
Effect of Domestic Investment on Economic Growth in Nigeria (1990-2017)

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Abstract

Business investment has been titled as a critical accelerator of economic growth and development by economists. Due to this, government all over the globe have made frantic efforts towards shooting` up the level of business investment in their respective countries with the intention of bringing about increased levels of output. It is for this singular purpose that this study sought to examine the effect of domestic investment on economic growth in Nigeria. The study utilized annual series data obtained from the World Development Indicator of the World Bank, the statistical bulletin of the Central Bank of Nigeria and other secondary sources. The Ordinary Least Squares method and the Error Correction Model technique was employed in analyzing the annual series data that covered the 28 years of the study spanning from 1990 to 2017. The result of the Johansen co-integration test conducted revealed that gross domestic product growth rate, domestic investment in the manufacturing sector, domestic investment in the service sector and domestic investment in the agricultural sector move together in the long run. The outcome of the long run estimation indicated that neither domestic investment in the manufacturing sector, domestic investment in the service sector or domestic investment in the agricultural sector impacted significantly on economic growth (indexed by GDP growth rate). The short run results also divulged the lack of significant impact of the regressors on economic growth in Nigeria. On the backdrop of this, the study advanced that the government improves on the ease of doing business in Nigeria so as to increase the volume of investment and make it growth-oriented and also provide a lasting solution to the prevailing farmers'/herdsmen clashes so as to encourage substantial investment in the sector.

Keywords: Economic Growth, Domestic Investment, Manufacturing Sector, Service Sector, Agricultural Sector

I. Introduction

The structure of the Nigerian economy is said to be typical of an underdeveloped economy when compared to its peers. So blessed with enormous natural resources, the wealth of the nation has not been converted into a comparable improvement in the living standard of the populace nor attained optimal productive capacity which may be due to decades of economic mismanagement. It is believed that attaining optimal productivity and improvement in the living standard of the populace can be achieved by boosting investments in the economy. The agricultural sector witnessed neglect due to the ease of flow of foreign exchange (forex) in the early 1970s. Growth performance in Nigeria declined significantly and by mid-1986 the country had to agree to adopt and implement some far-reaching economic reform measures such as the structural adjustment program (SAP) in order to qualify for international assistance from multilateral lending institutions (Kalu and Mgbemena, 2015). A strong correlation between investment and economic growth has been revealed by both theoretical and empirical studies by development economists of the world (Adofu, 2010). Similarly, Muhammad and Mohammed (2004) noted that investment plays a very

important and positive role for progress and prosperity of any country. Many countries rely on investment to solve their economic problem such as poverty, unemployment, etc.

Investment is the commitment of resources made with the hope of realizing benefits which are expected to occur over a reasonably long period of time. It is an economic activity where an individual, group or government buys assets with the hope of receiving adequate risk premium (returns) overtime. (Bakare, 2011).

Objectives of The Study

The broad objective of this study is to examine the effect of domestic investment on economic growth in Nigeria between 1990 and 2017. While the specific objectives are as follows:

- i. Determine the effect of domestic investments in the manufacturing sector on economic growth in Nigeria.
- ii. Examine the effect of domestic investments in the service sector on economic growth in Nigeria.
- iii. Determine the effect of domestic investments in the agricultural sector on economic growth in Nigeria.

Theoretical Literature

The Accelerator Theory of Investment

The Accelerator theory states that the level of investment depends on the rate of change of national income, and as a result tends to be subjected to substantial fluctuations. The theory suggests that a relatively modest rise in national income can cause a much larger percentage rise in investment. It thus emphasizes the volatility of investment and how it can accentuate change in output. The basic principle is that when income and consumption increase, firms will need to have additional new investment on top of their usual replacement investment (I_r) for machines that are worn out and have become obsolete.

The Keynesian theory of investment

This theory sees investment decisions as being dependent on the differential of two rates viz the internal rate of return generated by investing in a particular asset called marginal efficiency investment (MEI) and the prevailing market rate of interest.

The Profits Theory of Investment

The profits theory regards profits, in particular undistributed profits, as a source of internal funds for financing investment. Investment depends on profits and profits, in turn, depend on income. In this theory, profits relate to the level of current profits and of the recent past. If total income and total profits are high, the retained earnings of firms are also high, and vice versa, Retained earnings are of great importance for small and large firms when the capital market is imperfect because it is cheaper to use them.

The Endogenous Growth Theory

The Endogenous Growth Theory Explains the long-run growth rate of an economy on the basis of endogenous factors as against exogenous factors of the neoclassical growth theory. The model lays emphasis on endogenous factors as technical progress resulting from the rate of investment. The size of the capital stock and the stock of the human capital. The model assumes that:

Empirical Review

Empirical work on domestic investment and economic growth has been enormous and somewhat consistent with its findings. For instance, Villa (2008) applies a multivariate time series analysis on output growth rate, investment and government consumption in Italy from 1950 to 2005 and finds that the causality is running from domestic investment to economic growth. But empirical findings from Qin, Cagas, Quising and He (2006) show a causal relationship between domestic investment and economic growth show that the causality is running from economic growth to domestic investment. Furthermore, Tang, Seventh and Selvanathan(2008) investigated the causal link between foreign direct investment, domestic investment and economic growth for the period 1988-2003 in China, by applying a multivariate VAR system with error correction model (ECM). Their findings show that domestic investment and economic growth are positively correlated, as such great economic growth spurs large domestic investment and vice versa. By implication, it means China's domestic investment has a greater impact on growth than FDI. They, therefore, recommend that the country's precedence should be based on encouraging and promoting domestic savings for domestic investment than attracting FDI. On the other hand, in the same study, Tang, Selvanathan and Selvanathan (2008) equally found that China's domestic investment and GDP do not have much impact on FDI inflows in the long run. Export has been considered as one of the important variables in determining economic growth.

II. Methodology

Research Design

This study adopts the quasi experimental design. This is motivated based on its attribute of relying on already existing data, especially from secondary sources.

Sources of Data

The study employed the secondary data collection relating to the dependent and independent variables, from 1990-2017. The data is sourced from the CBN statistical bulletin. Other source includes the World Bank data base.

Model Specification.

the ARDL process, a single equation model was specified for this study. GDP growth rate, proxy for economic growth is included in the model as dependent variable while manufacturing sector, real sector, agricultural sector, are the explanatory variables in the model. The model is specified in the functional form as:

$$GDPR = F(DIMS, DISS, DIAS) \quad (1.1)$$

Where: GDPR is GDP growth rate

DIMS: Domestic investment in the manufacturing sector

DISS: Domestic investment in the service sector

DIAS: Domestic investment the agricultural sector

Equation (3.3) is expressed in dynamic form to capture the short and long run estimates of the ARDL model as:

$$\Delta GDP_{1t} = \alpha_0 + \alpha_1 GDP_{t-1} + \alpha_2 DIMS_{t-1} + \alpha_3 DISS_{t-1} + \alpha_4 DIAS_{t-1} + \sum_{i=1}^h \beta_1 \Delta GDP_{t-i} + \sum_{i=1}^h \beta_2 \Delta DIMS_{t-i} + \sum_{i=1}^h \beta_3 \Delta DISS_{t-i} + \sum_{i=1}^h \beta_4 \Delta DIAS_{t-i} + U_{it} \quad (1.2)$$

Where: GDPR, DIMS, DISS, and DIAS are defined earlier in equation (1.1) Δ is the first difference notation, are the long run coefficient of the explanatory variables, β_1 - β_4 will be the short run slope coefficients.

Techniques of Data Analysis

The technique used is the parsimonious error correction model in estimating effects of each of the explanatory variables on economic growth.

III. Result and Discussion

The series data for the variables of the model for the twenty-eight (28) years period length of the study are captured in table 1.

Table 1: Nigeria's Gross Domestic Product Growth Rate (GDPR), Domestic Investment in the Manufacturing Sector (DIMS), Domestic Investment in the Service Sector (DISS), and Domestic Investment in the Agricultural Sector from 1990-2017.

Year	GDPR (%)	DIMS (N'B)	DISS (N'B)	DIAS (N'B)
1990	12.766	7.8837	1.122	4.2214
1991	2.206	10.9113	1.3776	5.0127
1992	3.209	15.4039	1.9604	6.9789
1993	4.833	23.1106	5.3189	10.753
1994	3.552	34.8232	33.9899	17.7577
1995	2.236	58.0907	29.6857	25.2787
1996	7.606	72.2381	15.8872	33.2641
1997	5.298	82.8231	237.8084	27.9393
1998	5.15	96.7327	96.3637	27.1807
1999	2.8	115.7599	132.5036	31.0457

2000	7.701	141.2948	268.3825	41.0289
2001	7.035	206.889	428.4201	55.8461
2002	6.898	233.4747	564.4252	59.8497
2003	11.889	294.3096	723.1769	62.1028
2004	8.791	332.1137	956.9878	67.7386
2005	8.677	352.0383	1377.152	48.5615
2006	8.337	445.7926	1724.9485	49.3934
2007	9.061	487.576	3619.0699	149.5789
2008	8.014	932.799453	2622.11938	106.3538
2009	8.971	993.457	2134.8714	135.7013
2010	9.969	987.640991	1681.29266	128.406
2011	4.887	1053.21333	1325.44694	255.2053
2012	4.279	1068.34173	1870.07778	316.364
2013	5.394	1179.6914	2183.85509	343.6968
2014	6.31	1647.45134	3437.52297	478.9118
2015	2.7	1736.19299	2959.83025	449.3073
2016	-1.6	2215.74107	2978.43	525.9452
2017	0.8	2230.74314	2761.19365	503.0814

Source: Research's Compilation from World Bank, CBN, Indexmundi, CEIC

Estimation of Long Run Regression Result

The table below presents the long run regression results conducted on the basis of the Markov assumptions.

Table 2: Static Regression Result

Dependent variable: GDPR

Variable	Coefficient	Prob. Value
C	8.6407***	0.0073
Log(DIMS)	1.0534	0.6552
Log(DISS)	1.2825	0.1308
Log(DIAS)	-3.7792	0.0570

R-squared = 0.311, Prob. – f-stat = 0.0275

Durbin- Watson stat. = 1.67

Note: *** and ** denote significance at 1 percent and 5 percent levels respectively

Source: Researcher' computation from E-views

The static long-run regression was analyzed using the ordinary least square (OLS) method in line with the classical assumption. The outcome of the estimation that the domestic investment in the manufacturing sector (DIMS) exert a positive impact on the growth rate of gross domestic product during the length of this study. As revealed by the outcome of the analysis, a one percent increase in domestic investment in the manufacturing sector directly impacts on gross domestic product

growth rate by 1.0534 percent. Nevertheless, the impact of domestic investment in the manufacturing sector is insignificant as the coefficient's probability value of 0.6552 is greater than the 0.05 level. In consonance with earlier submission, domestic investment in the service sector directly impacts gross domestic product growth rate as an increase in such investment causes GDP growth rate to increase by 1.2825 percent.

Co-integration Test

Table 3: Johansen Co-integration Test Results

Series: GDPR InDIMS InDISS InDIAS				
Hypothesized		Trace		0.05
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.7137	63.9539	47.8561	0.0008
At most 1 *	0.5144	32.6779	29.7970	0.0227
At most 2	0.4420	14.6150	15.4947	0.0675
At most 3	0.0010	0.0272	3.8414	0.8687
Hypothesized		Max-Eigen		0.05
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.7137	31.2759	27.5843	0.0160
At most 1	0.5144	18.0629	21.1316	0.1275
At most 2*	0.4420	14.5877	14.2646	0.0444
At most 3	0.0010	0.0272	3.8414	0.8687

Source: Researcher's computation from E-views

As deduced from the outcome of the Johansen cointegration test, two tests were conducted: trace test and Maximum Eigen value test. The outcome of the trace test indicates that there exist two cointegrating equations. This is suggestive that gross domestic product growth rate (GDPR), domestic investment in the manufacturing sector (DIMS), domestic investment in the service sector (DISS), and domestic investment in the agricultural sector (DIAS) have long-run relationship or move together in the long term. This implies that, all four (4) variables of the model display identical trend movement in the long run or their long run drift are identical.

Estimation of the Error Correction Model (ECM)

Table 4: Parsimonious ECM Result

Dependent Variable: D(GDPR)				
Regressor	Coefficient	Std, Error	T – Stats	Prob.
$D(GDPR_{t-1})$	0.4588	0.3375	1.3591	0.1972
$D(InDIMS_t)$	-4.0456	4.3036	-0.9400	0.3643
$D(InDIMS_{t-1})$	-2.9670	3.9136	-0.7581	0.4619
$D(InDIMS_{t-3})$	-4.8599	3.1455	-1.5450	0.1463
$D(InDISS_t)$	-0.7849	0.7696	-1.0198	0.3264
$D(InDISS_{t-3})$	1.4320	0.7134	2.0073	0.0660
$D(InDIAS_{t-1})$	1.9908	2.1741	0.9156	0.3765
$D(InDIAS_{t-2})$	2.7915	2.0461	1.3642	0.1956

$D(InDIAS_{t-3})$	1.4910	1.6418	0.9081	0.3803
C	0.9596	1.4460	0.6636	0.5185
ECM_{t-1}	-0.9766	0.3635	-2.6862	0.0187

$R^2 = 0.6136$; Adjusted $R^2 = 0.3164$; D-W Stats = 1.969n

The parsimonious equilibrium correction model (ECM) estimated revealing the r-squared coefficient of 0.61 implies that 61 percent variation in the endogenous variable is accounted for jointly by the explanatory variables with the residual of 39 percent allotted to variables omitted from the model but captured by the stochastic term. The outcome of the estimation showed that the first lag of GDP influenced current GDP growth rate positively, however only the positive impact was insignificant. As deduced from the result of the parsimonious ECM, the current level of investment in the manufacturing sector is negative and deviates from the apriori expectation.

The coefficient of the lagged error correction term (ECM) of -0.97 suggests that the convergence of the model to long run equilibrium occurs at a speed of 97 percent. This implies that 97 per cent of impulses that occur will be corrected before next year and the correction of the existing disequilibrium will take less than three (3) months. This alludes to the fast equilibrating speed of the estimated model

IV. Conclusion

The outcome of the short run behaviour of the variables provided by the parsimonious error correction model (ECM) divulged that domestic investment in the manufacturing sector have a negative and insignificant impact on economic growth in Nigeria. However, its impact in the long run is positive, although insignificant. The result of both the long run and short run estimation revealed that, both investment in the service sector and investment in the agricultural failed to significantly impact on economic growth (indexed by GDP growth rate). On the basis of this, it was concluded that domestic investment is not a key determinant of economic growth in Nigeria.

Based on the findings in this study, the following recommendations were made;

1. The distribution of investment in the manufacturing sector, the study found has failed to stimulate or spur economic growth in Nigeria. The study therefore recommends that, government improves on the ease of doing business in Nigeria by providing basic infrastructure like good transport system, power or energy, favourable business climate to attract investors into the sector and increase the volume of investment in the sector to make it growth-oriented.
2. To encourage domestic investment and the domestic companies to go into production and provision of services, the study proposed that the Federal Government of Nigeria engineer a policy of export-led growth. This can be done through the vehicle of cutting down on the company income tax from 30 percent, making foreign exchange available at a rate below the prevailing market price and reducing cost of borrowing in the country.

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