Sectorial Credit Allocation, Bank Rural Operations and Economic Growth: A multi-Dimensional Study from Nigeria

Adolphus J. Toby and Monday Ebike Murray
fathermurraye@gmail.com
Department of Banking & Finance
Rivers State University, Port Harcourt.

Abstract

This study examined the effect of sectoral credit allocation, bank rural operations on economic growth in Nigeria from 1981-2018. The objective was to investigate the effect of banking intermediation indicators on economic growth in Nigeria. Time series data was sourced from Central Bank of Nigeria Statistical bulletin and publications of Nigeria Bureau of Statistics. Real gross domestic products were proxy for dependent variables while the independent variables, credit to productive sector, general commerce, Service sector, other sector, deposit of rural branches of commercial banks, loans of rural branches of commercial banks, Central Bank Loans to Small scale Enterprises. Ordinary least square methods of cointegration, granger causality test, unit root test and Vector error correction model. The coefficient of determination (R²) shows that 87 percent of variation in Nigeria real gross domestic products is caused by variations in sectorial credit allocation. The coefficient of credit to service sector in the estimated regression line is 2.625972 which imply that a unit increase in credit to service sector will increase Nigerian real gross domestic products by 2.6 percent. The coefficient of credit to productive sector in the estimated regression line is 11.03827 which imply that a unit increase in credit to productive sector will increase Nigerian real gross domestic products by 11 percent. 45 percent of variation in Nigeria real gross domestic products is caused by variations in bank rural operation while the remaining 55 percent of the variation in the model is captured by the error term. The coefficient of deposit to rural branches in the estimated regression line is 0.029009 which imply that a unit increase in deposit to rural branches will increase Nigerian real gross domestic products by 0.03 percent while the coefficient of Central Bank loans to small and medium enterprises in the estimated regression line is -668.0875 which imply that a unit increase in credit to Central Bank loans to small and medium enterprises will reduce Nigerian real gross domestic products by 668 percent. We recommend that Central Banks of Nigeria should re-introduce the rural banking scheme; this will enhance deposit mobilization and credit allocation from the rural communities. There is need to re-introduce mandatory sectorial credit allocation, this will enable commercial bank to extend credit facilities to the preferred sectors of the economy such as the manufacturing, agricultural and service sector.

Keywords: Sectorial Credit Allocation, Bank Rural Operations, credit to service sector, credit to productive sector, deposit from rural bank branches

1. Introduction

Banks are empowered by law such as Banks and Other Institution Act (BOFIA) 1991 as amended to undertake the business of lending and borrowing in the economy. They constitute the transmission mechanism for the government monetary and fiscal policies. Banking intermediation requires effective and reliable banking system that can mobilize deposit from the surplus economy unit. The intermediate function is determined by the development of the banking industry, the confidence of the public, the branching of the deposit money banks, the monetary and the macroeconomic variables. The absence of financial intermediation, investment is self-financed and long delays exist between investment expenditure and receipts of profits from capital invested. It results in a composition of savings that is

unfavorable to capital formation. Thus, an intermediation industry permits an economy to reduce the fraction of the savings held in the form of unproductive liquid assets, and to prevent misallocations of invested capital due to liquidity needs (Bencivenga and Smith, 1991)

The relationship between banking intermediation and economic growth has been categorized by scholars in terms of causality with respect to five hypotheses which are: no causal relation, demand following supply leading, negative causal link from finance to growth and independence (David et al, 2012). A well-structured banking intermediation functions is believed by finance and economists to affect the overall performance of the economy in terms of aggregate output. For instance efficient lending and investment operations by commercial banks would cause economic growth, mobilization of excess funds and savings from surplus economic agents would pool resources and make them ready for gainful allocation in the economy (Ezirim, 2012) which are major determinants of economic growth. It will also enhance investment by identifying and funding good business opportunities mobilizing savings, enabling trading and diversification of risk and facilitate the exchange of goods and services. These functions results in a more efficient allocation resources, rapid accumulation of which is prerequisite for economic development (Nwanyanwu, 2011).

However, the divergences on the relationship between finance and economic growth among scholars, dates back to the inability of the classical monetary policy to restore equilibrium and provide remedy to the great depression of the 1930s that gave birth to the Keynesians fiscal policy theories of government intervention. This has been deepened by Scholars in the 21st century which has led to five hypothesis between finance and economic growth, no causal relation, demand-following, supply lending, negative causal link and independent. The inconclusive and controversial findings have motivated further research on the commercial banks intermediate function economic growth Nexus in the developing countries like Nigeria.

Despite the widespread banking sector reforms that have taken place, the Nigerian banking sector exhibits some level of inefficiency, illiquidity, thinness and limited range of financial instruments and investment opportunities. Owing to widespread over-regulation of the financial systems, the country continues to experience high levels of capital flight and financial intermediation bottlenecks (Odior, 2013). Financial intermediation of the commercial banks is ineffective as evidence has shown that significant proportion of Nigerian has no access to bank service thereby increasing the level of banking density.

In addition, informal savings channels are prevalent in view of the grossly inadequate formal financial systems and leading to capital flight, low level of domestic resource mobilization and untapped resources in the informal sectors with considerable financing gap, which adversely affected growth and poverty alleviation in Nigeria (Anyanwu, 2014). Significant proportion of Nigerian is financially excluded as financial services are lacking in rural area of Nigerian communities. There are various studies on the effect of financial intermediation, these studies focused on the effect of few variables such as bank deposits, bank credit without considering other financial intermediation variables such bank lending to the various sectors of the economy and cost of financial intermediation such as interest rates Hao (2016); Ezirim and Muoghali (2001); Adelagan (2010); Obamuyi (2012); Michael (2012); Akani, Lucky and Anyamaobi (2016); Akani, Lucky and Uzah (2016) Obilor (2013) and Iheaniyi (2012). The above studies create knowledge gap and this study examined the effect of sectoral credit allocation, bank rural operations on economic growth in Nigeria.

2. Literature Review

2.1. Sectoral Allocation Credit Allocation

This is the classification of the economy into categories of sectors and sub-sectors for banking lending. For example Nigeria, the economy is classified into two major sectors: the high priority sector and others. The high priority sectors include agriculture and manufacturing industries, while the other includes the rest of the sectors of the economy.

Although lending by the CBN has exactly the same effect on the monetary base as an equivalent Open Market Operation, the effect of these actions on the allocation of credit is different. When the CBN makes a loan to a depository institution, it directly allocates credit to that institution. The effect on the allocation of credit is mitigated by the fact that the total supply of credit increases the borrowing institutions obtains credit and no one loses credit. The effect of CBN lending on the allocation of credit is intensified when the CBN offsets the effect of its ending activity on the total supply of credit through Open Market Operations. In this case, borrowing institution obtains credit but the total supply of credit is unchanged. In effect, the borrowing institution is getting credit at the expense of some other individual or institution. The total supply of credit is reallocated. Historically, the CBN has offset the effect of discount window lending on the total supply of credit through Open Market Operations.

However, in the wave of financial crisis during 2007 to date, the CBN has encouraged standing lending facility through the discount window and all loans to depository institutions are guaranteed at the CBN Discount Window. The practice of offsetting the effect of

discount window lending on this monetary base means that discount window lending reallocated credit to the borrowing institution. The effect of discount window lending on credit allocation has not been an issue for two reasons. First, the initial effect of an Open Market Operation is on depository institutions. Consequently, a discount window loan to a depository institution that is offset through Open Market Operations has the effect of reallocating credit among depository institutions. Second, and more important, discount window lending has been small historically, before 2007 when the financial crisis created liquidity crunch on the depository institutions. This was because CBN has discouraged depository institutions from borrowing at the discount window by charging penal rate.

Depository institutions were expected to come to the window only when they had exhausted the relevant alternative sources of funds. But what happened was that the depository institutions refused to lend to each other because of the perceived depth of problems of these institutions. Moreover those institutions that borrowed from the CBN window were perceived as "troubles", these problems were confirmed when in 2009 and the CBN had to do stress tests for the 24 banks and isolated five depository institutions as very distressed. These five depository institutions had frequented the discount window.

2.2. Economic Growth

Economic growth refers to the increase in the amount of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real Gross Domestic Product. Growth is usually calculated in real terms, inflation adjusted terms, in order to net out the effect of inflation on the price of the goods and services produced. In economics, economic growth or economic growth theory" typically refers to growth of potential output production at full employment, which is caused by growth in aggregate demand or observed output Arthur Lewis (1963) in his concept of economic growth incorporates the human element and sees the goal of economic growth as the growth of the output per head of population. Sichel and Eckstein (1974) defined economic growth as an increase in the ability of the economy to produce commodities service.

Todaro (1977) defined economic growth as the increase overtime of an economy's capacity to produce those goods and services needed to improve the wellbeing of the citizens in increasing numbers and diversity. It is the steady process by which the productive capacity of the economy is increased overtime to bring about rising levels of national income. Baumol and Blinder (1988) sees economic growth as occurring when an economy is able to produce more goods and services for each consumer, while Roger Miller (1991) defined economic growth as the expansion of the economy to produce more goods, jobs and wealth. Henderson and Poole (1991) defined economic growth as the increase in output and other measures of material progress at a certain period. It is also said to be either growth in national output as measured by GDP or GNP (which measures economic power), or growth in the national average standard of living as measured by the GNP per capita (which measures the well-being of citizens.

3. Theoretical Review

3.1. The Financial Intermediation Theory of Banking

Financial intermediation is defined as the process of mobilization financial resources through financial institutions/ intermediaries which comprise of the surplus saving units of an economy for lending or allocation to the effectual deficit spending units. Financial intermediation theory was first formalized in the works of Goldsmith (1969) Mckinnon (1973) and Shaw (1973) who see financial markets as playing a pivotal role in economic development attributing the differences in economic growth across countries to the quantity and quality of services provided by financial institutions. This contrast with Robinson (1952) who argued that financial market are essentially handmaidens to domestic industry and respond passively to other factor that produce cross-country differences in growth.

There is general tendency for the supply of finance to move with the demand for it. It seems to be the case that where enterprise leads, finance allows. The same impulses within an economy, which set enterprises on foot, make owners of wealth venturesome, and when a strong impulse to invest is fettered by lack of finance, devices are invented to release it and habits and institutions are developed.

The Robinson school of thought therefore believes that economic growth will lead to the expansion of the financial sector. Goldsmith (1969) attributed the positive correlation between financial development and the level of per-capita GNP to the positive effect that financial development has in encouraging more efficient use of the capital stock. In addition, the process of growth has feedback effects on financial markets by creating incentives for further financial development.

McKinnon's thesis is based on the complementarity hypothesis, which in contrast to the neo-classical monetary growth theory, argued that there is a complementarity between money and physical capital, which is reflected in money demand. According to McKinnon, complementarity links the demand for money directly and positively with the process of physical capital accumulation because "the conditions of money supply have a first order impact on decisions to save and invest". In addition, positive and high interest rates are necessary to encourage agents to accumulate money balance, and complementarity with capital accumulation will exist as long as real interest rate does not exceed real rate of return on investment.

Furthermore, the lumpiness of investment expenditure implies that aggregate demand for money will be greater, the larger the proportion of investment in total expenditures. Shaw (1973) proposed a debt intermediation hypothesis, whereby expanded financial intermediation between savers and investors resulting from financial liberalization (high real interest rates) and development increase the incentive to save and invest, stimulates investments due to an increased supply of credit and raises the average efficiency of investment. This view stresses the importance of free entry into and competition within the

financial markets as prerequisites for successful financial intermediation. McKinnon (1973) and Shaw (1973) argue that policies leading to the repression of the financial markets reduce the incentives to save. They described the key element of financial repression as:

- 1. High Reserve Requirements on Deposits.
- 2. Legal Ceilings on Bank Lending and Deposit Rates.
- 3. Directed Credit.
- 4. Restriction on Foreign Currency Capital Transactions.
- 5. Restriction on Entry into banking activities.

3.2. Financial Repression Theory

Financial repression refers to the notion that a set of government regulations, laws, and other non-market restrictions prevent the financial intermediaries of an economy from functioning at their full capacity. Financial repression represents economic conditions in which the government's regulatory and discretionary policies distort financial prices or interest rates, discourage saving, reduce investment, and misallocate financial resources. The policies that cause financial repression include interest rate ceilings, liquidity ratio requirements, high bank reserve requirements, capital controls, and restrictions on market entry into the financial sector, credit ceilings or restrictions on directions of credit allocation, and government ownership or domination of banks. Economists have commonly argued that financial repression prevents the efficient allocation.

McKinnon (1973) and Shaw (1973) were the first to explicate the notion of financial repression. While theoretically an economy with an efficient financial system can achieve growth and development through efficient capital allocation, McKinnon and Shaw argue that historically, many countries, including developed ones but especially developing ones, have restricted competition in the financial sector with government interventions and regulations. According to their argument, a repressed financial sector discourages both saving and investment because the rates of return are lower than what could be obtained in a competitive market. In such a system, financial intermediaries do not function at their full capacity and fail to channel saving into investment efficiently, thereby impeding the development of the overall economic system.

3.3. Credit Rationing Theory

Access to credit is explained by credit rationing theory (Stiglitz and Weiss, 1981; Bester, 1985; Cressy, 1996; Baltensperger and Devinney, 1985). According to Stiglitz and Weiss (1981) credit rationing is said to occur when some borrowers receive a loan, while others do not. Credit rationing takes place at either financier level due to loan markets imperfection and information asymmetry or voluntarily by the borrowers (voluntary exclusion). At financier level, credit rationing occurs in a situation where demand for credit exceeds supply at the prevailing interest rate (Stiglitz and Weiss, 1981). There is scant literature on self-rationing, however, in situations where credit rationing is voluntary, Arora (2014) describes such borrowers as non-credit seekers due to personal, culture or social reasons or could be in the bracket of discouraged borrowers. Bester (1985) suggested that financiers may choose to reject

some borrowers because of negative enticement effects. For example, for given collateral, an increase in the rate of interest causes adverse selection, since only borrowers with riskier investments will apply for a loan at a higher interest rate. Similarly, higher interest payments create an incentive for investors to choose projects with a higher probability of bankruptcy (Afonso and Aubyn, 1997, 1998; Matthews and Thompson, 2014). On the other hand, for a fixed rate of interest, an increase in collateral requirements may also result in a decline in the lender's profits (Cressy, 1996). Stiglitz and Weiss (1981) showed that this happens if the more risk-averse borrowers, those that choose relatively safe investment projects, drop out of the market. According to Bester (1985) Andretti (1983), if financiers set collateral requirements and the rate of interest to screen investors' riskiness, then no credit rationing will occur at equilibrium. This is because increasing collateral requirements tends to result in adverse selection, even with risk-neutral investors (Bester, 1984a, 1985).

3.4. Harrod – Domar Growth Model

Harrod-Domar opined that economic growth is achieved when more investment leads to more growth. They theory is based on linear production function with output given by capital stock (K) tines a constant. Investment according to the theory generates income and also augments the productive capacity of the economy by increasing the capital stock. In as much as there is net investment, real income and output continue to expend. And, for full employment equilibrium level of income and output to be maintained, both real income and output should expand at the same rate with the productive capacity of the capital stock.

The theory maintained that for the economy to maintain a full employment, in the long run, net investment must increase continuously as well as growth in the real income at a rate sufficient enough to maintain full capacity use of a growing stock of capital. This implies that a net addition to the capital stock in the form of new investment will go a long way to increase the flow of national income. From the theory, the national savings ratio is assumed to be a fixed proportion of national output and that total investment is determined by the level of total savings i.e S = SY which must be equal to net investment I. The net investment which is $I = \Delta K = K\Delta Y$ because K has a direct relationship to total national income. And, therefore $SY = K\Delta Y$ which simply means $\Delta Y/Y$ is growth rate of GDP that is determined by the net national savings ratio, s and the national capital output, K in the absence of government, the growth rate of national income will be positively related to the saving ratio i.e the more an economy is able to save and invest out of a given GDP, the greater the growth of GDP and which will be inversely related to capital output ratio.

The model that captures the main objective of this study is Harrod–Domar model. Harrod–Domar model described the economic mechanism by which more investment leads to more growth. For a country to develop and grow, it must divert part of its resources from current consumption (or save) and invest them in capital formation. Diversion of resources from current consumption is called saving. While saving is not the only determinants of growth, the HarrodDomar model suggests that it is an important ingredient for growth. Its argument is that every economy must save a certain proportion of its national income if only to replace worn-out of capital goods. The model shows mathematically that growth is directly related to saving and indirectly related capital

output ratio. Suppose we define national income as Y, growth as G, capital output ratio as K, saving as S, and investment as l, and average saving ratio as s and incremental capital output ratio as k, then we can construct the following simple model of economic growth.

$$S = sY$$

i.e. saving (S) is some proportion of (s) of national income (Y)

$$I = \Delta k$$

i.e. net investment (I) is defined as the change in capital stock K

$$G = \Delta Y$$

 ΔY i.e. growth is defined as change in National income ΔY divided by the value of the National income.

But since the total stock, K, bears a direct relationship to total national income, or output Y, as expressed by the capital/output ratio k, then it follows that since total national saving, S, must equal total investment, I, we can write this equality as

$$S = I$$

But from Equation (I) above we know that S = sY and from Equations (2) and (3) we know that:

$$I = \Delta K = k\Delta Y.$$
 5

It therefore follows that we can write the identity of saving equalling Investment shown by Equation (6) as

$$S = sY = k\Delta Y = \Delta k = I$$

or simply as

$$sY = k\Delta Y$$

$$\Delta Y = G = sYK$$

Now by dividing both sides of Equation (2.10) by Y and later by K, we derive the growth Model $\Delta Y/Y$ which represents the rate of change of national income or rate of GDP (It is the percentage change in GDP).

4. Empirical Review

Akani and Uzah (2018) examined micro financing and macroeconomic stability in Nigeria from 1992-2015. The objective was to investigate the relationship between micro finance lending operation and Nigerian macroeconomic stability. The required data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin and Stock Exchange Annual Report. The study modeled Nigeria real gross domestic product as a function of micro finance lending to agricultural sector, mining and quarrying, manufacturing sector, transport and communication, real estate and micro finance other lending. The Ordinary Least Square multiple regressions with econometric view were used as data analysis techniques. Cointegration test, Granger Causality Test, Augmented Dickey Fuller Test and Error Correction Model were used to examine the variables and its relationship to the dependent variables. The study found that microfinance lending to the various sectors of the economy have positive but insignificant effect on Nigerian macroeconomic stability except lending to agricultural sector and mining and quarrying. The stationarity test proved presence of stationarity at first difference, the cointegration test indicates the presence of long run relationship and the granger causality test prove no causal relationship among the variables. The study concludes that microfinance operation does not significantly affect Nigerian macroeconomic stability.

Akani, Lucky and Anyamoabi (2016) examined the effect of banking sector development on Nigerian capital formation. The objective is to investigate the extent to which various banking sector reforms affect Nigerian capital formation. Time series data was collected from the publications of Central Bank of Nigeria statistical bulletin from 1980-2014. The study has Nigerian Capital Formation (CF) as the function of Percentage of Bank credit to Gross Domestic Product (BC_GDP), Percentage of Bank investment to Gross Domestic Product (BI_GDP), Percentage of Bank deposit to Gross Domestic Product (BD_GDP), Percentage of Bank Total Assets to Gross Domestic Product (BTA_GDP) and Prime Lending Rate (PLR). The study used the Ordinary Least Square (OLS) Method of cointegration test, Augmented Dickey Fuller Unit Root Test, Granger causality test in a Vector Error Correction Model setting to examine the relationship between the dependant and the independent variables. The study revealed that in the static regression result that all the independent variables have positive relationship with the dependent variable except prime lending rate. The Unit Root Test shows that the variables are non-stationary at level but stationary at difference. The cointergration result indicates long run relationship between the dependent and the independent variables. The granger causality test shows multivariate relationship running from the independent variables to the dependent variable and from the dependent variable to the independent variables while the vector error correction result shows adequate speed of adjustment to equilibrium. The study conclude that banking sector development have significant effect on Nigerian capital formation.

Akani, Lucky and Kingsley (2016) examined the relationship between Nigeria financial sector development and macroeconomic stability from 1980 – 2014. The objective is to investigate the extent and the direction of relationship between various components of financial sector development and macroeconomic stability in Nigeria. Time series data were sourced from Central Bank of Nigeria (CBN) statistical bulletin. The study modeled percentage of Nigerian Gross Domestic Product to Balance of Payment (GDP/EXT) as our dependent variable total commercial banks credit to Gross Domestic Product (TCBC/GDP), Broad Money Supply to Gross Domestic Product (M2/GDP), Credit to Core Private Sector to Gross Domestic Product (CPS/GDP), Stock Market Capitalization to Gross Domestic Product (MKT/GDP) and Total savings to Gross Domestic Product (TS/GDP) as our independent variables. The study employed Cointegration Test, Augmented Dickey Fuller Unit Root Test, Granger Causality Test and Vector Error Correction Model were used to examine the extent to which the independent variables affect dependent variable. The static regression result shows that all the independent variables have positive effect on the dependent variables. The Augmented Dickey Fuller result shows non stationarity at level and stationarity at first difference. The cointegration result shows long run relationship, the Granger Causality Test shows multivariate relationship running through the independent to the dependent variable and the dependent to the independent variables. The vector error correction result shows adequate speed of adjustment to equilibrium. The study conclude that Nigerian financial sector development have significant relationship with macroeconomic stability.

Akani and Momodu (2016) examined whether there is a dynamic long run relationship between financial sector development and Nigeria National Savings in addiction to determining the direction of causality among the variables. Time series data were sourced from Central Bank of Nigeria (CBN) Statically Bulletin from 1980 – 2014. The study modeled Gross National Savings as the percentage of Gross Domestic Product (GDP) as our dependent variable while our independent variables were Commercial Banks Credit as percentage of GDP (CBC/GDP), All Share Price Index as the percentage of GDP (ASPI/GDP), Broad money supply as a percentage of GDP (M2/GDP) to captured the level of financial deepening, Interest Rate (INTR), Exchange Rate (EXR) and Inflation Rate (INFR) were used. The study employed the Johansen. Cointegration Test, Augmented Dickey Fuller Unit Root Test, Granger Causality Test and Vector Error Correction Model were used to examine the relationship between the dependent and the independent variables. The empirical results demonstrate vividly that there is a long run dynamic and significant relationship between financial sector development proxy by national savings and a negative long run relationship between national savings and inflation rate in Nigeria. The static regression result indicates that all the independent variables except inflation rate have positive effect on National Savings. The Unit Root Test indicates non-stationarity at level. The study concludes that financial sector impact significantly to Nigerian total saving. It therefore recommends for financial sector deepening and well management Strategies to enhance National Savings in Nigeria.

Udoka, Mbat, Stephen and Duke (2016) examined the effect of commercial banks' credit on agricultural output in Nigeria. Four research hypotheses were formulated to guide and direct the study. The ex-post facto research design was adopted for the study. Data for the study were collected from published articles and the Central Bank of Nigeria Statistical bulletin. To estimate the specified equation, the

ordinary least squares regression technique was employed. Based on the results obtained, the following result arose; the estimated results showed that there was a positive and significant relationship between agricultural credit guarantee scheme fund and agricultural production in Nigeria. This means that an increase in agricultural credit guarantee scheme fund could lead to an increase in agricultural production in Nigeria; there was a positive and significant relationship between commercial banks credit to the agricultural sector and agricultural production in Nigeria. This result signified that an increase in commercial banks credit to agricultural sector led to an increase in agricultural production in Nigeria. Again, there was a positive and significant relationship between government expenditure on agricultural production in Nigeria and a negative relationship between interest rate and agricultural output also confirmed theoretical postulations.

Anifowose & Ladanu (2016) reviewed the role of commercial banks in agricultural growth in the period 2010 – 2014. The study reviewed the work and view of eminent scholars. Their views were diverse, some share some views and some disagreed. Some scholar realized the role of the agricultural sector in economic development but was short sighted toward the fact that there was a great importance, about developing this sector scholars bear in mind the role, problems and importance of the sector and found it necessary to develop the agricultural sector, if it is to play its role in economic development. These scholars went further to detect important variable or catalysts or prerequisite for the development of the sector which allows for other factors like technology and research. The study also had an overview of the impact of commercial banks as safe keepers and channeling of funds to needy sector like agricultural sector. In conclusion, it was discovered that the Deposit money banks have actively been playing quite a large role under the policies of the apex regulatory body, the central banks in financing agriculture. So as to justify the hypothesis of the study that if one of the major factors that aid the agricultural sector which finance, in form of credit service from the Deposit money banks, is channelled into this promising sector that the sector will develop and also increase its output and play its role effectively in economic development.

Shuaib, Ahmed & Kadiri(2015) examined the impact of innovation for 21st century educational sector in Nigerian economic growth. The paper employed the characteristics of each time series by testing their stationarity using Augmented Dickey Fuller (ADF) tests, including co-integration tests and Error Correction model through over parameterization and parsimonious of the variable to enable the researcher to ascertain both short run and long run equilibria.

Adeyinka, Daniel and Olukotun (2015) examined the contributions of commercial banks in agricultural financing in Nigeria. It pointed out the roles of bank credit in agricultural development. The study discussed a number of challenges that affected the agricultural financing in Nigeria. This is with a view to shedding light on the relationship between banks and agricultural sector and to evaluate the extent of banks involvement in agricultural financing. Secondary data (2002 -2014) on sectorial distribution of commercial banks' loans

and advances to agricultural sector, liquidity ratio of commercial banks, cash reserve ratios of commercial banks and money market minimum rediscount rates, etc. were sourced from various statistical publications of the central bank of Nigeria (CBN). Data collected were analyzed using multiple regression of ordinary least square to achieve its objectives. It was revealed that the parameter of cash reserve and discount rate is not statistically significant and the parameter of liquidity ratio is not statistically significant. It was also discovered that agriculture credit was found as a decreasing function of discount rate, liquidity ratio and cash reserve, this lower the volume of agricultural credit.

Shuaib, *et.al*, (2015) examined the impact of innovations and transformations in teaching and learning on educational systems in Nigerian economic growth, The paper employed the characteristics of each time series by testing their stationarity using Augmented Dickey Fuller (ADF) tests, including co-integration tests and Error Correction model through over-parameterization and parsimonious of the variable to enable the researcher to ascertain both short run and long run equiliria. The results of the findings revealed that total government expenditure on education proxied for teaching and learning has direct relationship with economic growth.

Toby and Peterside (2014) analyzed the role of banks in financing the agriculture and manufacturing sectors in Nigeria from 1981 – 2010. Data were generated from the Central Bank of Nigeria Statistical Bulletin (2010) and analyzed using both descriptive and inferential techniques. Two multiple regression models were estimated using the Software Package for social Sciences (SPSS). The tolerance values are greater than zero in the estimated models. The absence of multicollinearity among the independent variables (IVs) is further supported by an engenval that is less than 0.5. The descriptive results show that Nigeria's commercial and merchant banks lagged behind in financing agriculture when compared to manufacturing. Average bank credit to agriculture, within the period, ranged between 9.0% and 10.1%. Average bank credit to the manufacturing sector ranged between 32.0% and 36.8%. Within the period, average contribution of agriculture to GDP was 33.5% while contribution of the manufacturing sector to GDP averaged 5.4%. The inferential results show a significantly weak correlation between commercial bank lending and the contribution of agriculture to GDP. However, there is a significantly positive correlation between merchant bank lending and agricultural contribution to GDP. The beta coefficient shows that agricultural contribution to GDP increased significantly by 48.22% with a 100% increase in merchant bank lending to agriculture. With a 100% increase in commercial bank lending, the contribution of manufacturing to GDP declined by 27.32%. However, the contribution of the manufacturing sector to GDP increased by 40.08% as merchant bank lending to manufacturing increased by 100%. There is also a significantly inverse correlation between commercial bank lending and manufacturing contribution to GDP. The model R2 shows that 23.04% of the variation in agricultural contribution to GDP is explained by an increase in bank lending to the sector. It also shows that 18.75% of the variation in manufacturing contribution to GDP is explained by a change in aggregate lending. The results, however, indicate that the role of banks in facilitating the contribution of the agriculture and manufacturing sectors to economic growth is still significantly limited.

Torbira and Ogbulu (2014) empirical investigation into the relationship between fund mobilization by insurance companies and gross fixed capital formation (GFCF) in Nigeria and specifically how the latter responds to stimuli emanating from the insurance companies. A five variable-predictor multivariate regression model was estimated and analyzed. The short run results reveal those four explanatory variables namely: premium from fire, accidents, motor vehicles and employee liabilities insurance policies positively and insignificantly correlate with Gross Fixed Capital Formation while the relationship between premium from marine insurance policies and GFCF is both negative and insignificant. In the long run, the fund mobilization variables by insurance companies positively and significantly impact on the growth of gross fixed capital formation. In addition, the Granger causality test provides no evidence of causality among the variable.

Kanu, Ozurumba and Anyanwu (2014) examined capital expenditures and capital formation in Nigeria posits that Capital Expenditures (CAPEX) had a negative significant relationship with Gross Fixed Capital Formation (GFCF) in Nigeria at both 1% and 5% Alpha levels, while other macro-economic variables such as Imports, National Savings and Gross Domestic Product maintained a positive significant relationship with GFCF in the short run. In the long run, CAPEX still maintained a significant negative relationship with Gross Fixed Capital Formation; while Imports and National Savings equally had a positive significant relationship with GFCF. It was also observed that the lagged value of GFCF had no significant impact on GFCF in the preceding year; however this degenerated into a significant negative relationship in the second year. Outcome of that study did not come by chance, as a functional classification of the nation's expenditure profile for the period under review reveals that; outlays on capital expenditure accounted for only about 32% of total expenditures, while the remaining balance of 68 % went to recurrent expenditures

5. Methodology

The study adopted the quasi-experimental research design to examine the relationship between sectoral credit allocation, bank rural operations and Nigeria economic growth. This study utilized secondary data collected from the Central Bank of Nigeria.

Model Specification

Following the previous works of Akani and Uzah (2018) we model the relationship between financial intermediation and economic development in Nigeria as follows

$$RGDP = \alpha + \beta_1 SS + \beta_2 + PS + \beta_3 OS + \beta_3 GC + e_i$$

$$RGDP = \alpha + \beta_1 LRB + \beta_2 DRB + \beta_3 CBLSSEs + e_i$$
 10

Where;

RGDP = Real gross Domestic Product

SS = Service sector

PS = productive sector

OS = other sector

GC = General commerce

DRB = deposit of rural branches of commercial banks

LRB = loans of rural branches of commercial banks

CBLSSEs = Central Bank Loans to Small Scale Enterprises

$$\phi_{\alpha} \alpha_{\beta} = Constant$$

 β_{\perp} - β_{\parallel} = Coefficients of independent variables

 $\mu_{i} = \text{Error Term}$

Data Analysis Techniques

Econometric Analysis

Ordinary least squares (OLS) are a method for estimating the unknown parameters in a linear regression model. Hutcheson (2011) defined ordinary least square (OLS) regression as a generalized linear modeling technique that may be used to model a single response variable which has been recorded on at least an interval scale.

Unit Root Test

A unit root test is a statistical test for the proposition that in a autoregressive statistical model of a time series, the autoregressive parameter is one. The Augmented Dickey Fuller (ADF) unit root test is used to test the stationarity property of a time series data in order to avoid the spurious regression problem. The ADF unit root test is specified as



Note: The null hypothesis is rejected on the ground that the absolute value of the calculated ADF test statistic is larger than the absolute value of the Mackinnon critical value.

Cointegration Test

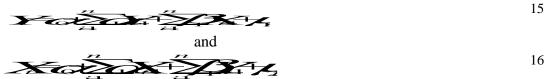
Cointegration is a statistical property of time series variables. There are two common methods for testing cointegration and estimating the relationship among cointegrated variables namely the Engle-Granger (1987) Two Step Procedure and Johansen's (1988) maximum likelihood method. In the Engle-Granger two-step procedure, variables entering the cointegrating vector are tested for integration of the order, I (1). The cointegration test is based on the following equation.



Where n and n are 4 x 4 matrices and k is the lag length. The tests used here involved cointegration with linear deterministic trend in the vector auto regression (VAR).

Granger Causality Test

The main objective of this study is to investigate the causality between the independent and the dependent variables. Granger (1996) proposed the concept of causality and exogeneity: a variable Yt is said to cause Xt, if the predicted value of Xt is ameliorated when information related to Yt is incorporated in the analysis. The test is based on the following equation below



Where X_t and Y_t are the variables to be tested while $\mu 1_t$ and $\mu 2_t$ are white noise disturbance terms and n is maximum number of lags. The null hypothesis $\alpha_1 = \beta_1 = 0$ for all 1's is tested against the alternative hypothesis α_1 , 0 and β 0, if the coefficient of α_1 are statistically significant, that of β_1 are not, then X causes Y, If the reversal is true than Y causes X. However, where both coefficient of α_1 and β_1 are significant then causality is bi-directional.

Table 1: Multiple Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
_	Sectoral Credit	Allocation and Ed	conomic Growth	_
SS	2.625972	3.970605	0.661353	0.5130
PS	11.03827	3.349748	3.295253	0.0024
OS	5.931820	1.833315	3.235570	0.0028
GC	-24.30070	3.438698	-7.066831	0.0000
C	19452.60	1461.469	13.31031	0.0000
\mathbb{R}^2	0.887341			
Adj R ²	0.873686			
F-Stat	64.97994			
F-prob	0.000000			
DW	1.421803			
	Bank Ru	iral and Economi	c Growth	
LRB	0.036356	0.012077	3.010380	0.0049
DRB	0.029009	0.014538	1.995426	0.0541
CBLSSES	-668.0875	375.7870	-1.777835	0.0844
C	32026.05	3243.986	9.872439	0.0000
R2	0.450298			
Adj R2	0.401795			
F-Stat	9.283905			
F-prob	0.000126			
DW	0.540939			

Source: Computed from E-View 9.0

The estimated regression line above, the constant term is 19452.60 meaning that holding other variables constant, the value of real gross domestic products will be about 19452.60 million. The coefficient of credit to service sector in the estimated regression line is 2.625972 which imply that a unit increase in credit to service sector will increase Nigerian real gross domestic products by 2.6 percent. The coefficient of credit to productive sector in the estimated regression line is 11.03827 which imply that a unit increase in credit to productive sector will increase Nigerian real gross domestic products by 11 percent.

The coefficient of credit to other sector in the estimated regression line is 5.931820 which imply that a unit increase in credit to government sector will increase Nigerian real gross domestic products by 5 percent while the coefficient of credit to government sector

in the estimated regression line is -24.30070 which imply that a unit reduce in credit to government sector will reduce Nigerian real gross domestic products by 24.3 percent.

The coefficient of determination (R²) is 0.873686. This shows that 87 percent of variation in Nigeria real gross domestic products is caused by variations in bank intermediation while the remaining 17 percent of the variation in the model is captured by the error term. And this shows that the line of best fit is highly fitted. The Durbin-Watson statistics is 1.421803 which shows that there is autocorrelation in the model. The value of F-statistics is 64.97994 and the value of the probability of Fstat is 0.000000.

The estimated regression line above, the constant term is 32026.05 meaning that holding other variables constant, the value of real gross domestic products will be about 32026.05 million. The coefficient of loans to rural branches in the estimated regression line is 0.036356 which imply that a unit increase in loans to rural branches will increase Nigerian real gross domestic products by 0.3 percent. The coefficient of deposit to rural branches in the estimated regression line is 0.029009 which imply that a unit increase in deposit to rural branches will increase Nigerian real gross domestic products by 0.03 percent while the coefficient of Central Bank loans to small and medium enterprises in the estimated regression line is -668.0875 which imply that a unit increase in credit to Central Bank loans to small and medium enterprises will reduce Nigerian real gross domestic products by 668 percent.

The coefficient of determination (R²) is 0.450298. This shows that 45 percent of variation in Nigeria real gross domestic products is caused by variations in bank intermediation while the remaining 55 percent of the variation in the model is captured by the error term. And this shows that the line of best fit is highly fitted. The Durbin-Watson statistics is 0.540939 which shows that there is autocorrelation in the model. The value of F-statistics is 9.283905 and the value of the probability of Fstat is 0.000126.

Table 2: Testing for Unit Root (Stationarity Test)

Variable	ADF	1%	5%	10%	Prob.	Order of integration	Decision	Remark
	Sectoral Credit Allocation and Economic Growth							
RGDP	-6.460910	-3.632900	-2.948404	-2.612874	0.0000	1(I)	Sig	Reject H0
SS	-10.91505	-3.689194	-2.971853	-2.625121	0.0000	1(I)	Sig	Reject H0
PS	8.195266	-4.323979	-3.580623	-3.225334	0.0000	1(I)	Sig	Reject H0
OS	-8.441938	-3.639407	-2.951125	-2.614300		1(I)	Sig	Reject H0
GC	6.053582	-3.689194	-2.971853	-2.625121		1(I)	Sig	Reject H0
Bank Rural Operations and Economic Growth								
RGDP	-6.460910	-3.632900	-2.948404	-2.612874	0.0000	1(I)	Sig	Reject H0
LRB	-7.818140	-2.639210	-1.951687	-1.610579	0.0005	1(I)	Sig	Reject H0
DRB	5.290263	-3.632900	-2.948404	-2.612874	0.0000	1(I)	Sig	Reject H0
CBLSSES	-7.490936	-3.626784	-2.945842	-2.611531	0.0000	1(I)	Sig	Reject H0

Source: Computed from E-View 9.0

The ADF unit root test indicates that all the variables were stationary, at first difference. However, following Harris (1995) and Gujarrati (2003), both I (1) and I (0) variables could be carried forward to test for co-integration which forms the basis of the next section. The Johansen co-integration test was used to test for the existence or not of a long run relationship among the variables. The Johansen methodology was preferable for the study because it has the advantage amongst others of allowing for more than one co-integration vector. The result of the Johansen co-integration test is shown in the table below:

Table 3: Johansen Co-Integration Test Results: Maximum Eigen

Hypothesized			0.05 Critical	
No. of CE(s)	Eigenvalue	Trace Statistic	Value	Prob.**
Se	ectoral Credit Alloca	ation and Economic	Growth	
None *	0.930040	206.7067	69.81889	0.0000
At most 1 *	0.791286	110.9529	47.85613	0.0000
At most 2 *	0.564018	54.54845	29.79707	0.0000
At most 3 *	0.387850	24.66288	15.49471	0.0016
At most 4 *	0.176591	6.994888	3.841466	0.0082
None *	0.930040	206.7067	69.81889	0.0000
I	Bank Rural Operation	ons and Economic	Growth	
None *	0.818483	97.07982	47.85613	0.0000
At most 1 *	0.553077	35.64926	29.79707	0.0094
At most 2	0.139520	6.656009	15.49471	0.6179
At most 3	0.034031	1.246456	3.841466	0.2642

Source: Computed from E-View 9.0

The trace statistics from model 4 indicate no co-integrating equation from sectoral credit allocation and I co-integrating equation from bank rural operations. In conclusion, there is long run relationship between bank intermediation and growth of Nigeria economy.

Table 4: Parsimonious Error Correction Results

Table 4: Parsi	monious Error Correction	1 Kesuits		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
	Sectoral Credit Alloc	ation and Economic G	rowth	
C	606.1253	315.7065	1.919901	0.0700
D(RGDP(-1))	0.464276	0.239770	1.936337	0.0678
D(RGDP(-2))	0.118603	0.263891	0.449441	0.6582
D(RGDP(-3))	-0.185902	0.230619	-0.806098	0.4302
D(SS(-1))	0.485254	1.110349	0.437029	0.6670
D(SS(-2))	2.176304	1.388450	1.567434	0.1335
D(SS(-3))	-0.191162	1.405761	-0.135985	0.8933
D(PS(-1))	2.306583	1.252749	1.841217	0.0813
D(PS(-2))	0.867124	1.359994	0.637594	0.5313
D(PS(-3))	1.511838	2.498142	0.605185	0.5522
D(OS(-1))	0.514606	0.631587	0.814782	0.4253
D(GC(-1))	-4.504666	2.502780	-1.799865	0.0878
D(GC(-2))	-3.091466	1.421897	-2.174184	0.0425
D(GC(-3))	-1.791390	1.302968	-1.374853	0.1852
ECM(-1)	-0.065384	0.087269	0.749225	0.4629
\mathbb{R}^2	0.814470			
Adj R ²	0.677763			
F-Stat	5.957799			
F-prob	0.000238			
DW	1.996069			
	Bank Rural Operati	ions and Economic Gr	owth	
C	743.7192	425.5086	1.747836	0.0958
D(RGDP(-1))	0.548710	0.223797	2.451819	0.0235
D(RGDP(-2))	0.011843	0.271798	0.043573	0.9657
D(RGDP(-3))	0.051633	0.272107	0.189754	0.8514
D(LRB(-1))	0.001090	0.001324	0.823280	0.4201
D(LRB(-2))	-0.001315	0.001228	-1.070598	0.2971
D(LRB(-3))	-0.002942	0.002010	-1.463488	0.1589
D(DRB(-1))	-0.004016	0.003181	-1.262389	0.2213
D(DRB(-2))	-0.007776	0.011902	-0.653338	0.5210
D(DRB(-3))	-0.008373	0.013444	-0.622837	0.5404
D(CBLSSES(-1))	-35.15599	37.37143	-0.940718	0.3581

D(CBLSSES(-2))	-44.14019	36.03046	-1.225080	0.2348
D(CBLSSES(-3))	-33.66518	36.00999	-0.934884	0.3610
ECM(-1)	0.019455	0.027281	0.713141	0.4840
\mathbb{R}^2	0.740542			
Adj R ²	0.571895			
F-Stat	4.391069			
F-prob	0.001580			
DW	2.201984			

Source: Computed from E-View 9.0

The Parsimonious ECM result highlighted the significance of the effect of bank intermediation on Nigeria real gross domestic products. The result indicates that the relationship between bank intermediation and Nigeria real gross domestic products has mixed result, while some of the variables have positive impact at lag I it will record a negative impact at lag II. However, none of the variable is statistically significant in hypothesis I and II. The non-significant impact of the variables could be traced to internal and external factors that affect the bank intermediation.

Table 5: Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.			
Sectoral Credit Allocation and Economic Growth						
SS does not Granger Cause RGDP	36	0.73502	0.4877			
RGDP does not Granger Cause SS		14.6109	3.E-05			
PS does not Granger Cause RGDP	36	3.06672	0.0609			
RGDP does not Granger Cause PS		12.6064	0.0001			
OS does not Granger Cause RGDP	36	0.08455	0.9191			
RGDP does not Granger Cause OS		11.3577	0.0002			
GC does not Granger Cause RGDP	36	5.23447	0.0110			
RGDP does not Granger Cause GC		6.96637	0.0032			
Bank Rural Ope	rations and Econon	nic Growth				
LRB does not Granger Cause RGDP	36	10.2876	0.0004			
RGDP does not Granger Cause LRB		12.9221	8.E-05			
DRB does not Granger Cause RGDP	36	1.46410	0.2468			
RGDP does not Granger Cause DRB		12.1899	0.0001			
CBLSSES does not Granger Cause RGDP	36	0.07826	0.9249			
RGDP does not Granger Cause CBLSSES		1.15379	0.3286			

Source: Computed from E-View 9.0

The cointergration results alone are not adequate enough to explain the relationship between bank intermediation and Nigeria economic growth. We need to establish the direction of this relationship, hence the causality test. Given that a relationship exists between bank intermediation and Nigeria economic growth as shown from the Johansen cointegration test from the trace statistics, we ought to examine the causation of this relationship. If bank intermediation can predict Nigeria economic growth more than bank intermediation can predict itself, the risk variables are said to granger-cause Nigeria economic growth the reverse is true. The economic growth variable is said to granger cause.

The study found a unidirectional causality from real gross domestic product to credit to service sector, a unidirectional causality from real gross domestic product to credit to other sector but bi-directional causality from credit to government to real gross domestic products and real gross domestic product to credit to government and bi-directional causality from credit to government to real gross domestic products and real gross domestic product to credit to government. The study also found a bi-directional causality from credit of loans of rural branches to real gross domestic products and real gross domestic product to loans of rural branches and bi-directional causality from real gross domestic products to deposits of rural branches of commercial banks in Nigeria.

6. Discussion of Findings

The estimated regression coefficient of credit to service sector in the estimated regression line is 2.625972 which imply that a unit increase in credit to service sector will increase Nigerian real gross domestic products by 2.6 percent. The coefficient of credit to productive sector in the estimated regression line is 11.03827 which imply that a unit increase in credit to productive sector will increase Nigerian real gross domestic products by 11 percent. The coefficient of credit to other sector in the estimated regression line is 5.931820 which imply that a unit increase in credit to government sector will increase Nigerian real gross domestic products by 5 percent while the coefficient of credit to government sector in the estimated regression line is -24.30070 which imply that a unit reduce in credit to government sector will reduce Nigerian real gross domestic products by 24.3 percent. The model found that 87 percent of variation in Nigeria real gross domestic products is caused by variations in bank intermediation while the remaining 17 percent of the variation in the model is captured by the error term. And this shows that the line of best fit is highly fitted. The findings confirm that sectorial credit allocation have significant effect on Nigeria real gross domestic products. The finding is in line with the findings of Jayaratne and Strathan (1996) who affirmed that financial development impacts positively on economic growth but with a clause that there is an

improvement in the quality of bank lending. The findings of Odedokun (1998) positive relationship that manifested between financial intermediation and economic growth, the study establishes that the impact of financial intermediation is at par with export growth and capital formation.

Also the estimated regression model shows that 45 percent of variation in real gross domestic products is caused by variations in rural banking operation while the remaining 55 percent of the variation in the model is captured by the error term and this shows that the line of best fit is highly fitted. The value of F-statistics is 9.283905 and the value of the probability of Fstat is 0.000126. The coefficient of loans to rural branches in the estimated regression line is 0.036356 which imply that a unit increase in loans to rural branches will increase real gross domestic products by 0.3 percent. The coefficient of deposit to rural branches in the estimated regression line is 0.029009 which imply that a unit increase in deposit to rural branches will increase Nigerian real gross domestic products by 0.03 percent while the coefficient of Central Bank loans to small scale enterprises in the estimated regression line is -668.0875 which imply that a unit increase in credit to Central Bank loans to small scale enterprises will reduce real gross domestic products by 668 percent. The positive effect of the variable confirms the a-priori expectation of the study. It is in line with the findings of Hao (2006) that financial intermediation has a causal effect and positive impact on growth through the channels of house-holds' savings mobilization and the substitution of loans for state budget appropriations. Romeo-Avila (2007) also confirms the positive impact of finance on growth.

7. Conclusion and Recommendations

Empirical findings shows the calculated F-statistics for the parameter estimates of 64.97994 greater than the critical value of 2.64 at 36 degree of freedom and the probability of 0.000000 is less than 0.05 at 5% level of significant, we conclude that, there is significant relationship between sectorial credit allocation and real gross domestic products.

the calculated F-statistics for the parameter estimates is 9.283905 greater than the critical value of 2.64 at 36 degree of freedom and the probability of 0.000126 is less than 0.05 at 5% level of significant, we conclude that that there is significant relationship between bank rural operation and real gross domestic products.

8. Recommendations

- 1. Some of the rural communities and local government areas have no banking or financial services, therefore the Central Banks of Nigeria should re-introduce the rural banking scheme, this will enhance deposit mobilization and credit allocation from the rural communities.
- 2. There is need to re-introduce mandatory sectorial credit allocation, this will enable commercial bank to extend credit facilities to the preferred sectors of the economy such as the manufacturing, agricultural and service sector.
- 3. Monetary policy of the Central Bank of Nigeria should further direct deposit money banks and other financial institutions to lend to various sector for better performance and there has been various government policies aimed to revamp the industrial sector through deposit money banks financing, therefore there is need for better implementation of these credit policies to attract investment in the sector.

References

- Adelegan, J.O. (2010). Foreign direct investment and economic growth in Nigeria: a seemingly unrelated model. African review of money, financial and banking, supplementary issue of Savings and Development. *Journal of Economics and Sustainable Development*,8(20),202-215.
- Adenyinka, A.J., Daniel, A.A., & Olukotun, G.A., (2016). An assessment of the contribution of the contributions of commercial banks to agricultural financing in the Nigerian economy. *International Journal Advanced Academic Research* 1(2), 1-15.
- Akani, H. W & Uzah, C. K. (2018). Microfinance and macroeconomic instability in Nigeria. *Banking and finance journal*, 1(1), 186-208.
- Akani, H. W & Uzah, C. K. (2018). Microfinance and macroeconomic instability in Nigeria. *Banking and finance journal*, 1(1), 186-208.
- Akani, H. W., & Momodu, A. A., (2016). Empirical analysis of financial sector development and national savings: Evidence from Nigeria economy. *International Journal of Financial Economics*, 5(1), 46-60.
- Akani, H. W., & Momodu, A. A.,(2016). Empirical analysis of financial sector development and national savings: Evidence from Nigeria economy. *International Journal of Financial Economics*, 5(1), 46-60.
- Akani, H. W., Lucky, A. L., & Anyamaobi, C., (2016). Banking Sector Development and Capital Formation in Nigeria: A Multivariate Analysis. *Everant Account and Financial Management Journal* 1 (3), 141 161.

- Akani, H. W., Lucky, A. L., & Uzah, C. K., (2016). Financial sector development and macroeconomic stability in Nigeria: A long –run analysis. *International Journal of Empirical Finance*, 5 (2), 112 128.
- Akani, H. W., & Onyema, J.I., (2017). Determinants of credit growth in Nigeria: A multidimensional analysis. *Journal of Economics and Sustainable Development*, 8(20)202-215.
- Akani, H. W., & Onyema, J.I., (2017). Determinants of credit growth in Nigeria: A multidimensional analysis. *Journal of Economics and Sustainable Development*, 8(20)202-215.
- Anifowese, O.L., & LAdanu, W.K., (2016). The Role of commercial banks in agricultural growth in Nigeria. *International Journal of Entrepreneurial Development, Education and Science Research* 3(2), 1-22.
- BOFIA (1991). Banks and Other Financial Institutions Act. Decree No.25 of 1991, Laws of the Federal of Nigeria.
- Engle, R.F., & Granger, C.W.J., (1987). Co-integration and error correction representation estimations and testing. *Econometrica*, 35: 251-276.
- Ezirim, B. C. (2005). Finance Dynamics: Principles, Applications and Techniques. Markowitz Centre for Research and Development.

 Port Harcourt
- Ezirim, B. C., & Muoghalu, M. I. (2001). Stages of development of insured and insuring financing institutions and their impact on the financial inter-relations index. *Academy of Economics and Finance Papers and Proceedings*, 25, 119-127.
- Ezirim, B. C., (2003). Modeling the intermediation functions of the financial superstructure in Nigeria: A synoptic treatment. *Journal of Industrial Business and Economic Research*; 7(2), 69 95.
- Ezirim, B. C., Muoghalu, M. I., & Emenyonu, E. N., (2012). Environmental correlates of the intermediation function of the Nigerian financial superstructure: *A Preliminary Investigation. FBN Quarterly Review*, .2, (4), 403-421.
- Gerschenkron, A. (1962). *Economic backwardness in historical perspective*. Cambridge, MA: Belknap Press of Harvard University Press.
- Goldsmith, R. (1969). Financial structure and development. New Haven, CT, Yale University Press.
- Granger, C. W. J. (1969). Investigating causal relations by econometric models: Cross spectral methods. *Econometrica*, 37: 424-438.
- Gujarati, D. (2004). Basic Econometrics. New Delhi: McGraw-Hill Companies Inc.

- Hao, C., (2006). Development of financial intermediation and economic growth: *The Chinese Experience, China Economic Review, 17* (4), 347-362.
- Johansen, S. (1988). Statistical analysis of cointegration vectors. J. Econ. Dyn. Control, 12: 231-254.
- Kanu, S. I., Ozurumba B.A & Ihemeje, J.C., (2014). Examining the relationship between Federal Government of Nigeria's Revenue and Expenditure profiles. *Journal of Economics and Sustainable development, the International Institute for Science, Technology and Education (IISTE)*.
- Keynes, J. M. (1936). A treatise on money in two volumes. 1.: The pure theory of money. 2.: The applied theory of money. London: Macmillan & Co.
- King, R. G., & Levine, R. (1993). Finance and growth: Schumpeter might be right. *The Quarterly Journal of Economics*, 108(3), 717-737.
- Levine, R. (2000). More on finance and growth: more finance, more growth. Reserve Bank of St. Louis Review, 85: 31-46.
- MacKinnon, J.G., (1996). Numerical Distribution Functions for Unit Root and Cointegration Tests. *Journal of Applied Econometrics*, 11(4), 601-618
- Mckinnon (1973). Money and Capital in Economic Development. Washington, D.C.: Brookings Institution.
- Mohan S. (2012). Perspectives of deposits mobilization, online publication
- Nwaeze, C (2014). Public financial management: Theory and practice, Aba: Reconciliation Publishers Limited.
- Obamuyi, T. M., (2012). Incessant bank distress and the policies of Central Bank of Nigeria. *International Journal of Finance and Accounting*, *1*(1), *121 13*.
- Obilor, S.I. (2013). The impact of commercial banks' credit to agriculture on agricultural development in Nigeria: An econometric analysis. *International Journal of Business Humanities and Technology*, 3(1), 85 95.
- Robinson, J. (1952). The generalization of the General Theory, In the Rate of Interest and Other Essays, London Oxford University Press.
- Schumpeter, J.A. (1934). The Theory of Economic Development, Cambridge, Mass, Harvard University Press

- Schumpeter, J.A., (1911). The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle. Oxford: Oxford University Press.
- Shaw, E. (1973): Financial Deepening in Economic Development. Oxford University Press, London.
- Shuaib, I.M., Igbinosun, F.E., & Ahmed, A. E., (2015). Impact of Government Agricultural Expenditure on the Growth of the Nigerian Economy, *Asian Journal of Agriculture Extension, Economic & Sociology*, unpublished.
- Sylvester, O. (2010). Mobilizing deposits; the role of commercial banks, Ghana
- Tadaro, M. P., (1999). Definition of foreign direct investment, economic development, 7th edition. *Addison Webley Longman incorporated, Reading Massachusetts*.
- Toby, A. J., & Peterside, D. B. (2014). Analysis of the role of banks in financing the agriculture and manufacturing sectors in Nigeria. *International Journal of Research in Business Management (IMPACT: IJRBM)* 2(2), 9-22
- Torbira, L.L., & Ogbulu, O.M., (2014). Fund Mobilization by Insurance Companies and Fixed Capital Formation: Evidence from the Nigerian Economy. *International Journal of Financial Research*, *5*(2), *69-81*.
- Udoka, C.O., Mbat, D.O., & Stephen, B. D., (2016). The Effect of Commercial Banks' Credit on Agricultural Production in Nigeria. Journal of Finance and Accounting, 4(1), 1-10.
- Zakaria, M. (2008). Openness and inflation: Evidence from time series data. *Doğuş Üniversitesi Dergisi 11,2, 313–322*.