SAVINGS-INVESTMENT AND ECONOMIC GROWTH NEXUS IN NIGERIA

Odey, Ferdinand Ite, Effiong Charles Efefiom and Nwafor Jude Uchenna

Department of Economics, Faculty of Social Sciences, University of Calabar, Nigeria

ABSTRACT: *Nigeria as a developing nation needs adequate savings to encourage investment and promote economic growth. Empirically, this work has made an attempt to analyze the impact of savings and investment on the growth of the Nigerian economy. From the result of the study conducted within the period 1970 to 2015, using a battery of contemporary econometric approach involving unit root test, co-integration test and error correction model it was found that factors such as Gross Domestic Savings (GDS), Gross Fixed Capital Formation (GFCF), Labour Force (LAF) and Savings Facility (SF) are the main drivers of economic growth in Nigeria. Furthermore, evidence from the investment model shows that Real Gross Domestic Product and Gross Domestic Savings (GDS) are the two drivers of Investment in Nigeria. This means that if there is proper capital accumulation in the form of savings, investment would be great and sustainable. The multiplier effect is on the well-being of the people through increased capital and output. The study recommended among others that; the government through the Central Bank of Nigeria (CBN) should ensure the reduction of reserve requirements of commercial banks in order to make available adequate funds in form of loans and advances for investment which will boost economic growth. Government should always maintain a good political atmosphere that is devoid of political upheavals because insecurity in the country has contributed immensely to the discouragement of the people from the cultivation of banking habit. More so, foreign direct investment will be discouraged in an environment ravaged with rancor. Banks should be encouraged to establish branches in the rural areas to discourage the rural dwellers from saving in their local saving boxes. This will bridge the gap between savings and investment. The government of Nigeria has a role to play by making policies that would encourage the spread of banks. This would be done by upgrading the standard of the Nigerian banking sector.   Labour force has been revealed to be a positive growth stimulant in the study. Thus, government and the private sector should ensure that there is realistic and practical curriculum development in schools that will evolve a more productive labour force. Finally, the Governor of the apex bank (CBN) and monetary policy committee should liaise with the necessary operators to ensure that there are realistic interest and inflation rates that will stimulate economic activities and bring about the requisite economic growth in Nigeria.*

KEYWORDS: Savings, Investment, Economic Growth, Co-integration, Nigeria

INTRODUCTION

Economic growth is always used interchangeably with economic development, hence scholars of economics used this concept as a topic for discussion often times. A clear distinction between economic growth and development was made by (Jhingan, 2003) where he posits that economic development means the "non-quantifiable measure of the growing economy" i.e. the economic, social and other changes that lead to growth. Examples include changes in techniques of production, social attitudes and institutions etc. despite the distinction, it is important to know that, there is no development without growth as observed by (Iyoha, 1996).

In developing countries, example Nigeria, where we have abundant human and natural resources, much saving is needed to foster investment. Nigeria despite much income from the sales of crude oil the country is still groping with problems. This is consequent upon the fact that there has not been any synergy between savings and investment in Nigeria. The path to the Nigerian economic growth depends to a large extent on the relationship between savings and investment. It is necessary to see investment as a catalyst for industrialization and hence economic growth. This is made possible through capital formation through savings mobilization. However countries that are capable of accumulating high level of capital tend to achieve faster rates of economic growth and development as observed by Utemadu (2002). This implies that, to finance adequate investment required for proper economic growth, a country like Nigeria needs to generate enough savings or borrow from abroad, even though it is clear that external debt has a foreign exchange risk as it affects the balance of payments position of the country.

Savings means that part of income that is not spent on current consumption while, investment means addition to capital stock. When savings is applied to capital investment, output rises (Olusoji, 2003). The increase in output is made possible by the introduction of new innovations in the form of technology which gives rise to economic growth and development.

 Economic growth on the other hand results in the expansion of a country's production possibility frontier such that the potential output of the country increases above the previous levels. It is important to know that economic growth of a country would lead to the expansion in capital, labor force, output, consumption and of course income and infrastructure etc. It is therefore convincing that for developing country like Nigeria to attain economic growth some economic variables within the context of the features of the Nigerian economy must be identified. This of course would help to mobilize savings to the necessary investment to encourage economic growth.

Statement of the problem

The synergy between savings and investment in driving economic growth is well established in extant literature. It is a truism that capital accumulation and savings generation can shift a country's production possibility frontier to the right. Sustained economic growth to a large extent depends on the strength of the reinforcing relationship between savings and investment, among other factors. The level of savings and capital formation on the other hand are determined by the level of income and interest rate respectively. While savings is a positive function of income, investment is a negative function of interest rate.

The links among savings, domestic investment and economic growth in Nigeria are weak due largely to a number of factors which include low level of income, high lending rate, policy inconsistency, over reliance on crude oil sales for revenue, corruption, under-developed natural resources, low labour productivity and efficiency. Others are general poverty, insufficient capital equipment, insufficient savings facilities to mobilize savings especially in the rural areas etc. All these translate to low savings, low rate of capital formation, and low technical progress which constitute the bane of sustainable economic growth in Nigeria.

A cursory look at the Nigerian economy shows that growth rate in GDP stood at 3.4 per cent in 2005 and rose to all time high of 8.2 per cent in 2006, before falling to 6.3 per cent in 2008. By 2010, it rose to 7.8 per cent before falling to 4.3 per cent in 2012 and rose again to 6.3 per cent in 2015 and became negative through the first and second quarters of 2017. Between 2005

and 2015, growth rate in GDP averaged 6.03 per cent (World Bank, 2015). This makes Nigeria one of the fastest growing economies of the world. On the other hand, gross domestic savings in Nigeria as a percentage of GDP stood at 20 per cent in 2005 and rose to 26 per cent in 2008. By 2010, it fell slightly to 25 per cent and rose again to 33 per cent in 2012. Between 2005 and 2012 it averaged 25 per cent (World Bank, 2013). While growth rate of gross fixed capital formation of Nigeria in 2005 stood at -10.5 per cent and rose to 59.4 per cent in 2006, but fell to -0.7 per cent in 2008 and by 2010, it increased to 18.3 per cent before falling to 10.5 per cent in 2013 (World Bank, 2014). Between 2005 and 2013 growth rate of gross fixed capital formation averaged approximately 14 per cent but plummeted steadily in the wake of 2015 to 2017.

Given the stylized facts analyzed above, there is indeed cause for concern about the trend of growth in investment and domestic savings.

In view of this disconnect between savings, investment and economic growth in Nigeria, one may be tempted to ask the following research questions:

(i)   To what extent has the spread of savings facility (number of banks) encouraged savings to stimulate economic growth in Nigeria?

(ii)   Is the interest rate efficient to stimulate investment in Nigeria?

(iii)   Do the availability of labour force (number employed) encouraged investment for the desired economic growth in Nigeria?

(iv)   Is there any positive relationship between savings, investment and economic growth in Nigeria?

The main objective of this study is to examine the relationship between savings, investment and economic growth in Nigeria.

The specific objectives include;

(i)   To evaluate the effectiveness of savings facility in stimulating economic growth.

(ii)   To examine whether interest rate is efficient to stimulate investment in Nigeria.

(iii)   To investigate the extent to which the availability of labour force has encouraged investment for the desired economic growth in Nigeria.

(iv)   To examine whether there is a positive relationship between savings, investment and economic growth in Nigeria.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Empirical Studies

Verma (2007) investigated the relationship between savings, investment and economic growth in India from 1951 to 2004 using Autoregressive Distributed Lag (ARDL) Bounds Testing technique to test for Co-integration. The result of ARDL co-integration revealed that GDP, GDS and GDI have long-run relationship except when GDP is the dependent variable. The

study also examines the long-run and short-run elasticities of the correlation between GDS, GDI and GDP growth. The result shows that savings do not cause growth, but growth causes savings, savings drive investment both in the short-run and in long-run investment is the driver of economic growth in India during the period under review.

Ramesh (2011) used granger causality test, Johansen co-integration test and vector error correction model to examine the direction of relationship between saving, investment and economic growth in India at both aggregate and sectoral levels for the period 1951 to 2008. The co-integration test result suggests that there exist co-integration relationship among all series with GDP except private corporate savings. The study also found that the direction of causality runs from savings and investment to economic growth collectively as well as individually and there is no causality from economic growth to savings and investment.

Budha (2012) employed the Autoregressive Distributed Lag (ARDL) approach to test for Co-integration, error correction and granger causality analysis in examining the relationship between the gross domestic savings, investment and growth in Nepal for the period of 1975 to 2010.The results of the study show that co-integration exists between gross domestic savings, investment and gross domestic product when each of them is taken as dependent variable. The result of the granger causality test revealed that there is short-run and long-run bidirectional causality between investment and gross domestic product as well as between gross domestic savings and investment. Nevertheless, no short-run causality is found between gross domestic savings and gross domestic product.

Mohamed (2014) examines the causal relationship among savings, investment and economic growth in Ethiopia using annual time series data from 1970-2011in a multivariate framework. Result from the ARDL Bounds Testing indicates that there exists co-integration among savings, investment and gross domestic product when GDP is taken as dependent variable. The study also revealed that labor force and investment have significant positive effect on economic growth of Ethiopia both in the short-run and in the long-run while savings and human capital are statistically insignificant.

Nwanne (2014) examines the implications of savings and investment on economic growth in Nigeria. Results for ADF and PP unit root tests show that all variables under consideration are I (1). The study also revealed that there is long run relationship between savings, investment and economic growth in Nigeria. The result of the regression indicates that change in gross domestic savings movements has negative and significant effect on the change in economic growth in Nigeria and that the change in gross domestic investment has positive and significant effect on the change in the Nigerian economic growth.

Ojiegbe, Duruechi & Makwe (2016), investigated the effect of savings and investment on the economic growth of Nigeria. To achieve the objectives of the study, secondary data were obtained from the Central Bank of Nigeria statistical bulletin providing record of Nigerian saving, investment and Gross Domestic Product (GDP) over the period 1980-2014. The data gathered were analyzed using the ordinary least square method of analysis, the augmented Dickey Fuller Test, Granger Causality Test, Error Correction Model and the co-integration test were equally carried out to check the stationarity and the causal direction of the variables and also to check the long run relationship between the variables of study. The result of the statistical analysis revealed that there is a long relationship between saving, investment and economic growth in Nigeria.

From the above empirical review, it can be observed that the savings-investment and economic growth nexus in Nigeria has not been adequately established in the extant literature. More so, the inclusion of saving facilities as drivers of investment cum economic growth in Nigeria is sacrosanct at this period of low savings and investment in the country, due to economic recession.

Savings, Investment and Economic Growth

Savings, investment and economic growth have good relationship. This is because availability of savings in every economy would boost investment and hence economic growth. The absence of adequate savings facilities has affected mobilization of domestic savings to investment in Nigeria. This has reduced the amount of loanable funds for investment. If investment is low, economic growth would also be low. Economic growth vividly put, means the quantitative growth in a country's gross domestic product. Using the simple open macro-economic model, the gross domestic product of a country is the addition to a nation's consumption, investment, government expenditure and net export. This shows that investment is very important in every economy.

Olusoji, (2003) defines savings to be that part of income that is not spent on current consumption, but when directed to capital investment economic growth occurs rapidly. Capital formation through the mobilization of savings is a necessary factor in economic growth. As (Utemadu, 2002) rightly observed, countries that accumulate high level of capital always achieve rapid rates of economic growth. This implies that for a nation to finance larger investments for proper economic growth, sufficient savings must be generated or mobilized. This could be done either from borrowing abroad or proper capital accumulation.

The relationship between savings, investments and economic growth is noticeable since investment is a catalyst for industrialization and economic growth. Understand this linkage; investment is made possible by another catalyst in savings. The synergy between investment and savings in Nigeria is not sustainable due to inadequate financial intermediation.

Theoretical Underpinnings

The theoretical framework of this study is based on the saving-investment theory developed by Thomas Tooke, Wicksell, Aftalion and Keynes as well as the endogenous growth model. The saving-investment theory otherwise known as the income theory was gradually developed by Thomas Tooke, Wicksell and Aftalion and finally by Keynes. According to them, growth in output will take place in a country where there is equality of savings and investment. Furthermore, the saving-investment theory explain the relationship between saving and investment by adding that, if saving exceeds investment, people would reduce their expenditure on goods and services. The implication of this is that, people are hoarding more money and spending less. This phenomenon would reduce the velocity of money in circulation and hence reduce income of the producers of goods and services which would lead to a fall in the price level and economic growth. As price falls, investment also declines as a result of a fall in the marginal efficiency of capital which leads to a further decline in income, output, employment and price. This implies that, the economic growth of a country like Nigeria would fall if saving exceeds investment.

On the other hand, if investment exceeds saving, people would spend more on goods and services. This would cause the velocity of money in circulation to increase and hence increase

the income of the producer of goods and services. The increase in income and expenditure increases the profit expectations or marginal efficiency of capital of producers of goods and services. This would boost output, employment, prices etc. So long as the output of goods and services rises proportionately with the increase in the demand for goods and services, there would not be a general rise in the price level.

The economy of a country like Nigeria would attain full employment level when saving and investment are equal. This means that, it is the inequality of saving and investment that brings about changes in price level and income. Therefore a stable economic growth is possible in a country when saving and investment is equal.

Savings, investment and economic growth in Nigeria have a good relationship since the saving – investment theory (income theory) has thrown more light on the equality of saving and investment for a possible economic growth. It is important to understand that a boost in income would boost investment and hence economic growth.

Keynes contribution to the theory of savings – investment (income theory) is that, it is the total money income (GDP) which determines the total expenditure of a nation. An increase in total money income means increase in investment. An increase in the money income would increase investment expenditure and boost effective demand which would in turn raise output (economic growth) and employment.

Accordingly, Keynes advocated for equilibrium between saving and investment for economic growth to take place. He demonstrated the equality of saving and investment using income as equal to consumption plus investment i.e $(Y=C+I)$, and savings as the excess of income over consumption $(S=Y-C)$. Thus;

$$Y=C+I \text{ or } I=Y-C$$

$$S=Y-C$$

$$S=I$$

Keynes believes that a desired economic growth in a given country can only occur when savings is equal to investment as demonstrated above.

Another theory underpinning this study is the Endogenous Growth Model which was developed in the 1980s. According to the neo-classical growth models, the long run growth rate of every economy is determined exogenously either by savings rate (the Harrod-Domar model) or the rate of technical progress (Solo model). The endogenous growth theory posits that, output (economic growth) is a function of capital and labour. This is symbolically put as;

$$Y = f(K,L)$$

Where y = income as a proxy for economic growth.

$$K = Capital$$

$$L = Labour$$

This means that labour and capital are the necessary factors of economic growth. Capital and labour are the main determinants of investment as a function of economic growth. In this perspective, savings rate and the rate of technological progress remain unexplained.

Endogenous growth theory holds that, the growth rate of a country on the long run is influence by policy measures. The idea is that subsidies on research or education can act as an incentive to increased economic growth rate. This theory has built macroeconomic models out of microeconomic foundation in an attempt to overcome the short comings of the neo-classical growth theory thereby making assumption of constant marginal product of capital at the aggregate level in that the limit of marginal product of capital does not tend towards zero. The implication of the endogenous theory is that, openness, competition, change and innovation should be included as part of policy instrument to promote growth in the savings-investment paradigm.

METHODOLOGY

This study is focused on investigating the relationship between savings, investment and economic growth in Nigeria. Thus, the study adopted econometric techniques to empirically test this relationship. Stationarity test, co-integration and an error correction model were estimated in order to determine the nature of relationship between savings, investment and economic growth in Nigeria. These contemporary econometric techniques allowed the researchers to determine the levels of integration of each of the variables and also capture the long run relationship and speed of adjustment.

Model Specification

The model for this work is an eclectic one in view of the fact that, one particular theory cannot explain the relationship between savings, investment and economic growth. This model combined the savings-investment theory and the endogenous growth model. The model is specified as followed:

$$RGDP = a_0 + a_1INTR + a_2INFL + a_3LAF + a_4GFCF + a_5SF + a_6GDS_+ U_t - \quad (1)$$

The a prori expectation for equation (1) is: $a_1, a_2 < 0$ and $a_3, a_4, a_5, a_6 > 0$

Equation 1 above is an attempt to show how savings and investment impact on economic growth in Nigeria. Economically the equation is written including the stochastic error term with white noise.

Also, a second model measuring the relationship between savings and investment was estimated. This is shown in equation (2) below:

$$GFCF = \beta_0 + \beta_1GDS + \beta_2INTR + \beta_3LAF + \beta_4INFL + \beta_5SF + \beta_6POS + V_t \quad \ldots\ldots\ldots\ldots (2)$$

Where, $\beta_1, \beta_3, \beta_5, \beta_6 > 0$ and $\beta_2, \beta_4 < 0$

   POS = Political stability represented by a dummy variable that assumes 0 in military era showing political instability and 1 for civilian rule showing political stability.

INTR = Interest rate

INFL = Inflation rate

LAF = labour force (Total number employed)

GFCF = Gross fixed capital formation (Proxy for investment)

SF = Savings Facility (Number of banks available)

GDS = Gross domestic savings

U_t and V_t = stochastic variables

The data used in this study are totally secondary in nature. This means the data is gathered from already published materials. It is important to know that secondary method of data collection is both qualitative and quantitative in nature in that materials collected included annual data from various statistical sources such as National Bureau of Statistics (NBS), Central Bank of Nigerian (CBN) statistical bulletin and internet sources etc.

ANALYSIS AND DISCUSSION OF RESULTS

Unit root test

Unit root test was conducted to test the stationarity of the time series data used for data estimation in this study. The Unit root result of Phillips-Peron presented in Table 4.1 shows that all the variables in the economic growth model are stationary. This conclusion arises from the fact that the calculated Phillips-Peron (PP) values are greater than the critical values at one percent, five percent and 10 per cent significant levels. This result further showed that all the time series are integrated of the same order i.e. 1(1). This provides the researchers the justification for adopting the Johansen Co-integration test in order to ascertain whether or not there is a long-run relationship among the variables in the model.

Table 4.1: UNIT ROOT TEST: PHILLIPS-PERRON (PP)

Variables	Trend and Intercept	Decision
RGDP	-10.11055	1(1)
GFCF	-4.867118	1(1)
INF	-10.76697	1(1)
INTR	-7.452221	1(1)
LAF	-4.414244	1(1)
SF	-6.047729	1(1)
GDS	-6.731557	1(1)

Critical values:

1%   -   -4.192337

5%   -   -3.520787

10%   -   -3.191277

Source: Authors' computation, 2017

Co-integration test

Table 4.2 shows the Johansen Co-integration results for the economic growth model. The results indicate that there is a long-run relationship among the variables in the model. The Trace Statistic shows two co-integrating equations as the trace statistic values of 156.5536 and 107.8014 are greater than the five percent critical values of 125.6154 and 95.75366 respectively. The Max-Eigen Statistic also shows two co-integrating equations since its values of 48.75224 and 41.85169 are greater than the five percent critical values of 46.23142 and 40.07757 respectively. We therefore reject the null hypothesis of At most 1* and At most 2* base on the Trace Statistic and Max-Eigen Statistic.

However, we do not reject the null hypotheses for the remaining co-integrating equations since their Trace Statistics and Max-Eigen values are less than their five percent critical values. Hence, the Johansen co-integration result shows that there is a long-run relationship among the variables in the economic growth and investment models which guaranteed the researchers to estimate an error correction equation.

Table 4.2: Unrestricted Co-integration Rank Test (Trace)

Eigen Value	Trace Statistic	5% Critical Value	Hypothesized N0. of CE(s)	Prob.
0.686754	156.5536	125.6154	None *	0.0002
0.630819	107.8014	95.75366	At most 1 *	0.0057
0.427378	65.94972	69.81889	At most 2	0.0979
0.340346	42.53346	47.85613	At most 3	0.1443
0.274281	25.05979	29.79707	At most 4	0.1593
0.205775	11.59492	15.49471	At most 5	0.1774
0.044653	1.918603	3.841466	At most 6	0.1660

* Denotes rejection of the hypothesis at 5% level of significance.

Source: Authors' computation, 2017

Table 4.3: Unrestricted Co-integration Rank Test (Maximum Eigenvalue)

Eigen Value	Max-Eigen statistic	5% Critical Value	Hypothesized N0. of CE(s)	Prob.
0.686754	48.75224	46.23142	None *	0.0024
0.630819	41.85169	40.07757	At most 1 *	0.1212
0.427378	23.41626	33.87687	At most 2	0.4347
0.340346	17.47367	27.58434	At most 3	0.7312
0.274281	13.46488	21.13162	At most 4	0.0788
0.205775	9.676314	14.26460	At most 5	0.2341
0.044653	1.918603	3.841466	At most 6	0.1660

* Denotes rejection of the hypothesis at 5% level of significance.

Source: Authors' computation, 2017

Error correction presentation

The over-parameterized results for economic growth and investment function shown in Table 4.4 only show the dynamic pattern of the two models and thus, explanation will only be provided for the parsimonious results shown in Table 4.5. The parsimonious estimates presented in Table 4.5 shows that all the explanatory variables conform with theoretical *a priori* (i.e., GFCF, GDS, LAF (-1) and SF). These variables are also statistically significant because their t-values of 5.578156, 2.299474, 2.528213 and 2.684804 are higher than their tabulated values at five percent and 10 per cent levels in absolute terms. It follows therefore that, a five percent rise in Gross Domestic Savings (GDS), Gross Fixed Capital Formation (GFCF) and Savings Facility (SF) will stimulate economic growth in Nigeria by 9.96 per cent, 0.69 per cent and 14.02 respectively. Whereas, a five percent rise in Labour Force (LAF) will stimulate economic growth by 8.73 per cent after a period of one year.

The co-efficient of multiple determination (R^2) and Adjusted R^2 are high at 94 per cent and 93 per cent respectively. It follows that 94 per cent of variation in economic growth (RGDP) is explained by the exogenous variables whereas; six percent is accounted for by the stochastic variable. Thus, the model has a high goodness of fit.

The F-Statistic value of 128.9014 is higher than the critical value at five percent and 10 per cent levels of significance respectively. Therefore, the overall model is statistically significant. The Durbin-Watson Statistic of 2.945551 shows that there is no auto-correlation in the estimated result. Finally, ECM (-1) result is in consonance with theoretical expectation and is statistically significant at a five percent level. Consequently, there is 47.9 per cent speed of adjustment from short-run to long-run.

More so, the parsimonious result for the investment model presented in Table 4.7 also shows that all the explanatory variables of the model conform to theoretical expectations and are statistically significant at a five percent level. This is consequent upon the fact that the calculated t-values of GDS (3.211396) and RGDP (3.030845) are greater than their five and 10 per cent tabulated values. Thus, a five percent rise in Gross Domestic Savings (GDS) will stimulate investment by 25.95 per cent whereas a five percent rise in Real Gross Domestic Product (RGDP) will bring about 14.17 per cent increase in investment.

The co-efficient of multiple determination (R^2) is 92 per cent showing that 92 per cent variation in the dependent variable has been accounted for by variations in the explanatory variables. The investment model also has a high goodness of fit.

F-Statistic of 171 is also higher than the critical value at five percent and 10 per cent levels of significance respectively. It can be concluded therefore that the overall model is statistically significant. The Durbin-Watson Statistic of 2.877253 shows that there is no auto-correlation in the estimated result. Finally, ECM (-1) result for the investment model agrees with theoretical a priori and is statistically significant at five percent. It's co-efficient of 69.70 shows that about 70 per cent of disequilibrium can be corrected in the long-run, thus, the ECM has a very high speed of adjustment.

Table 4.4: Over-parameterized result for economic growth model

Dependent Variable: RGDP

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	-221317.6	102030.6	-2.169130	0.0387
GDS	27.12932	12.99426	2.087793	0.0460
GDS(-1)	-2.733525	15.19847	-0.179855	0.8586
GDS(-2)	2.155809	13.02533	0.165509	0.8697
GFCF	0.151790	0.054787	2.770561	0.0098
GFCF(-1)	-0.045166	0.085511	-0.528186	0.6015
GFCF(-2)	0.067881	0.058541	1.159554	0.2560
INFL	618.8283	976.7535	0.633556	0.5315
INTR	653.2477	935.0713	0.698607	0.4906
INTR(-1)	126.4852	956.3078	0.132264	0.8957
LAF	-4159.749	7809.379	-0.532661	0.5985
LAF(-1)	19217.33	8537.859	2.250837	0.0324
SF	2572.826	1281.090	2.008310	0.0543
ECM(-1)	-507.6688	0193.724	-2.620578	0.0039

R-Squared   -   0.950178

Adjusted R-Squared   -   0.927047

F-Statistic   -   41.07722

Durbin-Watson   -   2.090035

Source: Authors' computation, 2017

Table 4.5: Parsimonious Result of economic growth in Nigeria

Dependent Variable: RGDP

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.950829	1.274385	-2.315493	0.0542
GDS	1.992212	0.866377	2.299475	0.0272
GFCF	0.138799	0.024883	5.578156	0.0000
LAF(-1)	1.745334	0.690343	2.528213	0.0135
SF	2.803854	1.044342	2.684804	0.0108
ECM(-1)	-0.478880	0.183219	-2.613703	0.0628

R-Squared   -   0.945709

Adjusted R-Squared   -   0.938372

F-Statistic   -   128.9014

Durbin-Watson   -   2.945551

Source: Authors' computation, 2017

Table 4.6: Over-parameterized result for the Investment model

Dependent Variable: GFCF

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	-472235.8	459739.1	-1.027182	0.3123
GDS	188.2754	34.30918	5.487611	0.0000
INTR	-4449.252	4157.110	-1.070275	0.2928
INTR(-1)	-3142.407	3939.747	-0.797616	0.4312
INTR(-2)	4333.089	3466.882	1.249852	0.2207
INFL	-1955.256	4466.805	-0.437730	0.6646
SF	-2610.589	5942.857	-0.439282	0.6635
RGDP	3.217184	0.592859	5.426557	0.0000
LAF	16444.20	32922.37	0.499484	0.6210
LAF(-1)	-19288.62	39085.23	-0.493502	0.6251
ECM(-1)	-2290.687	1049.863	-2.181891	0.0019

R-Squared   -   0.946801

Adjusted R-Squared   -   0.929641

F-Statistic   -   55.17225

Durbin-Watson   -   1.945354

Source: Authors' computation, 2017

Table 4.7: Parsimonious result for the Investment model

Dependent Variable: GFCF

Variables	Coefficient	Std. Error	t-Statistic	Prob.
GDS	5.190746	1.616352	3.211396	0.0000
RGDP	2.834601	0.935251	3.030845	0.0000
C	-6.180739	1.953658	-3.163675	0.0000
ECM(-1)	-0.697026	0.286433	-2.433469	0.0080

R-Squared   -   0.929655

Adjusted R-Squared   -   0.924244

F-Statistic   -   171.8043

Durbin-Watson   -   2.877253

Source: Authors' computation, 2017

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of findings

Savings, investment and economic growth in Nigeria have become a topic of concern in economics since the accumulation of savings in the form of capital formation would boost investment and hence economic growth in Nigeria.

The empirical result for economic growth model (equation 1) shows that factors such as Gross Domestic Savings (GDS), Gross Fixed Capital Formation (GFCF), Labour Force (LAF) and Savings Facility (SF) are the main factors influencing economic growth in Nigeria. Labour Force (LAF) does not significantly improve economic growth in the first year. It only begins to exert positive influence on economic growth after a period of one year. This is explained by the one year lag value of the variable i.e. LAF (-1). However, evidence from the investment model shows that Real Gross Domestic Product (proxy for economic growth) and Gross Domestic Savings (GDS) are the two drivers of Investment in Nigeria.

From the foregoing, a five percent increase in Gross Fixed Capital Formation will stimulate Nigeria's economic growth by 0.69 per cent. And a five percent increase in Savings Facility (SF) and Gross Domestic Savings (GDS) will boost economic growth (RGDP) by 14.02 per cent and 9.96 per cent respectively. Labour force (LAF) was found to have a positive relationship with economic growth by 8.73 after a period of one year. These results reveal that availability or spread of savings facilities and gross domestic savings are the most influential determinants of economic growth out of all the explanatory variables captured in the economic growth model.

Discursively, economic growth (proxy for RGDP) and Gross Domestic Savings (GDS) were also found to be significant determinants of investment in Nigeria. This result is in line with theoretical expectation and reaffirms the plausibility of savings mobilization as shown in economic theory. The ECM(-1) co-efficient for the economic growth model (equation 1) showed that a slower speed of adjustment of 48 per cent whereas that of investment model (equation 2) showed a higher speed of adjustment of 70 per cent from the short run to long run equilibrium

Conclusion and Recommendations

Empirically, this work has made an attempt to analyze the impact of savings and investment on the growth of the Nigerian economy.   From the result of the study conducted within the period 1970 to 2015, it has been observed that savings in a developing country like Nigeria would boost investment if properly channeled. This means that if there is proper capital accumulation in the form of savings, investment would be great. The multiplier effect is on the well-being of the people through increased capital and output. This of course is economic growth in practice. Nigeria as a developing nation needs adequate savings to encourage investment and promote economic growth.

Based on the result presented above on our findings, the period under review shows that factors such as interest rate and inflation do not significantly explain economic growth in Nigeria.

Base on the empirical findings of the study, the following policy recommendations are made for improving economic growth and investment in Nigeria; Government through the Central Bank of Nigeria (CBN) should ensure the reduction of reserve requirements of commercial

banks in order to make available adequate funds for the release of loans and advances for investment and also boost economic growth. Government should always maintain a good political atmosphere that is devoid of political upheavals. Insecurity in the country has contributed immensely to discourage people from banking their money in the banks. More so, foreign direct investment will be discouraged in an environment ravaged with rancor. Banks should be encouraged to establish branches in the rural areas to discourage the rural dwellers from saving in their local saving boxes. This will bridge the gap between savings and investment. The government of Nigeria has a role to play by making policies that would encourage the spread of banks. This would be done by upgrading the standard of the Nigerian banking sector.   Labour force has been revealed to be a positive growth stimulant in the study. Thus, government and the private sector should ensure there is realistic and practical curriculum development in schools that will evolve a more productive labour force. Also, on-the-job trainings should be organized to ensure employees match their roles at the work place. This will spell more meaningful growth in Nigeria. Finally, the Governor of the apex bank (CBN) and monetary policy the committee should liaise with the necessary operators to ensure there is realistic interest and inflation rates that will stimulate economic activities and bring about requisite economic growth in Nigeria.

REFERENCES

Budha, M. I. (2011). The estimation of the co-integration relationship between growth, domestic investment and export in Indian economy. International Journal of Economics and Finance, 3(4): 226-232.

Jhingan, M. L. (2003). Macroeconomics. 11th Edition, Delhi Press.

Keynes J. M. (1936). The general theory of employment, interest and money. London: MacMillan Company Ltd.

Mohamed, S. A. E. (2014). Testing the relationship between private savings and economic growth in Bahrain. Global Journal of Commerce and Management Perspective, 4(6): 1-6.

Nwanne, T. F. I. (2014). Implication of savings and investment on economic growth in Nigeria. International Journal of Small Business and Entrepreneurship Research, 2   (4), 74-86.

Ojiegbe, J. N., Duruechi, A. H. & Makwe, E. U. (2016). Savings, investment and economic growth in Nigeria. American Journal of Economics, 5(1): 9-20.

Olusoji, M. O. (2003). Determinants of private savings in Nigeria. NDIC quarterly.

Ramesh, K. H. (2011). Savings, Investment and Economic Growth in Ethiopia: Evidence from ARDL approach to co-integration and TYDL granger causality tests. Journal   of Economics and International Finance, 6(10): 232-248.

Utemadu, S. O. (2002). Introduction to finance. Benin: M. Index Publishing Company.

Verma, R. (2007). Savings, investment and growth in India: An application of the ARDL bounds testing approach. South Asia Economic Journal, 8(1), 87-98.

World Bank (2013, 2013 & 2014). World Development Indicators.