

Analysis of the Impact of Foreign Direct Investment on Economic Growth in Nigeria

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Abstract

This study investigates the impact of Foreign Direct Investment on economic growth in Nigeria. Using a quarterly secondary time series data over the period 2009Q₁ to 2016Q₄. The Autoregressive Distributed Lag (ARDL) approach to Co-integration and Error Correction (ARDL-VECM) Model, developed by Pesaran, Shin and Smith (2001) is employed to empirically reassess the relationship. It also provides empirical illustration on the causal relationship between Foreign Direct Investment and Economic Growth using pair-wise Granger causality test. The results indicate a long-run relationship between FDI, economic growth, exchange rate, interest rate and inflation rate. Also, the study further reveals a negative impact between FDI, exchange rate, interest rate, and inflation rate on economic growth. Moreover, the coefficient of error correction model (ECM) suggests that the speed of adjustment in the estimated model had the expected level significance and negative sign. However, the Granger causality test result reveals unidirectional causality relationship running from FDI inflow to economic growth in Nigeria. This analysis included inflation rate, interest rate, exchange rate and FDI as independent variables, while economic growth as dependent variable. Major findings of this study included that FDI inflow has significant negative impact on economic growth in both short run and the long run. Results demonstrate that FDI, exchange rate, interest rate and inflation deter economic growth. As such, a major challenge before the policy managers therefore, is to attain a stable and realistic exchange rate, lower interest rate and moderate inflation rate that will encourage foreign investors to improve the economic growth in Nigeria. The study therefore recommends that Nigerian policy makers should developed an enabling environment for ease of doing business to attract foreign direct investment inflow into the country.

Keywords: *Foreign Direct Investment (FDI), Nigeria, Economic Growth (GDP).*

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Background to the Study

This study intends to investigate the impact of foreign direct investment on economic growth in Nigeria using quarterly time series data from 2009q₁ to 2016q₄. Foreign Direct Investment is a vehicle that has propelled the growth and development of many developing countries like Nigeria, its spillover effects in the areas of knowledge, skills, technological and employment generation has actually impacted tremendously to the growth and development of many developing countries. Thus, there is the need to adequately plan for, if a country is to enjoy a satisfactory level of growth and development through poverty reduction via Foreign Direct Investment. Though, wealth appear to be highly accentuated in Nigeria, poverty rate in rural areas increase at an alarming rate due to an increase in the level of population growth, poor infrastructure, high gender insensitivity and high level of illiteracy (Adigun, 2015).

Conventionally, foreign investment is seen as a way of filling the gap between the domestically available supplies of savings, foreign exchange, government revenue and human capital skills and the desired level of these resources necessary to achieve growth and development targets (Aswathappa, 2015). If domestic savings are inadequate to generate enough investments, foreign capital is expected to fill the gap between targeted or desired investment and locally mobilized savings.

However, Sub-Saharan Africa as a region now has to depend very much on Foreign Direct Investment for so many reasons some of which are amplified, (Asiedu, 2001). Unfortunately, the efforts of most countries in Africa to attract Foreign Direct Investment have been futile. This is in spite of the perceive and the obvious need for Foreign Direct Investment in the continent. The development is disturbing, sending very little hope of creating an enabling environment for the growth and development of the country's economy.

Whereas, Nigeria as a country, given its natural resources base and large market size qualifies to be a major recipient of Foreign Direct Investment in Africa and indeed is one of the top leading African countries that have consistently attracted Foreign Direct Investment in the last decade. However, the level of Foreign Direct Investment attracted by Nigeria is mediocre compared with the resource base and potential need (Asiedu, 2001). Some studies argue that foreign direct investment affects economic growth positively (Emmanuel, 2012; Obwona, 2011; Todd, Ramachandran and Manju, 2004; Merkussen and Vernables, 1998; De Mello, 1997; Globeran, 1979; Blomstrom and Kokko, 1998). In contrast, other studies proved otherwise (Nkechi, 2013; Terkular, 2011; Durham, 2004; Borenztein, De Gregoria and Lee, 1998; Glass and Saggi, 1998; Dee, 1998). The problem with the previous studies is that, there is no conclusion on how FDI inflows affects economic growth (Adelegan, 2000 and Akinlo, 2004). Also, researchers till today hold different opinions regarding the causal nexus between Foreign Direct Investment and economic growth. The issue of causality has remained inconclusive (See: Carkovic and Levine, 2002; Abu and Achegbulu, 2011). However, Foreign Direct Investment brings stability in the economy and the foreign investors need a stable economy that will encourage them to come and invest. Economy which is not stable is always discouraging foreign investors to invest and as such more studies are needed in this area for Nigeria and this justify the need for this research.

It is in the light of these conflicting views on the positive and negative relationships between FDI and economic growth, the possible long run and short run relationship that may exist between the two, and the recent improvement in co-integration, ARDL-VECM model

developed by Pesaran, Shin and Smith (2001) that has called for this study, and hence, the study aims to contribute in that way. Therefore, the objectives of this study is to empirically assess the impact of foreign direct investment on economic growth in Nigeria and also to determine the long run impact relationship between foreign direct investment on economic growth in Nigeria.

The paper is organized into five sections given the introduction as section one. The rest of the paper is organized as follows: Section two presents the literature review. In section three, the methodology adopted for this study is presented. Presentation of results is done in section four and conclusion is drawn in section five with policy implication.

Literature Review and Theoretical Framework

The empirical literature provides mixed and conflicting evidence with respect to foreign direct investment on economic growth impact in different studies. Beginning with the pioneering researches in the area (see Emmanuel, 2012; Obwona, 2011; Todd, Ramachandran and Manju, 2004; Merkussen and Vernables, 1998; De Mello, 1997; Globeran, 1979; Blomstrom and Kokko, 1998; Nkechi, 2013; Terkular, 2011; Durham, 2004; Borenztein, De Gregoria and Lee, 1998; Glass and Saggi, 1998; Dee, 1998; Adelegan, 2000 and Akinlo, 2004). This phenomenon can be attributed to a number of factors, including estimation techniques and or statistical/econometric technique, choice of variables, study period, and level of development of the country being studied, among other things.

Asiedu (2001) observes that Nigeria as a country, given her natural capital base and large market size, qualifies to be a major recipient of Foreign Direct Investment in Africa and surely is one of the leading African countries that persistently received Foreign Direct Investment in the past decades. Though, the level of Foreign Direct Investment attracted by Nigeria is less compared to its capital base and potential need. Adelegan (2000) and Akinlo (2004) states that the empirical relationship between Foreign Direct Investment and economic growth in Nigeria is still vague despite the numerous studies that have assessed the influence of Foreign Direct Investment on Nigeria's economic growth with varying outcomes.

Consensus in the literature supported by several empirical evidences tends to be that foreign companies through Foreign Direct Investment do transfer technology to their affiliates; a process that can equally allow spill over to unaffiliated firms in the host economy which in turn compliments growth through productivity and efficiency gains by local firms, (Girma and Wakelin, 2001). Dutse (2008) asserts that Foreign Direct Investment induces productivity in Nigeria by creating both technological and efficiency spillover of foreign companies on local firms' productivity that are subdued by the small and medium scale businesses.

Njeru (2013) assesses the impact of Foreign Direct Investment on Economic Growth in Kenya from 1982 to 2012. The statistical package for social sciences was used to analyze the data where descriptive analyses, frequencies and trend analysis, as well as inferential analyses involving Analysis of Variance (ANOVA) and correlation analysis to establish positive relationships between variables. Similarly, Nkechi (2013) also examines the impact of FDI on economic growth in Nigeria. Using OLS technique and secondary data, it was discovered that Foreign Direct Investment has a negative impact on Economic Growth.

Victor (2013) conducts a research on Foreign Direct Investment and manufacturing sector in Nigeria (1970 – 2009). The aim of the study was to examine the relationship between FDI and the value added to the manufacturing industry in Nigeria, using secondary data and autoregressive distributive lag model or technique, it was discovered that on the long-run, FDI have had a negative effect on the manufacturing sector in Nigeria.

There are some theoretical models which investigate the impact of foreign direct investment on economic growth using a neoclassical model and Solow Type Growth Theory. According to Mankiw (2003) explaining the Solow growth model, opines that privately owned firms invests in customary types of ventures such as steel plants, bulldozers and newer type of capital (green field) such as robots and computers. In addition, government invests in many categories of public capital, named social amenities, such as roads, bridges and sewer systems. Mankiw asserts further that policy makers trying to spur growth must face the issue of what kinds of resource the economy need most. Better puts, what kind of resource yields the maximum marginal product? The model of Mankiw (2003) was used in this study because they emphasized the causal-Nexus and impact of FDI on economic growth. In addition, the growth in Mankiw, model is based on GDP level, which makes it very similar to the model chosen for this study. In order to capture this phenomenon, from the theoretical and empirical literature reviewed on the causal-Nexus relationship and the long run positive and negative relationship between FDI and economic growth, the theoretical framework for this research work was established based on the review of Mankiw (2003).

$$GDP_t = \beta_0 + \beta_1 FDI_t + \beta_2 EXR_t + \beta_3 INF + \beta_4 INT + \mu_t \dots \dots \dots (1)$$

GDP = “Real Gross Domestic product” which is the proxy for Economic growth, FDI = “Foreign Direct Investment” which is an independent variable, EXR = Exchange rate, INF = Inflation rate, INT = Interest rate, t = Time trend, μ = error term or stochastic term at time “t”.

Methodology

In this research, the impact of FDI on economic growth was analyzed using a quarterly data over the period of 2009-2016. This was accomplished by utilizing the econometrics technique of ARDL bound co-integration test and unit root test.

Data Description

Sample Selection

According to the World Bank classification, all developing countries are classified based on level of GDP per capita, which has a threshold between \$1,035 and \$12,615. For the purpose of this study, GDP (quarterly growth rate) was used as the dependent variable and as a proxy for economic growth. GDP growth rate quarterly was used as a proxy for economic growth because it shows the monetary value of goods and services excluding inflation. The Central Bank of Nigeria (CBN) publishes annual figures for GDP, FDI, Inflation rate, Interest rate and the naira-dollar Exchange rate.

Estimation Procedure and Robustness Test

The analysis begins with ascertaining the order of integration of the variables. The procedure adopted in this study involves the use of the Augmented Dickey Fuller Test (1979) ADF Test and Phillips-Perron (1988) PP Test. The null hypothesis of both the ADF and PP tests are non-stationarity, thus failure with respect to rejection implies unit root in the series. Following these

unit root tests, the Autoregressive Distributed Lag (ARDL) bound co-integration Models as well as Error Correction Model is employed to examine the presence of any long-run association among the variables. To account for the sensitivity of results using this approach to co-integration to the automatic choice of lag length, the Schwarz Information Criterion (SIC) is used. Since it has been discovered there is co-integration among the variables which suggests that there must be Granger causality in at least one direction, however, it does not indicate the direction of causality among the variables. Therefore, the Pair-wise Granger causality test has been applied to test for causality between FDI, exchange rate, Inflation rate, Interest rate and economic growth.

The analysis of the data has been done using the EVIEWS 9 econometric package.

Specification of the Model

Based on the objectives of the study, this work adopts the model of Mankiw (2003) with minor modifications. It employed a multiple regression model based on GDP level, which makes it very similar to the model chosen for this study.

ADF and Phillip-Perron Unit Root Tests

For this purpose, the study uses the conventional Augmented Dickey-Fuller (ADF) and Phillip-Perron unit root tests as a tool for identifying stationarity (or non stationarity) of a variable by running OLS regression of levels variables on their lag values.

Consider a variable Y that has unit root represented by a first-order autoregressive AR (1):

$$\Delta Y_t = \alpha + \beta Y_{t-1} + \sum_{j=1}^p \gamma_j Y_{t-j} + \Delta Y_{t-1} + \varepsilon_t \dots \dots \dots (2)$$

$$\Delta Y_t = \alpha + \beta T + \gamma y_{t-1} + \varepsilon_t \dots \dots \dots (3)$$

Where α and β are parameters, ε_t is assumed to be a white noise, ΔY_{t-1} expresses the first difference of the variable with p lag, $\Delta Y_t = Y_t - Y_{t-1}$. Y is a stationary series if $-1 < \beta < 1$. If $\beta = 1$, y is a non-stationary series; if the process is started at some point, the variance of y increases steadily with time and goes to infinity. If the absolute value of β is greater than one, the series is explosive. Therefore, the hypothesis of a stationary series can be evaluated by testing whether the absolute value of β is strictly less than one. If the series is correlated at higher order lags, the assumption of the white noise disturbance is violated.

Co-integration – ARDL-Bounds Testing Procedure

In this regard, by applying the model suggested by Mankiw (2003) the recently developed Autoregressive Distributed Lag (ARDL)-Bounds testing approach is used to examine the long-run relationship between FDI, exchange rate, inflation rate, interest rate and economic growth. The ARDL modeling approach was originally introduced by Pesaran and Shin (1999) and later extended by Pesaran, Shin and Smith (2001).

$$\Delta LGDP_t = \alpha_0 + \alpha_1 LGDP_{t-1} + \alpha_2 LFDI_{t-1} + \alpha_3 EXR_{t-1} + \alpha_4 INF_{t-1} + \alpha_5 INT_{t-1} + \sum b_1 \Delta LGDP_{t-1} + \sum b_2 \Delta LFDI_{t-1} + \sum b_3 EXR_{t-1} + \sum b_4 INF_{t-1} + \sum b_5 INT_{t-1} + \psi ECM_{t-1} + \varepsilon_t \dots \dots \dots (4)$$

In the above equation, LGDP= natural logarithm value of gross domestic product; LFDI= natural logarithm value of foreign direct investment; EXR= exchange rate; INF= inflation rate; INT= interest rate; μ = represents the white noise error term; Δ represents the first difference operator. The parameters b's are the short-run co-efficients and α 's are the corresponding long-run multipliers of the underlying ARDL model.

The bounds testing procedure is based on the joint F-statistic (or Wald statistic) for co-integration analysis. The asymptotic distribution of the F- statistic is non-standard under the null hypothesis of no co-integration between examined variables. Pesaran and Pesaran (1997) and Pesaran, Shin and Smith. (2001) report two sets of critical values for a given significance level. One set of critical values assumes that all variables included in the ARDL model are I(0), while the other is calculated on the assumption that the variables are I(1). If the computed test statistic exceeds the upper critical bounds value, then the Ho hypothesis is rejected. If the F-statistic falls into the bounds then the co-integration test becomes inconclusive. If the F-statistic is lower than the lower bounds value, then the null hypothesis of no co-integration cannot be rejected (Asteriou, 2007).

Empirical Results and Discussion

Unit root reSults

Before performing the Bounds test, it is essential to check for the stationarity of the data series to be used. The test is conducted using two different unit root models. That is, the Augmented Dickey Fuller (ADF) model and the Philips-Perron (PP) model. The essence of using the two test is for confirmatory testing and the result of the unit root test is shown in table 1 below:

Table 1: Results of Augmented Dickey-Fuller and Philips-Perron Unit Root Tests

Variables	ADF Test			PP Test		
	@Level	@Difference	Status	@Level	@Difference	Status
LRGDP	-0.288836	-3.986963*	I(0)	-1.459888	-9.701972*	I(0)
LFDI	-3.206826**	-5.202341*	I(1)	-3.053159**	-7.074545*	I(1)
EXR	1.755834	-3.290883**	I(0)	-2.528679	-4.339931*	I(0)
INF	-2.183398	-5.587805*	I(1)	-2.268517	-5.597855*	I(1)
INT	-0.899061	-4.135282*	I(1)	-1.140921	-4.154887*	I(1)

* indicates level of significance at 1%, ** at 5% and ***10%.

Source: Authors' estimation using EVIEWS 9 software.

Interpretation of ADF and PP Unit Root Tests Results

Before performing the Bounds test, it is essential to check for the stationarity of the data series to be used. This is important in order to obtain an unbiased estimation from the VAR approach to co-integration, and also because the Bounds test is used only when variables are I(0) or I(1) or the combination of both. The ADF and PP tests were applied to test for the existence of unit root. Therefore, Table 1 presents the results of ADF and PP unit root tests on the variables at their level and difference values. The summary of the result reveals that all the variables are non-stationary in the level values except FDI was found to be stationary at 5% critical level.

However, the stationarity property is found after taking the first difference of the four variables at 1% critical level. As stated earlier, it is necessary to first perform unit root tests on the variables in order to ensure that none of the variables is integrated of order two I(2) or beyond. According to Kubalu and Mustapha (2016), in presence of I(2) variables the computed F-

statistics of the bounds test are rendered invalid because they are based on the assumption that the variables are 1(0) or 1(1) or mutually co-integrated.

Table 2: Bounds F-Test for VAR to Co-integration Approach

Dependent Variables	Function	F-Statistics
LGDP	FLGDP (LGDP LFDI,EXR,INF,INT)	5.32*
Asymptotic Critical Value		
Significance	I(0) Bound	I(1) Bound
10%	2.2	3.09
5%	2.56	3.49
2.5	2.88	3.87
1%	3.29	4.37
Software, *indicates the level of significance at 1%, ** 2.5%, ***5% and ****10%.		

Source: Researcher's computation using EVIEWS 9

Interpretation of the Bounds F-Test for VAR-ARDL Co-integration Results

The next step after determining the order of integration of the variable is to apply a bound F-test in order to establish a long-run relationship among the variables. The results of the bounds test for VAR co-integration approach alongside with critical values are reported in Table 2 above. The bounds test indicates that co-integration is only present when natural logarithm of GDP is the dependent variable and the long run forcing variables are natural logarithm of FDI, exchange rate, inflation and interest rates. This is because the computed F-statistics F_{LGDP} (LGDP | LFDI, EXR, INF, INT) is 5.32, which is higher than the upper bound critical value at 1% significance level, suggesting the rejection of the null hypothesis that there is no long run relationship between foreign direct investment, exchange rate, inflation rate, interest rate and economic growth in Nigeria.

Table 3: Results of long-run Coefficients Using VAR-ARDL Approach

Regressor	Coefficient	Std Error	T-ratio	P-value
Dependent Variable LGDP				
LFDI	-0.590487	0.944621	-2.656714	0.0774***
EXR	-0.024016	0.022804	-1.053132	0.3024
INF	-0.084576	0.105114	-0.804610	0.4286
INT	-0.089022	0.320782	-0.277516	0.7837
*indicates the level of significance at 1%, **5% and ***10%.				

Source: Researcher's computation using EVIEWS 9 software.

Interpretation of Results of Estimated Long run Coefficients

Having determined the existence of a long run equilibrium when GDP serves as dependent variable, the long run coefficients are estimated using the associated VAR-ARDL and ECM. The VAR-ARDL model is estimated by automatic selection of maximum lag length of 4 and using Akaike information criteria in selecting the optimum lag order for the model. The specification finally selected is VAR-ARDL (1,0,0,0), the derived long run elasticities are presented in Table 3.

Based on Table 3, the results of the long run elasticities on the GDP in Nigeria are negative. The long run impact of FDI on economic growth is around -0.59 and statistically significant at 10 % level, meaning that a 10% increase in FDI will decrease economic growth by 59%. The

long run impact of exchange rate, inflation rate and interest rate on GDP are -0.024016, -0.084576 and -0.089022, respectively and all are statistically insignificant. Therefore, an increase in exchange rate will decrease economic growth in Nigeria by 2.4%. Similarly, the same increase in inflation rate will decrease 8.5%GDP in Nigeria. An increase in interest rate will decrease economic growth by 8.9% in Nigeria as it shows a negative relationship.

Table 4: Error Correction Mechanism (ECM) for the Selected VAR-ARDL Model

Regressor	Coefficient	Std Error	T-ratio	P-value
Dependent Variable: ΔLGDP				
ΔLFDI	-0.325365	0.213765	-1.522068	0.1405
ΔEXR	-0.002868	0.002103	-1.363606	0.1848
ΔINF	-0.002915	0.020343	0.143300	0.8872
ΔINT	-0.020246	0.074922	-0.270223	0.7892
CointEq(-1)	-0.176291	0.038097	-4.627441	0.0001*
CointEq(-1)= LGDP-(-2.5905*LFDI -0.0240*EXR -0.0846*INF -0.0890*INT +18.4004)*indicates the level of significance at 1%, **5% and ***10%.				

Source: Researcher's estimation using EVIEWS 9 software.

Interpretation of Results of Error Correction Model (ECM) for the Selected VAR-ARDL Model

The results of the short run dynamic coefficients associated with the long run relationships obtained from the VAR co-integrated equation (error correction model) are presented in Table 4. The signs of the dynamic impacts are maintained to the long run. Again, the FDI, exchange rate, inflation rate and interest rate variables were not significant and also shows a negative impact on economic growth. The error correction coefficient, estimated -0.176 (0.0001) is highly significant, has the correct sign, and imply a fairly high speed of adjustment to equilibrium after a shock. Approximately 18% of disequilibria from the previous year's shock converge back to the long run equilibrium in the current year. Exchange rate shocks, low influx of FDI, high interest rate and high level of inflation therefore has negative impact on economic growth into Nigeria.

Table 5: Results of Granger Causality Tests

Null Hypothesis	Lags	Obs	F-statistic	P-value
LFDI does not Granger cause LGDP	2	30	4.07381	0.0358*
LGDP does not Granger cause LFDI	2	30	1.81238	0.18582

Source: Researcher's estimation using EVIEWS 9 software.

Interpretation of Results of Granger Causality Tests

From the result of the Granger causality test in Table 5, it was revealed that a unidirectional causality run from FDI to economic growth. This result is in line with Tang, Selvanathan and Selvanathan (2008) in china, Abu and Achegbulu (2011) and Olusanya (2013) also, both in Nigeria. The decision on the direction of causality was made from the probability value of the test. In contrary, the Granger causality result of the GDP and FDI inflow indicates that there is no evidence of causality run from GDP to FDI as you can observe from F-statistics and probability values. This implies that changes in the past values of FDI can be used to explain changes in the present value of GDP in Nigeria. Also, changes in the past values of GDP

cannot be used to explain changes in the present value of FDI in Nigeria. This explains the reason for the low level of FDI in Nigeria.

Discussion of Findings

AVAR-ARDL bounds testing procedure that allows testing for a level relationship irrespective of the order of integration of the underlying series has been applied on the data to ascertain the long run relationship between FDI and GDP in Nigeria. Applying a bounds F-test, the results of this test suggest a long run relationship between FDI and economic growth in Nigeria. This result indicates that the FDI can be treated as a long run forcing variable explaining economic growth. This result is consistent with the findings of Merkussen and Vernables (1998), Victor (2013), Adigun (2015), Vasco (2015), Olunsanya (2013) and Njeru (2013) who found long run relationship between FDI inflow and economic growth. Moreover, the finding is in line with the findings of Borenztein, De Gregoria and Lee (1998), Glass and Saggi (1998) and Dee (1998) who also found long run relationship between FDI and economic growth. The finding however, contradicts the findings of Ahmed (1998), Terkular (2011), Moyo (2009) and Blomstrom and Kokko (1998) who found absent of long run relationship between FDI inflow and economic growth. Furthermore, the finding disputes the findings of Durham (2004), and Akinlo (2004), who found absent of short run relationship between FDI and economic growth.

Using VAR-ARDL bounds testing procedure, the results of the long run elasticities of FDI on economic growth in Nigeria are negative. The long run impact of FDI, exchange rate, inflation rate and interest rate on GDP are negative and both are statistically insignificant except FDI is significant at 10%. Also, this result is consistent with the findings of Njeru (2013), Nkechi (2013), Victor (2013), Ogbonna, Nwajumogu, Onwuka and Nwokoye (2013), Israel (2014) and Vasco (2015), who found a negative relationship between FDI and economic growth. The finding however, is in contrast to the findings of Emmanuel (2012), Obwona (2011), Todd, Ramachandran and Manju (2004), Merkussen and Vernables (1998), De Mello (1997), Globeran (1979) and Blomstrom and Kokko (1998), who found a positive relationship between FDI and economic growth. The Granger causality tests between FDI and economic growth is conducted using pairwise Granger Causality Tests. The results evidenced unidirectional causality run from FDI to economic growth. This result is consistent with the findings of Tang, Selvanathan and Selvanathan (2008) in China, Abu and Achegbulu, (2011) in Nigeria and Olusanya, (2013) who found unidirectional causality run from FDI inflow to economic growth. However, this finding contradicts the findings of Israel (2014) who found bidirectional causality between the variables.

Conclusion, Policy Implications and Recommendations

The ARDL-VECM technique was used to analyze the relationship between economic growth and the independent variables in Nigeria during the period 2009q1-2016q4. From the result, FDI, exchange rate, interest rate and inflation rate can be treated as the 'long run forcing' variable explaining economic growth in Nigeria. In other words, there is long run relationship between FDI, exchange rate, inflation rate, interest rate and economic growth in Nigeria.

From the findings, all the explanatory variables, i.e. FDI, exchange rate, interest rate and inflation rate shows negative influence on economic growth in Nigeria over the period of study. However, it reveals that FDI has a long run significant impact on economic growth, while, exchange rate, inflation rate and interest rate have had insignificant impact on economic

growth in Nigeria. It shows that, foreign direct investment, exchange rate, interest rate and inflation rate have negative impact on GDP in Nigeria.

Causal relationship between FDI inflow and economic growth is unidirectional, implying that it is foreign direct investment that influences economic growth and not the other way round. The study therefore recommends that since it has been found that FDI is related to economic growth, there is need for policy cohesion and coordination on foreign direct investment, exchange rate, inflation rate, interest rate and managers of the economy in Nigeria since FDI and economic growth are closely connected, both being integral part of the same process. It implies that economic growth policies can have very significant effect on foreign direct investment, inflation rate, interest rate and the exchange rates. At the same time, FDI policies can also stimulate or stifle GDP. Therefore, government should improve policy performance and its ultimate impact on improving economic growth and reducing exchange rate uncertainty. This calls for concerted efforts and coordination among the monetary policy and fiscal policy authorities.

Also, since the findings indicates that FDI, exchange rate, interest rate and inflation rate have negative effect on economic growth, it is appropriate for the authorities to develop sound exchange rate management in the country to encourage more foreign investors influx and improve the economic growth in Nigeria. The Central Bank should use the allocations and disbursement of foreign currencies as well as the naira to regulate the vacillations in exchange rate over time. Stability in national currency will attract more private investors in the country to improve the economy. On the general macroeconomic policy, government should be applying what has worked, the regulatory agencies should note that we need different approaches to addressing different levels of foreign investors. The value of naira has dropped radically just as it was holding on to the naira not paying as much as beneath the demand and supply structure that determines the value of the naira. So those policies should be actively pursued not focusing on the naira.

Lastly as evidenced in this study, causality runs from FDI to economic growth through FDI influx to Nigeria, which could come in during periods of naira appreciation or depreciation. Therefore, an economy that is driven by FDI flows, a low turnout of FDI will result in a decline in economic growth. The fundamental challenge to regulatory authority therefore lies in its ability to guarantee the safety of business, provide an enabling environment and stable exchange rate practices by strengthening the naira value with a moderate inflation rate as well as single interest rate to overhaul the economic infrastructure to allow it to grow. Hence, sound fiscal and monetary policies will help put these shocks under effective control and dampen exchange rate uncertainty with moderate inflation. Of course, this will ultimately maximize the private sector participation on the growth of the economy. This is a challenge for both the fiscal and monetary policy authorities in Nigeria.

References

- Abu, M. & Achegbulu, J.O. (2011). An investigation of the impact of foreign direct investment on Economic Growth in Nigeria. *Journal of International Business and Management*, 3 (1), 32 – 238.
- 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*, Pp. 5-25. Italy: Milan.
- Adigun, A. O. (2015). Sectoral inflow of foreign direct investment and economic growth in Nigeria. *Journal of Economics and Sustainable Development*, 6(17)
- Adigun, A.O. (2015). Sectoral Inflow of Foreign Direct Investment and Economic Growth in Nigeria. *Journal Afe Babalola University, Ado-Ekiti, Nigeria Journal of Economics and Sustainable Development*, 6(17)
- Ahmed, A. (1998). Strategic for foreign investment in Nigeria. A CBN Perspective. *Economic and Financial Review*, 26(1)
- Akinlo, A. E. (2004). Foreign direct investment and growth in Nigeria: An empirical Investigation. *Journal of Policy Modeling*, 26, 627-639
- Akinlo, A. E. (2004). Foreign direct investment and growth in Nigeria: An empirical Investigation. *Journal of Economic and Social Studies*, 3(1), 39 – 67
- Asiedu, E. (2001). On the Determinants of foreign direct investment to developing countries: Is Africa different? *World Development*, 30(1), 107 – 119
- Asteriou, D. & Hall, S. (2007). *Applied econometrics: A modern approach using Eviews and Microfit*, Revised Edition. London: Palgrave Macmillan.
- Aswathappa, K. (2015). *International business*. New Delhi: Tata McGraw Hill Pub. Co.
- Blomstrom, M. & Kokko, A. (1998). Multinational corporations and spillovers, *Journal of Economic Surveys*, 12, 247 – 77
- Boresztein, E., De-Gregoria, J. & Lee, J. (1998). How does foreign investment Affect economic growth? *Journal of International Economics*, 45(1), 115-35
- Carkovic, M. & Levine, R. (2002). *Does foreign direct investment accelerate economic growth?* Working Paper (University of Minnesota, Department of Finance, Retrieve from www.ssrn.com/abstract-314924).
- Carkovic, M. & Levine, R. (2002). *Does foreign direct investment accelerate economic growth?* University of Minnesota. May.
- Central Bank of Nigeria (CBN) (2016). *Statistical bulletin*.

- De-Mello, L. R. (1997). Foreign direct investment in developing countries and growth: A Selective Survey. *Journal of Developing Studies*, 34(1), 1 – 34
- Dee, S. (1998). Foreign direct investment in china: determinants and effects. *Economics of Planning* 31, 175 – 94.
- Durham, J.B. (2004). Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth. *European Economic Review*, 48 (2), 285 – 306.
- Dutse, A. Y. (2008). *Nigeria economic growth, emphasizing the role of foreign direct investment in transfer of technology*, Communication of IBIMA, 3, 11 – 16
- Emmanuel, N. E. (2012). *The impact of foreign direct investment on the Nigerian Economy. Department of Banking and Finance. School of Post Graduate Studies, University of Nigeria, Enugu: Campus.*
- Engel, R. & Granger, C. (1987). Co-integration and error correction estimates: representation, estimation, and testing, *Econometrica*, 55, 251–276.
- Girman, S. Greenway, D. & Wakelin, K. (2001). Who benefits from foreign direct investment in the UK?. *Scottish Journal of Political Economy*, 48, 23-32.
- Glass, A & Saggi, K. (2009). FDI policies under shared factor markets, *Journal of International Economics*, 49, 309 – 332.
- Globeram, S. (1979). Foreign direct investment and spillover. efficiency benefits in Canadian manufacturing industries, *Canadian Journal of Economic*, 12, 42 – 56
- Granger, C. (1969). Investigating causal relationship by econometric models and cross-spectral method. *Econometric*, 424 – 438.
- Kubalu, A. I. & Mustapha, A. M. (2016). Impact of crude oil exports and corruption on economic growth in Nigeria: Using ARDL Bound Test. *Journal of Educational Policy and Entrepreneurial Research*, 3, (7), 139-156. Available at: <<http://ztjournals.com/index.php/JEPER/article/view/374>>.
- Mankiw, G. (2003). *Macroeconomics 5th edition*, north publishers USA. measurement systems, business process management. *Journal*, 11(2), 109-122
- Merkussen, J. R. & Vernable, A. J. (1998). Multinational firms and the new trade theory . *Journal of International Economics*, 46, 183 – 203.
- Moyo, D. (2009). *Dead aid: Why Aid is not working and how there is another way for Africa.* PENGUIN Books.
- National Bureau of Statistics (NBS) (2016).*

- National Economic Reconstruction Fund (NERFUND) (1989). *Degree*.
- Njeru, B. N. (2013). the impact of foreign investment in Nigeria: A CBN perspective. *Economic and Financial Review*, 26(1)
- Njeru, B.N. (2013). *The impact of foreign direct investment on economic growth*. Kenya: Master's Thesis, University of Nairobi.
- Nkechi, E. R. (2013). *The impact of foreign direct investment on economic growth in Nigeria*. (Thesis) Enugu: Caritas University, Amorji Nike, State.
- Obwona, M.B. (2001). Determinant of FDI and their Impacts on Economic Growth in Uganda. *African Development Review*, 13(1), 46–80.
- Ogbonna, I. C., Uwajumogu, N. R., Onwuka, K. & Nwokoye, E. S. (2013). Business mentoring and domestic entrepreneurship in nigeria's manufacturing sub-sector: the place of foreign direct investment inflows. *Developing Country Studies*, 3(8)
- Olunsanya, S.O. (2013). Impact of foreign direct investment inflow on economic growth in a pre and post deregulated nigerian economy. A Granger Causality. *Test European Scientific Journal*, 9(25).
- Pesaran, M.H., Shin, Y. and Smith, R.J. (2011). Bounds Testing Approaches to the Analysis of Level Relationships. *Journal of Applied Econometrics*. Wiley Online Library, 16(3), 289 - 326.
- Tang, S. E., Selvanathan, A. & Selvanathan, S. (2008). Foreign direct investment, domestic investment and economic growth. *UNI–INIDER Research Paper*
- Terkular, G. (2011). Foreign direct investment inflows and the development crisis in the south: A political economy analysis. *Africa – Dynamics of Social Science Research*, 1(1)
- Todd, J. M, Ramachandran, V. & Manju, K. S. (2004). *Is Africa's Skepticism of foreign capital justified?* Evidence from East African Firm Survey Data.
- Victor, A. A. (2013). Foreign direct investment and manufacturing sector performance in Nigeria. *Australia Journal of Business and Management Research*, 3(40), 39-56.