

An Impact Assessment of Foreign Direct Investment and Government Expenditure: Empirical Evidence on Nigerian Economy 1970 to 2021

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Abstract

This study examines the effect of Foreign Direct Investment (FDI) and Government Expenditure (GEXP) on economic growth in Nigeria. Data used for this research were sourced from the statistical bulletin of the Central Bank Nigeria (CBN). The scope covered a period of 49 years (1970-2019). Stationarity test (ADF and PP test), Johansen cointegration test, VAR estimates, and Granger causality test were all used. The Johansen co-integration test indicates that there exist two (2) cointegration equations using both trace statistics and the maximum eigenvalue test. The result of VAR estimates indicates that GDP and GEXP were positive and statistically significant and FDI is negative and statistically insignificant. Granger causality test shows that GDP granger causes FDI in Nigeria. Therefore, policies such as job creation, tax concession, and a good enabling environment should be created for FDI to come into the country.

Keywords: Foreign Direct Investment; Government Expenditure; Economic Growth; ADF; PP.

Introduction

Within developing countries, there is the belief that Foreign Direct Investment (FDI) enhances the productivity of the host countries and promotes economic development. The notion stems from the fact that FDI may not only provide direct capital financing but also create positive externalities via the adoption of foreign technology and know-how. Yet, most findings indicate that a country's capacity to take advantage of FDI might be limited by local conditions such as the development of local financial markets or the educational level of the country, i.e. absorptive capacities. Lee and Tan (2006) show that the technology FDI brings translates into higher growth only when the host country has a minimum threshold of stock of human capital. Alfaro (2003) provided evidence that only countries with well-developed financial markets gain significantly from FDI in terms of their growth rates. Neoliberal theories argue that Less Developing Countries (LDCs) suffer from gaps that keep these countries trapped in a state of economic backwardness. These include the resources gap, foreign exchange gap, skills, technology gap, and budgetary gap.

The need for FDI is born out of the under-developed nature of the Nigerian economy which especially hindered the pace of her economic development. Generally speaking, policies and strategies of the Nigerian government toward FDI are shaped by two principal objectives the desire for economic independence and the demand for economic development.

FDI is therefore supposed to serve as a means of augmenting Nigeria's domestic resources to pursue her economic growth policies and raise the standard of living of her people. And the best medium to communicate this type of idea to policymakers is through research of this nature.

Nigeria also opened up its economy and allowed Multi-National Enterprises (MNEs) in the core sectors such as power and fuels, electricity equipment, transport, chemicals, food processing, metallurgical, drugs and pharmaceuticals, textiles, and industrial machinery as a part of the reform process started in the mid of 1980s. In this context, it is imperative to assess the effects of FDI inflows on these core sectors in Nigeria.

However, the consensus now is that FDI is an engine of growth as it provides the much-needed capital for investment, increases competition in the host country's industries, and aids local firms to become more productive by adopting more efficient technologies or by investing in human or physical capital. FDI contributes substantially because it is more stable than other forms of capital flows (Ajayi, 2006).

In recent years, policymakers and communities especially in developing countries have concluded that Foreign Direct Investment (FDI) is seriously required to promote the growth of their economies. For example, Loungani and Razin (2000) stated that FDI plays a vital role in economic growth in the host countries through employment creation, technology transfer, and capital accumulation.

Previous studies such as Loungani and Razin (2001), Ajayi, (2006), and others indicated that FDI was what was needed to bridge the saving-investments gap that existed in Nigeria and Africa at large. Before the 1970s, FDI was not seen as an instrument of economic development therefore the perception of FDI as a parasite retarding the development of domestic industries for export promotion engendered hostility to Multi-National Companies (MNCs) and their direct investment in many countries.

Some researchers found that the relationship between FDI and economic growth was positive while some found a negative relationship between FDI and economic growth and others found an ambiguous relationship. Among the researchers that found a positive relationship were: Ray (2013), Ahmad, Hayat, Luqman and Ullah (2012), Insah (2012), and Fasaya (2012) among others, while Saqib, Masnoom, and Rafique (2013), Abdul (2012) among others found a negative relationship and others who found ambiguous relationship included Alfaro (2003), Basem and Abeer (2011), Lamine and Yang (2010) and Endozien (1968). These different relationships depended on the methodology, nature of the data, and the country used in the study.

Ajayi (2006) and Borensztein, De Gregorio, and Lee (1998) suggested three main ways through which FDI promotes growth:

- i. FDI augments domestic savings in the process of capital accumulation.
- ii. It leads to increase export as a result of an increase in capacity and competitiveness in domestic production.

- iii. It is the main conduit through which technology spillovers lead to an increase in factor productivity and efficiency in the utilization of resources.

Nigeria is one of the few countries that consistently benefitted from the FDI inflow to Africa. Nigeria's share of FDI inflow to Africa averaged around 10% from 24.19% in 1970 to a level of 5.88% in 2001 up to 11.65% in 2002. UNCTAD, (2003) indicated Nigeria as the continent second top FDI recipient after Angola in 2001 and 2002. The details of the FDI inflows into Nigeria ranged from N 128.6 million in 1970 to N434.1 million in 1985 and N 115.952 billion in 2000.

Before the early 1970s, FDI played an important role in the economy. Until 1972, for example, the almost non-agricultural sector was fully owned and controlled by foreign companies that got a monopoly on the distribution of imported commodities. It happened from 1963 to 1972; an average of 65% of the total capital was owned and managed by foreigners (Jerome and Ogunkola, 2004).

The Structural Adjustment Program (SAP) was initiated in 1986 to terminate the hostile policies toward FDI. The Industrial Development Coordinating Committee (IDCC) was established in 1988 as a one-step agency for facilitating and attracting FDI inflow. A new industrial policy was also introduced in 1989 as a component of portfolio investment.

This was followed in 1995 by the repeal of the Nigeria Enterprises Promotion Commission Decree (NEPCD) and its replacement with the Nigerian Investment Promotion Commission Decree (NIPCD) 16 of 1995. The NIPC absorbed and replaced the NEPC and provided for foreign investors to set up a business in Nigeria with 100% ownership.

Finally, it was discovered that earlier studies on the related issues focused on developed, Asian, and other African countries. It was also found that no studies employed Robinson's model of capital accumulation in its theoretical framework. While the study done by Oyatoye, Arogundade, Adebisi, and Oluwakayode (2011) examined the possible impact and relationship between FDI and economic growth in Nigeria using three variables (export, GDP at current market price, and FDI inflows). This research failed to include other selected macroeconomic variables such as exchange rate and government expenditure e.t.c. hence, it is necessary to extend the timeframe and include additional variables to fill the gap using the robust and recent econometric technique Vector Auto Regressive model (VAR) in analyzing the relationship between GDP and FDI in Nigeria. Moreover, Robinson's model of capital accumulation was used in this work in the form of the theoretical gap. Although Nigeria was the second largest FDI recipient in Africa, its economy is still backward as compared to other countries in the same region.

Statement of the Problem

Nigeria, like many other developing countries, is still characterized by low savings as a result of low per capita income and high unemployment rates. Therefore, FDI is needed to solve the problems. Nigeria has been focusing on policies helping to attract FDI and yet the economy is still dwindling. FDI is an engine of growth and it is more growth and

development enhancing in agricultural, manufacturing and other commercial sectors than in oil sector and oil sub-sectors, so growth is achieved when more FDI inflows are channeled in these sectors than oil sector and oil sub-sectors (Alfaro, 2003 and Akinlo, 2004).

More so, it was discovered that earlier studies on the related issues focused on developed, Asian and other African countries. It was also found out that no studies employed Robinson's model of capital accumulation in its theoretical framework. While the study done by Oyatoye, Arogundade, Adebisi and Oluwakayode (2011) examined the possible impact and relationship between FDI and economic growth in Nigeria using three variables (export, GDP at current market price and FDI inflows). This research failed to include other selected macroeconomic variables such as exchange rate and government expenditure e.t.c. hence, it is necessary to extend the time frame and include additional variables in order to fill the gap using the robust and recent econometric technique Vector Auto Regressive model (VAR) in analyzing the relationship between GDP and FDI in Nigeria. Moreover, Robinson's model of capital accumulation was used in this work in the form of theoretical gap. Despite the fact that Nigeria was second largest FDI recipient in Africa, its economy is still backward as compared to other countries in the same region.

Research Questions

This study, seek to provide empirical analysis on the effect of foreign direct investment and government expenditure on economic growth in Nigeria and to answer the following research questions:

- i. What is the effect of FDI on economic growth in Nigeria from 1970 to 2021?
- ii. What is the direction of causality between FDI and economic growth in Nigeria, if any?
- iii. Is there long run relationship between FDI and other selected macroeconomic variables (FDI, GDP, GEXP and EXCR)?

Objectives of the Study

The broad objective of this study is to examine the relationship among foreign direct investment and government expenditure on economic growth. Specifically, this study aims at achieving the following objectives:

- i. To analyze the effect of FDI on economic growth in Nigeria from 1970 to 2021.
- ii. To investigate the direction of causal relationship between FDI and economic growth in Nigeria.
- iii. To empirically ascertain the long run relationship between FDI and other selected macroeconomic variables (FDI, GDP, GEXP and EXCR).

Research Hypotheses

In conducting this study, three sets of hypotheses will be tested in line with the specific objectives of the study are:

H₁: Foreign Direct Investment has no significant effect on economic growth in Nigeria.

H₂: Foreign Direct Investment does not granger cause economic growth in Nigeria.

H₃: There is no long run relationship among the variables under examination.

Literature Review

Ismaila and Imoughele (2015) examined the macroeconomics determinants of economic growth in Nigeria measured by real gross domestic product (RGDP). Augmented Dickey-Fuller (ADF) test was used for the unit root test and Johansen's cointegration test was also conducted to establish short and long-run relationships between economic growth and its macroeconomics determinants. The result shows six cointegrating equations which establish the existence of a long-run relationship among the variables. The ordinary Least Square statistical technique was used to assess the degree of influence the variables have on each other. The results show that gross fixed capital formation, foreign direct investment, and total government expenditure are the main determinants of Nigeria's economic output under a stable inflationary rate. The study recommended that there is a need for government to consciously develop the business environment by the provision of necessary infrastructure, which will lower the cost of doing business in Nigeria. There is also the need for the government to retain tight monetary and fiscal policies to fight inflation in the Nigerian economy since inflation has a negative influence on investment and Nigeria's economic growth finally, There is a need to put a stringent policy in place to minimized strike in Nigeria labour sector to enhance their performance to the national economy.

Chalses, Bruno, and William (2014) examined VAR analysis of economic growth, domestic product, FDI, domestic savings, and trade in Rwanda using the Augmented Dickey-Fuller test, Cointegration test, and Granger causality test. The findings of the Augmented Dickey-Fuller test showed that there was bi-directional causality between GDP and TR and TR and DI and unidirectional causality from GDP to FDI, from DS to GDP, from DS to DI, and from DS to TR. These findings showed that GDP could be used to promote domestic investment and trade.

Ehikioya and Mohammed (2014), used the cointegration and Error Correction Mechanism (ECM) to determine the relationship between Foreign Direct Investment, its components, and economic growth and the study found that continuous inflow of FDI in mining and quarrying, telecommunication, building and construction, trading and business and agricultural sectors had a robust impact on Nigeria's economic growth. The study recommended among others that there was a need for government to consciously improve the business environment by the conscious provision of necessary infrastructure, which would lower the cost of doing business in Nigeria and adequate macroeconomic policies that would open up the economy should be put in place to encourage FDI inflow. Cletus and Oghoghomeh(2014), investigated the relationship between FDI and its various determinants in Nigeria using a panel data study. It was gathered in this study that market size, natural assets, infrastructure, domestic credit, exchange rate, legal system, and population health of the country had a positive relationship with FDI; while corruption, human capital development, political risk, and trade openness had a negative relationship

with FDI. Based on the above, it was recommended that the Nigerian government should provide the necessary incentives for investment and production activities to strive as well as create an enabling environment for substantial growth in GDP.

Philip and Adeyemi (2014), investigated the relationship between FDI and economic growth in ECOWAS using the generalized methods of moments estimators (System-GMM panel estimation technique) covering the period 1970-2011. The empirical results based on the System-GMM indicated that FDI was statistically insignificant and impacted negatively on growth in ECOWAS despite controlling for the role of human capital and quality of institutions in the model. The study recommended that there was a need to curtail excessive openness in the extractive industries, encouraging more manufacturing FDI and domestic investment of repatriated capital by ensuring more economic stability and raising the domestic interest rate.

Sharma (2014) examined the association between inflow of FDI and GDP of BRICS countries VIZ, Brazil, Russia, India, China, and South Africa using Augmented Dickey-Fuller, cointegration, and granger causality tests. The study covered a period of 20 years from 1993 to 2012. The result of the cointegration test indicated that there was no long-run relationship between FDI and GDP in Russia. Granger causality test confirmed the result of cointegration and found that in Russia neither GDP granger caused FDI, nor FDI granger caused GDP. However, for the rest of the four countries, unidirectional relation was observed. In India and China GDP granger caused FDI whereas in Brazil and South Africa FDI granger caused GDP.

Olumuyiwa (2013), examined the impact of FDI inflow and economic growth in a pre and post-deregulated Nigerian economy, a granger causality test was used as the estimated technique from 1970-2010. However, the analysis de-aggregated the economy into three periods; 1970 to 1986, 1986 to 2010, and 1970 to 2010, to test the causality between FDI and economic growth (GDP). However, the result of the causality test indicated that there was a causality relationship in the pre-deregulation era that was (1970-1986) from economic growth (GDP) to FDI which meant GDP caused FDI, but there was no causality relationship in the post-deregulation era that was (1986-2010) between GDP and FDI which meant GDP did not cause FDI. However, from 1970 to 2010 it revealed that there was a causality relationship between GDP and FDI that was GDP derived FDI into the country and vice versa.

Ray (2013) analyzed the causal relationship between FDI and GDP in India for the period 1990 to 2011. The empirical analysis on basis of the OLS Method suggested that there was a positive relationship between FDI and economic growth proxied by GDP. He asserted that for FDI to be a noteworthy provider of economic growth, India would do better by focusing on improving infrastructure, and human resources, developing local entrepreneurship and creating a stable macroeconomic framework and conditions favorable for productive investments to augment the process of development. Saqibet *al.* (2013), reported that Pakistan's economic performance was negatively affected by foreign investment while its

domestic investment had a robust positive impact on economic growth. Their findings supported the dependency theory that FDI harmed the host country's economic growth.

Koojaroenprasit (2012) explored the impact of FDI on economic growth in South Korea for the period 1980 to 2009 using macroeconomic annual time series data and multiple regressions, the study found that there was a strong and positive impact of FDI on South Korean economic growth while domestic investment had no significant impact on South Korean economic growth. Ahmad *et al.* (2012), investigated the relationship between FDI and economic growth in Pakistan. Employing the cointegration and error correction model, the results showed that there was a positive relation between FDI and GDP in the short as well as long run.

Insah (2012) examined FDI inflows and economic growth in Ghana for the study period which spanned from 1980 to 2010. Investigation of the series revealed the presence of cointegration between FDI and economic growth. Using a static error correction (ECM) and OLS model specified in a log, the empirical findings revealed that there existed a positive relationship between economic growth and FDI while the lagged values of FDI had an inverse relationship with economic growth. He postulated that policymakers should not concentrate on current macroeconomic inflows of FDI but considered the effects of past FDI inflows on current levels of economic growth. Fasanya (2012), postulated that despite the increased capital flows to African countries, including Nigeria, many African countries are still characterized by low per-capita income and high unemployment rates so FDI is theoretically and empirically supposed to solve these problems. The Nigerian government has been focusing on policies that would help attract foreign investors and yet the economy is still dwindling. In line with this background, he studied the impact of FDI on GDP in Nigeria for the period 1970-2010 making use of annual time series data through a Neoclassical framework. The findings showed that FDI had a positive impact on economic growth in Nigeria and so did domestic investment. The study recommended that for Nigeria to effectively reap the benefits of foreign and domestic investments, its economic planners should create a healthy and enabling business environment that encourages both foreign and local investors, provides incentives for innovation and skills improvement, and contributes to a competitive corporate climate.

Okon *et al.* (2012), investigated the relationship between FDI and economic growth in Nigeria from 1970-2008, the study made the proposition that there was endogeneity i.e., a bi-directional relationship between FDI and economic growth in Nigeria. Single and simultaneous equation systems were employed to examine if there was any sort of feedback relationship between FDI and economic growth in Nigeria. The results obtained showed that FDI and economic growth were jointly determined in Nigeria and there was positive feedback from FDI to growth and from growth to FDI. Eravwoke and Eshanake (2012), assessed the direction of causality between FDI and Economic growth in Nigeria. They reported that Economic growth (GDP) did not granger cause FDI in Nigeria. They suggested that the government must appreciate the basic elements of a successful

development strategy and encourage domestic investors before going after foreign investors because they constituted the bulk of Investment activities in the economy. Zakariet *al.* (2012), examined the role of FDI on Economic growth, making a comparison between selected countries of Africa and Asia for a period from 1999 to 2009, The Hausman test was used to determine the proper model specification among OLS, fixed effect and random effect models. Empirical evidence revealed that FDI had a positive relationship with GDP Growth for both Africa and Asia. They also reported evidence of one causality way for Africa and had no evidence for Asia. They concluded that FDI promoted economic Growth and thus they recommended more openness of the economies, more investment in infrastructure, and more political commitment in the fight against corruption.

Methods

This study examines the effect of FDI on economic growth in Nigeria using a VAR model based on Johansen and Juselius (1990). The baseline model is of the form of:

$$GDP_t = \alpha_t + \beta_1 FDI_t + \beta_2 GE_t + \beta_3 EXCR_t + \varepsilon_t \dots (3.1)$$

$$Y_t = \alpha + \beta_1 Y_{t-1} + \dots + \beta_p Y_{t-p} + \varepsilon_t \dots (3.2)$$

Where:

Y_t is a 4×1 vector of jointly determined endogenous variables containing Foreign Direct Investment, Gross Domestic Product, Government Expenditure, and Exchange Rate. The coefficient β_1 to β_p is a $k \times k$ matrices of coefficient that relate the lagged values of all the endogenous variables to the current values of those variables, α is a vector of constant, and ε_t is a random error term.

VAR Model Estimates

The VAR model of the equation is thus formulated as:

$$\Delta Y_t = \alpha + \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta Y_{t-i} + \varepsilon_t \dots (3.3)$$

Where:

$$\Pi = \sum_{i=1}^p A_i - I \quad \text{and} \quad \sum_{j=i+1}^p A_j$$

With the reduced rank of coefficient matrix Π $r < n$, $n \times r$ matrices of α and β each with rank r will ensue such that $\Pi = \alpha\beta'$ and $\beta'y_t$ are stationary. In this case, r is the number of the cointegrating relationships (r), and the maximum likelihood of the estimator of β is an indication of a combination of change in $y_t(\Delta y_t)$ such that y_{t-1} will correct for lagged differences and deterministic variables if present. Two different likelihood ratio tests of the significance of the relationships are available for Johansen as well as the reduced rank of the Π matrix, namely the trace test and maximum eigenvalue test. These tests are presented as equations 3.4 and 3.5 respectively.

$$T_{\max} = -T \sum_{i=r+1}^n \ln(1 - \lambda_i) \dots \dots \dots (3.4)$$

$$J_{\max} = -T \ln(1 - \lambda_{r+1}) \dots \dots \dots (3.5)$$

Where T is the sample size and λ_i is the i th largest colonial correlation. The maximum eigenvalue tests the null hypothesis of r cointegration vectors against the alternative hypothesis of $r+1$ cointegration vectors.

In other words, the decision rules upon whether to accept or not accept the existence of the long-run relationship between variables is that the TRACE statistics value and their respective critical values are at an appropriate level of significance. If the TRACE statistics value is greater than the critical value the null hypothesis is rejected, on the other hand, if the TRACE statistics value is less than the critical value the null hypothesis is accepted. The hypothesis indicates the number of co-integrating equations.

Also, different techniques of data analysis were used in carrying out this empirical analysis on the assessment of the contribution of foreign direct investment and government expenditure, on economic growth in Nigeria. These techniques include the stationarity test (ADF and PP test), Johanson cointegration test, VAR estimates and Granger causality test models, Unit Root test, and vector error correction method (VECM).

The study considers the following equations:

Unit Root Test

The general model for the test of ADF and PP is

$$\Delta Y_t = \alpha + \beta Y_{t-1} + \sum_{j=1}^p \gamma_j \Delta Y_{t-j} + \varepsilon_t \dots \dots \dots (3.6)$$

$$\Delta Y_t = \alpha + \beta T + \gamma_{t-1} + \varepsilon_t \dots \dots \dots (3.7)$$

Where β is the parameter, ε_t is assumed to be a random error term, t is a linear time trend, Δ is the first differences operator, p is the optimum number of lags in the dependent variable and α is constant, $\Delta Y_t = Y_t - Y_{t-1}$. Y is said to be a stationary series if $-1 < \rho < 1$. If $\rho = 1$, Y is a non-stationary series; if the process is started at some point, the variance of y increases steadily with time and goes to infinity. If the absolute value of ρ is greater than one, the series is explosive.

Granger Causality Test

In the cause of this study, the direction of causality between FDI, government expenditure, and economic growth, would be investigated, to which we consider the following equations:

$$\Delta Y_t = \lambda_1 + \sum_{i=1}^p \alpha_{i1} \Delta Y_{t-i} + \sum_{i=1}^q \alpha_{i2} \Delta FDI_{t-i} + \sum_{i=1}^r \alpha_{i3} \Delta GE_{t-i} + \sum_{i=1}^t \alpha_{i5} \Delta EXCR_{t-i} + \varepsilon_t \dots \dots \dots (3.8)$$

$$\Delta FDI_t = \lambda_{2+} \sum_{i=1}^l \beta_{i1} \Delta FDI_{t-1+} \sum_{i=1}^l \beta_{i1} \Delta Y_{t-1+} \sum_{i=1}^m \alpha_{i2} \Delta GE_{t-1+} \sum_{i=1}^q \alpha_{i4} \Delta EXCR_{t-1+} \varepsilon_{t2} \dots\dots\dots(3.9)$$

$$\Delta GE_t = \lambda_{3+} \sum_{i=1}^l \beta_{i1} \Delta GE_{t-1+} \sum_{i=1}^l \beta_{i1} \Delta Y_{t-1+} \sum_{i=1}^m \alpha_{i2} \Delta FDI_{t-1+} \sum_{i=1}^q \alpha_{i4} \Delta EXCR_{t-1+} \varepsilon_{t3} \dots\dots\dots(3.10)$$

$$\Delta EXCR_t = \lambda_{4+} \sum_{i=1}^q \beta_{i1} \Delta EXCR_{t-1+} \sum_{i=1}^l \beta_{i1} \Delta Y_{t-1+} \sum_{i=1}^m \alpha_{i2} \Delta FDI_{t-1+} \sum_{i=1}^l \alpha_{i3} \Delta GE_{t-1+} \varepsilon_{t3} \dots\dots\dots(3.11)$$

Thus, the above set of equations could be written as:

$$\Delta X_t = \lambda_{2+} \sum_{i=1}^l \beta_{i1} \Delta X_{t-1+} \sum_{i=1}^m \alpha_{i2} \Delta Y_{t-1+} \sum_{i=1}^q \alpha_{i4} \Delta EXCR_{t-1+} \varepsilon_{t-1i} \dots\dots\dots(3.12)$$

Where Δ is the first-difference operator; β_{ij} 's and α_{ij} 's are parameters; and λ_i 's are constant terms, while Y is the GDP. In Equation 3.8, the $H_0: \alpha_{i1} = \alpha_{i2} = \alpha_{i3} = \alpha_{i4} = 0$. If we reject H_0 , we will conclude that GDP Granger causes FDI. Similarly, in Equations 3.9, 3.10, and 3.11, the null-hypothesis, $H_0: \beta_{i1} = \beta_{i2} = \beta_{i3} = \beta_{i4} = \beta_{i5} = 0$ which is tested against the H_1 respectively, if we reject H_0 , then we would conclude that increase in GDP would lead to increase FDI in the Nigerian economy.

Results and Discussions

ADF unit root tests

Table 4.1a: ADF unit root tests

Variables	ADF unit root (at level)		ADF unit root (at first difference)	
	T statistic	Probability	T statistic	Probability
LGDP	-2.187193	0.4843	-6.350024*	0.0000
LFDI	-3.172529	0.1032	-8.394614*	0.0000
LGEXP	-1.768327	0.7030	-7.562248*	0.0000

Note: * indicates stationary at 1% level of significance

Source: Extract from estimation output using E-views9.

Table 4.1b: PP unit root tests

Variables	PP unit root(at Level)		PP unit root(at first difference)	
	T statistic	Probability	T statistic	Probability
LFDI	-3.085452	0.1223	-8.802753*	0.0000
LGEXP	-1.791186	0.6921	-7.519353*	0.0000

Note: * indicates stationary at 1% level of significance

Johansen Cointegration Test

Source: Extract from estimation output using E-views9.

Table 4.2: Johansen Cointegration Rank Test Assuming Linear Deterministic Trend for the Model

<i>series: LGDP, LFDI, and LGEXP</i>				
Hypothesized	Trace	5 Percent	Max-Eigen	5 Percent
No. of CE(s)	Statistic	Critical Value	Statistic	Critical Value
None *				
	77.41578	47.85613	44.32581	27.58434
At most 1 *	33.08997	29.79707	21.55776	21.13162
At most 2	11.53221	15.49471	7.879891	14.26460
At most 3	3.652315	3.841466	3.652315	3.841466

Source: Extract from estimation output using E-views9.

The result of Johansen cointegration tests shown in Table 4.2 indicates that there exist two (2) cointegrating equations at 5% level of significance in both the trace statistic and the maximum Eigen value tests. This shows that there is a long-run relationship between economic growth and all the explanatory variables which is one of the objectives of this research.

VAR Estimates

Given that all the variables were not stationary at level but were stationary at the first difference, the VAR method can also be used (Gujarati, 1995). The VAR chooses the optimal lag length in line with information provided by the lag order selection criterion to avoid specification error. The result at 5% level of significance indicates that all the criteria selected lag one (see appendix VI).

Table 4.3: Vector Autoregressive Model

Dependent Variables: $\Delta LGDP$			
Variables	Coefficients	Standard errors	t- statistics
C	0.560312	0.63370	0.88419
DLGDP(-1)	0.800067	0.07108	11.2552
DLFDI(-1)	-0.22422	0.05091	-0.44039
DLEXCR(-1)	-0.132639	0.08550	-1.55140

$R^2 = 0.96$, $AIC = 0.559945$, $F = 229.3384$, $SBC = 0.764736$

Source: Extract from estimation output using E-views9.

The results as presented in Table 4.3 indicate that GDP and GEXP were positive and statistically significant while FDI and EXCR were negative and statistically insignificant.

Granger Causality Test**Table 4.4: Granger Causality**

Null Hypothesis:	Obs	F-Statistic	Prob.
LFDI does not Granger Cause LGDP	33	6.51079	0.0031
LGDP does not Granger Cause LFDI		1.61137	0.2303
LGDP does not Granger Cause LGEXP		1.57888	0.2400
LGDP does not Granger Cause LEXCR		0.61513	0.7814
LGEXP does not Granger Cause LFDI	34	1.51105	0.2524
LFDI does not Granger Cause LGEXP		0.91804	0.5551
LEXCR does not Granger Cause LFDI	34	0.51364	0.8578
LGEXP does not Granger Cause LEXCR		1.86706	0.1576

Source: Computed using E-views 9 computer

The granger causality test shows a unidirectional causality between LGDP and LFDI, LGDP and LGEXP, and LGDP from LGDP to these two (2) variables (i.e. LFDI, and LGEXP), and the findings also reveal no directional relationship between LGEXP and LFDI, LEXCR and LFDI, and LGEXP.

Conclusion

Based on the findings of the study, it is concluded that FDI does not have a significant role in increasing the level of GDP in the country.

The study realizes that foreign investors prefer faster growing markets because of cost efficiency of production, realization of economies of scales and scope in production which are closely linked with market size among others. Thus economic growth motivates foreign firms to plan new projects or new production facilities because regions that are experiencing rapid economic growth are also generating more profitable opportunities and they give the promise of growing markets and profit.

Similarly, the findings of this study conclude that GEXP plays a vital role in attracting FDI in the countries, particularly in the Nigerian economy.

Recommendations

Based on the findings of this study, the policies that can be recommended are as follows: The findings indicate that GDP promotes FDI in Nigeria i.e. an increase in GDP will also lead to an increase in FDI therefore Government should initiate and implement employment generation and good business enabling environment policies to increase the level of GDP. The findings indicate that government expenditure was positive and significant therefore it is recommended that major components of government expenditure should be geared towards the real sector of the economy these are Agriculture, Industry, Construction, Infrastructure intending to attract more FDI.

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