Estimating the Impact of Foreign Direct Investment in Nigeria

Alexander Abraham Anfofum
Department of Economics
Nigerian Defence Academy Kaduna
Nigeria

Joshua Samuel Gambo
Department of Accounting
Nigerian Defence Academy Kaduna
Nigeria

Tauhid Suleiman
Department of Accounting
Nigerian Defence Academy Kaduna
Nigeria

Abstract

The inflow of foreign direct investment to developing countries has continued to be on the increase but empirical findings suggest mixed evidences. This study investigates the relationship between FDI and economic growth in Nigeria. The variables used in this study where stationery after the first and second differencing at 5% level, indicating the absence of a spurious and misleading interpretation of regression results. The ordinary least square equation was disaggregated into five equations, a cointegration and Granger causality techniques were employed to determine the relationship between economic growth and FDI. The outcome of the estimated results revealed that FDI spurs exports, gross fixed capital formation and economic growth in Nigeria. Thus, FDI is a positive measure of economic growth. The Johansen unrestricted cointegration rank test showed a long run significant relationship between FDI and economic growth. The Ganger causality outcome revealed the presence of unidirectional causality running from economic growth to foreign direct investment. This study recommends improvement in infrastructural development especially in good roads and electricity supply as this will increase the level of development which will in turn attract more inflow of FDI. The government should provide an enabling environment in the area of security so that foreign investors would be encourage to invest more and local investors will not relocate to neighboring countries.

Keywords: Foreign direct investment, economic growth, regression, cointergration, causality

1. Introduction

Given the attendant increase in financial quagmire faced by developing nations, it is obvious that the failure of individual nation's commercial banks to provide financial resources to investors has become the bane of economic growth. Certainly, there is the need to turn to developed nations and foreign organizations for financial resource assistance. There seems to exist a common understanding among policy makers that foreign direct investment (FDI) is the source of that financial inflow which comes with increase productivity for the host nation, employment opportunities and transfer of technology. According to Alfaro, Chanda, Kalemli-Ozcan and Sayek (2006) the benefits of FDI including the direct capital financing it provides, suggest that FDI play an important role in modernizing a national economy and promoting economic development. However, available empirical evidence on the impact of FDI on a nation's economic growth is mixed as results of some studies were positive, negative and inconclusive or ambiguous in some instances.

The Nigerian government is primarily concerned with how to promote and improve economic development and reduce the rate of poverty in the country. Owing to this objective, the government always attempt to woo or attract inflow of FDI. Nigeria economy has been experiencing growth for some years, but how FDI translates into economic growth suggests an empirical investigation.

The main objective of this study is to explore the impact of FDI on the economic growth. In this direction, this study shall attempt to ascertain empirically the impact of FDI on economic growth in Nigeria between 1986 and 2011. This paper is separated into five parts. Part one is the introduction. Part two is the literature review while part three is the methodology of the study and part four is the presentation of results and analysis. Part five is the conclusion and recommendations of the study.

2. Literature Review

2.1 Empirical Literature on the Impact of FDI on Economic Growth.

Empirical evidences are bound on FDI and Economic Growth. Abel and Nikki (2011) examined the relative impact of macroeconomic variables and institutional factors on foreign direct investments of 30 Sub-Sahara African (SSA) countries between 1995 and 2008. They found that financial development, the size of market and infrastructural development and urban accumulations are important factors that measure the inflows of FDI to the SSA region. Behname (2012) applied random effects model to measure the impact of foreign direct investment on economic growth in Southern Asia. The investigation concluded that foreign direct investment has positive and significant effect on economic growth. Onakoya (2012) disaggregated the economy and employed a structural macroeconometric model consisting of four blocks namely: supply, private demand, government and external sectors to measure the impact of FDI on economic growth.

The findings showed that FDI has a significant impact on output of the economy, however, the growth effects of FDI differs across sectors in Nigeria. Esther and Folorunso (2011) estimated the impact of FDI inflows on economic growth in Nigeria. The study reported the extent to which FDI influence economic growth positively to limited human capital. Zakia and Ziad (2007) have also measured the effect of FDI on the economic growth of Jordan. The estimated regression results pointed to the existence of bidirectional relationship between FDI and output. Kashif and Muhammad (2013) investigated the impact of FDI on Pakistan economic growth. The study developed an auto regressive distributed lag (ARDL) model. The model examines long run relationship between the variables and found absence of long run relationship between FDI and economic growth.

Ayanwale (2007) investigated the empirical relationship between non-extractive FDI and economic growth in Nigeria. Using OLS technique, the study found that FDI had a positive impact on economic growth. Herzer, Klasen, and Nowak-Lehmannl (2006) used a bivariate vector autoregressive (VAR) model to quantify the impact of FDI in some developing countries. The study discovered evidence of a positive FDI-led growth for Nigeria, Sri Lanka, Tunisia, and Egypt and based on weak exogeneity tests, a long-run causality between FDI and economic growth running in both directions was found for the same countries.

A slight difference was observed in Okodua (2009) who examined the sustainability of FDI-growth nexus in Nigeria. Using Johansen cointegration framework and a multivariate VAR within a vector error correction model (VECM), the outcome suggests a long-run equilibrium relationship between economic growth and FDI inflows; more so, a unidirectional causality from FDI to economic growth was discovered. Folorunso (2013) applied the rho's rank correlation and causality test in exploring the possible links between FDI and economic growth in Nigeria. The outcome revealed that the link between FDI and economic growth in Nigeria is positive but weak. Certainly, the series of articles reviewed for this study showed a unidirectional causality running from FDI to economic growth (Edoumiekumo (2009), Esther and Folorunso (2011) and economic growth to FDI (Okodua (2009)) and Ugochukwu, Okore and Onoh (2013)) on one hand, and bidirectional causality as suggested by Zakia and Ziad (2007) and Herzer, Klasen, and Nowak-Lehmannl (2006) on the other hand. However, there was no evidence of causality.

3. Research Methodology

3.1 Sources of Data for the Study

Time series data were used for this study. This was obtained from central bank of Nigeria statistical bulletin of various issues. Also the National Bureau of statistic and international financial statistics was consulted in this study.

3.2 Empirical Framework and Model Specification

Various analytical techniques have been suggested in the literature by various authors in order to measure the impact of FDI on economic development in developing nations.

In order to analyze the impact of FDI on economic growth in Nigeria, the ordinary least square method as developed by Shiro (2009) was modified for this study. The model measures the influence of log linear FDI on log linear of gross fixed capital formation (LGFCF), infrastructural development (LINFR), exchange rate (LEXR), total export (LTEXP) and gross domestic product (LGDP).

3.3 Model Specification

The model specification of this study is expressed as follows:

FDI = F(GFCF, INFR, EXR,TEXP.GDP) ……..……..1

Given the model in equation 1, the respective individual impact of each of the variables on LFDI suggests the decomposition of the model and the log form of the linear equation is expressed as:

$LEXR = b_0 + b_1LFDI_t + b_2EXR_{t-1} + b_3TEXP_t + u_t$ ……..……...2

$LINFR = b_0 + b_1LFDI_t + b_2LINFR_{t-1} + b_3LPE_t + u_t$ ……..…….....3

$LTEXP = b_0 + b_1LFDI_t + b_2LTEXP_{t-1} + b_3GDP_t + u_t$ ……...…….4

$LGFCF = b_0 + b_1LFDI_t + b_2LGFCF_{t-1} + b_3GDP_t + u_t$ ……..….5

$LRGDP = b_0 + b_1LFDI_t + b_2LGFCF_{t-1} + b_3GDP_t + u_t$ ……..……...6

Where

LGDP = gross domestic product

LGFCF = gross fixed capital formation representing investment in the host nation.

LINFR = level of infrastructural development

LPE = public expenditure

LEXR = exchange rate which represent macroeconomic stability of the economy

LTEXP = total export.

3.4 Explanation and Expectations of the Variables in the Models.

The LGFCF which is a proxy for investment in this study, it is expected to be affected positively by LFDI. In other words, the continuous inflow of LFDI will increase the level of LGFCF in Nigeria. The more developed a nation's level of infrastructure is the higher the level of LFDI. Infrastructures in this study represents services in terms of electricity supply, good roads, telecommunication, postal service and a host of others services. The a priori expectation is that LFDI impacts positively on LINFR of the host country. Exchange rate is a very significant variable in measuring LFDI. It is a macroeconomic variable with a lot of instability. The continuous depreciation of the Nigerian naira currency in relation to other major international currencies may be a source of increase LFDI. It is expected that this should increase the inflow of foreign resources.

The performance of Nigeria's total export could encourage the presence of LFDI. If the growth rate of export is positive, inflow of LFDI inflow will increase. The study anticipates a positive impact of LFDI on export. The overall performance of an economy is measured by the growth performance of LGDP. Increase in LGDP becomes an important motivation to attract LFDI. When the performance of nation's of LGDP is high, it portrays an economy that is growing and this is a positive signal for foreign investors. In sum, the a priori expectation of this study is that FDI in all the equations should affect or impact positively on the various dependent variables.

3.5 Stationary and Cointegration Test Procedure

This study utilized the Augmented Dickey Fuller (ADF) and Phillip Peron (PP) test statistics to perform the unit root test for the dependent and independent variables in the model. Most time series data are non-stationary and using non-stationary variables in the model might lead to spuriousness of misinterpretation of regression results (Granger, 1969). Recent studies have shown the need to avoid spurious outcome Oseni and Enilolobo (2011) and Sackey, Keyeke and Nsoah (2012). The ADF and PP test allows for serial correlation in the error term. The variables were tested at the level after which they were tested at first or second difference. In order to know whether the data is stationary, the value of ADF and PP statistics is compared with McKinnon critical values. If the ADF and PP statistic test value are greater than the McKinnon critical values at a chosen level of significance (5%), then the study will reject the null hypothesis of non-stationary and conclude that the data is stationary. In order words, if the series is I (1), then the series have a unit root or it a random walk process.

The Johansen cointegration was used because it performs better in multivariate model. The cointegration test helps to determine the presence or otherwise of long run equilibrium relationship between the dependent and independent variables in the model.

The estimation procedure here assumed a vector autoregressive (VAR) based cointegration test (Johansen and Juselius (1990)) of order p which is given as

$Y_t = A1y_{t-1} + \ldots.. + Apy_{t-p} + Bx_t + e_t$ ……7

where y_t is a - vector of x_t non-stationary I(1) variables, is a d -vector of deterministic variables, and e_t is a vector of innovations. This VAR can be expressed as,

$$\Delta y_t = \Pi y_{t-1} + \sum_{i=1}^{p-1} \Gamma\Delta\, y_{t-1} + Bx_t + e_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 8$$

Where

$$\Pi = + \sum_{i=1}^{p} Ai - I \quad \text{and} \quad \Gamma i = \sum_{j=i+1}^{p} Aj \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 9$$

3.6 Granger-Causality Test

According to Granger (1969), Y is said to "Granger-cause" X if and only if X is better predicted by using the past values of Y than by not doing so with the past values of X being used in either case. In this study, if FDI causes GDP and GDP does not cause FDI, it is a unidirectional causality that runs from FDI to GDP. If FDI does not cause GDP and GDP does not cause FDI, then GDP and FDI are statistically independent. If FDI causes GDP and GDP causes FDI, then a feedback exists between GDP and FDI. To determine whether there is granger causality between FDI and economic growth in Nigeria, the following Granger causality model was adopted in line with Egbo (2010), Khan, (2007) and Adeolu (2007), Engle and Granger (1987).

$$GDP_t = M_1 + \sum \gamma i GDP_{t-1} + \sum \Phi i FDI_{t-1} + \sum {}_{1t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 10$$

$$FDI_t = M_2 + \sum \rho_I FDI_{t-1} + \sum \theta i GDP_{t-1} + \sum {}_{2t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 11$$

Where
M_1 and M_2 are constants, and Σ_{1t} and Σ_{2t} are the stochastic term.
The statement of hypothesis is
H_{01} : GDP does not Granger cause FDI.
H_{02} : FDI does not Granger cause GDP

4. Presentation of Results and Discussion

In this section, the results of the estimated regression equation are presented and discussed. The 5 stochastic equations of the model specify the individual impact of foreign direct investment behavior on exchange rate (LEXR), infrastructure development (LINFR), total export (LTEXP), gross fixed capital formation (LGFCF) which was a proxy for investment, and economic growth (LGDP) were estimated. The coefficients of the 5 stochastic equations were discussed and the hypotheses testing for each equation was performed after comparing the calculated t-values and their corresponding t-table value at 5% level. The analysis of the results was based on the strength or significance of the explanatory variables coefficients and their conformity to a priori expectations. Also, the cointergation and Granger causality tests were analyzed.

Table 1: Result of unit root test using Augmented Dickey Fuller (ADF) and Phillip Peron (PP) test statistics

Variable	95% ADF test	Critical Value	Order of integration	95% PP test	Critical value	Order of integration
LFDI	-3.165778	-3.0038	I(1)	-6.509568	-2.9969	I(1)
LEXR	-3.029978	-3.0038	I(1)	-4.639232	-2.9969	I(1)
LGDP	-4.452707	-3.0114	I(2)	-4.052939	-2.9969	I(1)
LGFCF	-4.886370	-3.0114	I(2)	-5.002939	-2.9969	I(1)
LINFR	-6.423334	-3.0114	I(2)	-9.062397	-3.0038	I(2)
LTEXP	-6.259908	-3.0114	I(2)	-5.076627	-2.9969	I(1)

Source: Computed from econometric views 7 by the authors.

4.1 Augmented Dickey-Fuller (ADF) and Phillip Peron (PP) unit root statistic test results.

This study presents the results of Augmented Dickey-Fuller (ADF) and Phillip Peron (PP) unit root statistic test in table 1 above. The variables where non stationery at the level, but after the first and second differencing at 5% level, all the variables became stationary indicating the absence of a spurious and misleading interpretation of regression results for this study.

4.2 The Result of Johansen Cointegration Test

Table 2 below shows the result of Johansen cointegration test of two likelihood ratio test statistics: that is the trace statistic and the Maximum Eigen-value which is commonly used to determine the number of cointegraton vectors in a study. The Johansen cointegration test reveals the presence of at least six cointegration vectors in the series. This is an evidence of equilibrium long-run relationship between the variable FDI and other macroeconomic variables in the model. Linear deterministic trend was assumed for the test. From the result in table 3, the trace statistics for null hypothesis was rejected at 5 percent level, thus, confirming a long run significant relationship between LFDI and LEXR, LINFR, LTEXP, LGFCF and LGDP. This outcome supports Mohammed, Parker and Omade (2011) but does not give credence to Kashif and Muhammad (2013) whose finding was otherwise.

Table 2: the Johansen co-integration - Unrestricted integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigen Value	Trace Statistics	0.05 Critical Value	Prob**
None *	0.996768	362.2259	125.6154	0.0000
Almost 1*	0.969606	230.3283	95.75366	0.0000
Almost 2*	0.951380	149.9777	69.81889	0.0000
Almost 3*	0.787498	80.43234	47.85613	0.0000
Almost 4*	0.646862	44.80988	29.79707	0.0005
Almost 5*	0.173119	4.372160	3.841466	0.0365
Trace test statistics 6 cointegration equations at the 0.05 level *denotes rejection of the null hypothesis at the 0.05 level **MacKinnon- Haug-Michelis (1999) p-value				

Source: Computed from econometric views 7 by the authors.

Table 3: Unrestricted Co integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigen Value	Max-Eigen Statistics	0.05 Critical Value	Prob**
None *	0.996768	131.8976	46.23142	0.0000
Almost 1*	0.969606	80.35055	40.07757	0.0000
Almost 2*	0.951380	69.54538	33.87687	0.0000
Almost 3*	0.787498	35.62246	27.58434	0.0038
Almost 4*	0.646862	23.94060	21.13162	0.0196
Almost 5*	0.173119	4.372160	3.841466	0.0365
Max-eigen value test indicates 6 cointegration equations at the 0.05 level Trace test indicates 6 cointegrating equations at the 0.05 level *denotes rejection of the hypothesis at the 0.05 level				

Source: Computed from econometric views 7 by the authors.

4.3 The Long run Regression Results

$$LEXR = 0.8874 + 0.0013LFDI + 1.004LEXR_{-1} - 5.72LTEXP \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 12$$
$$(1.97) \qquad (9.36) \qquad (-1.86)$$
$$R^2 = 0.94. \quad R^{-2} = 0.93. \quad \text{DW Statistics} = 2.12.$$

The results of the estimated multiple regressions are presented in equations 12 – 16. The result of exchange rate (LEXR) and LFDI is presented in equation 12 above. The result showed that the adjusted coefficient of determination is 0.93, which is a good fit and the Durbin Watson (DW) statistics test of 2.12 does not indicate the presence of auto correlation.

The estimated coefficient of LFDI and lagged LEXR were positively signed to LEXR. In particular, LFDI impacted positively on LEXR. This means that a 100 percent increase in LFDI will increase LEXR by 0.14. This outcome gives credence to Adofu (2009). All the variables were statistically significant at 5% level.

$$LINFR = 711.52 - 0.037LFDI + 1.098LINFR_{-1} + 0.005LPE \quad \ldots 13$$
$$(-2.23) \qquad (8.85) \qquad (1.74)$$
$$R^2 = 0.99. \;\; R^{-2} = 0.98. \;\; \text{DW Statistics} = 2.09.$$

Equation 13 is the estimated regression line of infrastructures (LINFR) and LFDI. The adjusted coefficient of determination (R^{-2}) is 0.99 percent, indicating that the variables of LFDI, public expenditure (LPE) and lagged LINFR have a total of 99 percent explanatory power of the variability in LINFR. The DW statistics test of 2.09 does not indicates the presence of auto correlation. Generally, the regression line is a good fit. The coefficients of the estimated regression equation showed that LFDI is negatively signed. This is an indication that FDI (-0.037) impacted negatively on LINFR. This result was not expected in this study. This is because the level of public and private sectors investment in infrastructure in Nigeria is on the increase. This result suggests the epileptic or erratic power supply which is one of the reasons for the relocations of industries from Nigeria to neighboring countries like Ghana etc. The result revealed that all the estimated variables are statistically significant at 5% level.

$$LTEXP = -329161 + 11.823LGDP + 4.298LFDI + 0.396LTEXP_{-1} \quad \ldots 14$$
$$(3.37) \qquad (1.27) \qquad (2.44)$$
$$R^2 = 0.97. \;\; R^{-2} = 0.96. \;\; \text{DW Statistics} = 2.04.$$

Equation 14 is the regression line of LFDI and total export in Nigeria. The adjusted coefficient of determination is 0.96 with a DW of 2.04. The estimated coefficient of the regression line showed that all the variables are positively signed. The LFDI variable is 4.30. This concludes that a 10 percent increase in LFDI will increase total export by 43.0 percent. This outcome was anticipated. The calculated statistics value of LGDP, LFDI and $LTEXP_{-1}$ suggests that only LFDI was statistically insignificant at 5%.

$$LGFCF = 4048.08 + 0.044LFDI + 0.018LGDP + 0.590LGFCF_{-1} \quad \ldots 15$$
$$(0.34) \qquad (0.94) \qquad (3.98)$$
$$R^2 = 0.76. \;\; R^{-2} = 0.73. \;\; \text{DW Statistics} = 1.87.$$

Equation 15 is the result of the gross fixed capital formation and foreign direct investment in Nigeria. The result reveals that the adjusted R-square 0.73 is an indication of goodness of fit of the regression line. The DW value of 1.87 is a good measure of the absence of serial correlation. The coefficient of the regression line showed that LFDI is positively signed. This is an indication that LFDI is positively related to LGFCF. The result revealed that a 100 percent increase in LFDI will result in 4.4 percent increase in investment (LGFCF) in Nigeria. This outcome was expected even in the presence of concentration of FDI in the extractive industry. However, LFDI was statistically insignificant at 5% level as the estimated or calculated t-value of 0.94 is less than t table value of 1.72. Only the lag value of LGFCF value of 3.98 is statistically significant at 5% level.

$$LGDP = 116762.7 + 0.591LGDP_{-1} + 0.023LFDI + 0.015LTEXP \quad \ldots 16$$
$$(2.53) \qquad (0.15) \qquad (1.73)$$
$$R^2 = 0.96. \;\; R^{-2} = 0.95. \;\; \text{DW Statistics} = 2.09.$$

The regression line in equation 16 is for LFDI and LGDP. The adjusted coefficient of determination is 0.95 which reveals that the joint independent variables have a 95 % explanatory power of the variation in LGDP. The DW statistic of 2.09 is within the acceptable range of no serial correlation. The coefficient of the regression line showed that all the variables are signed positive. The LFDI coefficient is 0.023. This means that a 100 percent increase in FDI will increase GDP by 2.3 percent. This result was anticipated for this study. The result supports Egwaikhide (2012) and Adofu (2009). All the variables except LFDI are statistically significant at 5% level.

Table: 4 Sensitivity and Stability Test

Diagnostic Test Result		
	Statistic	**Probability**
Jarque Bera Normality Test	1.571072	0.455875
Breusch-Godfrey LM Test	0.923912	0.477643
Arch LM test	0.089720	0.767317
White Heteroskedasticity Test	0.089742	0.767300
Ramsey RESET	0.898244	0.562193

Computed from econometric views 7 by the authors.

The variables in the regression line pass through the necessary diagnostic tests regarding serial correlation, autoregressive conditional, white heteroscedisticity and normality of error tern. The diagnostic test conducted for this study in table 4 above showed that the model has passed through the Ramsey RESET stability test which satisfies that the functional form of the model was adequately specified. This is an indication of the absence of specification errors in the model. The residual test revealed the absence of autoregressive conditional heteroscedisticity, thus, satisfying evidence of no serial correlation in the long-run regression line.

4.4 The Granger Causality

The Granger test for causality is an econometric technique used to identify the direction of causal relationship between variables. In this study, the causality test result was presented in table 4 below.

Table 5: The Pairwise Granger Causality Test Result

Null hypothesis	Obs	F- statistics	Prob	Conclusion
LGDP does not Grange cause LFDI	25	3.53583	0.70068	R
LFDI does not Grange cause LGDP		0.00333	0.96728	A

R = rejection, A = accepted. Source: Computed from econometric views 7 by the authors.

Here in table 5, the Granger causality test was conducted using a lag length of 2. The probability values and the F statistics are given on the right side of the table. From the result, it shows that the null hypothesis that LGDP does not Granger cause LFDI was accepted, whereas the null hypothesis that LFDI does not Granger Cause LGDP was rejected. This means that within the period of this study, a unidirectional causality runs from economic growth to foreign direct investment. This suggests that information on past values of economic growth can be used to predict the future values of foreign direct investment. By implication the result suggests that the performance of the domestic economy provide impetus for the inflow of FDI into the Nigeria economy. This outcome is consistent and confirms earlier outcomes by Edoumiekumo (2009) and Ugochukwu, Okore and Onoh (2013) but not bidirectional causality as suggested by Zakia and Ziad (2007) and Herzer, Klasen, and Nowak-Lehmannl (2006).

5. Conclusion and Recommendations

The aim of this study is to investigate the impact of FDI on economic growth in Nigeria. The series of empirical studies reviewed in this study showed varied outcomes, suggesting the need for further clarification. The results of some studies are positive, while others are negative and ambiguous. In order to achieve the main objectives of this study, the ordinary least square (OLS) technique was applied to determine the impact of FDI on economic growth. The OLS was decomposed into five separate equations. This was to enable an independent measurement of the impact of FDI on exchange rate, infrastructures, export, gross fixed capital formation (investment) and gross domestic product. The individual equations showed positive impact of FDI on investment, exchange rate, exports and gross domestic product while a negative outcome was found between FDI and infrastructures. The cointegration result indicates the presence of long run relationship between FDI and economic growth which was an evidence of equilibrium long-run relationship. The result of Granger causality indicated a unidirectional causality running from foreign direct investment to economic growth. This study recommends improvement in infrastructural development especially in good roads and electricity supply as this will increase the inflow of FDI. The government should provide an enabling and conducive environment that enhances foreign direct investment; this will curtail the outflow of local investors to neighboring countries. More so, the incessant security challenges in the country should be tackled immediately in order to give confidence to local and foreign investors.

References

Abel, E. E. and Nikki, C. (2011). FDI flows to Sub- Saharan Africa: the impact of finance, institution and natural resource endowment, Department of Economics and Economic History, Rhodes University, Grahams town, South Africa.

Adeolu, E. (2007). On the determinants of foreign direct investment to developing countries: Is Africa different. *World Development*, 30(1): 107—19.

Adofu, I. (2009). Accelerating economic growth in Nigeria, the role of foreign direct investment. Current Research Journal of Economic Theory 2(1): 11-15, 2010.*maxwellsci.com/print/crjet/v2-11-15.pdf*

Alfaro, L., Chanda, A., Kalemli-ozcan, A and Sayek, S. (2006). How does foreign direct investment promote economic growth? exploring the effects of financial markets on linkages. www.hbs.edu/faculty/Pages/download.aspx?name=07-013.pd

Ayanwale, A. B. (2007). "FDI and economic growth: evidence from Nigeria". *AERC Research Paper 165.African Economic Research Consortium*, Nairobi.

Behname, M. (2012). Foreign direct investment and economic growth: evidence from southern Asia. *Atlantic Review of Economics* – 2st Volume.

Edoumiekumo, S. (2009). Foreign direct investment and economic growth in Nigeria: a Granger causality test. *Journal of Research in National Development*.Vol. 7.No. 2.

Egbo, O. (2010). An analysis of foreign direct investment inflow and economic growth in Nigeria. PhD Thesis, University of Nigeria Enugu Campus.

Egwaikhide, C.I. (2012). The impact of foreign direct investment on Nigeria's economic growth; 1980-2009: evidence from the Johansen's cointegration approach. *International Journal of Business and Social Science.* Vol. 3, No. 6.

Engle, F.R. and Granger, W.C. (1987). "Co-integration and error correction: representation, estimation and testing. *Econometrical*. Vol. 55, pp. 25 1-276.

Esther, O. A and Folorunso, S. A. (2011). The role of foreign direct investment in economic development: A study of Nigeria, *World Journal of Entrepreneurship, Management and Sustainable Development*, 6(1/2), 133-147.

Folorunso, S. A. (2013). The impact of foreign direct investment flows on economic growth in Nigeria. *Advances in Management & Applied Economics*, vol.3, no.1, *.www.scienpress.com/download.asp?ID=525*

Granger, C.W.J. (1969). Investigating the causal relations by econometric models and cross- spectral methods.*Econometrica.*Vol.37(3) pp.424-438.

Herzer, D., Klasen, S. and Nowak-Lehmann, D.F. (2006). In search of FDI-led growth in developing countries: The way forward". *Ibero American Institute for Economic Research.*

Johansen, S. & Juselius K. (1990). Maximum likelihood estimation and inference on cointegration – with application to the demand for money. *Oxford Bulletin of Economics and Statistics*, Volume 52, pp.170-209.

Kashif, Y. and Muhammad, R. (2013). The Impact of foreign direct investment on Pakistan economic growth. *Interdisciplinary journal of contemporary research in business*, institute of interdisciplinary business research 287 March 2013.Vol 4, No. 11

Sackey, F.G., Keyeke, G.C. & Nsoah, J., (2012). Foreign Direct Investment and Economic Growth in Ghana. *Journal of Economics and Sustainable Development.* Vol. 3, No. 10.

Khan, A. (2007). Foreign direct investment and economic growth: the role of domestic financial sector. *PIDE Working Paper*.

Okodua, H. (2009). Foreign direct investment and economic growth: co-integration and casualty analysis of Nigeria. *The African Finance Journal*. – Africa growth Institute. - Vol. 11. No. 1. P. 54-73

Onakoya, A. B. (2012). Foreign direct investments and economic growth in Nigeria: a disaggregated sector analysis. *Journal of Economic and Sustainable development.* Vol. 3 No. 10.

Saqib, N., Masnoon and Rafique N (2013).Impact of foreign direct investment on economic growth of Pakistan. *Advances in Management & Applied Economics*, vol.3, no.1, 2013, 35- 45.

Oseni, I.O and Enilolobo, O.S. (2011). Effect of foreign direct investment and stock market development on economic growth in Nigeria (1980-2009). *European Journal of Business and Management.* Vol. 3, No. 12.

Mohammed, O.Z, Parker, I.F and Omade, S.I. (2011). Co-integration analysis of foreign direct investment inflow and development in Nigeria. *Developing countries studies*, Vol. 1. No.1 P56-67.

Shirro, A.A. (2009), "The impact of foreign direct investment on the Nigerian economy", department of finance, University of Lagos, Nigeria. www.unilag.edu.ng/opendoc.php?sno=13603&doctype=doc

Ugochukwu, U. S., Okore, A. O. and Onoh, J. O. (2013). the impact of foreign direct investment on the Nigerian economy. *European journal of business and management*. Vol.5, No.2, *2013*www.iiste.org/Journals/index.php/EJBM/article/download/3927/3985

Zakia, M and Ziad, A. (2007). the impact of foreign direct investment and imports on economic growth: the case of Jordan, *Journal of Economic and Administrative Sciences*, 23(1), 1-31