunity to frame some policy implications. The regression results confirmed that an increase in FDI has positive impact on growth rate of Pakistan. Hence the authorities should positively concentrate on maximum utilization of resources to increase FDI in order to increase GDP growth rate. It needs effective and encouraging FDI attractive policies from the public sector to restore the confidence of the investors. Government should offer Business friendly environment as it provides pace to

attract huge FDI. As Pakistan is a populous country and has a deprived educational system therefore, fundamental attempts could be taken to attract FDI in this sector. In Pakistan the major setback against FDI growth is political instability, so serious measures in the following areas should be taken that will positively result into an increase in the rate of the FDI growth in Pakistan.

i. Ensuring Business Friendly Environment

Business friendly environment must be created on priority to attract large FDI. To maximize the benefits of FDI persistently Pakistan should also focus on developing human capital and technology jobs for unskilled population when compared with service sector. It is widely reported in a large number of studies that Pakistan lags behind in terms of business environment (ranked 85th of 113 countries by The International Finance Corporation (IFC)-World Bank Doing Business Report 2010) which is not conducive to doing business. These factors are acute labor market rigidities, lack of world class ports, airports, road and on an average 6-7 hours of power cuts. Other problems are that of norms of registering property, protection of investors, excessive bureaucracy, lack of rationale tax structure, competition rules and time taken in enforcing contracts.

ii. Improved Educational Sector

Pakistan's educational sector is highly negligible and its quality is on its last legs. Short of financial resources causes a poor quality of education which further causes a massive talent deficiency and this has a harmful impact on the domestic as well as foreign business. Pakistan is a highly populated country but its working population is uneducated and untrained. This sector requires a grand amount of foreign direct investment so, encouraging opportunities should be originated to attract the domestic and foreign investors.

iii. Improved Agricultural Sector

The most part of Pakistan's economy is footing on the agriculture sector which itself is not well-productive. This sector is highly negligible and its production quality is near to the ground. The scarce financial resources, out dated technology and poor fertilizers require a boost up that could be possible by an appropriate foreign direct investment. A large amount of FDI could be attracted in food processing, agriculture services, machinery and other modern agricultural technology.

iv. Ensuring Political Stability

A dynamic market economy requires political stability for its best possible outcomes. Political instability generates economic uncertainty because of a turn down in investment. A strong financial sector generates higher saving efficiency and it leads to elevated economic growth however, this strong financial sector can only be flourished under the politically stable environment. Political instability is reducing the confidence of investors in our country. In business sector decisions are mainly based on the political stability not on the type of the government. In the recent years a democratic government is present in our country but FDI is rapidly diminishing it means to attract huge amount of FDI political condition of the country must be sound and stable.

v. Improved Quality Of Infrastructure

Infrastructure plays an essential role for the growth of any economy. The countries which have good physical infrastructure are considered as the best attractive hosts for the FDI. The law of diminishing returns is applicable in infrastructure especially in a particular type of infrastructure for example the first road or the bridge or any other physical infrastructure is more essential than the second one and the second one is more important than the third one and it continues further in the same way. For that reason those countries

which are poor in infrastructure may be considered as a central source for attracting FDI because their primary requirement is to improve infrastructure through the massive investment.

vi. Economic Reformation

Economic reformation means the transfer of resources from less productive to more productive sectors of the economy. Real growth of production is directly correlated with the effective process of economy restructuring from the less productive to the more productive sectors of the economy. FDI may be involved in the transfer of resources from less productive to more productive sectors of the economy.

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