LAFIA JOURNAL OF ECONOMICS AND MANAGEMENT SCIENCES
Volume 4 Number 2, December 2019.

FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN NIGERIA

[1]Omaku A. Abubakar and [2]Okwori Joseph

[1]PhD. Student, Department of Economics, Federal University, Lafia
[2]Department of Economics, Federal University, Lafia

Abstract

The study evaluated the nature and impact of Foreign Direct Investment on Nigerian economic growth, between the periods of 1981 to 2017. Using time series data, econometric techniques like ADF Unit Root Test, Granger Causality test and ARDL Bound test were employed. It was found that there is a long run, though negative, relationship between FDI and economic growth in Nigeria, and that FDI unidirectional granger causes economic growth. The study concluded that there is a long run and negative relationship between FDI and economic growth in Nigeria. The study therefore recommends that government provide a sound macroeconomic policy that ensures proper utilization of foreign direct investment, in addition to comprehensive adjustment of macroeconomic policies to achieve and maximize the expected positive impact of FDI on Nigerian economic growth.

Keywords: Foreign Direct Investment (FDI), Economic growth and Cointegration
JEL Classification: C22, F43

1.0 Introduction

In many developing countries, like Nigeria, foreign direct investment has been an instrument that propels economic growth and development. The spillover effects of the foreign direct investment in the areas of skills, knowledge, technology and creation of employment have impacted immensely on the growth and development of various developing nations. There may be a need to adequately plan for poverty reduction through Foreign Direct Investment if a country is to enjoy a reasonable level of growth and development. In the rural areas poverty rate has been increasing at an alarming rate as a result of population growth, high level of illiteracy, high gender insensitivity, poor infrastructural facilities and lack of political will (Adigun, 2015)

.

Nigeria has implemented various means of accelerating growth and development in the local economy of which one of the means is attracting the Foreign Direct Investment into the nation (Aremu, 1997). Also, World Bank (1996) asserted that foreign direct investment is an investment made to acquire a lasting management interest (normally 10% of voting stock) in a firm or an enterprise operating in a country other than that of the investor residency. However, foreign direct investment can often be seen as a vital mechanism for economic

growth in the less developed nations as it influences the economic growth by promoting domestic investment, capital formation increase and also facilitating technology transfer in the recipient nations (Falki, 2009 as in Ugwuegbe et al, 2013).

The foreign direct investment can be seen as a means of filling the gap between the locally available supplies of savings, foreign exchange, government revenue and human capital skills and the needed level of these resources necessary to attain growth and development objectives (Aswathappa, 2015). In a situation whereby domestic savings are inadequate to create sufficient investments, the foreign capital can be used to fill the gap between the needed investment and local savings.

Economic growth depends mainly on the country's ability to invest, make efficient and productive use of its resources. In African countries, Nigeria in particular have encountered challenges such as low levels of investment which has led to vicious cycle of poverty, poor infrastructures, balance of trade deficit, unemployment, underutilization of resources, inadequate skills and inability to finance the budget deficits. This has made it possible for the nation to seek for the alternative source of resource mobilization from the FDI (Wan, 2010).

Nigeria as a nation has never met investment demand as a result of capital constraint. Economic growth is determined by the level of investment and savings but domestic savings in Nigeria is quite low. On other side, the ever increasing population demands more than what a country can supply as its productive capacity is very low (Alfaro, Arendam, Sebrem and Selin, 2003).

It is globally recognized that FDI is essential for economic growth and development, particularly in the developing nations. The Nigeria has the potential to attract sufficient FDI but has not been successful in spite of her efforts in liberalizing her economy and improving the enabling environment. The monocultural nature of the economy, colossal debt, weak financial system, financial crises and geometrically increasing population put much burden on the Nigerian economy and makes it difficult to get enough funds to run the economy. The Nigeria with relatively fewer efficient markets, the government has conventionally acted as a link in the allocation of investment to various sectors of the economy and also investing in these sectors. Considering the aforesaid problems militating against self-sufficiency of the Nigerian economy and the need to tap from the multiplier effect of FDI, it has become one of the ways of providing employment opportunities and generates income for the government (Akanegbu and Chizea, 2017).

Despite the huge resource-base of the country, Nigeria has not been able to attract a high level of foreign investors that is commensurate with its potential of the economic. In addition to the government's efforts in attracting FDI into the Nigerian economy, it is necessary to ascertain the role of the existing FDI in the economic development of the country. This will assist government in proper planning, management and utilization of FDI(Ajayi, 2003) This

study, is therefore, set to examine the nature of the long run relationship that exists between Foreign Direct Investment and economic growth in Nigeria.

The paper is divided into five subsections with the introduction as section one. Section two contains the conceptual framework and empirical literature. Section three contains the research methodology, while presentation of results is done in section four. Conclusion and recommendation are presented in the fifth section.

2.0 Literature Review

2.1.1Foreign Direct Investment (FDI)

According to World Bank (1996), Foreign Direct Investment could be defined as the investment made in order to obtain a lasting management interest, (usually 10% voting stock) in a venture operating in a nation other than that of the investor residency. This kind of investments can be categorized into two types, these are 'Greenfield' investment ('mortar and brick' investment is also another name) and mergers and acquisitions of which it involves acquisition of existing interest rather than new investment. The condition for the existence of a direct investment relationship in company is the ownership of at least 10% of the ordinary shares or voting stock. The ownership that is less than 10% can be regarded as portfolio investment (Macaulay, 2007).

Foreign Direct Investment can be seen as the degree of ownership of productive assets; this includes land, mines and factories. The growing economic integration and globalization is as a result of increasing foreign investment (Gnansonuou, 2008). For many years direct foreign investment is in the form of machinery, building and equipment. In addition, multinational corporations make a large percentage of Foreign Direct Investment (Uremadu et. al, 2016)

The countries can act as host to FDI projects in their home country and as participants in investment projects in other countries. The inward FDI position comprises of the hosted FDI projects and the outward FDI positions made up of the FDI projects owned abroad. In the short run a larger proportion of inward and outward FDI positions can make home economy more vulnerable to economic disturbance in abroad (Ogunkola and Jerome, 2006).

According to UNCTAD (1998), the FDI literature identifies four different motives of a firm to invest across globe. These include (a) market-seeking investment in relation to new market that is attractive due to growth and size. (b) Efficiency-seeking investments in the area of cost-efficient production in a particular location. The factors such as cost and quality of infrastructure services, cost and productivity levels of the workforce and administrative costs are the important factors to be considered. (c) Natural-resource seeking investment tries to utilize natural resources endowments and (d) Strategic-asset seeking investment comprises of man-made assets, which can be in the form of highly qualified work force, brand names, shares in the certain market etc. In this case, the cross-border mergers and acquisitions as the

form of FDI while the entire or part of local company that is in control of such assets are taken over by foreign firm.

Foreign Direct Investment (FDI) is an investment in the production or in the business of a country handle by individual or company of another nation, either by purchasing a company in a particular country of interest or increasing the production of the established venture in that nation (Adeleke etal.,2014). Todaro (1977) ascertain that Foreign Direct Investment can promote the technological inflow and skills as well as fill the gap between domestically available supplies of resources in term of savings, foreign exchange and revenue of the government. Onu (2012) contend that increase in the economic growth of Japan after the World War II and that of South Korea after the Korean War was as a result of the FDI contribution to the domestic economy in the area of skills, technology, management expertise and human resources development.

According to Macaulay (2012) Foreign Direct Investment in Nigeria was as a result of colonial masters who had an intention of exploiting the Nigerian economy in order to develop their economy. In this regard, little foreign investment was made by the colonial masters with the discovery of oil in Nigeria, and since then Foreign Investment in Nigeria has been unstable. The Nigeria government have put all strategies in place to encourage inflow of FDI in the country having recognized the important of FDI to economic growth. Lall (2002) assert that privatization in Nigeria was among other measure that was adopted to promote Foreign Direct Investment inflow. The privatization in the area of manufacturing, agricultural production and social amenities companies were partially or completely owned by private individuals in the country.

2.1.2 Economic Growth

Jhingan (2002) assert that the standard of a living of a citizen can increase overtime in a country if its economic capacity to produce goods and services is increasing in numbers and diversity.

IMF (2009) contented that economic growth is the increase in the production of goods and services over time in an economy. Traditionally, economic growth can be measured as the rate of percentage change in Real Gross Domestic Product. Growth can be computed in actual term so that the inflation – adjusted term can rule out the effect of inflation on the price of goods and services produced in a nation.

Smith (1776) asserts that economic growth depends on the quantity of factors of production such as land, labour and capital. He argued 'that economic growth depends on the amount of these factors of production which are the inputs that determined by the population growth, increase in investment and the land, and total growth in labour productivity.' Harrod-Domar model on the other hand, stated that growth rate of Gross Domestic Product is equal to

Savings ratio/Capital Output ratio. Other models such as Solow model, neoclassical model of long run relationship growth utilized all the factors of production as their important subject matter.

According to Ahuja (2008), economic growth could be defined as the yearly increase in actual per capita income of a nation for long period of time. Indeed, it is important to note that economic growth is an increase in national income or an increase in per capita income or productivity which should be sustained increase. There are so many factors that influence economic growth but he identified some determinants among others, such as capital formation, technological progress, foreign capital and supply of natural resources.

Solow-Swan model (1956) it is the long-run economic growth model within the context of neoclassical economics. It tends to explain the long-run economic growth in the context of capital accumulation, labor, or population growth and technological progress. The researcher opines that technological progress needs to accomplish sustained economic growth.

Rostow (1960) identified five stages of economic growth for which each country has to pass to achieve a development process in the nation. These stages include (a) Traditional society (b) Preconditions to take-off (c) Take–off (d) Drive to maturity and (e) Age of high mass consumption. The Rostow's model contended that all nations exist somewhere on the linear spectrum and climb upward through each stage of hierarchy in the development process.

2.2 Nexus between Foreign Direct Investment and Economic Growth

The two most important theories that explain the reason why FDI has significant impact on economic growth, includes the capital formation theory and technological spillovers theory. The capital formation theory emphasizes on the role of FDI as capital. According to Solow (1956) of neoclassical growth model assert that an increase in the stock of capital available in an economy brings about an increase in production which is therefore leads to increase in the growth rate of output. For the fact that FDI is a source of physical capital to the host country, increases in it should raise the total stock of capital level available for production. Hence, from neoclassical framework an increase in foreign-owned capital stock can therefore leads to higher growth since FDI is additional capital. Considering the diminishing returns to capital any increase in the rate of growth observed after an increase in the stock of FDI is not sustained in the long run. This signified that in the context of neoclassical framework operate as a driver of growth in the short run (Brems, 1970).

The endogenous growth economic models have been applied to investigate the effects of FDI on the economic growth via the diffusion of technology (Barro, 1991; Barrel and Pam, 1997). The technological progress occurred as a result of the formation of dynamic comparative advantages to promote economic in the country through the Foreign Direct Investment (Borensztem et al., 1998). Romer (1990) and Grossman and Helpman (1991) believed that

endogenous technological progress is the major mechanism of economic growth. According to Romer (1990), contend that Foreign Direct Investment speed up economic growth via strengthening human capital, the main important factor in Research and Development (R&D) effort; whereas Grossman and Helpman (1991) stress that the raise in competition and innovation will bring about technological advancement and productivity increase and hence in the long run promote economic growth.

Foreign Direct Investment and the economic growth nexus stimulate numbers of empirical studies in Nigeria. This nexus has been investigated in explaining the determinants of FDI and growth, the impacts of FDI on economic growth, long term relationship between the FDI and economic growth and the direction of causality between the FDI and economic growth. The empirical studies on the significant inward FDI in the host countries can use foreign capital inflow to supplement the supply of funds for investment and however capital formation can be promoting in the host country. The inward FDI can stimulate local investment by increasing domestic investment via chain of production when foreign firms purchase local made inputs or when foreign firms supply source intermediate inputs to domestic firms. The host country's export capacity can increase through inward FDI which can bring about increase in foreign exchange earning of the developing nation. In addition, FDI can bring about new employment opportunities and improvement in the transfer of technology and thereby boosts total economic growth in the host nations.

2.3 Empirical Literature

Sunday and Ango (2017) examined the impact of Foreign Direct Investment on economic growth in Nigeria with the used of quarterly secondary time series data for the period of 2009Q to 2016Q. The method and the model used were Autoregressive Distributed Lag (ARDL) Granger causality test and Vector Error Correction Model. The study reported that there was a long run relationship between Foreign Direct Investment and economic growth in Nigeria. Also, the Granger causality test result showed unidirectional causality relationship between Foreign Direct Investment and Economic Growth in Nigeria. The researcher recommends that the policy makers in Nigeria should create an enabling environment for easy operation of business to attract inflow of Foreign Direct Investment in the nation.

Uremadu, Umezurike and Odili (2016) investigated the impact of Foreign Direct Investment on economic growth in Nigeria with the use of annual time series data from 1981 to 2013. The method and model used was Ordinary Least Square Technique and the Vector Errror Correction Model. The result of the study shows that Foreign Direct Investment has positive long run relationship and significant impact on economic growth in Nigeria. The study recommends policies on non- oil sector such as Agriculture, Mining and industrial sector to boost the economic activities in nation.

Jibir and Abdul (2017) examined the Foreign Direct Investment and economic growth nexus in Nigeria with the used of dataset from Central Bank between the period of 1970 to 2014.

The technique and the model used were Granger Wald test and Vector Error Correction Model (VECM). The study reported that there was long run relationship between Foreign Direct Investment and economic growth in Nigeria. Also, the Granger causality result showed that there was unidirectional causality between trade openness and economic growth. The study noted that FDI is an instrument for transforming economic growth and development. However, in attracting more inflow of Foreign Direct Investment a conducive business environment must be created.

Onakoya (2012) examined the impact of Foreign Direct Investment on economic growth in Nigeria with the used of structural macro econometric model of four blocks comprises of supply, private demand, government and external sectors. The researcher adopted a three Stage Least Squares (3SLS) technique and macro econometric model of simultaneous equations. The study reported that FDI has a significant impact on economic growth in the country. The findings show that Foreign Direct Investment has play important role in the promotion of Nigerian economy. The study recommends that enhanced trade openness, import substitution development strategies incentives to encourage both existing and potential investors in the country.

Ould (2015) evaluated the impact of FDI on Mauritania economic growth between the period of 1979 to 1995 with the use of cointegration method and the use of quarterly data. The result shows that there was long run relationship among the variables in the model. The study deduces that FDI and gross fixed capital formation are essential desires for speed up the economic growth in Mauritania.

Mohammed and Mahfuzul (2016) examined the effect of FDI on the economy of Bangladesh with the use of time series data from 1973 to 2014 and cointegration method was used. The results of the study show that trade and FDI had significant impact on the Bangladesh economic performance and also indicates that there is a long run relationship among the variable used in the model and concluded that the government could use policies that would potentially make the country's macroeconomic environment more competitive in order to encourage FDI inflows.

According to Dritsala et al (2004) examined the impact of Foreign Direct Investment on economic growth in Nigeria using cointegration and causality methods and reported that there was positive long run equilibrium relationship between the Foreign Direct Investment and economic growth in the country.

Also Kawaii (2005) examined how Foreign Direct Investment can promote economic growth. Threshold regression analysis method was used and the result showed that only FDI cannot contribute to economic growth on the sample of 62 countries in the period of 1975 to 2000. This revealed that Gross Domestic Product (GDP) and human capital are important determinant in promoting Foreign Direct Investment inflow. Also, Foreign Direct Investment

was found to have positive and significant impact on economic growth as host countries have a greater level of initial Gross Domestic Product and human capital.

Oyatoye et al (2011) investigated the possible impact of Foreign Direct Investment, export and economic growth in Nigeria between the periods of 1987 to 2006. The Ordinary Least Square method was used with the help of annual accounts and statistical bulletin of the CBN data. The result of the findings showed that there was positive relationship between Foreign Direct Investment and Gross Domestic Product. The study suggested that various policies such as taxation and exchange rate policy should be put in place to encourage FDI inflows.

Also, Okon (2011), under the study of the impact of Foreign Direct Investment on economic growth in Nigeria with the used of time series data between the period of 1970 to 2010 and the VAR model was used. The result showed that there was bidirectional causality relationship between FDI and economic growth in Nigeria.

Solomon and Eka (2013) examined the empirical relationship between Foreign Direct Investment and economic growth in Nigeria. The Ordinary Least Square method was used in order to find out the relationship between the two variables in Nigeria. The data used were source from Annual data from Central Bank of Nigeria Statistical Bulletin between the periods of 1981 to 2009. The finding shows that FDI has positive relationship but has no significant impact on economic growth of Nigeria.

From the empirical studies on Foreign Direct Investment and economic growth that a researcher has reviewed the gap is found be that no total convergence about the relationship between FDI and economic growth and also the scope and methodology varies from research to research. In addition, most research proxy GDP as economic growth but this study uses Gross Domestic Per Capita Growth.

3.0 Methodology
3.1 Data and Sources

The time series data used for this study are sourced from various publications of World Bank Development Indicator and CBN Statistical Bulletin, for the period of **1981 to 2017**. The selection of the period is to update the data, unlike in the reviewed studies where the data used are not up-to-date. The ARDL model was used in this study. The choice of ARDL model is because its built for single (univariate) equations, which is the case of the model used in this study. Also, the ARDL model does not require all the variables to be integrated of the same order. The variables can be integrated of order I(1) and order I(0), which is also the case of the model in this study.

3.2. Model specification

In order to achieve the objectives of this study, the study adopted the work of Sunday and Ango (2017), with some modifications. The model developed by Sunday and Ango (2017) is as follow: -

$GDP_t = \beta_0 + \beta_1 FDI + \beta_2 EXR + \beta_3 INF + \beta_4 INT + Ut\text{-}_1$ …… (1)

Where GDP = Gross Domestic Product which is the proxy for economic growth, FDI is the Foreign Direct Investment, EXR is the exchange rate, INF is the inflation rate and the INT is the interest rate.

From the above Sunday and Ango (2017) model, the model specification for this study was modified to include GDP per capita growth instead of GDP growth, and inclusion of trade openness into the model. This modification is in line with some of the studies reviewed. The ARDL model is specified as follows:

$$Y_t = \beta_0 + \beta_1 X_t + \beta_2 X_{t-1} + \cdots + \beta_n Y_{t-n} + u_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2$$

$$\mathrm{GDPCG}_t = f\left(FDI_{t,}\ TOP_{t,}\ NEXR_{t,}\ INF_{t,}\ INTR_{t,}\right) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

$$\mathrm{GDPCG}_t = \beta_0 + \beta_1 FDI_{t-1} + \beta_2 TOP_{t-1} + \beta_3 NEXR_{t-1} + \beta_4 INF_{t-1} + \beta_5 INTR_{t-1} + u_t \ldots\ldots\ldots 4$$

Theoretically, the coefficients of equation (4) are expected to take the following signs:

$\beta_1, \beta_{2,} > 0, \beta_3 \beta_{4,} \beta_{5,} < 0$

Where GDPCG = Gross Domestic Products Per capita Growth which is a proxy for economic growth, FDI = Foreign Direct Investment expressed as FDI as a ratio of GDP, TOP = Openness to trade, expressed as ratio of trade to GDP. NEXR = Nominal Exchange Rate, Inflation = Inflation rate proxied by consumer price index. INTR = Interest rate, β_0 = Constant, $\beta_1 - \beta_5$ = Coefficient of explanatory variables u = Error term t = Time trend.

4.0 Results and Discussion

4.1 Unit Root Tests

The findings of Augmented Dickey-Fuller (ADF) and Philips Peron (PP) unit root tests are presented in table **4.**

Table 4.1 Unit Root Result of Stationary Test

	Augmented Dickey-Fuller			**Philips Peron**		
Variable	**t-Statistics**	**t-Statistics**	**Remarks**	**t-Statistics**	**t-Statistics**	**Remarks**
GDPCG	-3.632	-	1(0)	-4.824	-	1(0)
FDI	-2.663	-5.530	1(1)	-3.424	-	1(0)
INFLATION	-3.836	-	1(0)	-2.972	-2.975	1(1)
NEXCH	-2.235	-3.443	1(1)	-1.214	-2.975	1(1)
TOP	-0.298	-5.266	1(1)	-1.961	-2.975	1(1)
INTR	-2.466	-5.442	1(1)	-2.972	-2.975	1(1)

Sources: Author's computation based on STATA Version 14

In the first segment of the table **4.1, the ADF test shows** that two variables (GDPCG and INF) are stationary at level at 5% level of significance while FDI, NEXCH, TOP and INTR are stationary at first difference at 5% level of significance. The levels of significance of the variables were determined at order where the absolute value of the t-statistics is greater than the critical values. A Philips Peron Unit root test was also conducted to confirm the results of Augmented Dickey-Fuller. The PP test, in the second segment of the table, shows similar results to that of ADF, except that FDI is stationary at level in PP but at first difference in ADF, and inflation is stationary at level in ADF but at first difference in PP. However, the two tests show that the model has a mixture of I(0) and I(1) variables, and subsequently justify the use of ARDL Bound test for the examination of the long-run relationship of the model.

4. 2 Granger Causality Test

The finding of Granger Causality Test is presented in table **4.2**:

Table 4.2: Granger Causality Test

Null Hypothesis	**F=Statistics**	**Probability**
GDPGC does not Grange Cause FDI	0.05032	0.8249
FDI does not Grange Cause GDPGC	3.1373	0.0887

Author's computation based on STATA Version 14

Given the p-values in table **4.2,** the first null hypothesis, that economic growth does not Granger Cause FDI, can be accepted at 5% level of significance. This is because the p-values of the hypothesis is large. But the second hypothesis that FDI Granger cause economic

growth, cannot be accepted 10% level of significance. This has indicated that there is unidirectional relationship between FDI and economic growth. It means that FDI can influence the Nigerian economic growth.

4.3 Cointegration test

The result of the bound tes is presented in Table **4.3:**

Table 4.3: Cointegration Bound Test Result for FDI and Economic growth

ARDL Bound Test	F-Statistic	Critical Value Bounds 1%		Critical Value Bounds 5%		Critical ValueBounds 10%	
		Lower Bound 1(0)	Upper Bound 1(1)	Lower Bound 1(0)	Upper Bound 1(1)	Lower Bound 1(0)	Upper Bound 1(1)
	23.252	2.26	3.35	2.62	3.79	3.41	4.6

Sources: Author's computation based on STATA Version 14

The cointegration Bound test for long run relationship in table 4.3 shows that F-statistics 23.252 is greater than upper bound critical value of 3.35, 3.79 and 4.6 at 1%, 5% and 10% level of significance respectively. The study therefore rejects the null hypothesis, and concludes that there is long run relationship between FDI and economic growth in Nigeria.

4.4 Long-Run Estimates of ARDL Model

Table 4.4 Cointegration Regression of Long-run ARDL Model

Variable	Coefficient	Std Error	t-Statistics	Prob.
FDI	-9.037618	2.856587	-3.16	0.025
INFLATION	1.563367	0.5337884	2.93	0.033
NEXCH	0.11893	0.594141	2.00	0.102
TOP	1.203201	0.2754708	4.37	0.007
INTR	-1.816883	0.8785125	-2.07	0.093
Coint,Eq(-1)	-0.8440822	0.2015381	-4.19	0.009

Sources: Author's computation based on STATA Version 14

The Table **4.4** shows the ARDL Model cointegration regression of the long run relationship between the variables. The table shows the sign, magnitude and the nature of statistical relationship between the dependent variable – GDPCG (Gross Domestic Product Per capita Growth) and explanatory variables, Foreign Direct Investment, Openness to trade, Nominal exchange rate, Inflation rate and Interest rate. The coefficient of FDI inflow is -9.037618 which indicate a negative relationship. This means an increased in the value of FDI inflow will cause 9.04% decrease in the value of GDPCG.

Also, the coefficient of inflation rate is 1.563367, which means it has a positive influence on economic growth and statistically significant at 5% level. This indicates that a percentage rise in the rate of inflation will bring about 1.56% increases in the economic growth.In addition, the coefficient of interest rate is -1.816883, which implies a negative relationship. An increased in interest rate can bring about a decreased in economic growth in the country.

Finally, TOP has a statistical significance and positive coefficient of 1.203201, which signifies that a percentage increase in openness to trade can lead to 1.203% increase in economic. Nominal exchange rate has a statistical insignificance and positive impact on Nigerian economic growth.

The error correction coefficient, estimated at -0.8440822, it is significantly significant and has the correct negative sign. The coefficient shows the speed of adjustment of the model to long-run equilibrium. The error correction term validates the existence of a stable long-run relationship. Also the coefficient of the error term implies that the deviation from long run equilibrium level of dependent variable of the current period is to be corrected by 84.4% in each period to bring back equilibrium.

4.5 Post-estimation Diagnostic Tests

In order to ascertain the adequacy, reliability and error-free estimations, necessary post-estimation tests, stability, residual and coefficients tests, were carried out. The results are presented in table 4.5 and figure 1.

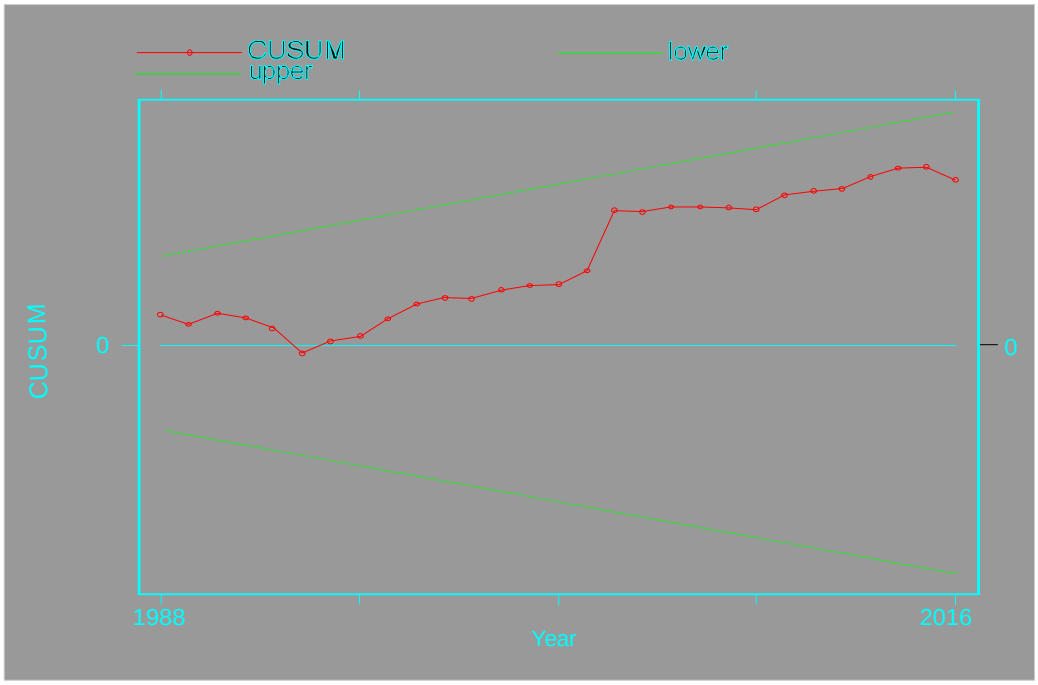
Table 4.5 Robustness Diagnostic Tests

Diagnostic Tests	**Statistics**	**P-Value**
Stability Tests	RAMSEY Reset Test	0.1710
Serial Correlation Test	**(i)** Breucsh Godfrey (LM Test) **(ii)** Durbin Watson	0.9260 1.9948
Heterosckedacity Tests	**(i)** Breucsh Godfrey (LM Test) **(ii)** White Test	0.3535 0.4162

Sources: Author's computation based on STATA Version 14

As shown in table **4.5**,all the diagnostic tests have revealed that the null hypotheses should be accepted implying that the model is free from misspecification problem (Ramsey Reset test), that the successive errors are not correlated with each other (Serial Correlation test), and that there is equal variance among the errors of the model (Heterosckedacity Test). Also, a test (CUSUM Test) was also carried out to find out if the model does not suffer from omission of some important variables or addition of redundant variables. The CUSUM diagram is presented in figure 1:

Figure 1: CUSUM test



Sources: Author's computation based on STATA Version 14

In the figure the presence of red line in-between the two green lines, confirms the adequacy and stability of the model.

5.0 Summary, Conclusion and Policy Recommendation

This study examined the nature and impact of long-run relationship FDI on Nigerian Economic growth, from the periods of 1981 to 2017. The economic growth was proxied by Gross Domestic Product per Capital Growth while FDI is proxied by FDI net inflow. Other variables like inflation, interest, exchange rate, trade openness, were controlled in the model. The unit root test indicates that two variables (GDPCG and Inflation) are stationary at level while the remaining variable (FDI, NEXCH, TOP and INTR) are stationary at first difference. The Granger causality test result shows that there is unidirectional relationship between FDI and economic growth, running from FDI to economic growth. The cointegration bound test, for long run relationship, indicated that there is long run relationship between FDI and economic growth at 1%, 5% and 10% levels of statistical significance. Also, the error correction term (ECM-1) was significant with correct negative sign.

The long-run regression of the ARDL model shows that increase in FDI inflow is associated with decrease in GDP per capita growth of Nigeria. This implies that FDI has a statistical significance and negative impact on Nigerian economic growth. This is contrary to apriori

expectation. It is expected that increase in FDI leads to increase in economic growth. But in Nigeria, this may be possible because increase in FDI may not necessarily translate to increase in the growth of Nigerian economy. This might also be possible because of many other problems that are associated with the Nigerian economy like its monoculturalism, misappropriation and diversion of FDI funds, poor economic policies and business unfriendly environment. All these, and many others, make the FDI inflow to have a little or no influence in the country's economy. In reality, the decrease in the economy growth may not really be caused by increase in FDI inflows, but that the economic growth decreases despite the increase in FDI inflows because of some the social, economic and political problems that are impeding and deteriorating Nigerian economic growth.

Given the findings of this study, it is recommended that federal government of Nigeria critically monitors and evaluates the components of the FDI into the country. This work suggests there are some pitfalls of FDI, which makes it dangerous and negatively affects Nigerian economy. It is possible that the activities of foreign investments are detrimental to Nigerian economic growth. Such activities like complete repatriation of profits, dumping of foreign goods and killing of home infant industries are likely to be the reasons why Nigerian economy is negatively affected by FDI. If these activities are well monitored and well taken care of, Nigeria is likely to be able to develop local capacity and maximize the benefits of FDI inflows.

References

Adamu J., Idi A., & Hajara B. (2015). FDI and Economic Growth Nexus: Empirical Evidence from Nigeria (1970-2012). *Journal of Economics and Sustainable Development*, 6(6), 87-89.

Adeleke K. M., Olowe S. O., Fasesin O. O., (2014). Impact of Foreign Direct Investment on Nigerian Economic Growth. *International Journal of Academic Research in Business and Social Sciences*, 4(8), 234-242

Adedeji G. D. & Ahuru R. R. (2016).Foreign Direct Investment and Economic Growth in Developing Countries: Panel Estimation for Sub-Saharan African Countries. *International Journal of Development & Management* 11(1),39-50

Adhikary B. K. (2015). Dynamic Effects of FDI, Trade Openness, Capital Formation and Human Capital on the Economic Growth Rate in the Least Developed Economies: Evidence from Nepal. *International Journal of Trade, Economics and Finance*, 6(1), 1-7.

Ahuja H.L (2008). Modern Economics, 17th Edition, New Delhi S. CHAND & Company PVT. LTD

Adelegan J.O. (2000). Foreign Direct Investment and economic growth in Nigeria: A seeming by Unrelated Model African Review of Money. *Finance and Banking, Supplementary Issue of Savings and Development*, 7(3), 5-25

Akinlo A. E. (2004). Foreign Direct Investment and growth in Nigeria: An empirical Investigation, *Journal of Economic and Social Studies*, 3(1), 39-67

Akanegbu B. N. and Chizea J. J. (2017). Foreign Direct Investment and Economic Growth in Nigeria: An Empirical Analysis. *European Journal of Research in Social Sciences 5(1*), 11-20

Adigun A. O. (2015). Sectoral inflow of foreign direct investment and economic growth in Nigeria. *Journal of Economics and Sustainable Development, 6* (17), 166-172

Alfaro L., Arendam C., Sebrem K. O., and Selin S. (2003).‘‘FDI and economic growth: the role of local Financial Market’’ *Journal of international economics 64(1), 89-112*

Alguacil M., Cuadros A., & Orts V. (2011). Inward FDI and growth: The role of macroeconomic and institutional environment. *Journal of Policy Modelling*, *33* (3), 481-496.

Ajayi S. I. (2003). Globalization and Africa. *Journal of African Economies*, 12 (4), 1-44

Aremu, J.A. (1997), Foreign Private Investment: Issues, Determinants and Performance’’, Paper presented at a workshop o foreign investment policy and practice, organized by the Nigeria Institute of Advance Legal Studies, Lagos, March.

Asiedu, E. (2001). On the Determinants of foreign direct investment to developing countries: Is Africa different? *World Development*, *30* (1), 107 – 119

Aswathappa, K. (2015). *International business*. New Delhi: Tata McGraw Hill Pub. Co.

Barro R. and J. W. Lee. (1994) “International comparison of educational attainment”. *Journal of Monetary Economics*, 32(3): 361-94.

Boresztein, E., De-Gregoria, J. & Lee J. (1998). How does Foreign Direct Investment Affect economic growth? *Journal of International Economics*, 45 (1), 115-35

Grossman, H. E. Helpman (1991), Innovation and Growth in the Global Economy. Cambridge: MIT Press.

Gitari P. W. (2016).Relationship between the determinants of foreign direct investment and effects on economic growth in Kenya. M.Sc Thesis, KCA University, Kenya.

Goni K. (2016). Impact of foreign direct investment on gross domestic product: empirical evidence from Nigeria. *International Journal of Commerce and Management Research* 2() 51-54

Gnansonuou E. (2008), ‘’Boosting the Electricity Sector in West Africa: An Integrative Vision,’’ *International Association of Energy Economies*, third quarter 3(2), 23-29

International Monetary Fund (IMF)(2009). Balance of Payments and International Investment Position Manual – Sixth Edition (BPM6). IMF, Washington D.C., pp

Jhingan M.L. (2002). Macroeconomic Theory. 10 Editions, New Delhi, Vrinda Publication Ltd’

Jibir A. and Abdu M. (2017). Foreign Direct Investment - Growth Nexus: The Case of Nigeria. *European Scientific Journal*, 13 (1)

Hans Brems (1970). A Growth Model of International Direct Investment. *American Economic Review*, 60 () 320-31

Hoang T. T., Wiboonchutikula P., & Tubtimtong B. (2010). Does Foreign Direct Investment Promote Economic Growth in Vietnam? *ASEAN Economic Bulletin*, 27(3), 295-311

Kashif Y. & Muhammad R. (2013).The Impact of foreign direct investment on Pakistan economic growth, *Interdisciplinary Journal of Contemporary Research in Business* 4, 287-296.

Kawaii H. (2005).The Determinants of the Location of Foreign Direct Investment by Japanese small and Medium-Sized Enterprises. *Small business Economics* 15(2): 79-103.

Lall S. (2002). FDI and Development: Policy and Research Issues in the Emerging Context. *QEH Working Paper Series*.

Macaulay E. D. (2007). Foreign Direct Investment and the Performance of the Nigerian Economy, Proceedings of the 1st International Technology, Education and Environment Conference. *African Society for Scientific Research*.

Macaulay E.D (2012). Foreign direct investment and the performance of the Nigerian economy. Proceedings of the 1st International Technology, Education and Environment Conference. 629 -633.

Nguyen, P. L. (2006). Foreign Direct Investment in Vietnam: Impact on Economic Growth and Domestic Investment. *Economics Working Paper*, University of South Australia.

Ogbokor C.A (2018). Foreign Direct Investment and Economic Progress: Application of a Dynamic Model.*International Journal of Economics and Finance Studies* 10(1), 1-15

Ogunkola E. O and Jerome A. (2006) Foreign Direct in Nigeria: Magnitude, Direction and Prospects. *African Economic Research Consortium.*

Olawumi D. A. and Olufemi P. A. (2016). Impact of Foreign Direct Investment on economic growth in Africa. *Journal of Problems and Perspectives in Management,* 14(2-2).

Olusanya S. O. (2013).Impact of foreign direct investment inflow on economic growth in a pre and post deregulated Nigeria economy. A Granger Causality Test (1970-2010). *European Scientific Journal* 9(25), 72-84

Onakoya A. B. (2012). Foreign direct investments and economic growth in Nigeria: A disaggregated sector analysis, *Journal of Economics and Sustainable Development*, 3(10), 66-74.

Oyatoye A. Arogundade K.K., Adebisi S. O. and Oluwakayode E. (2011). Foreign Direct Investment, Export and Economic Growth in Nigeria. *European Journal of Humanities and Social Sciences*, 2(1), 68-76

Okon J. U (2012) Foreign Direct Investment and Economic Growth in Nigeria, Current *Research Journal of Economic Theory* 4(3) 53-66

Onu A.J.C (2012). Impact of Foreign Direct Investment on Economic Growth in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business.* 4(5), 64-75

Ould L. (2015). An Investigation of the Impact of Foreign Direct Investment on Economic Growth: A Case Study of Mauritania, *International Journal of Economic Management Sciences*, 4(3), 1-5

Otto G. and Ukpere W. I (2014). Foreign Direct Investments and Economic Development and Economic Growth in Nigeria.*Mediterranean Journal of Social Sciences* 5(2) 713

Romer P. (1990), "Endogenous Technological Change", *Journal of Political Economy,* 98: 71-103.

Smith A. (1776). The Wealth of Nations. New York: Bantam Dell.

Solomon, H.C. and Eka, O.O. (2013).Impact of foreign direct investment on telecommunication sector on Nigerian economy. *International Journal of Modern Social Sciences*. 2(3): 195-215

Sunday G. & Ango Y. I. (2017). Analysis of the Impact of Foreign Direct Investment on Economic Growth in Nigeria. *International Journal of Operational Research in Management, Social Sciences & Education. 3(2),*

Solow R. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics* 70, 65– 94.

Ugwuegbe S. U., Okore A O. & John O. O. (2013). The Impact of Foreign Direct Investment on the Nigerian Economy.*European Journal of Business and Management.* 5(2)

Uremadu S. O., Umezurike I. U., and Odili O. (2016). Impact of Foreign Direct Investment and Economy Growth of Nigeria. *Research Journal of Finance and Accounting* l7 (11)

United Nations Conference on Trade and Development (UNCTAD). (2011). World Investment Report: Foreign Direct Investment and Development, Geneva

United Nations Conference on Trade and Development (UNCTAD). (1998). World Investment Report: Foreign Direct Investment and the Challenge of Development, New York and Geneva: United Nations Conference on Trade and Development

Trinh N. H. & Nguyen Q. A. (2015) .The Impact of Foreign Direct Investment on Economic Growth: Evidence from Vietnam.*Developing Country Studies* 5(20)

Wan X. (2010). A literature review on the relationship between foreign direct investment and economic growth. *International Business Research, 3*(1), 52

World Bank (1996). *World Debt tables; External Finance for Development Countries, 1 (Analysis and Summary Tables). Washington D.C*

World Bank (2006). *World Development Indicators 2011*.World Bank Publications.

World Bank (2008). Global Monitoring Report 2008: MGS & the Environment: Agenda for Inclusive and Sustainable Development, World Bank Washington.D.C

World Bank (2015). *World Development Indicators 2015*. World Bank Publications.

World Bank (2018). *World Development Indicators*http://data.worldbank.org/data-catalog. (Assessed on 15th May, 2018).