The Causal Relationship Between Foreign Direct Investment And Exchange Rate In Nigeria (1986-2017)

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ABSTRACT
This study examined the causal relationship between foreign direct investment (FDI) and exchange rate in Nigeria between 1986 and 2017. Secondary data were obtained from Statistical Bulletin of Central Bank of Nigeria (CBN). Annual data on Foreign Direct Investment (FDI), Nominal Exchange Rate (EXCH) and Economic growth proxied by Real Gross Domestic Product (RGDP) were used. A Descriptive and econometrics technique of Granger Causality (The Block Exogeneity Wald tests) was employed in the analysis of the data. The results revealed the existence of a unidirectional causality between FDI and exchange rate at 5% level of significance which flows from EXCH (F stat=3.86 and p-value 0.04) to FDI (EXCH→FDI). No causality exists between EXCH and RGDP. A bidirectional causality which flows from FDI (F stat= 4.35 and p-value 0.03) to RGDP at 5% level of significance and from RGDP (F stat= 9.12 and p-value 0.00) to FDI also at 5% level of significance. The study revealed that exchange rate better predict FDI and a bi-directional causal relationship exist between FDI and economic growth which implies that Nigerian economy experienced an enhanced economic growth through the attraction FDI (Growth-driven FDI) and that FDI improves the rate of growth in Nigeria (FDI-led growth). This study therefore recommends the adoption and implementation of effective policies that will attract and retain FDI in Nigeria as well as ensuring some level of stability in exchange rate to ensure consistency in economic growth in Nigeria.

Keyword: FDI, Exchange rate, Economic growth, VEC Granger causality/Wald Test

1. INTRODUCTION
Foreign Direct Investment (FDI) is an international flow of capital that provides a parent company or multinational organization with control over foreign affiliates. His has become the most important source of external finance in Sub-Saharan Africa, particularly in Nigeria (UNCTAD, 2011). The importance of this source of external finance is evident in the efforts by Nigeria to attract FDI. The rationale for increased efforts to attract more FDI stems from the belief that FDI has several positive effects which include productivity gains, the introduction of new processes, managerial skills, and know-how in the domestic market (Alfaro et al., 2004). FDI therefore stimulates domestic investment and facilitates improvements in human capital and institutions in Nigeria which resulted to higher per capita GDP, increase economic growth rate and higher productivity growth. These positive effects of
FDI stimulate economic growth, and thus improve the living conditions of people in the receiving country (Aribatise and Agu 2017). FDI therefore is influenced by great number factors, one of the many influences on FDI activity is the behavior of exchange rates. Exchange rates, defined as the domestic currency price of a foreign currency, matter both in terms of their levels and their volatility. Exchange rates can influence both the total amount of foreign direct investment that takes place and the allocation of this investment spending across a range of countries. It is therefore an important relative price as it has influence on the external competitiveness of the domestic price. Exchange rate therefore is a crucial factor of FDI flows to any nation.

Empirical studies on foreign direct investment (FDI) and exchange rate linkages are important for the formulation of FDI policies. Research on the ways in which exchange rates can influence incentives for foreign investment has been on the rise. Although many studies have examined whether exchange rates are determinants of FDI inflows to host countries, they mostly focus on the level of the exchange rate (as a current price effect). The existing literature has generally found a conflicting result on the relationship between exchange rate and inward FDI as the results are mixed. In this context the proposed study is an attempt to look into the causal relationship between FDI Inflow and Exchange Rate in Nigeria so as to ascertain the direction and strength of the potential feedback between the variables.

The paper is such arranged that section one is the introduction. While section 2 reviews the literatures on the study; the methodology adopted and the empirical results are presented in sections 3 and 4 respectively. Section 5 concludes and makes policy recommendations based on the study.

2. LITERATURE REVIEW
Ayasahagba and Abachi (2002) carried out an empirical investigation on the effects of foreign direct investment on economic growth in Nigeria from 1980-1997. The results showed that foreign direct investment had significant impact on economic growth in Nigeria. In a panel data analysis of Bengoa and Sanchez (2003) for a sample of 18 Latin American countries for 1970-1999 showed that FDI is positively correlated with economic growth in the host countries. Akinlo (2003) considers the effect of FDI in Africa using pooled annual data from twelve countries. The results in this study indicate that that twice-lagged FDI has a positive effect on growth, suggesting that it takes some time for the effects of FDI accumulation to be felt. As a next step, the author then attempts to identify the precise channel through which FDI impacts growth, and finds that FDI primarily affects growth through capital accumulation, as opposed to increasing productivity. Akinlo (2004) also investigated the impact of foreign direct investment on economic growth in Nigeria, for the period 1970-2001. The ECM results showed that both private capital and lagged foreign capital have small and statistically significant effect on economic growth in Nigeria. The results seem to support the argument that extractive FDI might not be growth enhancing as manufacturing FDI. Another study by Ayanwale and Bamire (2004) reported a positive and significant effect of FDI on firm’s productivity of both domestic and foreign firms in Nigerian Agro-allied sector. Ilemona (2010) and Esther and Folorunso (2011) and lots more had also carried out empirical investigation on the impact of Foreign direct Investment on economic growth in Nigeria. The result presented showed that foreign direct investment had significant impact on economic growth in Nigeria. Najia et al. (2013) studied the impact of FDI on economic growth of Pakistan for the period of 1981-2010. They adopt the least square method, the co-integrating relationship of the variables were ascertained and is found to hold in the long run. Their findings indicate that Pakistan’s economic performance is negatively affected by foreign investment while its domestic investment has benefited its economy. Mwega and Ngugi (2005) considered the effects of the exchange rate level on FDI inflows in Kenya. The results showed that real exchange rate depreciation has a positive effect on FDI inflows in the country. This supports the proposition that exchange rate depreciation attracts FDI inflows to host economies; this is thus an opposite of the view represented by Campa (1993). Amuedo-Dorantes and Pozo (2001) found no statistically significant relationship between the level of the exchange rate and inward FDI flows into the United States.
A study by Manop et al. (2006) on the linkages between FDI and exchange rate, investigated the impact of exchange rates on US Foreign Direct Investment (FDI) inflows to a sample of 16 emerging market countries using panel data for the period 1990-2002. Three variables are used to capture
separate exchange rate effects. The nominal bilateral exchange rate to the $US captures the value of the local currency (a higher value implies a cheaper currency and attracts FDI). Changes in the real effective exchange rate index (REER) proxy for expected changes in the exchange rate; an increasing (decreasing) REER is interpreted as devaluation (appreciation). The results showed that, ceteris paribus, there is a negative relationship between the expectation of local currency depreciation and FDI inflows. Cheaper local currency (devaluation) attracts FDI while volatile exchange rates discourage FDI.

Osinubi and Amaghionyeodiwe (2009) investigated the empirical evidence on the effect of exchange rate volatility on foreign direct investment (FDI) in Nigeria, using secondary time series data from 1970 to 2004. In doing this, the study utilized the error correction model as well as OLS method of estimation. The results suggest, among others, that exchange rate volatility need not be a source of worry by foreign investors. Also, the study further reveals a significant positive relationship between real inward FDI and exchange rate. This implies that, depreciation of the Naira increases real inward FDI. Philip et al (2011) in their study investigated the effect of exchange rate regime on FDI inflows in Ghana. The study modeled the causal relationship between FDI inflows and exchange rate regimes over a 39 year period (1970-2008). The study employed the Ordinary Least Squares and the Cointegration technique to investigate the phenomenon. The variables were checked for stationarity after which a parsimonious Error-Correction model was estimated. The findings indicated that exchange rate regime has no discernible effect on Ghana’s FDI.

Nyamrunda (2012) examines the stochastic trends of the exchange rate and the net FDI inflows into less developed countries mainly Tanzanian for the period 1960 to 2011. This study employed the Augmented Dickey Fuller test (ADF), Vector error Correction Model (VECM) and the Johansen’s cointegration test to measure the time series properties the variables used. The study found that there is a significant long-run relationship between the exchange rate of Tanzanian shilling (which is on the list of weak currencies in the world), and the net FDI inflow. Also, Ogun et al (2012) in their study determines the extent to which real exchange rate movements stifle FDI inflows in selected sub-Saharan African (SSA) countries, employing the Granger causality and simultaneous estimation techniques. The causality tests suggest statistical dependence between Real exchange rate movements and FDI for a few of the countries, the regression analyses show a statistically significant relationship between the variables used, the general picture emerging is that FDI flows are sensitive to real exchange rate movements in sub-Sahara Africa. It is noteworthy from this survey that studies exploring the relationship between exchange rate and FDI in Nigeria are very scarce.

Rodrik (2007) in his study used a panel of 184 developing countries from 1950-54 through 2000-04, on the real exchange rate and economic growth. The study found a positive relationship between exchange rate undervaluation and economic growth. The study however showed that undervaluation (a high real exchange rate) stimulates economic growth. This is true particularly for developing countries, suggesting that tradable goods suffer disproportionately from the distortions that keep poor countries from converging. Similar to this study is Prasad et al (2007) which also compliments Rodrik findings only that he focuses more on the costs of overvaluation rather than the benefits of undervaluation. Another study by Mireille (2007) argues that overvaluation of exchange rates have constituted a major setback in the recovery process of Nigeria and Benin Republic. In addition, the author suggests that devaluation accompanied with well-targeted measures alongside an upward adjustment in the domestic price of tradable goods, could restore exchange rate equilibrium and improve economic performance.

Akpan and Atan (2012) assessed the effects of exchange rate movements on economic growth in Nigeria. Based on quarterly series for the period 1986 to 2010, the paper examined the possible direct and indirect relationship between exchange rates and GDP growth. The relationship is derived in two ways using a simultaneous equations model within a fully specified (but small) macroeconomic model. A Generalised Method of Moments (GMM) technique was explored. The estimation results suggest that there is no evidence of a strong direct relationship between changes in exchange rate and output growth. Rather, Nigeria’s economic growth has been directly affected by monetary variables. These factors have tended to sustain a pattern of real exchange rate, which has been unfavourable for growth. Using a three-market Keynesian model, Bazlul et al (2012) examined the effects of exchange rate changes on Bangladesh’s aggregate output, measured by GDP from 1980-2012, using cointegration techniques. There findings showed that the movements in the real exchange rate do affect
the overall output, and that the long-run effects of real devaluations are found to be positive, i.e., it showed an overall expansionary effect. However, in the short run, the impact of devaluations is likely to be contractionary.

A Study by Adeniran et al (2014) examined the impact of exchange rate on economic growth from 1986 to 2013. Correlation and regression analysis of the ordinary least square (OLS) were used to analyze the data. The result revealed that exchange rate has positive impact but not significant, this affirms that developing countries are relatively better off in the choice of flexible exchange rate regimes. The result also indicated that interest rate and rate of inflation have negative impact on economic growth but not significant. Ayodele (2014) also examined the impact of exchange rate on the Nigerian economy from 2000 to 2012, using the ordinary least square (OLS) method. The finding showed that both exchange rate and inflation rate individually and jointly have significant impact on economic growth in Nigeria. Lin and Pan (2006) investigated the relationship among foreign direct investment, real effective exchange rate and China’s economy, having checked for the impulse response function of the variables in the model, the framework and the empirical analysis indicated that FDI, exchange rate and China’s domestic economy are complexly interacting, especially in the long run. Also a study by Omankhalen (2011) using a linear regression analysis on the thirty year data to determine the relationship between inflation, exchange rate, FDI inflows and economic growth in Nigeria. The study reveals that FDI follow economic growth occasioned by trade openness which saw the entry of some major companies especially the telecommunication companies, while Inflation has no effect on FDI. However exchange rate has effect on FDI.

3 METHODOLOGY

3.1 Unit root test

Most of time series have unit root as demonstrated by many studies including Nelson and Plosser (1982), Stock and Watson (1988) and Campbell and Peron (1991). Therefore, their means of variance of such time series are not independent of time. The study starts the analysis by examining the unit root properties of the data series. A series is said to be stationary if it has a constant mean, variance and auto covariance. While it is known that, in order to conduct Granger Causality test the variables must be I(1). While regressing a nonstationary time series on another nonstationary time series may produce a spurious regression, if there is long run relationship between the variables, then such regression may not be spurious but meaningful. Regardless, we conducted the unit root test to ascertain the stationary properties for conducting Granger Causality test and ensure that variables are not I(2). The Augmented Dickey Fuller test corrects for higher order serial correlation through lagged difference terms. On the other hand, a Phillips-Perron test makes non-parametric correction for residual serial correlation.

3.2 Cointegration

In detecting the possible long run relationships amongst the variables, namely GDP, FDI and exchange rate, the study employ the Johansen and Juselius (1990) approach. Johansen and Juselius (1990) proposed two tests statistics to determine the number of cointegrating vectors (or the rank of Π), namely the trace (λ-trace) and the maximum eigen-value (λ-max) statistics. The trace statistic (λ-trace) is computed as:

\[ \lambda_{trace} = -T \sum_{j=r+1}^{n} \ln(1 - \lambda_j) \]  

The trace tests the null hypothesis that “at most” r cointegration vector, with “more than” r vectors being the alternative hypothesis. The maximum eigenvalue test is given as:

\[ \lambda_{max} = -T \ln(1 - \lambda_{r+1}) \]  

The trace test (λ_{trace}) is a joint test where the null hypothesis is that the number of cointegrating vectors is less than or equal to r, against an unspecified alternative that there are more than r. On the other hand, the maximum Eigen-value test (λ_{max}) test the null hypothesis that the number of cointegrating is r against alternative of r+1. Johansen and Juselius (1990) provide critical values for
both $\lambda_{\text{trace}}$ and $\lambda_{\text{max}}$. If the test statistics is greater than the critical values, the null hypothesis that there exist $r$ cointegrating vectors against the alternative hypothesis that are more than $r$ (for $\lambda_{\text{trace}}$) or are $r+1$ (for $\lambda_{\text{max}}$) is rejected (Enders, 1995).

**Granger Causality (The Block Exogeneity Wald tests)**

A natural progression from a VAR representation is the VEC model especially when the variables of interest are not stationary at their levels and are cointegrated. At this occasion, a vector error correction model (VECM) leads to a better understanding of the nature of any non-stationarity among the different variables in the series as well as their long-run equilibriums. Hence, the need to augment the Granger-type causality test model with a one period lagged error term. One of the inherent benefits of this model is that it combines the long-run relationship with a short-run adjustment process as it clearly distinguishes between short-run and long-run impacts and responses, thereby providing a suitable tool for policy analysis. As such, the vector error correction representation of standard VAR is given as follows:

$$\Delta y_t = \theta + \sum_{i=1}^{n} \beta_i y_{t-1} + \lambda ECM_{t-1} + \epsilon_t$$

Where $\Delta$ is the differencing operator, such that $\Delta y_t = y_t - y_{t-1}$

Where $y_t$ is an $(n \times 1)$ column vector of the endogenous variables, $\theta$ is an $(n \times 1)$ vector of constant terms, $\beta$ represent coefficient matrices. $y$ is the $3 \times 1$ vector of the variables included in the model (RGDP, FDI, EXCH), $\theta$ is the $3 \times 1$ vector of constant terms and $\beta$ is the $3 \times 3$ matrices which include the interactive coefficients of the variables involved in equation 3, and lastly $\lambda$ is the $3 \times 1$ vector of coefficients for each of the error correction terms and $\epsilon$ is the vector of disturbance term.

Explicitly, the variables incorporated into the model for the study is expressed below:

$$\Delta \ln \text{RGDP}_t = \alpha + \sum_{i=1}^{k} \beta_i \Delta \ln \text{RGDP}_{t-1} + \sum_{i=1}^{k} \theta_i \Delta \ln \text{FDI}_{t-1} + \sum_{i=1}^{k} \pi_i \Delta \ln \text{EXCH}_{t-1} + \lambda_1 \text{ECM}_{t-1} + \epsilon_{1t}$$

$$\Delta \ln \text{FDI}_t = \alpha + \sum_{i=1}^{k} \beta_i \Delta \ln \text{RGDP}_{t-1} + \sum_{i=1}^{k} \theta_i \Delta \ln \text{FDI}_{t-1} + \sum_{i=1}^{k} \pi_i \Delta \ln \text{EXCH}_{t-1} + \lambda_2 \text{ECM}_{t-1} + \epsilon_{2t}$$

$$\Delta \ln \text{EXCH}_t = \alpha + \sum_{i=1}^{k} \beta_i \Delta \ln \text{RGDP}_{t-1} + \sum_{i=1}^{k} \theta_i \Delta \ln \text{FDI}_{t-1} + \sum_{i=1}^{k} \pi_i \Delta \ln \text{EXCH}_{t-1} + \lambda_3 \text{ECM}_{t-1} + \epsilon_{3t}$$

Where RGDP is real gross domestic product, FDI is Foreign Direct Investment and EXCH is exchange rate, $\text{ECM}_{t-1}$ is lagged error-correction term derived from long-run cointegration relationship and $\epsilon_{1t}$, $\epsilon_{2t}$ and $\epsilon_{3t}$ are serially independent random errors with mean zero and finite covariance matrix. In each case, the dependent variables are regressed against past values of itself and the past values of other variables.

From the model, Granger causality is examined by testing whether all coefficients of the lagged explanatory variables are statistically different from zero based on standard statistics $\chi^2$ or F-test and or whether the ECT’s coefficient is significant.

**Measurement of variables and Data Source**

One control variable is incorporated to avoid simultaneity bias (Gujarati, 1995) and thus minimize the spurious relationship that often arises due to omission of relevant variables. The variable introduced is the real gross domestic product (RGDP). This study makes use of secondary data. The variables considered are: real gross domestic product, foreign direct investment, and exchange rate. The data for these variables are annual in nature from 1986-2017 sourced from the CBN statistical bulletin.

4 **EMPERICAL ANALYSIS**

To investigate whether there is causal relationship between foreign direct invest (FDI) and exchange rate in Nigeria, the empirical analysis begins with the descriptive statistics of the data series from table 1 below provide information about the sample series, such as mean, median, minimum and
maximum values, and the distribution of the sample measured by skewness, kurtosis and Jarque-Bera (JB) statistic for Nigeria.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>RGDP</th>
<th>EXCH</th>
<th>FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>426989.2</td>
<td>73.74185</td>
<td>341157.7</td>
</tr>
<tr>
<td>Median</td>
<td>312183.5</td>
<td>92.69000</td>
<td>111295.0</td>
</tr>
<tr>
<td>Maximum</td>
<td>888893.0</td>
<td>157.5000</td>
<td>1360308.</td>
</tr>
<tr>
<td>Minimum</td>
<td>204806.5</td>
<td>2.020000</td>
<td>735.8000</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>209712.5</td>
<td>60.28677</td>
<td>437949.7</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.837703</td>
<td>0.045990</td>
<td>1.149093</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.358872</td>
<td>1.209608</td>
<td>2.854380</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>3.620284</td>
<td>3.615711</td>
<td>5.965726</td>
</tr>
<tr>
<td>Probability</td>
<td>0.163631</td>
<td>0.164005</td>
<td>0.050648</td>
</tr>
<tr>
<td>Sum Sq. Dev</td>
<td>1.14E+12</td>
<td>94496.85</td>
<td>4.99E+12</td>
</tr>
<tr>
<td>Observations</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

Author’s Computation, 2019

For virtually all the data series, it is observed that the values of the means and medians are not close. This indicates that the data are not distributed symmetrically, (Steel and Torrie, 1960) and that all the series display a high level of consistency as their mean and median values are perpetually within the minimum and maximum values of these series. Moreover, the relatively low standard deviations for most of the series indicate that the deviations of actual data from their mean values are very small. The Jarque-Bera (JB) statistics significantly reject the normal distribution for all variables, indicating non normality of their conditional distributions.

Table 2: Unit root test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Augmented Dickey Fuller (ADF) Test</th>
<th>Phillip-Perron (PP) Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>First Difference</td>
</tr>
<tr>
<td>LNRGDP</td>
<td>0.388726</td>
<td>-3.318842</td>
</tr>
<tr>
<td>LNEXCH</td>
<td>-2.444382</td>
<td>-5.118753</td>
</tr>
</tbody>
</table>

Author’s Computation, 2019

Table 2, shows that the series could adequately be regarded as a random walk when they are in their levels but revert to their mean level after first differencing. The null hypothesis that a variable under investigation has a unit root, against the alternative that it does not, could not be rejected for all the series in their levels at 5% significance level. Having taken the first difference of all the series, the ADF and PP was further carried out in testing for the stationarity of the differenced series. The test reveals that all the series are integrated of order one i.e. I(1). A co-integration test was further embarked upon to verify if long run relationship exists among the variables.
Having shown that the variables are integrated of order one, I(1), it is necessary to determine whether there is at least one linear combination of these variables that is I(0). In other words, is there a stable and non-spurious (co-integrated) relationship among the regressors in each of the relevant specifications? This was done by using the Johansen and Juselius (1990) co-integration method because it is capable of determining the number of co-integrating vectors for any given number of non-stationary series (of the same order). The Johansen test includes the log of FDI, real GDP and exchange rate.

**Table 3: Unrestricted co-integration test**

<table>
<thead>
<tr>
<th>Eigenvalue</th>
<th>Max-Eigen statistics</th>
<th>Trace statistics</th>
<th>5% critical level</th>
<th>Hypothesized No. of CE(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.715501</td>
<td>30.16864</td>
<td>44.20628</td>
<td>29.79707</td>
<td>None*</td>
</tr>
<tr>
<td>0.409698</td>
<td>12.65090</td>
<td>14.03764</td>
<td>15.49471</td>
<td>At most 1</td>
</tr>
<tr>
<td>0.056144</td>
<td>1.386748</td>
<td>1.386748</td>
<td>3.841466</td>
<td>At most 2</td>
</tr>
</tbody>
</table>

Author’s Computation, 2019

From table 3 above, the null hypothesis (H₀ : r = 0) of no co-integration among the variable is rejected at 5% significance level, both trace and maximum Eigenvalue test indicated that there is one cointegration relationship between FDI and other variables. Thus, there is co-integration among log of FDI, log of real GDP and log of exchange rate. This indicates that long run relationship exists among the variables in Nigeria.

The existence of a cointegrating relationship amongst FDI, exchange rate and real GDP suggest that there must be Granger causality in at least one direction; however, it does not indicate the direction of temporal causality between the variables. Both the short run and long run Granger causality are examined. The short run effects are obtained by the F-test of the lagged explanatory variables while the significance of the error correction term based on t-statistics indicates the significance of the long run causal effect.

**Table 4: VEC Granger causality/Wald Test**

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Source of causation (independent variable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short-run</td>
</tr>
<tr>
<td></td>
<td>ΔlnRGDP</td>
</tr>
<tr>
<td>ΔlnRGDP</td>
<td>-</td>
</tr>
<tr>
<td>ΔlnFDI</td>
<td>9.12(0.02)**</td>
</tr>
<tr>
<td>ΔlnEXCH</td>
<td>1.35(0.33)</td>
</tr>
</tbody>
</table>

Note: * *indicate statistical significance at 5%.

Author’s Computation, 2019

The results obtained are shown in table 4 above. In the RGDP equation, FDI is statistically significant at 5%. This implies that FDI granger cause economic growth in the short run. In the FDI equation, both RGDP and EXCH are significant at 5% which also implies that RGDP and EXCH granger cause FDI in the short run. And in the EXCH equation, both FDI and RGDP are insignificant at 5% level. This implies that FDI and RGDP does not granger cause EXCH in the short run. The results therefore clearly showed that there exists bidirectional causal relationship between FDI and RGDP at 5% level of significance i.e. (FDI→RGDP). And also a unidirectional causality between FDI and EXCH at 5% level of significance which flows from EXCH rate to FDI, i.e. (EXCH→FDI). The result also showed that there is no causality between EXCH and RGDP.
In the long run, two of the error correction terms are positively signed while one is negatively signed and they are all not significant at 5%. This therefore shows that with the non-significance of the ECM_{t-1}, there exists no long run causal relationship running from FDI and RGDP to EXCH. And the error correction terms that are positively signed in case of FDI and RGDP equation, means that they have positive explosive convergence which implies that there cannot be convergence to the equation.

CONCLUSION
The paper investigated the causal relationship between Foreign Direct Investment (FDI) and Exchange rate in Nigeria over the period from 1986-2013. The estimation process starts with examining stationarity property of the underlying time series data by applying unit root test. The estimated result confirmed that FDI, Exchange rate and real GDP are non-stationary at the level data but stationary at the first differences. The existence of cointegration among variables was examined. The results showed that there is one cointegrating vector amongst the variables and hence, confirmed the existence of long run relationship between the variables. The Block Exogeneity Wald tests revealed the existence of a unidirectional causality between FDI and Exchange rate which means Exchange rate better predict FDI and a bi-directional and of bidirectional causal relationship between FDI and real GDP which implies that Nigerian economy experienced an enhanced economic growth through the attraction FDI (Growth-driven FDI) and that FDI improves the rate of growth in Nigeria (FDI-led growth).

What are the policy implications of these findings? One, that a unidirectional causality exits between FDI and exchange rate. This suggests that Government should put more efforts towards increasing the nation’s foreign exchange rate reserves; employ appropriate trade policies to enhance export and raise the value of exchange rate which would probably ensure some level of stability in exchange rate which in turn attract more FDI in the economy which will relatively enhance growth. And two, that a bidirectional causal relationship exists between FDI and real GDP. This suggest that that government should encourage the export promotion strategies in order to maintain a surplus balance of trade and also conducive environment, adequate security, effective fiscal and monetary policies, as well as infrastructural facilities should be provided so that foreign investors will be attracted to invest in Nigeria.

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