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Abstract

This study investigates the impact of Foreign Direct Investment on economic growth in Nigeria. The study further examines the indirect relationship of Exchange and Inflation rates on Foreign Direct Investment inflows towards Economic Growth in Nigeria. Using annual time series data over the period 1980 to 2017, the Autoregressive Distributed Lag (ARDL) approach to co-integration and Error Correction Model (ECM) were employed to estimate the relationship empirically. The results indicated a long-run equilibrium relationship between FDI and Economic Growth in Nigeria for the period under study. Further, the result shows FDI is insignificant but positively related to Economic Growth, while both Exchange and Inflation rates affect Economic Growth significantly but negative. The interaction term shows that a higher level of Exchange rate attracts FDI for the existence of Economic Growth, while a low rate of Inflation is a means through which FDI is attracted for better Economic Growth in Nigeria. The study, therefore, recommends that there is the need for policy cohesion on FDI, Exchange and Inflation rates in Nigeria by the managers of the economy. The government should improve policy performance because of its ultimate impact on improving Economic Growth by maintaining a stable Exchange rate regime as well as regulate Inflation rates uncertainties. Nigerian policymakers should develop an enabling environment for ease of doing business to attract more FDI inflow into the economy through the provision of adequate incentives that could encourage the inflow of FDI as well as making sure that the security situation in the Country improves.

Keywords: Nigeria, Economic Growth (GDP), Foreign Direct Investment (FDI), Autoregressive Distributed Lag (ARDL)

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Background to the Study

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 have impacted tremendously to the growth and development of many developing countries (Udoh, 2015). One of the primary reasons for low level economic growth in countries of Sub-Saharan Africa is inadequate domestic investment (Abu and Achegbulu, 2011). With the inadequacy in domestic investment, most countries strive to attract Foreign Direct Investment (FDI) because of its perceived impetus as an instrument of Economic Growth.

Conventionally, FDI is seen as a way of filling the gap between the, domestically available supplies of savings, foreign exchange and government revenue and the desired level of these resources essential 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.

Underlying this debate are the expected benefits emphasized by the FDI literature, as well as the conviction embraced by many countries that FDI is a vital element in their economic development strategy. The important related question is that the same factors that the literature identifies as the main attractors of inward FDI are also inclined to be responsible for its advantages, thus sealing a virtuous circle. This debate has recently been highlighted by Kose, Prasad, Rogoff and Wei (2006): “...it is not just the capital inflows themselves, but what comes along with them, that drives the benefits of financial globalization for emerging countries.

Nevertheless, both, the macro and micro empirical evidences on these positive externalities are mixed. FDI has been attested to have both beneficial and detrimental impact on growth, while at the same time, many researchers find no influence. Firm level studies usually suggest that FDI does not accelerate economic growth (see Görg and Greenaway, 2004) for a comprehensive review of this question). In contrast, many macroeconomic studies identify the decisive role of FDI in economic performance, although there are remarkable exceptions such as Herzer, Klasen and Nowak (2008) and Carkovic and Levine (2005) whose findings shows that foreign inflows appear not to have a strong influence on Economic Growth. The uncertain outcomes of the empirical study have led some authors to call for caution when drawing generalised conclusions about the existence of externalities associated with FDI. Some likely reasons for mixed findings in literature are heterogeneity in recipient's markets which is mostly related to institutional and economic environments (see Alguacil, Cuadros and Orts, 2011).

Abosi, (2015) looks at the Nigerian Economy as a growing one, on a consistent ten year growth trajectory with an average growth percentage of 6.5 percent, and endowed with well-educated workforce. Nigeria has middle class with considerable disposable income, investment destination of choice, higher return on investment and growing of the non-oil sector, etc. Also, the identified steep terrain in the economy includes; challenging business
environment, tight bureaucracy and cumbersome processes which are a crucial obstacle to private sector development, perception issues and high unemployment rate which has not improved with gross domestic growth.

This study strives to emphasis that developing economies are not a similar sample, in contradiction to the approach in a substantial number of prior empirical studies. In line with the arguments by Lipsey and Sjöholm (2005), this study aims to examine whether heterogeneity in host country factors is the most likely source of the mixed findings in empirical research.

Empirical studies on the role of FDI in promoting economic growth in both developed and developing countries have been inconclusive with some reporting negative while others suggesting a positive impact both for same and different countries.

In this guise, macroeconomic variables were captured in the case of Nigeria to explain the impact of FDI on Economic Growth. Most prominent among these macroeconomic variables used are inflation rate and exchange rate. The inconclusiveness in empirical literature might be as a result of poor estimation technique. While most studies reviewed applied static models and non-parametric approaches, this study applied a dynamic model which captures previous information of the variables in explaining the present and future happenings.

The empirical studies reviewed in this research indicated a time or period gap - hence the focus of this research is from 1980 - 2017. In addition, most studies reviewed have attempted to show only the direct nexus between FDI and Economic Growth. This study shows the indirect nexus between FDI and Economic Growth via inflation rate and exchange rates. Furthermore, this research is using ARDL Bound Test to co-integration which has a number of advantages. Some of which are: it can be used when the variables are stationary at I (1) and some are both I (1) and I (0). The ARDL is dynamic in nature to capture the dynamism in the variables as against static models.

This 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 the 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**

FDI is seen to be the net inflows of investment to obtain an enduring management interest (10 percent) or more of voting stocks in an enterprise operating in an economy other than that of the investor (World Bank, 2004). Odozi (1995) state that FDI is the transfer of resources including capital, technology, and management and marketing expertise from an advanced country to a developing country and those resources usually improved the production capabilities of the recipient country. FDI ventures may take the form of either “green field” investments (also called “Mortar” and “Brick” investment) or Merger and Acquisition (M and
A), which means the acquisition of an already existing venture rather than new investment, Mwillima (2008).

A country’s economic growth could be described as the rate of expansion of the national income or total volume of production of goods and services of the country. While economic development refers to an expansion of the national income or total volume of production of goods and services of a country brought by improvements in the social, political and economic lives of the people living in that country.

Economic development is the multi-dimensional process involving changes in structures, attitude and organisations as well as the hastening of economic growth, reduction of inequality and the eradication of absolute poverty. Economic growth and development can be achieved through these ways – enhancing the infrastructure base, increasing the size of national income or national output, equitable distribution of national income or the tax policies of government, political stability, economic stability and external factors like terms of trade, loans, foreign investment and grants (Todaro and Smith, 2009).

Eclectic Theory (Spill Over): John Dunning (1979) is the proponent of the Eclectic theory. The theory advocates that a location attracts FDI because it merges the unique benefits of ownership location and internalization.

**Methodology**
To conduct this research, secondary data were collected from the World Bank (World Development Indicators). Unit root test was conducted to ascertain the level of integration of FDI on the economic growth in Nigeria. Autoregressive Distributive Lag Model was used to ascertain the impact of FDI on the Nigerian Economy too. Descriptive statistics was also used to analyse the trend of FDI in Nigeria within the study period.

**Model Specification**
The model specified in this study is based on the FDI-growth theory explained in the theoretical framework. The functional form of the theory is:

\[
Growth_t = \alpha_0 + \alpha_1 FDI_t + \alpha_2 EXR_t + \alpha_3 INF + \epsilon_t
\]

This is explained as economic growth being a dependent variable on FDI. In econometric form, the model is specified as:

\[
Growth_t = \alpha_0 + \alpha_1 Growth_{t-1} + \alpha_2 FDI_t + \alpha_3 EXR_t + \alpha_4 INF_t + \epsilon_t
\]

The specification in ARDL form is presented as:

\[
\Delta Growth_t = \alpha_0 + \alpha_1 \Delta Growth_{t-1} + \alpha_2 \Delta FDI_t + \alpha_3 \Delta EXR_t + \alpha_4 \Delta INF_t + \sum_{\theta_1} \delta_1 \Delta Growth_{t-1} + \sum_{\theta_2} \delta_2 \Delta FDI_{t-1} + \sum_{\lambda} \lambda_1 \Delta EXR_{t-1} + \sum_{\theta} \lambda_2 \Delta INF_{t-1} + \epsilon_t
\]

To capture the role of inflation and exchange rate in the FDI-Growth nexuses, the following models were used:
\[
\Delta \text{Growth}_t = \alpha_0 + \alpha_1 \text{Growth}_{t-1} + \alpha_2 \text{FDI}_t + \alpha_3 \text{INF}_t + \alpha_4 (\text{FDI} \times \text{INF})_t + \varepsilon_t
\]

\[
\Delta \text{Growth}_t = \alpha_0 + \alpha_1 \text{Growth}_{t-1} + \alpha_2 \text{FDI}_t + \alpha_3 \text{EXR}_t + \alpha_4 (\text{FDI} \times \text{EXR})_t + \varepsilon_t
\]

Where:
Growth = GDP per capita
FDI = Foreign Direct Investment net inflows
INF = Inflation rate
EXR = Exchange rate

This section presents the descriptive statistics to make easy understanding of the country under study. The results of the descriptive statistics are shown in Table 1:

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>FDI</th>
<th>EXR</th>
<th>INF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1677.410</td>
<td>2.844174</td>
<td>157.1184</td>
<td>19.34276</td>
</tr>
<tr>
<td>Median</td>
<td>1426.903</td>
<td>2.534126</td>
<td>100.0000</td>
<td>12.21701</td>
</tr>
<tr>
<td>Maximum</td>
<td>2563.092</td>
<td>10.83256</td>
<td>546.4017</td>
<td>72.83550</td>
</tr>
<tr>
<td>Minimum</td>
<td>1151.126</td>
<td>-1.150856</td>
<td>49.77693</td>
<td>5.382224</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>473.8225</td>
<td>2.326778</td>
<td>125.5087</td>
<td>17.51471</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.683609</td>
<td>1.558135</td>
<td>1.636074</td>
<td>1.707371</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.899875</td>
<td>5.990344</td>
<td>4.816129</td>
<td>4.680742</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>4.747660</td>
<td>28.75716</td>
<td>21.59146</td>
<td>22.33160</td>
</tr>
<tr>
<td>Probability</td>
<td>0.093123</td>
<td>0.000001</td>
<td>0.000020</td>
<td>0.000014</td>
</tr>
<tr>
<td>Observations</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: Researcher's estimation using EVIEWS

**Interpretation of Preliminary Investigation**

The data used in this research have been summarised in Table 1 using descriptive analysis in the form of mean, standard deviation, minimum and maximum. The number of observations (37) represents the period covered by the study. 1677.410 was the mean for economic growth in billions of dollars, while 1151.126 and 2563.092 were minimum and maximum. 2.844174 was the mean for FDI inflows in billions of dollars, while -1.150856 and 10.83256 were minimum and maximum. The mean of the exchange rate was 157.1184 naira as compare to the US dollar, while 49.77693 and 546.4017 were minimum and maximum respectively. Also, the mean of inflation rate was 19.34276 from the consumer price index, while 5.382224 and 72.83550 were recorded for minimum and maximum respectively.
Table 2: Results of Augmented Dickey-Fuller Unit Root Tests

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>First Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>LGDP</td>
<td>0.1660</td>
<td>-3.0746</td>
</tr>
<tr>
<td>FDI</td>
<td>-2.7544*</td>
<td>-2.6332</td>
</tr>
<tr>
<td>EXR</td>
<td>-1.9592</td>
<td>-2.6332</td>
</tr>
<tr>
<td>INF</td>
<td>-2.9060*</td>
<td>-3.5444</td>
</tr>
</tbody>
</table>

Source: Researcher's estimation using EVIEWS

Interpretation of ADF 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 to obtain an unbiased estimation from the VAR approach to co-integration, and also because the bounds test is used only when variables are 1 (0) or 1 (1) or the combination of both. The Augmented Dickey Fuller (ADF) tests were applied to test for the existence of unit root. Therefore, Table 2 presents the results of ADF unit root tests on the variables at their level and difference values. The summary of the result reveals that FDI, and INF are found to be stationary at both level and first difference while EXR was found to be stationary as first difference. As stated earlier, it is necessary first to perform unit root tests on the variables to ensure that none of the variables is integrated of order two 1 (2) or beyond. According to Kubalu and Mustapha (2016), in presence of 1 (2) variables the computed F-statistics of the bounds test is rendered invalid because they are based on the assumption that the variables are 1 (0) or 1 (1) or mutually co-integrated.

Table 3: Bound test to co-integration for equation (3)

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>9.23</td>
<td>3</td>
</tr>
</tbody>
</table>

Critical Value Bounds

<table>
<thead>
<tr>
<th>Significance</th>
<th>I(0) Bound</th>
<th>I(1) Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>2.72</td>
<td>3.77</td>
</tr>
<tr>
<td>5%</td>
<td>3.23</td>
<td>4.35</td>
</tr>
<tr>
<td>2.5%</td>
<td>3.69</td>
<td>4.89</td>
</tr>
<tr>
<td>1%</td>
<td>4.29</td>
<td>5.61</td>
</tr>
</tbody>
</table>

Source: Researcher's estimation using EVIEWS

Interpretation of the Bounds F-Test for VAR-ARDL Co-integration Results for the Models (Equation 3)

The next step in determining the order of integration of the variable is to apply a bound F-test 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 3, 4 and 5. 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 and inflation rate. This is because the computed F-statistics $F_{LGDP}(LGDP/LFDI,EXR,INF)$ is 9.23, 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 and economic growth in Nigeria.

**Table 4: Bound test to co-integration for equation (4)**

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>7.93</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical Value Bounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significance</td>
</tr>
<tr>
<td>10%</td>
</tr>
<tr>
<td>5%</td>
</tr>
<tr>
<td>2.5%</td>
</tr>
<tr>
<td>1%</td>
</tr>
</tbody>
</table>

**Source:** Researcher’s estimation using EVIEWS

**Interpretation of the Bounds F-Test for VAR-ARDL Co-integration Results for the Models (Equation 4)**

The next step in determining the order of integration of the variable is to apply a bound F-test 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 3, 4 and 5. 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 and inflation rate. This is because the computed F-statistics $F_{LGDP/LFDI,EXR,FDI*EXR}$ is 7.93 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 exchange rate and economic growth in Nigeria.

**Table 5: Bound test to co-integration for equation (5)**

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>7.26</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical Value Bounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significance</td>
</tr>
<tr>
<td>10%</td>
</tr>
<tr>
<td>5%</td>
</tr>
<tr>
<td>2.5%</td>
</tr>
<tr>
<td>1%</td>
</tr>
</tbody>
</table>

**Source:** Researcher’s estimation using EVIEWS

**Interpretation of the Bounds F-Test for VAR-ARDL Co-integration Results for the Models (Equation 5)**

The next step in determining the order of integration of the variable is to apply a bound F-test 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 3, 4 and 5. 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 and inflation rate. This is because the computed F-statistics \( F_{\text{LGDP}}(\text{LGDP}/\text{LFDI},\text{EXR},\text{FDI}\times\text{INF}) \) is 7.26 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 inflation rate and economic growth in Nigeria.

**Table 6:** ARDL Short Run Estimate and Error Correction Mechanism (ECM)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
<th>Coefficient</th>
<th>P-value</th>
<th>Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(LFDI)</td>
<td>1.054</td>
<td>0.618</td>
<td>-2.463</td>
<td>0.039</td>
<td>-3.982</td>
<td>0.3114</td>
</tr>
<tr>
<td>D(LEXR)</td>
<td>3.964</td>
<td>0.277</td>
<td>-3.551</td>
<td>0.4249</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D(INF)</td>
<td>-0.169</td>
<td>0.057</td>
<td>0.175</td>
<td>0.2600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D(FDI\times EXR)</td>
<td>0.017</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D(FDI\times INF)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-1.067</td>
<td>0.0000</td>
<td>-0.936</td>
<td>0.0000</td>
<td>-0.890</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

**Source:** Researcher’s estimation using EViEWS

**ARDL Short run and Error Correction Model (ECM)**

The results of the short run dynamic coefficients associated with the impact relationships obtained from the VAR co-integrated equation (error correction model) are presented in Table 6. The signs of the dynamic impacts are maintained to the long run. The speed of adjustment to co-integration shows that the coefficient is negative and significant. For model (3), (4) and (5), the speed of adjustment is 107%, 94% and 89% and it shows a high speed of adjustment to equilibrium after a shock. The short run impact of economic growth from FDI is positive for the model without interaction but insignificant.

**Table 7:** Long-run Coefficient for Equation (3), (4) and (5)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient Equation(3)</th>
<th>P-value</th>
<th>Coefficient Equation(4)</th>
<th>P-value</th>
<th>Coefficient Equation(5)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFDI</td>
<td>0.9875</td>
<td>0.6119</td>
<td>-2.6329</td>
<td>0.0486</td>
<td>9.0766</td>
<td>0.0134</td>
</tr>
<tr>
<td>LEXR</td>
<td>-5.6773</td>
<td>0.0096</td>
<td>-11.875</td>
<td>0.0049</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>-0.1588</td>
<td>0.0372</td>
<td></td>
<td></td>
<td>0.6101</td>
<td>0.1521</td>
</tr>
<tr>
<td>FDI\times EXR</td>
<td>0.0187</td>
<td></td>
<td>0.0818</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FDI\times INF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.1185</td>
<td>0.0488</td>
</tr>
<tr>
<td>Constant</td>
<td>33.315</td>
<td>0.0045</td>
<td>59.184</td>
<td>0.0041</td>
<td>-8.6803</td>
<td>0.1276</td>
</tr>
</tbody>
</table>

**Source:** Researcher’s estimation using EViEWS

**Long Run Coefficients for the Models**

The long run estimates of the impact of FDI on economic growth are presented in Table 7. The result for the baseline model (equation 3) shows that FDI is insignificant but positively related to economic growth. This implies that a 1% increase in FDI will lead to a 0.99% increase in economic growth. The result of the baseline model shows that both exchange rate and inflation rate are negatively related to economic growth. The relationship for both
exchange rate and inflation are significant with a 1% increase in exchange rate leading to a 5.68% decrease in economic growth. In the same vein, a 1% increase in inflation rate results in a 0.16 decrease in economic growth.

Table 8: Interaction Models Results

<table>
<thead>
<tr>
<th>Description</th>
<th>Exchange rate</th>
<th>Inflation rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>7.3671</td>
<td>0.4498</td>
</tr>
<tr>
<td>Mean</td>
<td>0.3052</td>
<td>6.7848</td>
</tr>
<tr>
<td>Minimum</td>
<td>-3.5637</td>
<td>8.4367</td>
</tr>
</tbody>
</table>

Source: Researcher's estimation using EVIEWS

Interpretation of the Interaction Models
The interaction models of FDI, exchange rate and inflation rate are shown in equation (4) and (5) and presented in Table 8. From Table 8, the descriptive statistics were used to determine the optimum level of the impact of FDI on economic growth through exchange rate and inflation rate.

At the maximum level of exchange rate, the impact of FDI on economic growth is positive and the coefficient shows that a 1% increase in FDI increases economic growth by 7.37%. This suggests that higher rates of exchange attract more FDI into the country and impacts on growth positively. However, minimum exchange rate discourages FDI and result in a decline in economic growth. In the case of inflation rate, minimum level of inflation is a means through which FDI impact growth positively. As presented in Table 8, at minimum inflation rate, FDI impact growth by 8.44% for a 1% increase in FDI. Although, at minimum, FDI influence growth positively, its impact is less compared to average and maximum levels.

Discussion of Findings
This study reassesses the relationship between FDI inflow and Gross Domestic Product in Nigeria by using the developed VAR-ARDL bound testing procedure. The discussions of findings are categorised into three: long run and short run relationships between FDI and Gross Domestic Product in Nigeria, the impact relationship among the variables on FDI which influence on economic growth.

Long run and short run Relationships Direct Investment Inflow and Gross Domestic Product in Nigeria
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 economic growth in Nigeria. Applying a bound F-test, the results of this test suggest a long run relationship between FDI and economic growth in Nigeria. This result indicates that 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 a long run relationship between FDI inflow and
economic growth. Moreover, the finding is in line with the findings of Borenstein, De Gregoria and Lee (1998), Glass and Saggi (1998) and Dee (1998) who also found a long run relationship between FDI and economic growth. The finding however, contradict 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.

Impact Relationships between Foreign Direct Investment Inflow and Gross Domestic Product in Nigeria

Using VAR-ARDL bounds testing procedure, the results of the impact elasticities of FDI on economic growth in Nigeria are positive. The impact of FDI on Gross Domestic Product is positive and statistically insignificant, while the impacts of exchange rate and inflation rate on Gross Domestic Product are negative but statistically significant. Also, this result is consistent with the findings of Ugwuegbe, Okore and John (2013), Emmanuel (2012), Obwona (2011), Todd, Ramachandran and Manju(2004), Merkussen and Vernables (1998), De Mello (1997), Globeram (1979) and Blomstrom and Kokko (1998), who found a positive impact relationship between Foreign Direct Investment and economic growth.

However, the findings are in contrast with Njeru (2013), Nkechi (2013), Victor (2013), Ogbonna, Nwajumogu, Onwuka and Nwokoye (2013), Israel (2014) and Vasco (2015), who found a negative impact relationship between FDI and economic growth. This study contributes beyond the direct link between FDI and economic growth to capture the indirect connection between the angle of exchange rate and inflation rate. The result shows that higher exchange rate encourages FDI while low exchange rate discourages economic growth. On the contrary, higher inflation rate discourages FDI while low inflation encourages FDI. This suggest that low rate of inflation is key to attracting FDI for long term economic growth in Nigeria.

Impact Relationship between Exchange Rate and Inflation Rate on Foreign Direct Investment inflow as it influences Economic Growth in Nigeria

Using the coefficients of VAR-ARDL bounds testing procedure, the results of the impact elasticity of exchange rate and inflation rate on FDI as it influences economic growth are also negative and all are statistically significant. The results show that in the long run, exchange rate and inflation rate have negative impact and statistically significant relationship on FDI over economic growth in Nigeria.

Summary of Findings

This study has examined the impact of FDI inflows on economic growth using annual time series data from Nigeria for the period of 1980-2017 and various econometrics and descriptive statistical analysis such as mean, standard deviation, minimum, maximum, Autoregressive Distributed Lag (VAR-ARDL) Model via VAR Unrestricted Error Correction Model (UECM) tests were applied.
The findings of the research are summarized below:

i. There is long run equilibrium relationship between FDI inflow and Economic Growth in Nigeria.

ii. The baseline result shows that FDI is insignificant but positively related to Economic growth while both exchange rate and inflation affects Economic Growth significantly but negative.

iii. The indirect results shows that higher level of exchange rate attracts FDI for the existence of Economic Growth while low rate of inflation is a means through which FDI is attracted for better Economic Growth in Nigeria.

Conclusions
The investigation of the relationship between FDI and macroeconomic variables got vital importance in last few decades. Different studies have been conducted in this area with emphasizing different variables and countries. The results vary from study to study with some showing positive impact association between FDI and economic growth and others showing negative impact association between the variables or none at all. This study is also aimed at empirically assessing the impact of FDI upon economic growth and is conducted for the Nigerian economy. In the light of the findings of this study, the following conclusions are drawn:

1. First, FDI, exchange 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 and economic growth in Nigeria.

2. Second the explanatory variables, i.e. FDI show a positive influence, while exchange rate and inflation rate shows a negative influence on economic growth in Nigeria. This means that a 1% increase in FDI, increases economic growth in Nigeria. While a 1% increase in exchange rate and inflation rate decreases economic growth in Nigeria as seen in this study.

3. Third, exchange rate and inflation rate have had negative impact on FDI as it affect economic growth in Nigeria. Its means that, both exchange and inflation rates have been discouraging the inflow of more FDI into Nigeria since it has a negative effect.

Recommendations
Based on the findings of this research, the following recommendations are put forward:

1. First, since it has been found that FDI is related to economic growth in the long run, there is need for policy cohesion and coordination on FDI, exchange rate, inflation rate by managers of the economy in Nigeria (e.g. the Central Bank of Nigeria and the Federal Ministry of Finance).

2. Second, since the findings indicates that more inflow of FDI has positive effect on economic growth, it is appropriate for the authorities to develop trade and investment policies in the country to encourage more foreign investors influx and improve the economic growth in Nigeria.

3. Third, as evidenced in this study, exchange rate and inflation rate have had negative impact on FDI as it affect economic growth in Nigeria. It is appropriate for the
authorities to develop sound exchange rate management in the country to encourage more foreign investors' influx and improve economic growth in Nigeria.

4. Finally, Government should encourage the channeling of the inflows of FDI towards the appropriate sectors of the economy that can easily promote growth and development, such as the Agricultural, Manufacturing, Educational, Mining, Power and Energy Sectors etc.; rather than focusing on oil and gas as well as communication as shown by some studies.

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