p-ISSN-2415-5284 | e-ISSN-2522-3291

(210-216)

Volume 7 | No. 1| 2021

SALU-Commerce & Economics Review
www.cer.salu.edu.pk

An Empirical Analysis of Foreign Direct Investment (Inflow) and its Impact on Economic Growth in Pakistan (1991-2015)

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Abstract

The key objective of this study is to find out the causal effect of foreign direct investment on economic growth in Pakistan. For this purpose time series data for the period 1991 to 2015 has been taken from the World Bank Data due to authenticity and reliability of the source and OLS method was applied to perform regression. The results of the study showed that GDP and FDI have positive correlation with each other. Furthermore, FDI has positive and significant impact on economic growth in Pakistan for selected time period.

Keywords: FDI, GDP, OLS

1 Introduction

Foreign Direct Investment is one of the most popular and effective tool of drawing flows from sources of other economies. This technique has been frequently used for building capital specifically in developing economies of the world.

Pakistan being a developing economy has been welcoming FDI inflow since three decades. Balance of payment of Pakistan economy remains in worsens position and FDI has been remained a key source of financing and reducing the reliance on foreign debt.

The country fulfills its raising need of investment to boost economic growth through FDI inflow that results macroeconomic stability of the economy. Foreign Direct Investment is a key indicator to encourage the economic growth.

According to Growth theories like Paul Rosentian Rodan Big Push theory huge investment is required in an economy to achieve growth. Ranger Nurkse theory of the balanced growth states investment is to be made in all the sectors of an economy to achieve economic growth. Albert O Hirschman in the theory of unbalanced growth suggested investment needs to be made in the capital goods producing industries preferably.

Since 1991, Pakistani administration has been taking major and bold steps to attracts the FDI inflow such as lifting restrictions on mobility of capital, foreign investors were allowed to keep 100% equity of business, nonresidents were allowed to purchase shares, for the first time foreigners were allowed to invest in agricultural services, tax rates were minimized and one of the most important step was to open service sector of the economy for foreign investment.

So this study test hypothesis that, Foreign Direct Investment (FDI) has contributory role in achieving the economic Growth in Pakistan.

To achieve this objective, this study uses FDI as proxy to measure investment made in Pakistan. The secondary data for FDI and Economic Growth for the period (1991-2015) is collected from the world Development Indicators due to authenticity and reliability of the source. This study performs the regression analysis and applies the Ordinary-Least Square (OLS) technique of regression due to its BLUE (Best- Linear Unbiased Estimator) properties.

1.1 Statement of the Problem

Various studies have considered the export, import, trade as an important contributors towards growth and employment but FDI can be a significant contributor towards the development of country. So, FDI has been considered as a tool for economic growth and strengthening economy,

1.2 Objectives of the Study.

The research questions designed for this study are presented as under;

1. Does FDI affect the economic growth in Pakistan?
2. What are the results of Pakistan Policies to increase foreign direct investment on the economic growth?

These objectives have been set to explore the solutions to the above given questions that are of much interest for policy makers in Pakistan to achieve sustained economic growth.

2 Literature Review

Various studies have been made on exploring the effect of FDI on the economic Growth using panel, cross-sectional in the Asian countries including Pakistan applying different research techniques. This study before to uses time-series data and perform regression analysis review the literature made on this study topic.

The most important reason for FDI inflow is that it helps in transfer of advanced technologies and raises level of employment. FDI plays medium role in bringing momentous and constructive externalities like labor managements and educating opportunities, as a results production function increases and boosts the economic development of the country (Bauer, 1991 & Easterly, 2006).

FDI is usually considered as a channel through which technologies moved from one developed countries to another developing country (Balasu Bramanyam et al, 1996 & Borensztein et al, 1998).

Foreign direct investment (FDI) is closely associated with economic development of the country.

It affects economy at macro and micro level. It is very important and beneficial for real sector of the economy, such as investment, export, economic growth and so forth, while at micro level it generate technological overflow and guidance of manpower and improve management skills (K Choong & K Lim,2009).

Ullah and Rauf (2013) while analyzing the impact of distinct variables on the economic growth in the six Asian Countries including Pakistan found that FDI and saving rate had direct relationship with growth.

Shaikh (2010) research study for Pakistan by employing cointegration technique found FDI as the Supporting factor towards trade growth. The rising export attracted FDI inflows that had positive effect on the economic growth level.

Amna et.al (2010) examined the effects of FDI on economic growth and inflation by taking time series data for the period 1981 -2010 of Pakistan. The author applied multi regression analysis technique to analyse the data. The results of the study showed positive and significant impact of FDI on economic growth while the study showed negative impact of inflation on economy.

Durham (2004) investigated impacts of FDI on economic growth and his study was focused on developing countries. The findings of the study showed that FDI flow completely depends on capacity absorption of technology of the beneficiary economy.

A Sharafat (2014) investigated the effects of FDI on economic growth of Pakistan. His study used Johansen cointegration method to analyse the time series data ranging from 1972 to 2013. The study has found negative impact of FDI and inflation on economic growth of Pakistan for long-run period, while in short-run study confirmed unidirectional causality.

M A Khan (2007) examined the association between FDI and economic growth and also studied the functions of local financial system of Pakistan. The study applied ARDL technique to analysis empirically, results of the study showed the negative association between FDI and domestic capital investment in short-run but in long-run the association was positive.

N Falki (2009) investigated the FDI and Economic growth relationship by analyzing effects of FDI on GDP growth of Pakistan. The author used endogenous growth model and estimated it via OLS and Cointegration techniques. The finding of the study confirmed the negative and insignificant impact of FDI on GDP.
Literature portrait the mix picture of the relationship of FDI with GDP. Positive impact of FDI on economic growth in developed countries has shown by the various studies (Melnyk et al, 2014, Juma, 2002; khaliq, 2007) while negative impact of FDI on economic growth in underdeveloped economies has also witnessed by studies like Saqib et al, 2013. The studies which were conducted on Pakistan are different from each other (Falki, 2009, khan and khan, 2011 and Ali and Rehman, 2015).

3 Hypothesis

Keeping in view the findings of various research studies conducted to boost economic growth by increasing foreign direct investment this research study assumes that FDI can play a key role to achieve economic growth in Pakistan.
On the basis of literature review and theoretical background the following hypotheses are made;

H_{0A}: FDI has no effect on GDP in Pakistan.
H_{1A}: FDI has effect on GDP in Pakistan.
H_{0B}: Pakistan Policies to rise FDI has no effect on the economic Growth.
H_{1B}: Pakistan Policies to rise FDI has an effect on the economic Growth.

4 Research Methodology

Time-series data is utilized for the period over 1991 -2015 to find out the relationship and impact of foreign direct investment (FDI inflow) on economic growth in Pakistan. The data is collected from authentic and reliable source of World Bank data. .To measure the causal effect between (GDP) and foreign direct investment (FDI inflow) regression analysis is performed by employing OLS research method for analysis purpose. The following econometric model is constructed and used.

$GDP = \alpha_0 + \alpha_1 FDI + \varepsilon$…………………… (I)

Where GDP is dependent variables and FDI inflow is an independent variable, α_0, is intercept and α_1 is estimated coefficients while ε is error term.

5 Results & Discussion

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.624[a]	.389	.318	.60973

Model summary illustrates overall explained regression power. That about 39 % variation in economic growth is explained through model independent variable FDI. The coefficient of determination R^2 stands 39 % because other control variables which are not part of regression analysis, may affect the dependent variable. And the nature of relationship is positive between economic growth and FDI as r value stands .624 that ensures that variable economic growth and FDI vary together 62 percent without identification of control variable.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.650	2	1.825	4.908	.016
	Residual	9.666	26	.372		
	Total	13.316	28			

The analysis of variance ANOVA table reveals about fitness of the model. F statistics p - value is 0.016 that is less than 0.05 at 95 % significance level, telling model is over all fit at 5 % benchmark confidence interval. The total change in controlled variable GDP is 13.316 million dollars might be through 28 sources as per degree of freedom DF (n-k) indicates, while the explained variation through model independent variable is 3.650 million us dollars and unexplained variation in the outcome variable that is because of not considering 26 other factors is 9.66 million dollars. Mean square is calculated by dividing the sum of square with the degree of freedom. The F-Statistics gives the whole result for multiple tests performed and it is linked with P Value and is showing the predictable power of control variable FDI in the presence of other variables.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.245	.148		1.659	.109
	LN_FDI	.547	.204	-.452	2.678	.013

After running regression using OLS technique the econometric equation no: 1 is formed as under after putting the values.

GDP= 0.245 + 0.547FDI + ε…………………… (I)

The α carries the value 0.245 that is unavoidable GDP that is shown through constant value in above table but it is insignificant as GDP is not merely outcome of FDI but other factors also contribute towards growth in Pakistan. While FDI correlation with GDP is significant at 5 % confidence limit as the slope coefficient of FDI α_1 is 0.547 with p value 0.013 that is less than 0.05 illustrate that one percent increase in FDI inflows in Pakistan results 0.54 percent increase in the value of GDP. The e is the error term that is showing the combined effect of all omitted variables on GDP. The standardized beta coefficient is telling that each data value is explained on equal footing after controlling the deviation of mean value divided by standard error. The standardized beta value is linked with the higher t- value and lower p- value.

6 Conclusion

To achieve non-stop growth in Pakistan this study analyzed the effect of FDI on economic growth using time series data for the period 1991 to 2015 and performed the regression analysis by employing OLS method and found the causal effect between FDI and Economic Growth in Pakistan The statistical evidence proves that with an increase in Foreign Direct Investment the GDP of Pakistan rises and FDI has considerable effect in rising economic growth. So on the basis of statistical evidences the Null hypotheses *H_{0A}: FDI has no effect on GDP in Pakistan and H_{0B}: Pakistan Policies to rise FDI has no effect on the economic Growth* are rejected in favour of alternative hypotheses that *H_{1A}: FDI has effect on GDP in Pakistan and H_{1B}: Pakistan Policies to rise FDI has an effect on GDP* and model is best model at 95 % significance level.

7 Policy Recommendations

In the light of this research study findings it is recommended that policy makers in Pakistan design policies to attract and motivate foreign investment in the range of sectors by facilitating the foreigners through maintaining law and order control, good governance, Political stability, reduction in corruption, and through better social economic position. Pakistan government can precipitate the FDI inflows by exploring the opportunities that would encourage the foreigners at global level to invest in Pakistan.

In future results may vary if GDP effects are analyzed by taking into account the other variables like interest rate, house hold final consumption expenditure, exchange rate, money supply, tariff and so on so that would also guide the policy makers in Pakistan to boost up growth.

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