

Responsiveness of Economic Growth to Savings and Investments in Nigeria

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Abstract: This study investigated the responsiveness of Economic Growth to Savings and Investment in Nigeria. To achieve the objectives of this study, secondary data were obtained from the Central Bank of Nigerian statistical bulletin providing record of Nigerian saving, investment and Real Gross Domestic Product (RGDP) over the period 1990-2019. The data gathered were analysed using stationarity test; co-integration and an error correction model which were estimated in order to determine the rate of response of economic growth to savings and investment in Nigeria. The result of the statistical/econometrics analysis revealed that there is a relationship between saving, investment and economic growth in Nigeria. Consequent on the above, the researcher recommended that; measures must be put in place to encourage savings from the public; effort should be made to increase the consumption of made in Nigeria goods, which includes the usage of raw materials that can be sourced locally by Nigerian industries in order to increase foreign exchange earnings.

Keywords: Savings, Investments, Domestic savings, Gross fixed capital formation Economic Growth.

1.1 Introduction:

The relationship between savings and investment in driving economic growth is currently the interest of researchers. It is a known fact that capital accumulation and savings generation can shift a nation's production possibility towards the right direction. 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 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 (Ojiegbe, Duruechi and Makwe, 2016).

The links between 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 inefficiency. 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 (Nwanne, 2016).

A high rate of saving leads to a high rate of investment provided the three necessary steps are upheld. First, there must be an increase in volume of real savings so that additional resources become available for investment. Second, a means of collecting and channelling the savings to make them available to investors is necessary. Third, there must be some act of investment by which savings are transformed into productive capital (James, 1987). The mobilization of additional savings to increase investment and initiate higher economic growth can come from internal and external sources. Internally, savings can be mobilized through self-finance (plough back of profits or borrowing from relatives), government appropriation through additional taxes and by financial intermediation.

1.2 Statement of the problem

There is an implicit belief that the Nigerian economic environment has been unable to attract foreign direct investment to its fullest potentials, given the unstable operating environment, which is characterized by inefficient capital markets, high rate of inflation, unstable polity, stringent policies and fragile financial system, among others ((Egoro and Obah, 2017).

Another major problem is the element of fiscal dominance. A size of fiscal deficit has an implication on national savings and investments and ultimately economic growth (Uwakaeme, 2015). In Nigeria, the main factor underlying these outcomes is the volatility of government expenditure arising from the boom and burst cycle of government revenue which is derived mainly from single export commodity (oil), whose price is also volatile. To worsen the problem, these expenditures are not channelled to productive sectors of the economy (Yesuf, 1996). Thus, this low level of savings in Nigeria is as a result of high incidence of poverty and low level of disposable income, underdeveloped saving channels reflecting underdeveloped capital markets, consumption and unfavourable economic environment characterized by high unemployment and inflation (Ahortor & Adenutsi, 2009).

According to the World Bank (2015) 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 to December 2017, 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. The problem which this study tends to address was to investigate the responsiveness of Economic Growth to Savings and Investment in Nigeria.

1.3 Objectives of the Study

The main objective of this study was to investment the responsiveness of Economic Growth to savings, investment in Nigeria. The specific objectives include to;

- (i) Evaluate the effectiveness of Interest Rate in stimulating economic growth in Nigeria
- (ii) Examine the impact of Inflation Rate in stimulating economic growth in Nigeria.
- (iii) Investigate the extent to which Gross Domestic Savings and Investment has affected Economic Growth in Nigeria.
- (iv) Examine whether Gross Fixed Capital Formation has a positive relationship with economic growth in Nigeria.

1.4 Research Questions

- (i) Did Interest Rate have significant effect on economic growth in Nature?
- (ii) How did Inflation Rate impacted on economic growth in Nigeria?
- (iii) What is the relationship between Domestic Savings and investments and economic growth in Nigeria?
- (iv) To what extent did Gross fixed capital formation associated with economic growth in Nigeria?

2.0 Review of Related Literature

2.1 Conceptual Review

2.1.1 Savings and Investments

This distinction between savings and investment is that they are separate acts accomplished largely by different people and for different purpose, thus while savings is done by households and business as well as government. Investment is done excessively by businessmen (Mwega, Ngola, and Mwangi, 1990). Savings simple definition shows it as the act of net spending income or consumption, while investment simply means the expenditure of funds leading to the creation of wealth net addition to the stock of physical capital like machines, factories, other building are investment. Savings then is that portion of income, which is not devoted to the purchasing of consumer goods and services (Sunday, 2012).

2.1.2 Rate of Inflation

Inflation can be defined as a general rise in overall price level. Jhingan (2005), defined inflation as a condition of generalized excess of demand of stocks of goods and flows of real income, a rise in per capital income of stocks of flow of money income. There is a need to distinguish between the normal interest rate and the real interest rate in order to understand how the rate of inflation affects the level of interest rate. Where the normal interest rate is straightforward rate, for example, 10%, the real interest rate is the nominal rate adjusted for the expected rate of inflation. If inflation rate is expected to exceed the level of interest during the period of the loan, the real rate to the lender becomes negative. Therefore, during the period of rapidly rising inflation, lender expects a normal rate, which exceeds the expected inflationary rate.

2.1.3 Capital Formation

Capital formation is a component of Gross Domestic Product by income together with consumption and net exports and services as an indicator of the level of investment in the economy. The concept means the society does not apply the whole of its current production activity to the needs and immediate desire of consumption but directs some part of it to the creation of capital goods (Jhingan, 2005).

Capital formation promotes production and determines the speed of economic growth and development. It plays important role in increasing the production potential of the economy and brings about balance growth of different sector.

Gross fixed capital formation (GFCF) is a macroeconomic concept used in official national account. Statistically, it measures the value of acquisitions of new or existing fixed assets by the business sector, governments and "pure" households (excluding their unincorporated enterprises) less disposals of fixed assets. GFCF is a component of the expenditure on gross domestic product (GDP), and thus shows something about how much of the new value added in the economy is invested rather than consumed (Egoro and Obah, 2017)

GFCF is called "gross" because the measure does not make any adjustments to deduct the consumption of fixed capital of fixed assets (depreciation of fixed assets) from the investment figures. For the analysis of the development of the productive capital stock, it is important to measure the value of the acquisitions less disposals of fixed assets beyond replacement for obsolescence of existing assets due to normal wear and tear. "Net Fixed Investment" includes the depreciation of existing assets from the figures for new fixed investment, and is called Net Fixed (Egoro and Obah, 2017).

2.2 Theoretical Framework

Savings, investment and growth theories namely; neoclassical theory of savings and investment and endogenous growth theory were adopted in this study be used to appraise the responsiveness of Economic Growth to Savings culture and Investment in Nigeria.

2.2.1 Neoclassical Theory of Savings and Investment

Neoclassical Economics is the name given to an economic theory that was developed at the end of the 19th and

the beginning of the 20th Century in Europe. The main contributors to this theory were Léon Walras (1834-1910), Alfred Marshall (1842-1924) and Vilfredo Pareto (1848-1923). The issue that neoclassical economists dealt with was the distribution of power between industrialists and workers so as to ensure proper savings and investment. Neoclassical theory of savings and investment are today a matter of intense concern to millions of people around the world. The most basic questions people faces are: How much of their income should they save for the future? What risks should they insure against? How should they invest what they save? This theory believed that since consumption is a function of disposable income, and savings is income not spent while investment is the income spent. This means that savings and investment are also a function of disposable income. This theory states that savings determine investment and is concerned primarily with market equilibrium and economic growth at full employment instead of with the under-employment of resources.

2.2.2 Endogenous Growth Theory

This study will also be anchored on Endogenous theory propounded by Pagano (1993). The theory captures the potential effects of savings and investment on economic growth as a linear function of capital accumulation. The theory assumes that efficient financial sector might affect economic growth through three channels namely: reduction in transaction costs and channelling of increased savings to firms for productive investments, improving the allocation of capital and rate of savings. The two theoretical frameworks are very essential because they offer useful explanations on how savings and investment affects economic growth in Nigeria. Neoclassical theory of savings and investment theory explains how savings and investment determine the level of economic growth. The endogenous growth theory offers useful link through which accumulated savings are channelled to productive investments (through lending activities) for economic growth. All these attributes of the theories make them useful for this present study.

2.3 Empirical Review

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 1970-2011 in 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 labour 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.

Turan and Olesia (2014) investigated the impact of savings on economic growth in Albania over the period of 1992 to 2012 using Johansen co-integration test and error correction model. The result revealed that savings and economic growth are co-integrated, therefore showing the existence of a stable long-run equilibrium relationship. Based on the literature reviewed, there are mixed modelling in the studies revealed and there are inconsistencies in the choice of variables, the geographical area of the study and the scope are also inconsistency. The extent to which savings and investment affects economic growth has remained uncertain and undetermined in Nigeria.

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 analysed 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.

Odey, Effiong and Nwafor, (2017) empirically, analyse 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.

Abu (2010) studied the relationship between savings and economic growth in Nigeria using Granger Causality techniques and Co-Integration for the period 1970 to 2007. His results indicate that the variables are co-integrated in such a manner that one can conclude there is a long-run equilibrium relationship between them and that causality is from economic growth to savings.

Masih and Peters (2010) studied the mutual relation between savings and economic growth in Mexico using a Vector Auto-Regressive (VAR) method and annual data from 1960 to 1996. They concluded that savings have a positive effect on economic growth.

Singh (2010) studied the causal relationship between domestic savings and economic growth in India. He analysed the short and long run relation between these variables using an Autoregressive Distributed Lag model for the period 1950 to 2002. The results indicate that there is a two-way relationship between savings and economic growth. His results also showed that an increase in savings and capital accumulation will lead to higher income and economic growth.

Nwanne (2016) evaluated the implications of savings and investment on economic growth in Nigeria using ordinary least square regression. 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. We therefore recommend that government should set a sound and fertile environment in order to foster domestic saving that will help to increase the level of economic growth in Nigeria.

3.0 Methodology

This study focused on investigating the responsiveness of Economic Growth to Savings culture and investment 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 rate of response of economic growth to savings and investments 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.

Data used in this study are totally secondary in nature. This means that the data is gathered from already published materials. It is important to know that secondary method of data collection is 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.

Model Specification

The model of this study is based on the Classical Linear Regression Model of Brooks (2014). An Econometric analysis of which economic growth proxies RGDP is the dependent variable, while the independent/ explanatory variables are Interest Rate, Inflation Rate, Gross fixed capital formation and Gross Domestic Savings. Economically the equation is written including the stochastic error term with white noise as follows;

$$RGDP = \beta_0 + \beta_1GDS + \beta_2INTR + \beta_3INFR + \beta_4GFCF + Ut \dots\dots\dots (1)$$

Where, RGDP = Real Gross Domestic Product

INTR = Interest rate

INFR = Inflation rate

GFCF = Gross Fixed Capital Formation

GDS = Gross Domestic Savings

$\beta_1, \beta_3 > 0$

Ut = stochastic variables

Analysis and Discussion of Results

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

Variables	Trend and Intercept	Decision
RGDP	-10.11055	1(1)
GFCF	-4.867118	1(1)
INFR	-10.76697	1(1)
INTR	-7.452221	1(1)
GDS	-6.731557	1(1)

Source: Authors' Compilation, 2020

Critical values:

1% - -4.192337

5% - -3.520787

10% - -3.191277

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 model are stationary at 1(1). This conclusion arises from the fact that the calculated Phillips-Peron (PP) values are greater than the critical values at 1%, 5% and 10% significance levels. This result further showed that all the time series data are integrated of the same order 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 4.2: Unrestricted Co-integration Rank Test (Trace)

Eigen Value	Trace Statistic	5% Critical Value	Hypothesized NO. 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
0.205775	11.59492	15.49471	At most 4	0.1774
0.044653	1.918603	3.841466	At most 5	0.1660

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

Source: Authors' compilation, 2020

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

Eigen Value	Max-Eigen statistic	5% Critical Value	Hypothesized NO. of CE(s)	Prob.
0.686754	48.75224	46.23142	None *	0.0024
0.630819	41.85169	40.07757	At most 1 *	0.0012
0.427378	23.41626	33.87687	At most 2*	0.4347
0.340346	17.47367	27.58434	At most 3	0.7312
0.205775	9.676314	14.26460	At most 4	0.2341
0.044653	1.918603	3.841466	At most 5	0.1660

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

Source: Authors' compilation, 2020

Co-integration test

Table 4.2 shows the Johansen Co-integration results for the 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 5 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 4.4: 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
INFR	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
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' Compilation, 2020

Table 4.5: Parsimonious result for the Investment model
Dependent Variable: RGDP

Variables	Coefficient	Std. Error	t-Statistic	Prob.
GDS	5.190746	1.616352	3.211396	0.0000
INTR	2.834601	0.935251	3.030845	0.0000
GCFC	1.745334	0.690343	5.578156	0.0135
INFR	2.803854	1.044342	2.299474	0.0108
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' compilation, 2019

Discussion of Results

The parsimonious estimates presented in Table 4.5 shows that all the explanatory variables conform with theoretical a priori (GDS, INTR, GCFC and INFR). These variables are also statistically significant because their t-values of 3.211396, 3.030845, 5.578156, and 2.299474 are higher than their tabulated values at 5% and 10% levels in absolute terms. It follows therefore that, a 5% rise in Gross Domestic Savings (GDS), Gross Fixed Capital Formation (GFCF) Interest Rate and Inflation Rate) will stimulate economic growth in Nigeria by 3.21, 5.57 per cent, 3.03 per cent and 2.29 respectively.

The co-efficient of multiple determinations (R²) is 92% showing that 92% variation in the dependent variable has been accounted for by variations in the explanatory variables. The model has a high goodness of fit.

F-Statistic of 171 is also higher than the critical value at 5% and 10% 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 5%. Its co-efficient of 69.70 shows that about 70% of disequilibrium can be corrected in the long-run, thus, the ECM has a very high speed of adjustment.

More so, the parsimonious result for the investment model presented in Table 4.4 also shows that all the explanatory variables of the model conform to theoretical expectations and are statistically significant at a 5% level. This is consequent upon the fact that the calculated t-values of GDS (3.211396) and INTR (3.030845) are greater than their 5% and 10% tabulated values.

Summary of findings

1. Interest Rate has positive and significant effect on economic growth in Nigeria?
2. Inflation Rate has positive and significant impact on economic growth in Nigeria?
3. Domestic Savings has positive and significant relationship with economic growth in Nigeria?
4. Gross fixed capital formation has significant associated with economic growth in Nigeria?

Conclusion

Empirically, this work has made an attempt to analyse the responsiveness economic growth to savings and investment in Nigeria. From the result of the study conducted within the period 1990 to 2019, it has been observed that savings in a developing country like Nigeria would boost investment if properly channelled. 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.

Recommendations

Based on the following findings, the study recommends that;

- a) The government should strive to achieve sustainable price stability, stronger capital market with minimized distortions, fiscal discipline that channels funds to productive sectors to encourage private investors.
- b) Economic efficiency driven by infrastructural support and enhanced technological capabilities, strong institutional and economic reforms can increase production capacity.
- c) In addition, stable polity, to promote trade, domestic and foreign investments, should also be highly emphasized.
- d) There is also need for the policy makers to take cognizance of the policy lag effect and design policies in line with the expected magnitude of expected changes.

References

- Abu, N. (2010). Saving –Economic Growth Nexus in Nigeria, 1970-2007: Granger Causality and Co-Integration Analyses, *Review of Economic & Business Studies*, 3 (2). 93-104.
- 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.
- Egoro, S. and Obah, D.O. (2017) Impact of National Savings on Economic Growth in Nigeria, 1990-2015. *International journal of Economic and Business Management* 8(4) www.iiardpub.org
- Masih, A.M.M., and R. Masih (1997). On the Temporal Causal Relationship between Energy Consumption, Real Income and Prices: Some New Evidence from Asian Energy Dependent NICs Based on a Multivariate Co-Integration/Vector Error Correction Approach," *Journal of Policy Modeling*, 19 (1) 417-440.
- Masih, R. and Peters, S. (2010). A Revalidation of the Savings-Growth Nexus in Mexico. *Economic Letters*, 107 (1) 318-320.
- Mohamed, S.A.E. (2014), Testing the relationship between Private Savings and Economic Growth in Bahrain. *Global Journal of commerce and management perspectives* 4(6): 1-6.
- Nwanne, T.F.I. (2016) Implications of Savings and Investment on Economic Growth in Nigeria *European Journal of Accounting, Auditing and Finance Research* 4(2) 20-32.
- Odey, F.I. Effiong, C.E. and Nwafor, J.U. (2017) Savings-investment and economic growth nexus in Nigeria. *International Journal of Development and Economic sustainability* (57) 1-14.
- Ojiegbe, J.N. Duruechi, A.H. and Makwe, E.U. (2016) Savings, Investment and Economic Growth in Nigeria. *IISTE, Developing Country Studies*.
- Pagano, M. (1993). Financial Markets and Growth: An Overview, *European Economic Review* 37, 613-622.
- Singh, T. (2010). "Does Domestic Saving Cause Economic Growth? Time-Series Evidence from India," *Journal of Policy Modeling*, 32 (1) 231–253.
- Sunday, K.U. (2012) Impact of Interest Rate on Savings and Investment in Nigeria. A Project presented to the Department of Banking and Finance, UNEC Enugu. Retrieved Online.
- Turan, G. and Olesia, G. (2014), what is the impact of savings on economic growth. The case of Small Open Economy in Albania. *Mediterranean Journal of Social Sciences*, 5(13) 360-368.
- Uwakaeme, O.S. (2015) Economic Growth in Nigeria: An empirical Investigation of Determinants and causal Relationship, 1980-2012. *American Journal of Economics* 5(1) 9-20.
- Yesufu, T.M., (1996) The Nigerian Economy: Growth without Development. *The Journal of University of Benin Social Science Series for Africa*.
- World Bank (2013, 2013 & 2014). World Development Indicators.