

**EFFECT OF DOMESTIC AND FOREIGN DIRECT INVESTMENT ON ECONOMIC
GROWTH IN NIGERIA**

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ABSTRACT

This study examined the effect of domestic and foreign direct investment on economic growth in Nigeria from the period of 1980 to 2015. The objectives of the study were to; ascertain the causal effect of domestic investment on economic growth in Nigeria; determine the causal effect of foreign direct investment on economic growth in Nigeria and determine the causal effect of interest rate on economic growth in Nigeria To achieve the stated objectives, secondary data from CBN statistical bulletin was collected on GDP, FDI, domestic investment and interest rate. Also, the econometric methods of generalized methods of moment and granger causality test were applied as the techniques of analysis. The Augmented Dickey Fuller test of stationarity result to determine the stability of the variables showed that all the variables were stationary at order one. The Generalized Methods of Moment results showed that a percentage increase in FDI will increase economic growth by 0.166692%. The regression coefficient of domestic investment showed that a percentage increase in domestic investment will increase economic growth by 0.073151%. The regression coefficient of interest rate showed that a percentage increase in interest rate will decrease economic growth by 0.003021%. The R^2 of 73% showed that the systematic variation of the dependent variable was caused by the three independent variables (FDI, domestic investment and interest rate). The Pairwise Granger Causality Test results showed that there is a unidirectional causality between FDI and GDP, domestic investment and GDP as well as interest rate and GDP. Meaning that FDI, domestic investment and interest rate impact on economic growth. Based on these findings, the study recommends amongst other that government should provide a conducive environment in the form of adequate security and

granting of tax holidays that may attract investors in Nigeria in order to spur growth. Also, government should increase her capital spending on infrastructural facilities such as electricity to encourage local investors to increase their productivity. Government's monetary policy on interest rate should be well tailored towards favorable interest rate in order to encourage investors to borrow and increase productivity.

KEY WORDS: Domestic Investment, FDI, GDP, GMM, Interest Rate, Growth

1.0 INTRODUCTION

In many developing economies the resources to finance the optimal level of growth, full employments as well as price stability are in short supply in Nigeria. Thus, the need for investments. Such investments could be foreign or domestic investments. Foreign direct investment involves the setting up of new factories by foreign national in other country. While, domestic investment is owned by Nigerians in the domestic economy (Ekine, 2014). Domestic and FDI in Nigeria is important because of the underdeveloped nature of the economy. Thus, investments are needed to boost the economic growth process, since it is considered as the central element of the process of economic growth. Thus, Nigerian government has since independence embarked upon an endless formulation and implementation of economic policies and programmes to boost investment opportunities with the hope of achieving the desired growth and development in the economy. Prominent among these are the export promotion strategy of the 1960s to import substitution strategy of the oil boom 70's. Structural Adjustment Programme (SAP) and New Investment Policy (NIP) and the economic reform policy of the 21st century. These policy frameworks was aimed at repositioned the economic units namely, the investments towards structural changes with desired achievements of growth and development (Nteegah, 2012; CBN, 2015). But these have not yielded appreciable results in Nigeria.

Moreover, given the level of investments in Nigeria, it is quite unfortunate that the growth experience in the Nigerian economy has not been very satisfactory. For instance, as public

investment decline, private investment declined from 12.3% in 1991 to 8.3% of in 1992. It then increases to 16% in 1994. Later fell continuously to 8.9% in 1996 and increase to 16.2% in 2002 but fell again to 12% in 2005 (Obayori, Obayori, Inimino and Tubotamuno, 2016. Furthermore, the poor trend of private investment in Nigeria is linked to unfavorable investment climate occasioned by dysfunctional infrastructural base, insecurity, institutional failure, and obstructive economic policies. The collective effect of these irregularities is an increase in the cost of doing business in Nigeria, which hampers firms' formation (Moses, Anigbogu, Okoli and Anynwu (2013).

In lieu of the above, the study, attempts to examine the effect of domestic and foreign direct investments on economic growth in Nigeria, between 1980 and 2015. It also seeks to link the problem of high interest rate to economic growth with a view to determining its relationship with investment. Thus, the specific objectives of the study were to: ascertain the causal effect of domestic investments, foreign direct investments and interest rate on economic growth in Nigeria.

2.0 LITERATURE REVIEW

Theoretical Framework: The Classical Theory of Investment

According to classical investment theory, investment is a function of the rate of interest. Nurkse (1953) added that; based on the classical theory of investment, interest rate is considered to be one of the determinants of investment because it is the cost of capital. While Egbo (2011) agrees that, under rational investment behaviour, firms are expected to invest up to the point where the marginal rate of return on investment is equal to the market interest rate. $I = f(r)$

According to Jorgenson (1963), the demand for investment depends on the interest rate by comparing two alternative and continuous paths of optimal capital accumulation. He develops his theory of investment on the assumption that the firm maximizes its present value subject to two constraints. First, the rate of change of

flow of capital services is proportional to the net investment. Second, the levels of output and the levels of labour and capital services are constrained by a production function $F(Q, L, K) = 0$

Empirical Literature Review

A number of studies on investment- growth nexus in Nigeria exist in the literature. Adoghor and Ewubare (2009) used co-integration and ECM to examine causal and long run relationship between FDI and economic growth in Nigeria. The result suggested that FDI contributes to economic growth in Nigeria but the level of the contribution is insignificant contrary to our expectation. Similarly, Ahmad (2010) analyzed the relationship between foreign direct investment, Domestic Investment and Economic Growth for Pakistan. The main findings of the paper are as follows: There is a bi-directional causality between FDI and domestic investment, domestic investment and economic growth; uni-directional causality between FDI and economic growth in the long run. Also, high degree of positive correlation found between FDI, domestic investment and economic growth.

Ghazali (2010) identified the long run and causal relationship between private domestic investment and economic growth (GDP) in Pakistan over the period 1981 to 2008. He discovered a bi-directional causality between private domestic investment and economic growth. The co-integration results showed that there is a long run relationship between private domestic investment and economic growth. Also, Tan and Tang (2011) investigated the dynamic relationship between private domestic investment (PDI), the user cost of capital and economic growth in Malaysia over the period of 1970 to 2009. The result shows that PDI, the user cost of capital, and economic growth are co-integrated in Malaysia. The Granger causality test shows that there is a unidirectional causality running from PDI to economic growth and from PDI to the user cost of capital in the long run.

Nteegah (2012) in his work on the impact of domestic and foreign investments on selected macroeconomic variables in Nigeria used co-integration/Error-Correction Model methods and finds out that in the long run official development aids/grants have greater implication on the growth of the Nigerian economy. Also, the Granger Causality test shows that a unidirectional causality exist between public expenditure and economic growth.

Cookey, Otto and Adeneye (2014) used OLS and co-integration to examine the effect of FDI on economic growth in Nigeria between 1980 and 2012. The results of the analysis revealed that long run relationship existed between the variables. But FDI inflow does not significantly impact on economic growth in Nigeria. In like manner, Agrawal (2015) used co-integration and granger analysis to assess the relationship between foreign direct investment and economic growth in the five BRICS economies, namely, Brazil, Russia, India, China and South Africa over the period 1989 – 2012. The results indicated that foreign direct investment FDI and economic growth are co-integrated at the panel level, indicating the presence of long run equilibrium relationship between them. Results from causality tests indicate that there is long run causality running from foreign direct investment to economic growth in these economies.

Ilegbinosa, Michealand Watson (2015) examines the impact of domestic investment on economic growth in Nigeria from 1970-2013 with the use of co-integration method. The result of showed that private investment and government productive investment had positive impact on economic growth. Also, government protective investment had negative impact on economic growth and government investment on administration social services crowded in private domestic investment. Emmanuel (2016) examined the effect of foreign direct investment on economic growth in Nigeria from 1981 to 2015 with the used of multiple regression technique. The results showed that foreign direct investment has a positive and significant effect on economic growth. It was also found that exchange rate has a positive effect on economic growth. Uwubanmwun and Ogiemudia (2016) examined the effect of foreign direct investment on economic growth in Nigeria using annual time series data covering the period 1979 to 2013. The

data were analyzed using Error Correction Model. The results revealed that FDI has both immediate and time lag effect on Nigeria economy in the short run but has a non-significant negative effect on the Nigeria economy in the long run.

3.0 METHODOLOGY

The study is quantitative in nature. Therefore, time series data sourced from the publications of; Central Bank of Nigeria (CBN) was used. The relationship between the dependent and the independent variables was provided in the following equations using GMM. The GMM estimation technique is preferred given its ability of avoiding biased results due to correlation between the error term and the lagged endogenous variables

$$GDP_t = \alpha_0 + \alpha_1 GDP_{t-1} + \alpha_2 FDI_t + \alpha_3 DIV_t + \alpha_4 INT_t + U \quad (3.1)$$

Where: α_0 = Intercept Parameter, α_1 , α_2 , α_3 , = slopes of domestic and foreign investments components, GDP = Gross Domestic product, DIV = Domestic investment, FDI = Foreign direct investment, INT = Interest Rate, U = Stochastic term

A prior expectation = $\alpha_2 > 0$, $\alpha_3 > 0$ and $\alpha_4 < 0$

The Granger Causality Test

The general form of granger causality is estimated by considering two variables FDI and GDP in the following regressions:

$$GDP_t = \sum_{t=1}^n \Psi_1 FDI_{t-1} + \sum_{t=1}^n \Omega_1 GDP_{t-1} + \varepsilon_{1t} \quad (3.2)$$

From the GDP and FDI in the equations, unidirectional causality from GDP to FDI exists if the set of lagged FDI coefficients in (3.2) is not statistically different from zero (i.e., $\sum \omega_1 \neq 0$)

4.0 RESULTS

This section presented the analysis of the result obtained from the data used in carrying out the study.

Table 4.1: Unit Root Stationarity Test (1980-2015)

Variables	ADF Test	Critical Value			Order of integration
		1% critical value	5%critical value	10%critical value	
GDP	-6.87854	-3.639407	-2.951125	-2.614300	Order one
FDI	-7.479040	-3.639407	-2.951125	-2.614300	Order One
DIV	-7.406558	-3.646342	-2.954021	-2.615817	Order One
INT	-4.873435	-3.646342	-2.954021	-2.615817	Order One

Source: Authors' Computed Result (E-views 9.0)

The result of the augmented dickey fuller stationarity of each of the series as presented in Table 4.1 showed that all the variables were stationary of same order. That is, they were stationary at order one. Meaning that they were stationary at first difference. Since the variables were made stationary at first difference prior to subsequent estimations, the best regression results will be obtained when the above variables were used in model estimation.

Table 4.2 Generalized Moment Method Estimated Result

Dependent Variable: GDP

Variables	Coefficient	T-Statistics	T-Table	Probability
C	10.07921	14.64683	2.0395	0.0000
FDI	0.166692	2.746656	2.0395	0.0098
DIV	0.073151	1.032641	2.0395	0.3095
INT	-0.003021	2.222290	2.0395	0.8255
R ² =0.725	Adj-R ² =0.699	DW-Stat=1.990		

Source: Authors Computation (E-view 9.0)

Generalized Moment Method results showed that the regression coefficient of FDI appeared with positive sign and statistically significant at 5% level. Thus, a percentage increase in FDI will increase economic growth by 0.166692%. Also, the t-statistic of 2.74 is greater than t-table of 2.03. This shows that there is a significant relationship between FDI and economic growth in Nigeria during the period of study. Thus, the alternative hypothesis was accepted. Also, the regression coefficient of domestic investment appeared with positive sign but statistically not significant at 5% level. Thus, a percentage increase in domestic investment will increase economic growth by 0.073151%. But the t-statistic of 1.03 is less than the t-table of 2.03. This shows that there is no significant relationship between domestic investment and economic growth in Nigeria during the period of study. Thus, the null hypothesis was accepted. The regression coefficient of interest rate appeared with negative sign and statistically significant at 5% level. Thus, a percentage increase in interest rate will decrease economic growth by 0.003021%. This conforms to the a priori expectation. Also, the t-statistic of 2.22 is greater than t-table of 2.03. This shows that there is a significant relationship between interest rate and economic growth in Nigeria during the period of study. Thus, the alternative hypothesis was accepted.

The R^2 of 0.725 shows that 73% systematic variation of the dependent variable was caused by the three independent variables (FDI, domestic investment and interest rate). This shows that the model is a good fit. Also, the Durbin Watson of 1.990 which is approximately 2.0 showed that

there is no problem of serial autocorrelation of the explanatory variables in the model. Thus, the estimated model is fit for policy formulation and implementation.

Table 4.3: Pairwise Granger Causality Test Result

Variables	Observation	F-Statistic	Prob.	Decision
(FDI) → (GDP)	35	22.7147	0.0000	Reject Ho
(GDP) → (FDI)		2.20513	0.1473	Accept Ho
(DIV) → (GDP)	35	50.4338	0.0000	Reject Ho
(GDP) → (DIV)		4.05859	0.0524	Accept Ho
(INT) → (GDP)	35	3.70039	0.0633	Reject Ho
(GDP) → (INT)		0.25300	0.6184	Accept Ho

Source: Authors Computation (E-view 9.0)

Note: → means does not granger cause and GDP, FDI, DIV and INT as earlier defined

In order to find out the direction of the effect of domestic and foreign investment on economic growth, the Pairwise Granger Causality Test was conducted. The results presented on table 4.3 showed a unidirectional causality between the FDI and GDP, domestic investment and GDP as well as interest rate and GDP. Meaning that FDI, domestic investment and interest rate granger causes economic growth in Nigeria during the period of study. This further revealed that the variables; FDI, domestic investment and interest rate impact on economic growth. The implication of the finding is that the more enabling environment is created for FDI and domestic

investment, the more positive impact on the growth of the Nigerian economy. The findings supported the empirical works of Tan and Tang (2012) as well as Nteegah (2012).

5.0 CONCLUSION AND RECOMENDATIONS

This study examined the effect of domestic and foreign direct investments to economic growth in Nigeria for the period 1980-2015. The need to improve the performance of the Nigerian economy growth through investments has provoked an investigation into the extent to which the two main investments sources-domestic and foreign investments have accounted for the changes in the performance of economic growth in Nigeria. Thus, secondary data from CBN on economic growth (gross domestic product), interest rate and domestic and foreign investments was collected. The data was analyzed using econometrics method of generalized moment method and complemented with unit root test and granger causality test. The results and findings indicate that the performance of the Nigerian economy during the period depended significantly on domestic investment, foreign direct investment, and interest rate. Meanwhile, economic growth was seriously impacted upon by foreign direct investment, and interest rate as depicted by the generalized moment method of analysis. Thus, it can be concluded that domestic and foreign investment are important to economic growth in Nigeria.

Given the findings, we make the following recommendations amongst others that government should provide conducive environment for foreign investors to invest in Nigeria in order to spur growth. Such steps include: adequate security and granting of tax holidays that may attract investors. Also, government should increase her capital spending on infrastructural facilities such

as electricity to encourage local investors to increase their productivity. This is because; increase good infrastructures such as road and power generation will help to step up investment. Government monetary policy on interest rate should be well tailored towards favourable interest rate in order to encourage investors to borrow and increase productivity.

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