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Finance, Investment and Economic Growth: The Nigerian Experience

George Chisom Okorie¹

Abstract

Most countries strive to achieve high investment because of its literature acknowledged advantages as a tool of economic growth. Nigeria though faced by the problem of saving-investment gap has one of its principal objectives under the new democratic dispensation as “the towards growth sustenance”. This study investigated the impact of finance on investment and the impact of investment on economic growth of Nigerian economy. An error correction distributed lag model and a distributed lag model were estimated via the classical least squares. Results suggest that increase in private sector credit (PSC) leads to increase in economic growth of Nigerian economy as 10% increase in private sector credit (LPSC) led to 30% increase in total domestic investment (TDI). The result also showed that the saving level in Nigeria is not sufficient to match the investment opportunities as typified by non-significance of saving in the very short run. However, the total domestic investment of Nigeria in the long run had a positive impact on the Nigeria’s economic growth as 10% increase total domestic investment led to 6% increase in economic growth of Nigeria. This suggests that Nigeria has to encourage increased inflow of finance to meet the investment requirements of the economy focusing on helping to lower the costs of investment by giving high priority to the provision of economic infrastructure like electricity, reducing risks associated with investment in Nigeria through having a politically and economically stable economy. Most importantly, there is need for promoting responsible business practices in such areas as labour relations, the environment and anti-corruption policy implementation.

Key words: Finance, Investment, Economic Growth, Nigeria.

1. Introduction

One of the principal objectives of the Nigerian government under the new democratic dispensation is the fostering of sustained economic growth. Finance is the process of channeling funds in the form of credit, loans to those economic entities that need them in the most productive use (New Encyclopedia Britannica, vol. 4, London 2003). According to Stiglitz (1993), investment can be broadly defined as the acquisition of an asset with the aim of receiving a return. It can also be defined as the production of capital goods used in future production. However, there are two broad types of investments. They are public investment and private investment. Public investment refers to investment by government. When government expenditure creates positive production externalities focused on enhancing innovation, research and development and/ or stimulating the accumulation of private capital, we say that these expenditures are productive. It is generally assumed that public investment in infrastructure; education and health belong to this category (Aschauer, 1989 in Nnana, 2004). In these cases, public investment is said to crowd-in private investment. If financial resources are scarce, public investment may also reduce the possibilities of the private sector to obtain credit to finance investment.

Moreover if public investment is financed through monetary financing, private investment may be seriously discouraged, Ramirez (1996). In these cases public investment may be said to crowd-out private investment opportunities (Buitter, 1977).

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Private investment refers to non-government investments. Such investments include domestic and foreign private investments. On the other hand, economic growth refers to the increase in the value of goods and services produced by an economy. It is conventionally measured as the rate of increase in GDP with respect to developing nations like Nigeria. Growth in output can be divided into two categories; growth through increased input and through improvement in productivity. According to Simon Kuznets, economic growth is defined as a long term rise in capacity to supply increasingly diverse economic goods to the population, this growing capacity based on advancing technology and the institutional and ideological adjustments.

However, in the Solow-Swan growth theory model, the policy target variable is saving rate. This shows that increase in savings rate shifts the actual investment line upward and so the economy witnesses economic growth. Economic growth is theoretically and empirically established to be dependent on capital accumulation and investment. Economic growth again according to Kuznets refers to a long-term rise in capacity of the economy to supply increasingly diverse economic goods to its population. This growing capacity is based on advancing technology and the institutional and ideological adjustments that it demands.

Generally, finance and investment aid growth and development in an economy. This is evident from the link between growth of output, investment and savings, which is well documented in the literature. Levine and Renelt (1992) explored the empirical relationship between investment and economic growth and concluded that the rate of physical investment to GDP was most important of the factors. Feldstein and Horioka (1980) as documented in Nnana (2004) explained that in the long-run, gross national savings and domestic investment rates show a strong positive correlation. Schmidt-Hebbel et-al (1996), argued that available international evidence on long-term patterns of growth appears to support the increasing disparities of investment and growth on the differences on saving rates over the past thirty years. Thus, several authors have attempted to explain the mechanisms for the transmission of savings and investment to growth. These mechanisms include the relationship of interest rates on savings and investment, the close link between investment and growth and the budget constraint, and the role of foreign finance on investment profile and growth.

Nevertheless, in some cases, while the rate of growth in investment is growing, that of growth is declining and vice versa. This scenario is not completely absent even in private investment as there are cases of investment failures in that component, leading to no growth at all or even negative growth. There are, therefore, instance where it would appear that growth can take place without investment or investments can result in no growth. These can occur due to the following factors;

- Underutilization of Capital: Here growth can occur without immediate investment if the economy is harbouring excess capacity or even inventory. Thus, as demand increases, excess capacity is utilized to satisfy the growing demand.
- Long gestation periods of capital Projects: Because of long gestation periods of capital projects, the investment/growth nexus in an economy may be eclipsed especially as statisticians assemble data on monthly, quarterly or yearly basis.

Nevertheless, the Nigerian economy has witnessed a slow pace of growth in the last two decades. The reason is that Nigeria's economic climate was not able to attract foreign investments to its fullest potentials, given the precarious operating environment which also limited her domestic investment. According to Ariyo (1988), the Nigerian investment climate is characterized by high production costs, inadequate infrastructure, and corruption, high rate of crime, spiraling inflation, political instability, and macroeconomic imbalance. Nevertheless, private capital flows are motivated by profit considerations.

Chenery and Strout (1966) in Nnana (2004) established the positive relationship between investment and economic growth, using investment-income ratio as the explanatory variable. Iyoha (1998), using the same parameters was able to analyze the impact of investment on growth in Nigeria. Using data for the 1970-1994 periods, Iyoha found that a 10% rise in the investment-income ratio will induce a 26% increase in per capita GNP. With these findings, he concluded that per capita GNP is highly investment elastic in Nigeria.

For government to achieve its desired objectives of high economic growth and rapid development, it must pursue policies that will increase both the public and private investment. Aggregate investment in any economy comprises both the public and private investments. Although the prime motive of the public sector investment may be different from that of the private sector, they both face the same challenges in financing their investment requirements.

The need for both the private and public sectors of the Nigerian economy to save in order to be able to increase investment was clearly demonstrated by Obadan and Odusola (2001). Using the Granger causality test on Nigerian data, they tested the causal relationships between savings and income growth, savings and investment, and investment and growth. They came out with these findings;

1. Savings is not income induced in Nigeria i.e. higher income does not lead to higher savings. Savings does not also Granger cause income. Their findings do not show any direct relationship between savings and income growth
2. Investment is savings-constrained but not vice-versa. That is, low savings leads to low investment or higher savings will lead to higher investment but higher investment does not lead to higher savings in Nigeria. High investment is expected to lead to high production of goods and services which is growth. Therefore, the authors opined that the lack of casual relationship between investment and savings, (i.e. investment does not Granger cause savings), is a reflection of high propensity of corporate bodies and individuals in Nigeria to consume rather than to save.

Experience has shown that when profits of corporate bodies increase, the tendency is to increase employees' emoluments and declare high dividend payments rather than increase investment. The same is equally applicable to the public sector. Windfall gains in revenue are not saved but consumed; and there is a uni-directional relationship between investment and economic growth. This finding confirms the finding of Iyoha's study on the same matter and therefore gives credence to the important role of investment in the growth process. Having recognized the role of investment in economic growth in Nigeria, it is important for government to adopt policies and strategies that will ensure a stable macroeconomic environment that is conducive for sustainable investment planning and rapid capital accumulation.

While domestic savings for investment is of utmost importance, it is realized that foreign resources are needed to complement the domestic ones in order to enhance efficiency and transfer of modern technology and managerial skills to the Nigerian economy. In this regard, both foreign indirect and foreign direct investment (FDI) are needed for the required investment and economic growth in Nigeria.

Therefore, this study will investigate the impact of finance on investment and ascertain the impact of investment on economic growth of the Nigerian economy.

2. Data and Methodological Issues

This study was motivated by objectives, the impact of finance on investment and the impact of investment on economic growth of Nigerian economy. Data were sourced from various issues of Central Bank of Nigeria via www.cenbank.org. Following the behavioral pattern of the variables of this study we adopted two impact models; error correction distributed lag model and distributed lag model. The models are specified as follows:

$$\Delta \ln TDI_t = \beta_0 + \beta_1 \Delta \ln PSC_{t-1} + \beta_2 \Delta \ln SAVS_{t-1} + \beta_3 \Delta \ln INFL_{t-1} + \beta_4 \Delta \ln TDI_{t-1} + ECM_{t-1} + U_{1t} \dots 1$$

$$\Delta \ln GDP_t = \Phi_0 + \Phi_1 \Delta \ln TDI_{t-1} + \Phi_2 \Delta \ln OPNS_{t-1} + \Phi_3 \Delta \ln EXRT_{t-1} + \Phi_4 \Delta \ln INFL_{t-1} + \Phi_5 \Delta \ln GDP_{t-1} + U_{2t} \dots 2$$

3. Empirical Results

The time series status of the data used in pursuance of objective one is as followed:

Table 1

Variable	t-adf	Σ	lag	t-lag	t-prob
Δ LTDI	-3.8910**	0.57399	1	-0.67288	0.5063
$\Delta \Delta$ LTDI	-7.8497**	0.63820	1	2.5894	0.0149
Δ LPSC	-1.0226	0.14342	1	-1.6940	0.1010
$\Delta \Delta$ LPSC	-5.5579**	0.14239	1	1.2160	0.2338
Δ LSAVS	-0.49055	0.30926	1	0.30716	0.7609
$\Delta \Delta$ LSAVS	-3.1969**	0.29420	1	1.8197	0.0791
Δ LINFL	-6.0421**	0.74243	1	2.3414	0.0263
$\Delta \Delta$ LINFL	-7.7940**	0.96617	1	3.1114	0.0042

Critical values; 5% = -1.952, 1% = -2.639: ***1%, **5%, *10%.

The result from the table above shows that there is suspicion of the presence of unit root as such we conducted we conducted a residual test. The result of the residual test of the long run relationship among the co integrated variables is shown as follows;

Table 2

Variable	t-adf	Σ	Lag	t-lag	t-prob
Residual	-3.7511**	0.57457	1	-0.77401	0.4450

The result above shows that the variables are not stationary at order zero and, as such, there is unit root present in the model. The residual test of table 2 confirms the tie between total domestic investment and inflation at 5% significant level. This means that these variables are cointegrated. We therefore generated an error correction mechanism for the error correction distributed model.

Equation below gave the best result.

Table 3

Variable	Coefficient	Standard Error	t-value	t-prob	Part R ²
LPSC	3.0141	0.55782	5.403**	0.0000	0.5290
LSAVS _{t-2}	-3.0219	0.70600	-4.280**	0.0002	0.4134
LINFL _{t-2}	0.26874	0.11179	2.404**	0.0235	0.1819
ECM _{t-1}	-0.024254	0.15434	-0.157*	0.8763	0.0009

R² = 0.998 DW = 2.00

NB: **Indicates significant at 5% level, *Indicates not significant at 5% level.

The above result shows that all our explanatory variables were statistically significant as shown by the t-value statistics. The coefficient of determination - R² shows that explanatory variables explained approximately 100%. Furthermore, the impact of each variable is discussed in turn below;

Private Sector Credit (PSC)

The result shows that logged private sector credit (LPSC) has a positive relationship with logged total domestic investment (LTDI). Therefore, a 10% increase in the present private sector credit will bring about a 30% increase in total domestic investment in the Nigerian economy. This shows that finance which is proxied by private sector credit is a positive factor in increasing total domestic investment and growth in the Nigerian economy.

National Savings (SAVS)

The result shows that logged national savings at lag two (LSAVS_{t-2}) has a negative relationship with logged total domestic investment (LTDI) in Nigeria. This result shows that national savings in the very long run has a negative impact on total domestic investment. Furthermore, a 10% increase in the past national savings will bring about a 30% decrease in the present total domestic investment and growth in the Nigerian economy.

Inflation Rate (INFL)

The result shows that logged inflation at lag two (INFL_{t-2}) has a positive relationship with logged total domestic investment (LTDI) in Nigeria. This agrees with what the literature says concerning inflation. During inflation, the general price level, of goods and services are high and so investors increase their investments through borrowing and ploughing back their profits. Furthermore, a 10% increase in the past inflation will bring about 2.7% increases in the present total domestic investment and growth in the Nigeria economy.

Error Correction Mechanism (ECM)

The result shows that a 2% of error in the model can be corrected by the error correction mechanism of immediate past ECM_{t-1}.

The time series status of the data used in pursuance of objective two is as followed:

Table 4

Variable	t-ADF	σ	lag	t-lag	t-prob
Δ LGDP	-1.9955*	0.2206	1	-1.1517	0.2589
$\Delta \Delta$ LGDP	-6.9154**	0.21479	1	2.4087	0.0226
Δ LTDI	-3.8910**	0.57399	1	-0.67288	0.5063
$\Delta \Delta$ LTDI	-7.8497**	0.63820	1	2.5894	0.0149
Δ LINFL	-6.0421**	0.74243	1	2.3414	0.0263
$\Delta \Delta$ LINFL	-7.7940**	0.96617	1	3.1114	0.0042
Δ LOPNS	-5.0136**	0.24970	1	0.43669	0.6656
$\Delta \Delta$ LOPNS	-7.7426**	0.30710	1	2.6056	0.0143
Δ ALEXRT	-2.6890**	0.34630	1	-0.79326	0.4341
$\Delta \Delta$ ALEXRT	-6.3857**	0.36596	1	1.8553	0.0737

The result from table 4 above showed that, there is no presence of unit root and, as such, the variables were stationary. Following that, we adopted a distributed lag model.

Equation that gave the best result is given below;

Table 5

Variable	Coefficient	Standard Error	t-value	t-prob	Part R ²
LTDI _{t-2}	0.55888	0.079704	7.012**	0.0000	0.6371
LEXRT	0.49558	0.072607	6.825**	.00000	0.6246

R² = 0.987 DW = 1.84

NB: **Indicates significant at 5% level, *Indicates not significant at 5% level.

The above result shows that only two out of four variables were statistically significant as shown by the t-value statistics. The coefficient of determination (R²) shows that explanatory variables explained about 99% of the total variations in gross domestic product. Furthermore, the impact of each variable is discussed in turn below;

Total Domestic Investment (TDI)

The result shows that logged total domestic investment at lag two (LTDI _{t-2}) has a positive relationship with logged gross domestic product (LGDP) in the Nigeria. This result shows that total domestic investment in the very long run has a positive impact on gross domestic product.

Furthermore, a 10% increase in the past total domestic investment will bring about a 6% increase in the present gross domestic product or growth of Nigerian economy.

Exchange Rate (EXRT)

The result shows that logged exchange rate (LEXRT) has a positive impact on gross domestic product in the short run. This is in line with the literature since a high exchange rate in favour of Nigeria will increase her national income until importation is diverted from Nigeria following high export prices. Furthermore, 10% increase in exchange rate will bring about a 5% increase in the present gross domestic product or growth of the Nigerian economy.

4. Conclusion and Policy Issues

The results obtained in the study suggest that investment has a positive impact on the economic growth of Nigeria. However, the immediate savings or savings in the short run which is a source of finance for investment was not significant. This suggests that Nigeria has to encourage inflow of finance to meet the investment requirements of the economy. Some of the ways to encourage the inflow of finance include; focusing on helping to lower the costs of investment through giving high priority to the provision of economic infrastructure like electricity, reducing risks associated with investment in Nigeria through having a politically and economically stable economy, promoting responsible business practices in such areas as labour relations, the environment and anti-corruption, encouraging entrepreneurship and vocational training, research and development activities and technology transfers, paying greater attention to the determinants of domestic investment, both formal and informal, and to strengthening the capacities of local firms to respond to new investment opportunities and to expand business relationship with foreign investors.

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