

## **EXPLORING THE IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH: A COMPARISON BETWEEN PAKISTAN AND INDIA**

### **ABSTARCT:**

This paper investigates the impact of FDI on economic growth of Pakistan and India. The results were obtained for time series data of 1976-2018 by applying OLS and other various tests for the reliability. For the study, we have taken GDP as dependent variable while FDI, external debt and exports as independent variables. The study concluded that FDI has positively affected the economic growth of Pakistan and India while other two explanatory variables (external debt and exports) have also positively affected the economic growth. We have also found out that India's economic growth is more affected by FDI than Pakistan's economic growth.

## INTRODUCTION

### 1.1. BACKGROUND OF THE STUDY:

Over time, the relationship between foreign direct investment and economic growth has created considerable interest among economists, researchers and policy analysts, especially in developing country matter (Mihai, 2019). Foreign direct investment is defined as investment that has been made by an individual, company, venture belonging to another country UN another part of world in ownership or host country, investment and interest basis (Moose, 2016). Over the past few years, policy makers have come to the conclusion, especially in the developing countries, that FDI is needed to boost their economy growth and create employment, increase technological development in the host country and improve the country's economic growth (Sarumi, 2016). The link between foreign direct investment and economic growth in developed and developing countries is becoming important (Faruk et al, 2013). Foreign direct investment can also help developing countries by providing capital to create new jobs through the introduction of management and marketing technologies, and the impact on effective market development. Because of this importance, industrial and developed countries offer incentives to attract FDI for their Economies (Huseyin et al, 2013). Foreign direct investment introduces capital into economies and influences the economy in various ways. As FDI flows into the economy it benefits the host country's economy and improving people living standard by enhancing their buying power (Taqadus, Ayesha, Rizwana and Rabia, 2019). Foreign direct investment made a positive contribution to all the economies (Chadee and Schlichting, 1997). In the last two decades, the

FDI increase by 17% in the developing countries and in the last 20 years, globalization has greatly accelerated the inflow of production around the world, aided by the development of connectivity and information technology (Nair and Weinhold, 2001).

In 1976 FDI inflows fell by 21%, the decline was 14% in 1982 o 1983, 24% was 1991, in 2001-2002 the FDI fell by 30% (UNCTAD, 2003). After a 16% decrease in 2008, FDI inflow decreased further by 37% in 2009 (UNCTAD, 2010). FDI accounted for 45% of the total international investment to developing countries in 1997 compared with 16% in 1986 (Zeshan et al, 2004). In 1997, developing countries received 36% of total FDI flows (World Bank 2002). The importance of foreign direct investment was previously overlooked in the economies, but it received considerable attention in the 1990s and 20s (ken, 2017). In 1990s, FDI was the main source of flows to developing countries and now it has become the most favorable “capital inflows” (Ozturk and kelyonce, 2007). In 1990s, the amount of FDI flowing to developing countries increased significantly and accounts for around 25% of global FDI (Erdal and Tutoglu, 2002). The distribution to developing countries rose from just \$15 billion in 1985 and \$23.5 billion in 1990 to \$162 billion in 2002, which is significant (Farrel, Remes and Schulz, 2004).South Asia recorded a 10% increase in FDI to \$60 billion. The growth was driven by India, with a 16% increase in inflows to an estimated \$49 billion. Inflows to Bangladesh and Pakistan decline by 6% and 20% to \$3.4 billion and \$1.9 billion (UNCTAD, 2019).Pakistan was politically stable before 9/11 and foreign investors were attracted towards Pakistan but when the terrorism increased in Pakistan, many investors refused to invest in Pakistan (Mukhtiar and Imran, 2017). Pakistan has much potential to attract FD when the FDI trend is increasingly affecting policy performance, FDI inflows are hindered by corruption,

political uncertain, bad law, low labor productivity, weak regulatory system. Like several other alternative countries, Pakistan has thrown its door wide open to FDI that is predicted to bring advantages. However, in contrast to china and India, Pakistan has not been winning in getting substantial and consistent FDI inflows (Arshad and Shujaat, 2011). Pakistan received huge sums of FDI, the record bring nearly \$1.011 billion in 1996 when it received FDI (Attari, Kamal and Attaria, 2011). Despite its policy of transparency and liberalization, it has failed to attract high investment because there are many issues, such as political instability, wars, and high levels of corruption, poverty, low government revenues, inefficient financial structure, and weak economic and high trade tariff. These obstacles prevent foreign direct investors from favoring Pakistan as a destination for investment (Sengupta and Puri, 2018). According to the world investment report, Pakistan is the fourth-largest recipient of FDI and a 27% decrease in investment to \$2.4 billion in 2018. This was due to the completion of some projects related to the China Pakistan Economic Corridor (UNCTAD, 2019).

India is the emerging giant of the developing world, situated in Asia with 37% of world population and with more than 9% growth in their GDP of their economies (S.R.Keshava, 2008). Since the liberalization of the Indian economy, India has attracted most of the FDI compared to its neighbors but lags behind china (Sengupta and Puri, 2018). India received a total FDI of US\$ 180,034 million between 1990-91 and 2009-10, owing to the government of India's initiatives to attract FDI inflows in India (Sarvapriya, 2012). In 2019, India was the top 10 recipient of FDI inflows, attracting \$49 billion in inflows, a 16% increase in last year (UNCTAD, 2019).

## **1.2. STATEMENT OF THE PROBLEM:**

India is the emerging economic giant of the developing world. India has been receiving substantial FDI as compared to Pakistan. The comparison of Pakistan's FDI with India's FDI will enable us to suggest that through which policies Pakistan can improve its investment climate to attract FDI. The purpose of this study is that there is no enough literature available to influence the attention of the government towards this direction.

## **1.3. OBJECTIVES:**

1. To explore the impact of FDI on the growth of GDP of Pakistan for the period 1970-2019
2. To compare the Pakistan and India FDI
3. To identify the lessons Pakistan can learn from Indians experience

## **1.4. SIGNIFICANCE OF THE STUDY:**

The significance of this study is to ensure positive measures for policy makers which help them about the international trends, characteristics, model and behavior to undertake some consistent measures for future discourse of FDI.

## **1.5. HYPOTHESIS:**

1. The impact of FDI on Pakistan economic development is moderate
2. Indians are successful in utilizing the FDI for the development of their economy

## **1.6. ORGANIZATION OF THE STUDY:**

In this research Chapter 1 contains introduction, research objectives and organization of the study. Chapter 2 contains literature review. Chapter 3 discusses the research methodology. Chapter 4 contains results and discussions and Chapter 5 contains conclusion and recommendations.

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## CHAPTER 2

### LITERATURE REVIEW

Faruk et al (2013) investigated the impact of foreign direct investment on economic growth for Azerbaijan, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan for the period of 1997-2010. For this study, he used Johansen co-integration and Granger causality tests to analyze the relationship between FDI and economic growth. The result shows that FDI and economic growth variables are co-integrated in case of Azerbaijan and Turkmenistan. The other test Granger causality indicated that FDI causes GDP for Azerbaijan and for Turkmenistan bidirectional causality is observed.

Ilhan and Huseyin (2007) attempted to investigate the impact of foreign direct investment on economic growth of Turkey and Pakistan for the period of 1975-2004. They used the Engle-Granger co-integration and Granger causality test to analyze the relationship between FDI and Economic growth. The findings suggest that in case of Pakistan, it is GDP that causes FDI while there is bidirectional causality between the two variables for Turkey.

Najia, Maryam and Nabeel (2013) examined the impact of FDI on economic growth in Pakistan. They used different variables for their study. The data which they used has spanned over the period of 1981 till 2010. Augmented Dickey Fuller test has been used and the findings indicate that the economic performance of Pakistan is negatively affected by FDI while its domestic investment has benefited its economy. More findings indicate that the nation's debt, trade and inflation have negative impact on its GDP.

Pooja and Roma (2018) attempted to explore the pattern of FDI into the India continent and India's neighbors, such as Pakistan, Nepal, Bangladesh and Sri Lanka. They wanted to analyze the causality between FDI and GDP. The result showed that the different countries economic policies has a role to play in explaining the difference in the quantity of the flow and there is a correlation between FDI and GDP, and in all the cases, FDI is instrumental in enhancing the economic growth of the countries included in the study.

Tadadus et al (2014) attempted to make a comparison of the impact of FDI on the economies of South Asian states with China. The purpose of this study is to investigate what are the differences between the economies of South Asia region and China. Annual data has been used and for analyzing the data they used OLS test and Granger causality test. The result confirmed that China is the fast growing economic development as compared with states of South Asia. They also argued that to attract FDI, there is a need to develop infrastructure, stabilized political environment, law and order situation, healthy economic environment, curtailing on external debt and tax exemption.

E.Wamboye (2012) reviewed the impact of foreign direct investment, external debt and trade on economic growth of least developed countries. Panel data has been used in this study covering time period of 1975 to 2010. The data was taken from 40 least developed countries. Three categories of data were used for studying impact on economic growth. These categories include domestic factors, global factors and dummy variables. Arellano-bond SGMM technique was applied to the data. The results that high external debt burdens economy of least developed countries.



M. Azam and L. Lukman (2010) investigated various economic factors on economic growth effects on FDI of Pakistan, India and Indonesia. The data which they used covers the time period 1971-2005. The techniques of OLS and long linear regression model were used. The findings revealed the important determinants of market size, external debt, domestic investment, trade openness and physical infrastructure. The results for Pakistan and India were much similar excluding two variables trade openness and government consumption while the results of Indonesia do not match with the results of determinants of FDI India and Pakistan.

A. Mukhtiar and M. Imran Riaz (2014) investigated the impact of foreign direct investment on economic growth of Pakistan in short and long run. They used time series data covering time period 1976-2015. Augmented dickey fuller test and Auto regressive distributed lag model was used to check the long term co-integration among variables. Their results showed that the FDI has significant positive impact on economic growth of Pakistan in short run whereas it has insignificant negative impact on long run. Further results showed that the economic growth has significant impact on gross domestic educational expenditure, openness of trade, external debt, domestic capital and insignificant impact on FDI and labor participation rate.

Naqeeb (2015) investigated the relationship between FDI and economic growth. He used two model to analyze the time series data on Pakistan from 1970-2012. The first vector error correction model results showed that FDI depends on the economic growth but its relationship is not true while the second model showed that FDI, human capital and exports are important factors of economic growth. The negative relationship between FDI and human capital and economic growth indicated that low level of human capital affect the economic growth of Pakistan.

Aviral and Mihai (2010) attempted to examine the impact of FDI on economic growth in Asian countries. They used panel framework during 1986 to 2008. Three types of panel data namely, a pooled ordinary least square (OLS) regression, panel model with random effects and panel model with fixed effects have been used. The results indicated that both foreign direct investment and exports enhance growth process. They also examined the nonlinearities associated with FDI and exports. The nonlinearities effects showed that export-led growth is a better option of growth enhancing in Asian developing countries compared with foreign direct investment-led growth.

Mahboob et al (2011) intended to investigate the impact of foreign capital inflow on economic growth of Pakistan covering the period of 1985-2010. Multiple regression technique has been used in this study. The results showed that foreign direct investment, foreign portfolio investment and remittances are positive and significant relationship with economic growth. Foreign aid showed significant but negative relationship with the economic growth.

Muzna et al (2010) examined the effect of debt servicing on developing countries economic growth and development. The six variables were chosen for the purpose of analysis. The variables selected include growth, servicing the external debt, interest rates, savings, net exports and FDI. The data was annual panel data covering time period of 1990-2008. For this study total 30 developed countries were selected. The analysis technique of OLS was used. The results showed that FDI and net exports have negative relationship with economic growth while other variables have also negative relationship. The result was statistically significant. The debt servicing is a burden to developing countries so external debt should be erased as soon as possible.

Xiaoying and xiaming (2005) investigated the impact of foreign direct investment on economic growth. The study was based on a panel data for 84 countries covering period of 1970-1999. To examine this relationship both single equation and simultaneous equation system techniques are applied. The result showed that a significant endogenous relationship between FDI and economic growth is identified from 1980 onwards. They argued that foreign direct investment not only directly promotes economic growth but also indirectly does via its interaction terms. The results also showed that the interaction of FDI with human capital has positive effect on economic growth in developing countries while the FDI with the technology gap has negative impact.

Yousaf et al (2008) investigated the impact of foreign direct investment on economic growth of Pakistan. They analyzed the impact of FDI on exports and imports of Pakistan. They used co-integration techniques for data to check the relationship of variables in long run. They also used error correction model for further analyzing the data. The study is covering the time period of 1973-2002. The results showed that FDI effects economy in long run as well as in short run. There is a negative relationship in short run in case of exports whereas positive relationship between exports and FDI exists in long run? The study also concluded that in case of imports. There is a positive relationship of FDI with imports in long run as well as in short run.

Carcovic and Levin (2000) attempted to explore the impact of FDI on economic growth of 72 countries. They used time series data from period 1960-1995. For analysis, the methodology of OLS is used. The study concluded that foreign direct investment does not affect the economic growth.

Chakerborty and Nunnenkamp (2006) analyzed the impact of foreign direct investment on economic growth of India. Granger causality and panel co-integration method is used. The results showed that foreign direct investment effects sector wise and in primary sector, it shows causal relationship whereas in service sector transitory effect of FDI was initiated.

Gauray and Aamir (2011) investigated the impact of foreign direct investment on economic growth of China and India. The study is covering the period of 1993-2009. The variables included GDP, Human capital, Labor force, FDI and Gross capital formation in which the dependent variable was GDP, while the independent variables were the other four. After running OLS regression method we found that 1% increase in FDI would result in China, GDP rise of 0.07% and India's GDP increase of 0.02% have also found that FDI effects China's growth more than India's growth. The study also provides possible reasons behind China's great FDI display and the lesson that India should learn from China to use FDI better.

Qaisar et al (2011) explored the impact of foreign direct investment on growth (GDP) of SAARC countries. Multiple regression models are used to evaluate the relationship. The GDDP adjustment is taken as viable contingent while FDI and inflation are considered as independent variables. The data used for this is ranging from year 2000 to 2010 of SAARC countries. The results showed that overall model is significant. There is a positive relationship between FDI and GDP while negative relationship between GDP and inflation.

Duasa (2007) attempted to analyze the impact of FDI on economic growth in Malaysia. He used the data ranging from 1990-2002. For data analysis techniques of GARCH and causality approach were used. His study does not find any causal relationship between economic growth and FDI. More results showed that the flow

of FDI is less volatile in economic growth and there is no cause and effects relationship between these variables in Malaysia.

Mohd, .Aamir, 2011) investigated the effect of FDI on economic growth of China and India. The time period of the study has been taken from 1993 to 2009. The factors which he added in his study were GDP, Human capital, FDI, Labor force and Gross capital formation. His result suggested that the role of FDI in China is way more effective than the role of FDI in India. China's growth is more affected by FDI, than India's growth.

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## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1. INTRODUCTION:

In this section, we have taken the economies of Pakistan and India. The aim of doing this research is to find out the impact of foreign direct investment on economic growth of Pakistan and India.

#### 3.2. THEORITICAL BACKGROUND:

The neo-classical model or the Solow-swan growth model was introduced by Solow (1956 and 1957). They assumed that economic growth is developed by the accumulation of exogenous production factors, such as capital stocks and labor. Using exogenous model some studies on economic growth normally utilize the aggregate production function introduced by Cobb and Douglas (1928). According to Hicks (1932), the cobb-Douglas production function taking into account the rate of technological progress which changes overtime, capital input(both domestic and foreign) and labor input.

Through this framework, it has been shown that the accumulation of capital associated with the share of capital from national production directly contributes to economic growth. In addition, economic growth depends on labor force and technological development and according to this theory foreign direct investment increases the host country's capital stock which will then affect the economic growth.

De-Jaeger (2004) says that if new technologies introduced by foreign direct investment which caused to increased labor and capital productivity, this will in

turn lead to more equitable investment and labor will grow exogenously. Barrow and Sala-I-Martin (1995) showed that there is a positive relation between capital and production. While recently Hezer et al. (2008) found out that foreign direct investment contributes to economic growth by increasing domestic investment.

Neo-classical growth have shown that FDI can directly affect economic growth by accumulating capital and integrating new resources and foreign technologies into the production functions of the host country. They also showed that FDI increases economic growth by increasing the size or the efficiency of investment in the host country.

### **3.3. SOURCE OF DATA:**

The secondary is used for the study. The study employs annual data on GDP and FDI for Pakistan and India over the period of 1976-2018. The data for both countries is taken from world development indicators.

### **3.4. CONTRUCTIONS OF VARIABLES:**

The following four variables have been selected for the study.

#### **3.4.1. DEPENDENT VARIABLE:**

Gross domestic product (GDP) has been taken as dependent variable for both countries. According to (Ansar, flyvbjerg, budzier andlunn, 2016; da salvia, 2016) GDP is a form of indicator used to measure economic stability. It shows the price of goods and services in the country and the total value of money and assets produced by the country for a certain period of time.

### **3.4.2. INDEPENDENT VARIABLE:**

Foreign direct investment (FDI), External debt (ED) and Exports(X) has been taken as independent variable.

Foreign direct investment is defined as investment that has been made by an individual, company, venture belonging to another country in another part of world in ownership or host country, investment and interest basis (Moose, 2016).

External debt is part of the debt attracted by foreign creditors, including commercial banks, governments or international financial institution. These loans should be repaid in the currency in which the loan was made (Kidwell, Blackwell, Sias and Whidbee, 2016).

Export is defined as the act of a country shipping goods and services out of the country. In international trade, an export refers to the selling of goods and services produced in the home country to other countries.

### **3.5. ECONOMETRIC MODEL:**

We use the empirical model to investigate the impact of FDI on economic growth. We used OLS method for the model estimation. For this purpose, we have taken GDP as dependent variables and FDI, external debt and exports as independent variables.

$$GDP = \beta_0 + \beta_1 FDI + \beta_2 ED + \beta_3 X + \mu$$

Whereas

GDP= Gross domestic product

FDI= Foreign direct investment



ED= External Debt

X= Exports

In this model,  $\beta_0$  is the Y intercept while  $\beta_1 + \beta_2 + \beta_3$  are the coefficient of FDI, ED and X.

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## CHAPTER 4

### RESULT AND DISCUSSION

#### 4.1. INTRODUCTION:

This chapter deals with the estimation and description of the results. The results have been given in the forms of tables and have been explained. Further various tests and its results have also been given and have been discussed in this chapter.

#### 4.2. AUGMENTED DICKEY-FULLER (UNIT ROOT TEST) FOR STATIONARITY:

The secondary data is the basis for the time series analysis, and has constant mean and variance over time. The main problem faced during the analysis of the time series data is the stationary of data. Thus to overcome the stationarity problem Augmented Dickey Fuller (ADF unit root tests are applied, which provides the differentiation of considered variables until the stationarity of the variables is achieved.

##### 4.2.1. UNIT ROOT TEST FOR PAKISTAN:

#### FIGURE 1.1:

Null Hypothesis: D(GDP) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.184013	0.0022
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

\*MacKinnon (1996) one-sided p-values.

The above figure 1.1 shows that P value which is 0.0022 is less than 0.05 so it means that there is no problem of unit root and the GDP is stationary at 1<sup>st</sup> difference.

**FIGURE 1.2:**

Null Hypothesis: D(FDI) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.151087	0.0024
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

\*MacKinnon (1996) one-sided p-values.

The above result is showing the P value which is 0.0024 less than 0.005 which indicates that there is no unit root in FDI and the data of FDI is stationary at 1<sup>st</sup> difference.

**FIGURE 1.3:**

Null Hypothesis: D(ED) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.133800	0.0324
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

\*MacKinnon (1996) one-sided p-values.

The result shows that p value is less than 0.05 which is 0.0324 and the data of external debt is stationary at 1<sup>st</sup> difference. External debt has no unit root.

**FIGURE 1.5:**

Null Hypothesis: D(EXPORTS) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.484907	0.0001
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

\*MacKinnon (1996) one-sided p-values.

In above figure 1.5 the probability value which is 0.0001 is less than 0.05 which means that there is no unit root in exports and the data of exports is stationary at 1<sup>st</sup> difference.

**4.2.2. UNIT ROOT TEST FOR INDIA:**

**FIGURE 1.1:**

Null Hypothesis: D(GDP) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.139235	0.0025
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

\*MacKinnon (1996) one-sided p-values.

The probability value which is 0.0025 is less than 0.005 which says that there is no unit root in GDP so we reject the null hypothesis and the GDP is stationary at 1<sup>st</sup> difference.

**FIGURE 1.2:**

Null Hypothesis: D(FDI) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.585630	0.0000
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

The probability value which is less than 0.005 suggests that there is no unit root in the model so we will reject the null hypothesis and the FDI is stationary at 1<sup>st</sup> difference.

**FIGURE 1.3:**

Null Hypothesis: D(ED) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.917087	0.0045
Test critical values:		
1% level	-3.615588	
5% level	-2.941145	
10% level	-2.609066	

\*MacKinnon (1996) one-sided p-values.

The above P value which is lower than 0.005 indicates that external debt has no unit root so we will reject the null hypothesis and the data of external debt is stationary at 1<sup>st</sup> difference.

**FIGURE 1.4:**

Null Hypothesis: D(EXPORTS) has a unit root  
Exogenous: Constant  
Lag Length: 8 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.072382	0.0037
Test critical values:		
1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

The value of Probability is lower than 0.005 which is 0.0037, so we will accept the reject the null hypothesis which says that there is no problem of unit root and the exports is stationary at 1<sup>st</sup> difference.

### 4.3. DIAGNOSTIC TEST

#### 4.3.1. DIAGNOSTIC TEST FOR PAKISTAN:

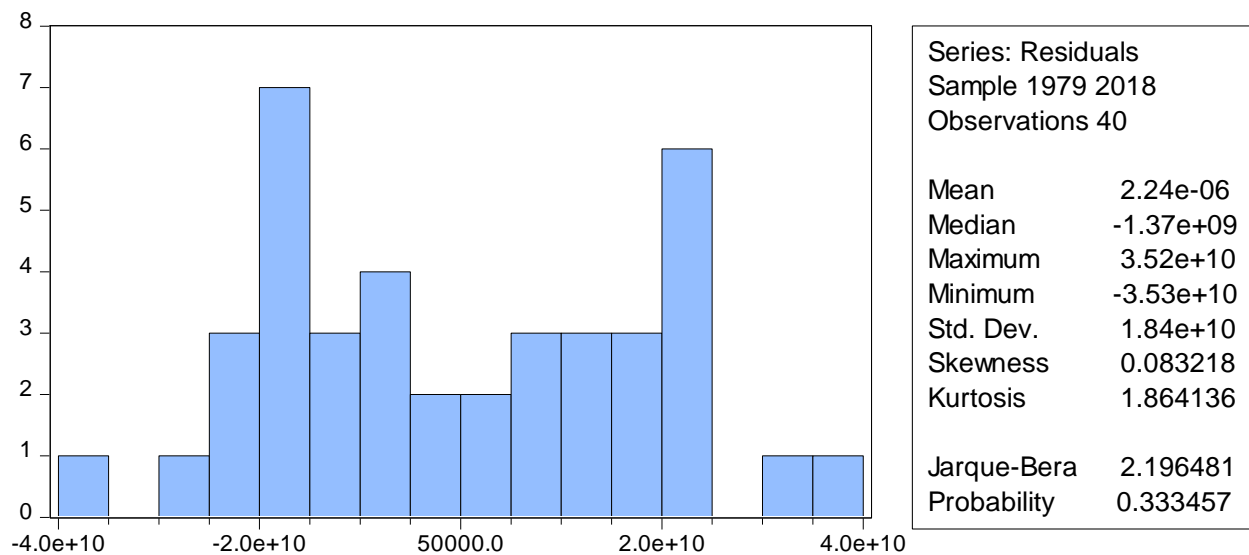
##### TEST FOR CHECKING HETEROSKEDASICITY:

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.687289	Prob. F(3,36)	0.0609
Obs*R-squared	7.318679	Prob. Chi-Square(3)	0.0624
Scaled explained SS	2.561355	Prob. Chi-Square(3)	0.4643

The above result suggests that the probability value is greater than 0.05 which means that there is no problem of heteroskedasticity in the model.

##### NORMALITY TEST:



The above result suggests that the P value is greater than 0.005 which is 0.333457 which shows that there is no problem of normality and the model is normally distributed.

#### 4.4. DIAGNOSTIC TEST FOR INDIA:

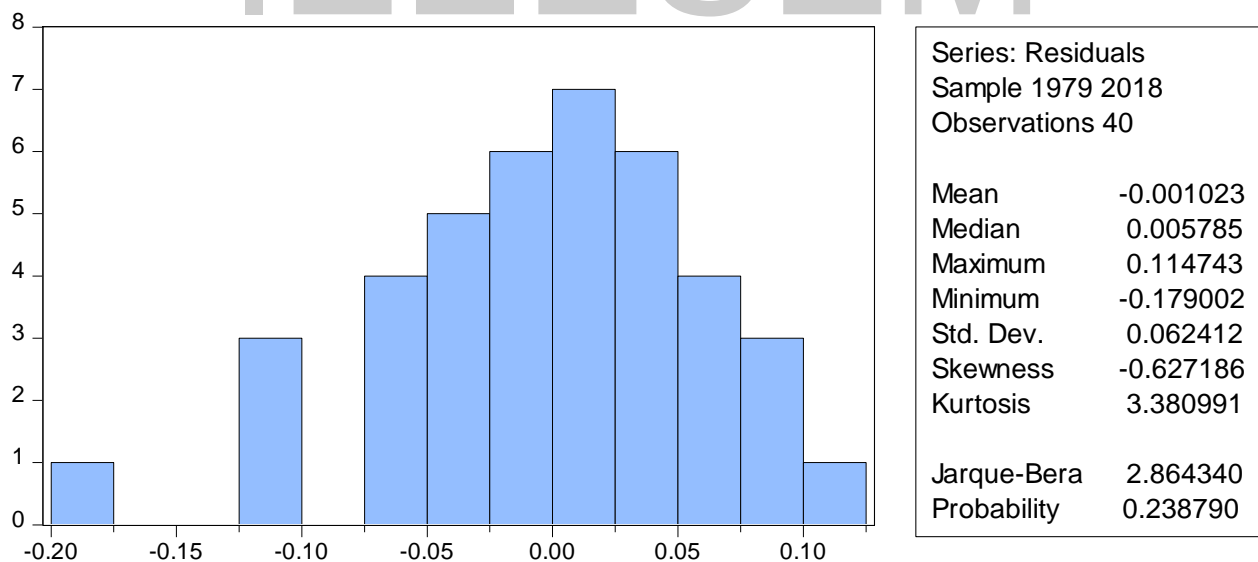
##### TEST FOR HETEROSKEDASICITY:

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.210976	Prob. F(3,36)	0.3197
Obs*R-squared	3.666575	Prob. Chi-Square(3)	0.2998
Scaled explained SS	3.022607	Prob. Chi-Square(3)	0.3882

There is no problem of heteroskedasticity because the probability value is greater than 0.05 so the heteroskedasticity does not exist in the model.

##### NORMALITY TEST:



The above test suggests that the value of probability is greater than 0.05 and the value of Jarque-Bera is less than 4 which indicates that there is no problem of normality and the model is normally distributed.

## 4.4. ORDINARY LEAST SQUARE (OLS) TEST:

### 4.4.1. OLS TEST FOR PAKISTAN:

Dependent Variable: GDP  
 Method: ARMA Maximum Likelihood (OPG - BHHH)  
 Date: 04/30/20 Time: 04:32  
 Sample: 1979 2018  
 Included observations: 40  
 Convergence achieved after 31 iterations  
 Coefficient covariance computed using outer product of gradients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.50E+10	3.71E+10	-0.405948	0.6874
FDI	2.594076	1.357177	1.911377	0.0647
ED	2.125701	0.465666	4.564859	0.0001
EXPORTS	3.569546	0.640870	5.569847	0.0000
AR(1)	0.859938	0.122570	7.015882	0.0000
MA(1)	0.596419	0.193825	3.077098	0.0042
SIGMASQ	4.46E+19	1.36E+19	3.277305	0.0025
R-squared	0.994243	Mean dependent var		1.07E+11
Adjusted R-squared	0.993197	S.D. dependent var		8.91E+10
S.E. of regression	7.35E+09	Akaike info criterion		48.49713
Sum squared resid	1.78E+21	Schwarz criterion		48.79269
Log likelihood	-962.9427	Hannan-Quinn criter.		48.60400
F-statistic	949.9392	Durbin-Watson stat		1.959702
Prob(F-statistic)	0.000000			
Inverted AR Roots	.86			
Inverted MA Roots	-.60			

In the above given result, the value of R-squared suggests that the model is highly good fit. It can also be seen that the coefficient of FDI has a positive sign and is highly significant. This means that the FDI has positive impact on the economy of Pakistan. Similarly the coefficient of external debt shows the positive sign and has positive impact on GDP and is highly significant. External debt has a lower P-value of 0.01 and has higher intervention in the economy in a positive way. Similarly, export has also a lower p-value of 0.000 and has a positive effect on GDP.

The above value of D.W which is close to 2 after applying ar(1) ma(1) shows that the autocorrelation does not exist in the model.



#### 4.4.2. OLS TEST FOR INDIA:

Dependent Variable: GDP  
 Method: ARMA Maximum Likelihood (OPG - BHHH)  
 Date: 04/30/20 Time: 18:04  
 Sample: 1979 2018  
 Included observations: 40  
 Failure to improve objective (non-zero gradients) after 1 iteration  
 Coefficient covariance computed using outer product of gradients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.999928	4.57E-05	21876.75	0.0000
FDI	2.61E-15	1.33E-15	1.961216	0.0586
ED	1.77E-15	5.21E-16	-3.397157	0.0018
EXPORTS	2.45E-15	2.53E-16	-9.697926	0.0000
GDP-1	1.000000	1.45E-16	6.92E+15	0.0000
AR(1)	0.626788	0.432070	1.450663	0.1566
MA(1)	-0.428592	0.399792	-1.072035	0.2917
SIGMASQ	5.80E-09	9.55E-10	6.073728	0.0000
R-squared	1.000000	Mean dependent var	8.34E+11	
Adjusted R-squared	1.000000	S.D. dependent var	7.70E+11	
S.E. of regression	0.000147	Akaike info criterion	-15.72529	
Sum squared resid	6.92E-07	Schwarz criterion	-15.38751	
Log likelihood	322.5057	Hannan-Quinn criter.	-15.60316	
F-statistic	1.53E+32	Durbin-Watson stat	2.204546	
Prob(F-statistic)	0.000000			
Inverted AR Roots	.63			
Inverted MA Roots	.43			

The above given result suggests that the all variables have positive impact on the economic growth. The coefficient of FDI has a positive sign and is highly significant. This means that the FDI has positive impact on the economy of India. Similarly the coefficient of external debt has a positive sign and has a lower probability value which means that it has positive impact on economic growth and is highly significant. Similarly, export has also a lower p-value of 0.000 and has positive impact on economic growth and is highly significant.

The value R-squared suggests that the model is highly good fit.

The above value of D.W which is in between 2 shows that the autocorrelation does not exists in the model. For the removal autocorrelation, we have applied. ar(1) ma(1) and also regressed dependent variable with its one year lag variable along with other independent variables.

Comparing the performances of FDI in Pakistan and India, India is able to utilize its FDI for economic growth more efficiently than Pakistan. The coefficient of FDI is 2.5 which imply that 2.5% increase in FDI would result in 1% increase in GDP of Pakistan. While in India, the coefficient of FDI is 2.6 which imply that 2.6% increase in FDI would result in 1% increase in GDP of India. So the role of FDI in economic growth of India is quite effective than in Pakistan. Some of the reasons and policies why India is attracting more FDI:

1. The opening of many sectors for foreign participation with 100% foreign equity, privatization of the public sector and the abolition of industrial licensing.
2. Introduction of an automatic approval mechanism for 100% foreign investment in priority sectors and automatic authorization in priority sectors for high-tech agreements or technical partnership.
3. Modernizing FERA into the foreign exchange management act (FEMA) to promote the control of foreign currency in the capital account.
4. Abolition of high demands for local material, dividend balancing requirement and condition for export obligation.
5. Establishing major agencies such as foreign investment promotion board (FIPB), the foreign investment implementation authority (FIIA) and the sectorial for industrial assistance (SIA) to attract FDI inflows.
6. Central and state government both providing fiscal incentives such as tax subsidies and concession to foreign investors.
7. The establishment of institution and reform at the state government level to help implement FDI projects.
8. In recent years, they are opening major sectors with huge potential such as multi-brand retail, civil aviation, defense, railway, insurance, banking and pensions for foreign investors with plans to open up many sectors in the future.

## CHAPTER 5

### CONCLUSION AND RECOMMENDATIONS

#### 5.1. CONCLUSION:

This study attempts to investigate the impact of foreign direct investment on economic growth of Pakistan and India. The factors included in the model were Gross domestic product (GDP), foreign direct investment (FDI), External debt (ED) and Exports (X). The GDP was taken as dependent variable while other 3 variables are taken as independent variable. We have applied Jarque-bera test for normality, Breusch-pagan-Godfrey test for Heteroskedasticity, T test for checking significance level and Unit root test for stationarity before applying OLS. After running OLS (Ordinary Least Square) we found that FDI has positively affect the economic growth of Pakistan and India and further provides an estimate that 2.5% increase in FDI would result in 1% increase in GDP of Pakistan and 2.6% increase in FDI would result in 1% increase in GDP of India. We also found that other two explanatory variables (external debt and exports) have positively affected the economic growth of Pakistan and India.

So we can conclude that India's economic growth is more affected by FDI than Pakistan's economic growth. The study also provides reasons that why India is attracting more FDI and what lessons Pakistan should learn from India for better utilization of FDI.

#### 5.2. RECOMMENDATIONS:

1. If Pakistan wants to reach its target to attract FDI inflows for its economic development, the policy makers should understand that the mere plan layouts and good intentions are not enough to attract FDI but a bold aggressive third generation reforms is the need of today.
2. Government should give friendly business environment, proper law and order conditions to foreign investors.

3. Pakistan's government should improve its performance in terms of competitiveness, quality of infrastructure and skills, productivity of labor to encourage FDI inflows.
4. Some of investors are afraid of doing investments in Pakistan because of its bad image (terrorism), so Government should invite some travel vloggers to Pakistan to show the real image of Pakistan.

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