Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.6, No.18, 2015

Modeling Financial Intermediation Functions of Banks: Theory and Empirical Evidence from Nigeria

Iwedi Marshal & Igbanibo Dumini Solomon

PhD Scholars, Department of Banking and Finance, Faculty of Management Sciences, Rivers State University of Science and Technology, Port Harcourt, Nigeria.

Abstract

The study model the relationship between financial intermediation functions of banks and economic growth in Nigeria using data spanning (1970-2014). Secondary data was collected from the CBN statistical bulletin and national bureau of Statistics. Credit to private sector (CPS), banks deposit liabilities (DLS), and money supply (MOS) were used as proxy for bank financial intermediation functions while gross domestic product represents economic growth. The augmented Dickey-Fuller unit root test results indicated that the data series achieved stationarity after first differencing at the order 1(1). The relative statistics of the estimated model shows that credit to the private sector (CPS) negatively and insignificantly correlate with GDP in the short run, bank deposit liabilities shows a positive relationship with GDP though statistical insignificant at 5% level. While money supply positively and significantly correlate with GDP at short run. The analysis revealed the existence of a long run relationship between bank financial intermediation indicators and gross domestic product in Nigeria. The granger causality test results reveal that there exist unidirectional causality flowing from Gross domesticproduct to Credit to Private Sector (CPS). Bi-directional causality runs between Deposit Liabilities (DLS), Money Supply (MOS)and GDP. These suggest that growth in the volume of deposit liabilities could boost banks financial intermediation functions in the economy and exert a positive impact on level of productivity hence having a contagion effect on the output level of goods and services in the economy. This study recommends that the managers of the Nigeria economy should fashion out appropriate policies that will enhance the bi-directional flow of influence between the banking sector where investable funds are sourced and the real sector of the economy where goods and services are produced, and there should be efficient and effective financial intermediation process in order to achieve the nominated objective of investment, productivity and economic growth.

Keywords: Modeling, Banks Financial Intermediation, Gross Domestic Product, Nigeria

1. Introduction

Banks promotes economic growth through the process of financial intermediation by efficiently allocating funds mobilized from the surplus economic units to deficit units. This function therefore suggests that financial intermediation could serve as a catalyst for economic growth and development. According to Ezirim (2006), institutional funds mobilization and investments are the hallmarks of the financial intermediation operations of any financial institution. Thus, as economies grow, banks play an increasingly important role in directing financial resources to their most productive use (Albert and Kaja, 1999). They reconcile the different needs of borrowers and lenders by transforming small-size, low-risk and highly liquid deposits (bank liabilities) into loans (bank assets), which are of larger size, higher risk and illiquid (i.e. transforming function) (Casu, Girardone, and Molyneux, 2006). The development of money market (which banks are participant) smoothen the progress of financial intermediation and boosts lending to the economy and improves the country's economic and social welfare (Iwedi and Igbanibo 2015).

In the mid-80s, the direct control of credit allocation and regulated interest rate structure was used to channel banks credit to the real sectors of the economy by that arrangement banks were statutorily required to allocate most of the loanable funds to the key sectors like agriculture, manufacturing, solid minerals, housing at low rate of interest which would result in high investment and output and invariably growth of the domestic economy, however, the weakness that characterized the regulated regime gave way to adoption of market based policies in September 1986 to eliminate inefficiency and enhance effective mobilization and utilization of resources which ultimately would translate to a sound and stable banking sector. Hence the Central Bank of Nigeria has made concerted effort via several banks reforms especially from the wake of last decade through effective surveillance and prudential guidelines, a more stringent procedure for licensing and increase in the capitalization base of the among others to ensure a sound and stable banking system capable of providing effective intermediation that would stimulate growth, encourage medium and long term lending to the real sectors capable of diversifying the productive base of the economy.

Recently, the impact of financial intermediation by banks on the Nigeria economy generated a heated debate. While some studies opined that financial intermediation drives economic growth (Odedokun, 1998, Nieh, et al 2009, Islam and Osman, 2011), others have argued that economic growth drives financial intermediation.

However, there are studies, which have argue that a bi-directional causality exists between financial intermediation and the Nigeria economy (Odhiambo, 2011, Acha, 2011). Also there many other empirical studies that examined the linkage or relationship between financial intermediation function of banks and the Nigeria economy.Notable among them are Azege(2004), Ndebbio (2004), Ayadi (2008), Agu and Chukwu (2008), Adbullahi (2009), and Nzotta and Okereke (2009), Acha, (2011), Shittu, (2012), Agbada and Osuji, (2013), Onodugo, Kalu and Anowor, (2013) Andabai and Tonye, (2014), but the results of these studies are divergent. The divergence seems to emanate from the different estimation procedures and the data used for analysis.These results are deficient in that they did not attempt to evaluate the causality between financial intermediation function by banks and the Nigeria economy. As such these studies merely examine the correlation between financial intermediation and real sector. Further observed weakness of these previous studies is that they did not discuss the implication of the relationship that exist between finance and Nigeria economy. These studies also fail to give the specific implication of each variable of financial intermediation on the various economic activities in Nigeria. This means there is a gap in the literature which needs to be covered. This study is an attempt to bridge the gap that exists by modeling and estimating financial intermediation functions of banks in Nigeria.

However, a lot needs to be done as credit being extended to real sectors of the economy such as agriculture, manufacturing, solid minerals is meagre, short tenured and at high interest rates.

Despite the series of reforms and restructuring aimed at strengthening the banks' ability to efficient service delivery and fund productive activities,we still experience decline in domestic credit by the banking system to the private sector, liquid mismatch in the Nigeria economy and high concentration of loans to oil and gas and communication sectors of the Nigeria economy to the detriment of other sector.Looking at the Nigeria economy which is characterised by low savings, low investments, and low growth, financial intermediation becomes imperative to launch the nation's economy on the path of real growth since efficient financial intermediation is the surest vehicle that could transport the economy from the state of poverty to a higher level of output, employment and income capable of enhancing the standard of living for the citizenry.

The basic question which previous studies have not answered is that does effective financial intermediation function of banks necessarily engender economic growth, if so how efficient have these been in accumulating deposits and subsequently channelling same to the real sectors in line with the CBN credit policy guidelines.

2. LITERATURE REVIEW

A. Theory of Financial Intermediation

I. Goldsmith, McKinnon and Shaw Framework

The theory of financial intermediation was first formalized and popularized in the works of Goldsmith (1969), Shaw (1973) and Mckinnon (1973), who see financial markets (both money and capital markets) 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.

Supporting this view is theresult of a research by Nwaogwugwu, (2008) and Dabwor, (2009) on the Nigerian stock market developmentand economic growth, the causal linkage. However, this contrasts with Robinson (1952), who argued that"financial markets are essentially hand maidens to domestic industry, and respond passively to other factors thatproduce cross–country differences in growth. Moreover there are general tendency for supply of finance to movealong with the demand for it. The same impulse within an economy, which set enterprises on foot, makes ownersof wealth, venturesome and when a strong impulse to invest is fettered by lack of finance, devices are invented torelease it. The Robinson school of thought therefore believes that economic growth will bring about theexpansion of the financial sector.

Goldsmith (1969) attributed the direct correlation between the level of real per capita GNP and financialdevelopment to the positive effect that financial development has on encouraging more efficient use of thecapital stock. In addition, the process of growth has feedback effects on financial markets by creating incentivesfor further financial development.

Mckinnon (1973) in his study argued that there is a complimentary relationship between physical capital and money that is reflected in money demand. This complimentarily relationship according to Mckinnon (1973) links the demand for money directly with the process of physical capital accumulation mainly because the conditions of money supply have a first order impact on decision to save and invest. Debt intermediary hypothesis was proposed by Shaw (1973), whereby expanded financial intermediation between the savers and investors resulting from financial liberalisation (higher real interest rates) and development increase the incentive to save and invest, stimulates investments due to an increase 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. They labelled the main rudiments of financial suppression

as:

i. High reserve requirements on deposits,
ii. Legal ceilings on bank lending and deposit rate,
iii. Directed credit,
iv. Restriction on foreign currency capital transactions,
v. Restriction on entry into banking activities.

However, the Mckinnon-Shaw framework informed the design of financial sectors reforms in many developing countries, country experiences later showed that while the framework explains some of the quantitative changes in savings and investment at the aggregate level, it polishes over the micro-level interactions in the financial markets and among financial institutions which affects the supply of savings and demand for credit by economic agents and the subsequent effect on economic growth.Mckinnon's Proposition is based on the complementarily hypothesis, which in contrast to the Neo- classical monetary growth theory, argued that there is a complementarily between money and physical capital, which is reproduced in money demand.

II. The Structuralist Approach

The structuralist school of thought emphasizes structural difficulties such as market inefficiencies as the main reason for economic retrogression of emerging countries. They criticized the market clearing assumptions implicit in the financial liberalization school, especially the assumption that higher interest rates attract more savings into the formal financial sector (Van Wijinbergen, 1982). Besides, Van Wijinbergen argued that it could just fine be the case that informal markets will provide more financial intermediation. Since institutions in this sector are not subject to reserve requirements and other regulations that affect financial institution in the formal sector. He also argued that in the event that informal sector agents substitute their deposits for that in the formal sector due to high interest rates, the unexpected consequence will be adverse effect on financial intermediation and economic growth (Dabwor, 2010).

B. REVIEW OF EMPIRICAL WORKS

A number of studies have shown that there is a relationship between financial intermediation and economic growth. Some of these works include: Greenwood and Jovanovich (1990) stressed the informational role of financial intermediation in an endogenous growth model, and argue that its role is crucially related to productivity growth of capital.

In a related study, Bencivenga and Smith (1991) stressed that through its reduction of liquidity risks, efficient financial intermediation stimulates savers to hold their wealth increasingly in productive assets, contributing to productive investments and growth. Levine (1997) followed the same line of thought, but stressed the importance of stock markets in stimulating the financing of investment in less liquid investment projects, as well as the diversification of portfolio risk.

Nissanke (1991), who also examined the structural impediments to savings mobilization and financial intermediation as including imperfect information and risk. She opined that as polices are introduced to encourage capital markets in developing countries, the improvement in banking institutions" operation should be given due attention so that the economies could eventually benefit from the advantages of both bank based and non-bank based finance.

Jayaratne and Strathan (1996) affirm that financial development impacts positively on economic growth but with a clause that there is an improvement in the quality of bank lending. Using the bank deregulation reform in the US as a case-study, it was established that the rate of real, per-capita growth in income increased significantly. This impact of the reform in the financial system on economic growth was attributed to the improvement in the quality of bank lending, and not the increase in volume of bank lending.

Odedokun (1998), in his study, emphasised that even though financial intermediation promotes economic growth, the growth-promoting effects are more pronounced in the low-income countries. Using a cross-country data analysis of 71 less developed countries (LDCs) for the period 1960 to 1980, the study expanded the neo-classical one-sector aggregate production function with financial development as an input. Two models were derived with economic growth as the dependent variable, while the regressors include; labour force growth, investment-GDP ratio, real export growth, and financial depth. The models were estimated using the ordinary least squares (OLS) technique, as well as the Generalized Least Squares (GLS) technique. Besides the strong 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. However, its impact on economic growth is superior to labour force growth.

Rajan and Zingales (1998) seek to establish the impact of financial development on industry-specific growth. This necessitated a cross-country, cross-industry study. The primary hypothesis was, "industries that are more dependent on external financing will have relatively higher growth rates in countries that have more developed financial market." The study designed a multiple regression model, which specified growth as the

dependent variable and the financial development, external finance dependency, country specific factors, and industry-specific factors. The average annual real growth rate of value-added was used as a proxy for growth, while value-added and gross-fixed capital formation for each industry obtained from the Industries Statistics Year Book (1993). Two finance indicators were used as a proxy. These are capitalization ratio and accounting standards. The study asserts that financial development enhances growth in indirect ways.

Demirgue-Kunt & Maksimovic (1998) carried out a firm level-based study to justify their assertion with respect to the relationship between finance and economic growth. This study shows that a developed financial system and legal system stimulates growth. This was achieved by using cross-sectional data drawn from thirty countries (developed and developing) for the period 1983 to 1991. They are of the view that an active stock market is an indication of a well-developed financial system. While the firms in a country with a high rate of compliance with the rules and regulations have access to the capital market, the developed financial system will ensure growth of these firms. Hence, finance stimulates growth.

Levine, Loayza, and Beck (2000) changed the face of the argument on the relationship between financial intermediation and economic growth. This study seeks to establish the impact of the endogenous component of financial intermediation on economic growth. A robust methodology, which comprises two models and two estimation techniques, was employed. The first model, which defines economic growth as function of finance indicators and a vector of economic growth determinants, was estimated using the pure cross-sectional estimation technique. The second model is a dynamic panel model and is estimated using the Generalized Methods of Moments (GMM). Both tests confirm the strong positive impact of the endogenous components of financial intermediation on economic growth. They, however, noted that countries with high priority for creditors' protection, strong will to enforce contracts, and unambiguous accounting standards have the potential for a developed financial intermediation.

McCaig and Stengos (2005) introduced more instrumental variables with a view to establishing a more robust empirical relationship between financial intermediation and economic growth. The study uses a cross-country analysis of 71 countries for the period 1960 to 1995. A linear regression model, which defines economic growth as a function of financial intermediation and a set of conditioning variables, was estimated using the Generalized Method of Moments (GMM). While the instrumental variable introduced included; religious composition, years of independence, latitude, settler mortality, and ethnic fractionalization, three conditioning variable were also used. These include; simple sets (initial GDP, and level of education), the policy set (simple set, government size, inflation, black market premium, and ethnic diversity), and the full set (simple set, policy set, number of revolution/ coup, number of assassination per 1000 inhabitants, and trade openness). This study also supports the argument that a positive relationship exist between financial intermediation and economic growth. However, it emphasized that this will be true if financial intermediation is measured by liquid liabilities and private credit as a ratio of GDP, while it will be weaker if it is measured using the Commercial-Central Bank ratio.

Hao (2006) seeks to establish the relationship between financial intermediation and economic growth, using a country-specific data from China. The study focused on the post-1978 reform period, using provincial data (28 Provinces) over the period 1985 to 1999. The study employed the use of linear model, which expresses economic growth as a function lagged economic growth, financial development indicators (banks, savings, and loan-budget ratio), as well as a set of traditional growth determinants (population growth, education, and infrastructural development). The study uses the one-step parameter estimates for the Generalized Method of Moments (GMM) estimation and finds 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. However, the study reveals that bank, as an indicator of financial development, is significant but negatively related to growth. This was attributed to the inefficiency in loan distribution and the self-financing ability of the provincial governments.

Romeo-Avila (2007) also confirms the positive impact of finance on growth. He investigates the relationship between finance and growth, with emphasis on the effect of financial deregulation and banking law harmonisation on economic growth in the European Union. The study establishes that financial intermediation impacts positively on economic growth through three channels.

Acha (2011a) investigated the role banks play in economic growth. It used bank deposits and bank credit to the private sector as variables for bank intermediation and real gross domestic product (RGDP) to proxy economic growth. The Regression of RGDP as dependent variable against bank deposit and credit confirmed that banks through their intermediation function contribute to economic growth in Nigeria.

Acha (2011b), studied whether banks through their financial intermediation activities (savings mobilization and lending) cause economic growth is the theme on which this study was based. Data on gross domestic product (GDP), credit to private sector (CPS) and total bank deposit (DPS) were obtained from Central Bank of Nigeria (CBN) statistical bulletin and used to compute savings ratio (SR) and credit ratio (CPR). A time frame of 1980-2008 was adopted. The hypotheses that no causal relationship exist between savings mobilization

and credit on one hand and economic growth on the other were tested. The Granger Causality Test was used to test these hypotheses. It could not identify any significant causal relationship between banks' savings/credit and economic growth.The absence of such a relationship was conjectured to be due to the economies developmental stage characterized by infrastructural decay and the inefficient utilization of mobilized deposits.

Shittu (2012) examine the impact of financial intermediation on economic growth in Nigeria. Time series data from 1970 to 2010 were used and were gathered from the CBN publications. For the analysis, the unit root test and cointegration test were done accordingly and the error correction model was estimated using the Engle-Granger technique. The studyestablished that financial intermediation has a significant impact on economic growth in Nigeria.

Onodugo, Kalu and Anowor (2013) studied financial intermediation and private sector investment in Nigeria. They adopted private investment (PRIVET) as the regressand and financial savings as a ratio of real gross domestic product (FS/RGDP), credit extended to private sector by deposit money banks (CEPS), prime lending rate (PLR) & real gross domestic product (RGDP) as the regressors. The study employed econometric method to construct a multiple regression model to analyze the long-run relationships among variables. The results showed that three out of the five coefficients are statistically significant at 5% level. CEPS and PLR conformed to the theoretically expected signs, while FS/RGDP, RGDP and DUM did not. Hetroscedasticity test carried out suggests that OLS assumption of constant variances over time was not violated.

Uremadu, (2013) examines the effect of financial intermediation and government regulations on financial deepening and growth in Nigeria using time series data and OLS regression methodology. In particular, macroeconomic data covering 24 years were used to conduct his investigations and analysis. His findings show that government bank regulations proxy by total balances with the central bank lead financial deepening in Nigeria. It is then followed by another surrogate of a financial intermediation variable (i.e. total demand deposit liabilities) as 2nd; cash reserve ratio representing another surrogate of a regulatory variable ranked 3rd, while total bank credit to domestic economy that represents another surrogate of financial intermediation ranked 4th in their descending order of magnitude. He also found negative influence of cash reserve ratio and total bank credit on financial deepening and growth.

Agbada and Osuji, (2013) paper seeks to analyze empirically the trends in Financial Intermediation and Output (GDP) in Nigeria from the banking crises period beginning from 1981 to 2011. In doing so, the study used the endogenous components of financial intermediation such as Demand Deposits (DD), Time/Savings deposits (T/Sav) and Credits (Loans and Overdraft) as explanatory variables to predict the outcome of our dependent variable Output (GDP). Data were sourced from CBN statistical Bulletin, 2011 and regression estimation was carried out using IBM SPSS statistics 20. The findings suggests that though there exist a positive growth relationship between financial intermediation and output in Nigeria, there also exist elements of negative short-run growth relationship, especially for the periods that suffered financial shocks resulting from the global financial crisis and perhaps, numerous bank failures. These findings may serve to buttress existing research outcomes and will be relevant to regulatory authorities in formulating policies that are capable of positively enhancing financial intermediation and output growth in the economy.

Andabai and Tonye, (2014) examined the relationship between financial intermediation and economic growth in Nigeria using data spanning (1988-2013). Using vector error correction model and the test for stationarity to test the hypotheses, it proves that the variables are integrated in the order which implies that unit roots do not exist among the variables. There is also long-run equilibrium relationship between economic growth and financial intermediation and the result also confirms about 96% short-run adjustment speed from long-run disequilibrium. The coefficient of determination indicates that about 89% of the variations in economic growth are explained by changes in financial intermediation variables in Nigeria.

3. METHODOLOGY, DATA AND MODEL SPECIFICATION

I. Model Estimation Techniques

The analytical framework of this study includes pre estimation analysis such as descriptive statistics and stationarity test. This is to reveal the behaviour of the data on the variables. The stationarity test we investigate the stationarity of the variables, non stationarity could lead to spurious regression results. Such spurious relationship between/ among variables may be evident in time series data that exhibit non-stationary. Ordinary least square regression test will reveal the predictive ability of the model as well as the relative statistics of the variables in the short run, while the test for the presence of long-run equilibrium relationship is carried out based on the Johansen's (1991) multivariate cointegration technique. The test for linear causality or feedback effects between the specified variables is carried out using Granger Causality Technique. This test is necessary since the Johansen co-integration Test only accounts for long-run relationships between variables but it does not show the direction of the relationship or a breakdown in the system which Granger causality test take cares off in its application.

Two basic types of time series models exist and these are Autoregressive (AR) Models and the Moving Average Process (MA). An AR model is one where the current value of a variable Y depends upon only the values that the variable took in previous periods plus an error term. Thus, an AR model of order P, denoted as AR (Ip) can be expressed as:

Yt = β_0 + Yt-1+ 2Yt-2 +… Yt-p + Ɛ4 (1)

Where Ɛ4 is a white noise disturbance term. Alternatively, eqn (1) can be written as:

Yt = + ∑ 1 Yt-1 +Ɛ 4 (2)

Where $\beta_0$is a constant and 1…. pare parameters of the model or using the lag operator, it becomes:

q

∑Y1 = β_0+ 1L1Y1 + Ɛ4 (3)

Or (L)Yt = β_0+ Ɛ t

Where (L) = (1- 1L1 - 2L2… L) (4)

On the other hand, if Ut is a white noise process with E(Ut) = 0 and Var(Ut) = a2, then

Yt = β_0+ Ut + 1 U1 Ut-1 + 2Ut-2 + ……+ q Ut-q (5)

is a qth moving average model denoted MA (q). eq. (5) can be restated as:

q

Yt = β_0+∑ 1 Ut-1 + Ut (6)

i=1

Thus, a moving average (MA) model is linear combinations of white noise process such that Yt is a function of current and lagged values of a white noise disturbance process. (Brooks, 2008). Using the lag operator notation, equation (6) becomes:

q

Yt = β_0+∑ 1 L Ut + Ut (7)

i=1

Or as Yt β_0 (L)U

where

L = α1 + 1L+ 2L2 +…….+ qLq (8)

However, by combining this AR (p) and MA (q) models an ARMA (p,q) model is obtained. Thus, in an ARMA model, the current value of some series Yt depends linearly on its own previous values plus a combination of current and lagged values of a white noise error term. This can be stated as:

Yt = β_0+ 1Yt-1+ 2Yt-2 +…+ pYt-p + 1Ut-1 + 2Ut-2 +… qUt-q (9)

Where

E (Ut = 0); E (Ut2) = β 2; E (Ut U3) = 0, t s

It is evident from the foregoing that stationarity in a time series is a desirable property for an estimated AR model. The reason being that a model whose co-efficient are non-stationary will have a non-declining effect on the current values of Yt as time progresses which is counter productive, empirically defective and could lead to spurious regressions. The literature of financial econometrics is replete now with ample tests for stationarity in time series data as well as different treatments to induce stationarity. Hence, in this paper, the Augmented Dickey – Fuller (ADF) (1981), unit tests are employed to check whether the series data are stationary or not. That is, consider an AR (1) process:

Yt = β+ Yt-1 + Ɛ4 (10)

Where β and are parameters of the model and Ɛ4 is a white noise disturbance term .Yt is stationary, if and only if, -1<1 1<1. However, if = 1, then Yt is a non-stationary series. That is, if the time series is started at some point (t), the variance of Xt increases steadily with time and goes to infinity. On the other hand, if the absolute value of 1 1 is more than t, then the series Yt is explosive. Hence, the hypothesis of a stationary series is usually tested whether the absolute value 1 1 is strictly less than unity. Thus, for testing unit root, Yt4is subtracted from both sides of eqn.(10), then we have:

Yt = β+ Yt-1 + Ɛ 4 (11)

Where = (- 1) and the null hypothesis can be tested as Ho: = 0. This unit root test is however only applicable where the series is an AR (1) process. For higher order serial correlation in the series, the assumption of white noise disturbance term is violated. However, the ADF test corrects for high order correlation by making the assumption of an AR(p) process as:

q

Yt = β+ Yt-1 +∑ Yt-j + Ɛ4 (12)

i 1

That is, the additional lagged terms are included to ensure that the errors are uncorrelated. Hence, if the calculated i=1ADF statistics is less than their critical values from the fuller's table, then the null hypothesis Ho: Y = 0 is accepted and the series are non-stationary or not integrated of order zero. Thus, to induce stationarity, many time series need to be appropriately differenced. Hence, a time series is said to be integrated of order d, if it has become stationary after differencing the d times. (Brooks, 2008). In this paper, we examine whether the time series are co-integrated by adopting the method of Granger (1969). That is, two or more variables are said to be co-integrated if each variable individually is integrated of order one, but a linear combination of the variables is integrated of lower order say zero.

Thus, a long-run relationship between the variables is present when there exists at least one co-integrating vector. That is, if Y1t and Y2t are co-integrated 1 (1) so that Ɛt, 1(0), then this implies that there exists a long-run equilibrium between Y1t and Y2t to which the system converges overtime and the disturbance term can be construed as the disequilibrium error. The first step in the Engle and Granger (1987) co-integration method is to estimate the cointegrating equation.

$$Yt = \beta 0 + \beta 1Xt + Ut \quad (13)$$

and then to calculate the residual

$$Ut = Yt - \beta 0 - \beta 1Xt \quad (14)$$

Then we check the stationarity of the residuals. Hence, if Y jadn X are co-integrated the error term will be stationary and this is accomplished by testing the residuals of co-integrating regression for stationarity by performing ADF unit root tests.

Granger Causality Test

To determine the direction of causality between the variables, we employ the standard Granger causality test. (Granger, 1969). The test is based on vector error correction model (VECM) which suggests that while the past can cause or predict the future, the future cannot predict or cause the past. Thus, according to Granger (1969). X Granger causes Y if past values of X can be used to the past values of Y. The test is based on the following regressions:

$$Yt = \beta 0 + \sum_{i=1}^{n} + \beta 1\ Yt\text{-}1 \sum_{i=1}^{n} X\beta 1 \times \mu t \quad (15)$$

and

$$Xt = \alpha 0 + \sum_{i=1}^{n} + \alpha\ \ Yt\text{-}\ \ \sum_{i=1}^{n} X\alpha\ \ \times Yt \quad (16)$$

Where Xt and Yt are the variables to be tested while µt is the white noise disturbance terms. The null hypothesis $\alpha 1 = \beta 1y = 0$ for all 1's is tested against the alternative hypothesis $\alpha 1^1\ 0$ and $\beta 1^1\ ^1\ 0$. If the co-efficient of $\alpha 1^1$ are statistically significant but that of $\beta 1^1 y$ are not, then X causes Y. If the reverse is true, then Y cause X. However, where both co-efficient of α1 and $\beta 1^1 y$ are significant then causality is bi-directional.

II. THE DATA

This study uses annual data for the period 1970-2014 collected from the CBN Statistical Bulletin (2013), Annual Reports (2014), and Mid-Year Economic Review (2011). Economic growth is the explained variable. The real gross domestic product is used as a proxy for this variable. For financial intermediation, three indicators commonly used in the literature are used as proxy. These are the broad money supply (MOS),banks deposit liabilities which consist of demand, time and savings, deposits (DLS) and domestic credit to the private sector (CPS). While the formers (DLS & MOS) measures the capability of the banks to mobilize funds for investment purposes, the latter measures the funding of the economy, most especially productive sectors.

III. MODEL SPECIFICATION

Following a detailed review of previous empirical studies and modelling by (Acha 2011, Shittu 2012, Agbada & Osuji 2013, Onodugo, Kalu & Anowor, 2013 and Andabai & Tonye 2014)this study construct and utilized financial intermediation – economic growth model with three predictor variables linearly in the functional form as follows:

$$GDPt = f\{CPSt, DLSt\ MOSt\} \quad (18)$$

Where,
GDPt = Gross Domestic Product
CPSt = Credit to Private Sector
DLSt = Bank Deposits Liabilities

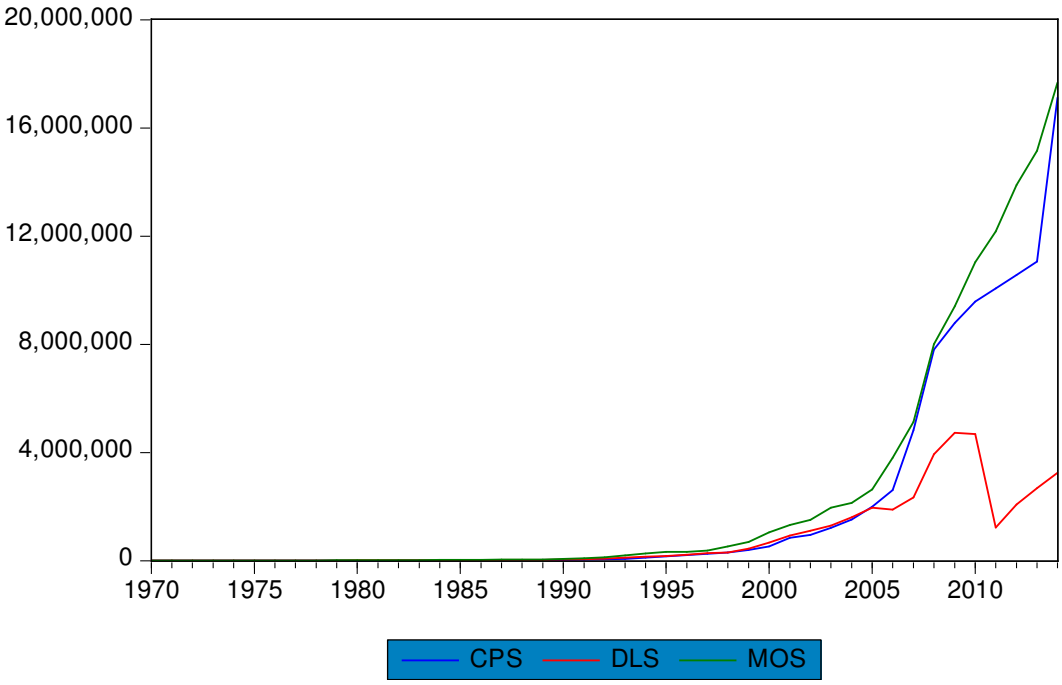
MOSt=Broad Money Supply

Recasting equation (18), into the econometric form gives:
$GDPt = \alpha + \beta_1 CPSt + \beta_2 DLSt + \beta_3 MOSt + \varepsilon t$ (19)
Where the parameters include; α, β_1-$\beta_3$and εt is the residual term.

IV. EMPIRICAL RESULTS, INTERPRETATION AND ANALYSIS

A. GRAPHICAL ANALYSIS OF DATA

Figure 1



Source: E-view Output

The values of credit to private sector maintained a regular trend throughout the period of this study. In the year 1970, **CPS** was 351.40 million, and it rose to 6,234.23million in year 1980. It further increased to 825,054.5 and 527,948.51 million in year the 1990 and 2000 respectively, it later increase to 9,571,942.30 million in year 2010. It then stood at 17,128,780.98 million in year 2014. The values of bank deposit liabilities also had an irregular trend during the period chosen for study. In the year 1970, 1980 and 1990, **DLS** was 624.80, 10,676.90 and 38,777.30 million respectively it then rose to 664,031.60 million in year 2000. but further increase to 4,679,900.68 million in year 2010. It later decline to 3,248,655.80 million 2014. The values of money supply had a regular trend during the period chosen for analysis. In the year 1990, 1980, 1990**MOS** was 949.90,15, 548.10 and 64,932.70 million respectively and it rose to 1,036,079.50 and 11,034,908.94 million in year 2000 and 2010 respectively. It further stood at 17,680,980.52 million in 2014.

Figure 2

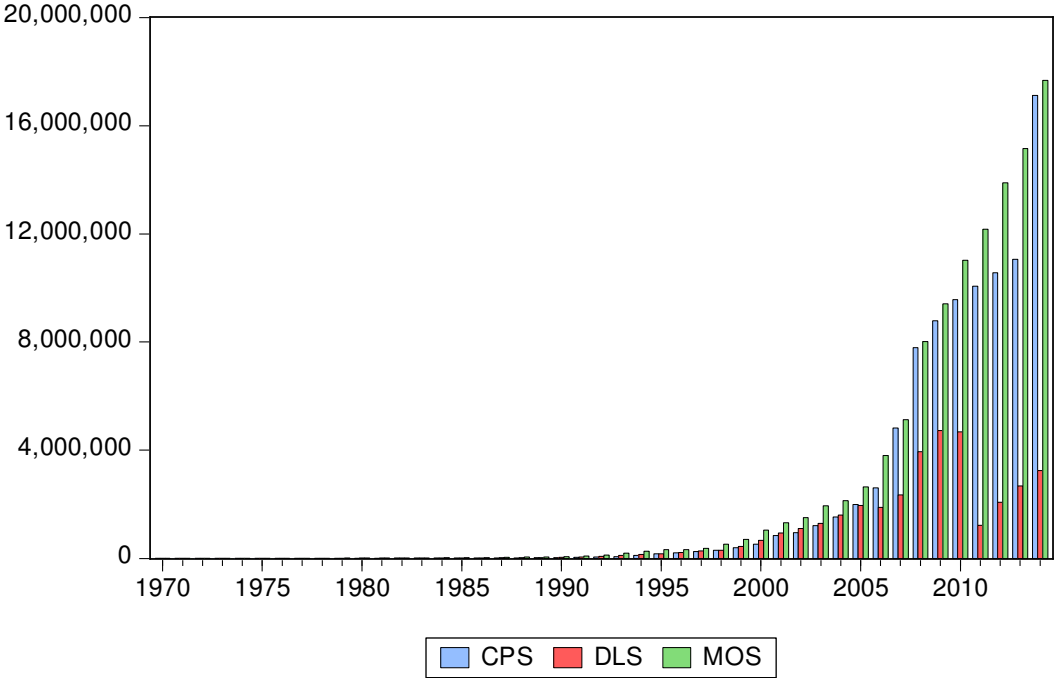


Table 2 Descriptive Statistic Result

	GDP	CPS	DLS	MOS
Mean	7959665.	2026740.	808375.6	2447466.
Median	532613.8	53510.20	75047.70	128283.7
Maximum	52670646	17128781	4729546.	17680981
Minimum	5203.700	351.4000	624.8000	949.0000
Std. Dev.	13789447	4027368.	1296855.	4648984.
Skewness	1.853023	2.125205	1.751741	2.008236
Kurtosis	5.344505	6.639208	5.145353	5.763171
Jarque-Bera	36.05902	58.70593	31.64423	44.56344
Probability	0.000000	0.000000	0.000000	0.000000
Sum	3.58E+08	91203299	36376903	1.10E+08
Sum Sq. Dev.	8.37E+15	7.14E+14	7.40E+13	9.51E+14
Observations	45	45	45	45

Result extracted from the Eviews 8 Output.

The result above shows the mean values of the **GDP, CPS, DLS, and MOS** variables are 7959665, 2026740. 808375.6 and 2447466 respectively. The median of the series are 52670646, 17128781, 4729546 and 17680981 respectively for **GDP, CPS, DLS and MOS** variables. It should be noted that the median is a robust measure of the centre of the distribution that is less sensitive to outliers than the mean. The maximum values of each of the series in the current sample are 52670646 for **GDP,** 17128781 for **CPS,**4729546.0 for **DLS** and17680981 for **MOS** respectively. The standard deviations which are a measure of dispersion spread in each of the series are 13789447.0 for **GDP**, 4027368.0 for **CPS,** 1296855.0 for **DLS** and 4648984.0for **MOS.** The skewness which is a measure of asymmetry of the distribution of series around its mean, are all positive for financial intermediation variables (1.853023 for **GDP,** 2.125205 for **CPS**, 1.751741 for **DLS** and 2.008236 for **MOS**), which means that the distribution has a long right tail. The Kurtosis statistic that measures the peakedness or flatness of the distribution of each of the series is calculated at 5.344505 for **GDP,** 6.639208 for **CPS**, 5.145353 for **DLS,** and 5.763171 for **MOS**.

The Jarque-Bera statistic, which is a test statistic for testing whether the series is normally distributed, measuring the difference of the skewness and kurtosis of the series with those from the normal distribution is reported at 36.05902 with a probability of 0.00 for **GDP**. It reported for 58.70593 with a probability of 0.00 for **CPS**, 31.64423 with a probability 0.00 for **DLS** and 44.56344 with a probability of 0.00 for **MOS.** The reported probability indicates that we can accept the hypothesis of normal distribution at 5% level of significance level.

UNIT ROOT TEST ANALYSIS

Table 3:Augmented Dikky-Fuller (ADF)

Variables	ADF			
	Level	Critical Value @ 5%	First Difference	Critical Value @ 5%
GDP	9.174204	-2.929734	0.292094	-2.935001
CPS	2.685597	-2945842	-2.116659	-2.951125
DLS	-3.755912	-2.948404	-4.890054	-2.951125
MOS	-1.322608	-2.945842	-1.360241	-2.945842

Source: Extracted from Eview 8.0

Table 4: Phillips-Perron Tests

Variables				
	Level	Critical Value @ 5%	First Difference	Critical Value @ 5%
GDP	1O.01320	-2.929734	-1.620560	-2.931404
CPS	11.43580	-2.929734	-0.638352	-2.931404
DLS	-0.801742	-2.929734	-7.800307	-2.931404
MOS	7.416862	-2.929734	-0.19559	-2.931404

Source: Extracted from Eview 8.0

In other to avert the occurrence of spurious results, there is need to test for the presence of unit root in order to ensure that the parameters are estimated using stationary time series data. To achieve this, both the Augmented Dikky-Fuller (ADF) and Phillips-Perron tests are used. The essence of the ADF tests is the null hypothesis of nonstationarity. Comparing the ADF test statistics with the 5% critical values, the result of the unit root test reported in table 3 &4 above indicated that all the variables are stationary at first differencing. Hence, the series are all integrated serious of order 1(1). This is evidence by the fact that the Absolute Values of the ADF test statistics are all greater than the critical values at 5% level of significance. After stationarizing the variables, the data can then be tested whether these variables are cointegrated or not by applying Johansen Co-integration procedure to test for long – run relationship between the dependent and independent variables.

Table 5 Ordinary Least Square Regression Estimate

Dependent Variable: GDP
Method: Least Squares
Date: 08/30/15 Time: 12:01
Sample: 1970 2014
Included observations: 45

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPS	-0.994569	0.594885	-1.671869	0.1020
DLS	0.682244	0.397903	1.714598	0.0938
MOS	3.682814	0.497226	7.406719	0.0000

R-squared	0.979128	Mean dependent var	7959665.
Adjusted R-squared	0.978134	S.D. dependent var	13789447
S.E. of regression	2039050.	Akaike info criterion	31.95821
Sum squared resid	1.75E+14	Schwarz criterion	32.07865
Log likelihood	-716.0596	Hannan-Quinn criter.	32.00311
Durbin-Watson stat	0.877627	F- statistic	269.195

SOURCE: Eview 8.0 Output

The short run OLS test results is analyzed in two parts. The global utility of the model and the relative statistics of the estimated model.

Global Statistical Results Analysis

The econometric property of the estimated equation shows that the global utility or the overall goodness of fit is high with an F- statistics of 269.195 and probability value of 0.0000. From OLS regression result, R^2 is 0.979 or 97.9% and the adjusted R^2 is 97.8%. This implies that, at level series, about 97% of the total variations in the output level of goods and services (GDP) are explained by the changes or adjustments in the bank financial intermediation function indicators in the economy – CPS, DLS, and MOS. The Log-likelihood ratio, Akaike information criterion and Schwarz Bayesian criterion statistic all showed that the model has good forecasting power.

Relative Statistics of the Estimated Model

From table 3, the relative statistics of the estimated model shows that of the three explanatory variables, Credit to private sector (CPS) has a negative relationship with the economic performance (GDP). This means that a 1% increase of credit to private sector lead to about -0.99% reduction in the output level of GDP. Deposit liabilities (DLS) have positive and insignificant relationship with the output level of goods and services in the economy. This implies that a 1% increase in the bank deposit mobilisation can lead to about 0.68% rise in the output level of Gross Domestic Product in the economy. This suggest that an increase in volume of bank deposit liabilities boost the level of financial intermediation function of banks in the economy which will in turn strongly drive or positively influence the growth in the output level of goods and services in the economy.

Money supply (MOS) significantly correlate with Gross domestic product, suggesting that money significantly impact on the output level of goods and services in the short run which collaborate with Shittu (2012). This means that, a 1% increase in money supply increases the output level of goods and services in the domestic economy by about 3.68%.

Johansen Cointegration Test

Table 6Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.940176	209.8001	47.85613	0.0000
At most 1 *	0.654177	88.69741	29.79707	0.0000
At most 2 *	0.631952	43.03876	15.49471	0.0000
At most 3	0.001359	0.058486	3.841466	0.8089

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level

Table 6 displays the results from the trace test. The trace test rejects the null hypothesis if the trace statistics exceeds the critical

value, which is generated automatically by Eviews. The first row of table 6 shows that the trace statistics (209.80) exceeds the critical value of 47.85 at 5 percent confidence level. This suggests that the null hypothesis of no cointegrating relationships is rejected. This result confirms that there is one cointegrating relationship among the variables employed for the use of this paper.

Table 7Cointegration Rank Test (MaximumEigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.940176	121.1027	27.58434	0.0000
At most 1 *	0.654177	45.65865	21.13162	0.0000
At most 2 *	0.631952	42.98027	14.26460	0.0000
At most 3	0.001359	0.058486	3.841466	0.8089

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level

The eigenvalue test tests the null hypothesis of r versus r+1 cointegrating relationships. This test rejects the null hypothesis if the eigenvalue test statistics exceeds the respective critical value. Table 6 presents the results from this test. Similarly, the result from the first row of table 7 (see above table) shows that the eigenvalue test statistics (121.10) exceeds the critical value (27.58) at 5 percent confidence level. This suggests that the null hypothesis be rejected. Hence, the failure to reject the alternative hypothesis indicates that there is one cointegrating relationship among the variables. These results confirm the presence of a long-run equilibrium relationship between the explained variable and one of the explanatory variables and that the growth of Nigeria economy is affected by financial intermediation functions of banks which is consistent with the findings of (Shittu et al, 2012 & Andabai and Tonye, 2014).

Vector Error Corrections Model

Table 8: Vector Error Corrections Estimates

	GDP
GDP(-1)	1.087351
	(0.13561)
	[8.01802]
C	287326.1
	(233923.)
	[1.22830]
CPS	0.259532
	(0.39693)
	[0.65384]
DLS	-0.130131
	(0.26991)
	[-0.48213]
MOS	-0.050849
	(0.54313)
	[-0.09362]
R-squared	0.992578
Adj. R-squared	0.991817
Sum sq. resids	6.16E+13
S.E. equation	1256950.
F-statistic	1303.896
Log likelihood	-677.7242
Akaike AIC	31.03292
Schwarz SC	31.23567
Mean dependent	8140448.
S.D. dependent	13894819

Source: extracted from Eview 8.0

The figures from table 8 are quite revealing that, the coefficient estimates of the constant and explanatory variables have alternated their signs as against the long-run relationship found in the normalized cointegrating equation. This shows exactly what is needed to be done in order to absolve the short run dynamics of relationship. Again, the significance of ECM (-1) holds that a negative and statistically significant error correction model coefficient is a necessary condition for the variables to be co-integrated. Examination of the F-statistics and adjusted R^2 suggest that the variables in the error correction model significantly explained the short run changes in GDP, CPS, DLS, and MOS. Also, the computed R2 value of 0.992578 which is the coefficient of multiple determinations indicates that our model satisfies the requirement for goodness of fit. The value shows that 99% of the total variations in the economic growth (GDP) are adequately explained by changes in financial intermediation variables (CPS, DLS and MOS). However, this implies that a good portion of economic growth trends in Nigeria is explained by changes in financial intermediation variables.

Table 9: Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
CPS does not Granger Cause GDP	44	0.01042	0.9192
GDP does not Granger Cause CPS		17.5698	0.0001
DLS does not Granger Cause GDP	44	10.1531	0.0028
GDP does not Granger Cause DLS		6.93917	0.0118
MOS does not Granger Cause GDP	44	0.18197	0.6719
GDP does not Granger Cause MOS		34.4865	7.E-07
DLS does not Granger Cause CPS	44	0.01188	0.9137
CPS does not Granger Cause DLS		2.53382	0.1191
MOS does not Granger Cause CPS	44	10.0324	0.0029
CPS does not Granger Cause MOS		1.64867	0.2063
MOS does not Granger Cause DLS	44	2.51805	0.1202
DLS does not Granger Cause MOS		5.87595	0.0198

SOURCE: Extracted from E-views Output

The result of the pairwise granger causality test conducted with a maximum lag of 1 on the first difference of the linear form of the variables is based on a decision rule. The null hypothesis is that there is no causal relationship between the variables. The null hypothesis is rejected if the probability of F-statistic given in the test result is less than 0.05. From table 9, the result reveals that at 5% level of significance, credit to private sector (CPS) does not granger cause growth in Gross Domestic Product (GDP), but causality runs unidirectionally from Gross Domestic Product (GDP) to credit to private sector (CPS). This implies that growth in the output level of goods and services in the economy can trigger up an active economy, boost the desire for more investment, raise the productive capacity of the economy, influence and define the pattern of financial intermediation of banks in the economy. This will in turn increase the quantum of loans and advances,in the economy. Hence, GDP leads CPS.

Bi-directional causal relationship exist between deposit liabilities (DLS), Money supply (MOS) and Gross Domestic Product (GDP), in that, DLS & MOS leads GDP while causality also flows from GDP to DLS. This suggest that an increase in the total value of deposit liabilities will raise the volume of loan and advances flowing to productive ventures, increase the size of capital/ investable funds available to firms doing business in the economy, and enlarge the size of the capital formation with its attendant effect of boosting investment and productivity level in the economy at large. These will in turn translate into a rise in the output level of goods and services in the economy. Also, Growth in GDP can boost economic activities, increases investment and raise the total value and volume of fund that will be borrowed in the economy.

5. CONCLUSION

This study x-rays three basic bank financial intermediation function indicators as predictors of economic growth in Nigeria. A review of related empirical literature on the relationship between the correlates was carried out. Though a number of studies on Nigerian economy and the banking sector intermediation function have been carried out over the years, there seems to be, weak evidence for a strong correlation and some of them

have been in conclusive. This study however adjusted the data make-up to include 2014 data and also employed a more interesting econometric procedure to carry out this investigation. The findings of this study leads to various conclusive remarks. The results showed evidence for strong and positive correlation between MOS, DLS and GDP in the short run. On the other hand long run relationship exists among the variables. We can conclude that financial intermediation functions of banks have a prominent role in determining the performance of the Nigeria economy. Therefore the study recommends that there should be systematic analysis of the productive sector of the Nigeria economy with the view of having a better understanding of the inverse relationship between credit to private sector and Nigeria economic performance.

References

Acha, I.A., (2011a) Financial Intermediation by Banks and Economic Growth in Nigeria. Journal of Economics and Sustainable Development. 2(4):129-139.

Acha, I.A., (2011b). Does Bank financial Intermediation Cause Growth in Developing Economics: The Nigeria Experience. International business and management 3(1):156-161.

Agbada, A. and Osuji, C.C.,(2013) An Empirical Analysis of Trends in Financial Intermediation and Output in Nigeria. Global Journal of Management and Business Research Finance. 13(9):19-30.

Andabai, P.W. and Tonye, O. (2014). Financial intermediation and economic growth in Nigeria. 1988-2013: A vector Error Correction Investigation. Mediterranean Journal of Social Sciences. 5(17):19-26.

Azege, M. (2009). The Impact of Financial Intermediation on Economic Growth: The Nigerian Perspective. Research Seminar Presented at the Lagos State University.

CBN, Annual Report and Statement of Accounts, 2009, http://www.cenbank.org/OUT/2010/PUBLICATIONS/REPORTS/RSD/ANNUAL%20REPORT%202009.HTML.

CBN, Annual Report, 2010, http://www.cenbank.org/OUT/2011/PUBLICATIONS/REPORTS/RSD/AR2010/ANNUAL%20REPORT%202010.HTML.

Central Bank of Nigeria (2014), Mid-Year Economic Review

Central Bank of Nigeria (2014), Statistical Bulletin.

Christopoulos. D & Tsionas. E (2004), Financial Development and Economic Growth: Evidence from Panel Unit Root and Cointegration Tests, Journal of Development Economics, 73 (1), 55-74.

Dabwor T. D., (2009). The Nigerian Banking System and the Challenges of Financial Intermediation in the Twenty First Century. Jos Journal of Economics, 4(1).

Dabwor T. D., (2009). The Nigerian Banking System and the Challenges of Financial Intermediation in the Twenty First Century. Jos Journal of Economics,4(1).

Demirguc-Kunt, A. and Levine, R. (1999). Bank-based and Market-based Financial Systems: Cross-country Comparisons. The World Bank.

Ezirim, B. C. (2005). Finance Dynamics: Principles, Applications and Techniques. Markowitz Centre for Research and Development. Port Harcourt.

Ezirim, C.B. (2006). Challenges of institutional funds Mobilization and investments: Comparative survey of selected financial institutions in Nigeria, African Economic and Business Review, 4(2).

Goldsmith, R. W., (1969), Financial Structure and Development. New Haven: Yale University Press.

Greenwood, J. And Jovanovic, B. (1990), "Financial Development, Growth, and the Distribution of Income",Journal of Political Economy. 98: 1076-1107.

Hao. C (2006), Development of Financial Intermediation and Economic Growth: The Chinese Experience, China Economic Review. 17 (4), 347-362.

Holmstrom, B. and Tirole, J. (1997), Financial Intermediation, Loanable Funds, and the Real Sector. The Quarterly Journal of Economics. 112(3):663-691.

Islam. M & Oslam. J (2011), Development Impact of Non-Bank Financial Intermediaries on Economic Growth in Malaysia: An Empirical Investigation, International Journal of Business and Social Sciences, 2 (14), 187-198.

Iwedi, M. and Igbanibo, D.S. (2015). The Nexus between Money Market Operations and Economic Growth in Nigeria: An Empirical Investigation. IIARD International Journal of Banking and Finance Research, 1(2), 1-17.

Jalil. A, Feridun. M, & Ma. Y (2010), Finance-Growth Nexus in China revisited: New Evidence from Pricipal Components and ARDL Bound Tests, International Review of Economics & Finance, 19 (2), 189-195.

Jayaratne. J & Strahan. P (1996). The Finance-Growth Nexus: Evidence from Bank Branch Deregulation, Quarterly Journal of Economics 111, 639-670.

Levine R. (1997) Financial Development and Economic Growth: Views and Agenda. Journal of Economic Literature, 35(2), 688-726.

Levine. R, Loayza. N. and Beck. T (2000). Financial Intermediation and Growth: Causality and Causes. Journal of Monetary Economics, 46, 31-77.

Mckinnon, R. (1973). Money and Capital in Economic development, Washington. The Brooking Institute.

Nicolas, Benjamin and Lindsay (2012). Evolution of Banks and Financial Intermediation: Framing the Analysis. Federal Reserve Bank of New York Economic Review, NY.

Nieh C, Russel P, Chang Y and Hung K (2009). The Asymmetric Impact of Financial Intermediaries Development on Economic Growth in Developing Counties. Journal of Economic Studies, 25, 203-222.

Nwaogwugwo, I.C. (2008) "Stock Market Development and Economic Growth in Nigeria; The Causal Linkage". Nigerian Journal of Securities and Finance, 13 (1), 15 – 124.

Nzotta, S. M. (2004). Money, Banking and Finance, Theory and Practice. Owerri, Hudson-Jude Nigeria publishers.

Odedokun. M (1998). Financial Intermediation and Economic Growth in Developing Countries. Journal of Economic Studies, 25, 203-22.

Odhiambo. M (2011), Financial Intermediaries versus Financial Markets: A South African Experience, International Business and Economic Research Journal, 10 (2), 77-84.

Okereke, E.J. (2009). Money and the Nigeria Financial System, Owerri, Alvan Publications.

Omodugo, V.A, Kalu, I.E. and Anowor, O.E. (2013)Financial Intermediation and Private Sector Investment in Nigeria. Research Journal of Finance and Accounting, 4(12):47-54.

Robinson, J. (1952). The Generalization of the General Theory in the Rate of Interest and Other Essays. London: MacMillan.

Romeo-Avila, D (2007), Finance and Growth in the EU: New Evidence from the Harmonization of the Banking Industry, Journal of Banking and Finance, 31, 1937-1954.

Sanusi J. O. (2002). The importance of Financial Intermediation in Sustaining Economic Growth and Development: The banking Sector Review.

Schumpeter, J. (1934). The Theory of Economic Development. Cambridge: Harvard University Press.

Shaw, E. S. (1973). Financial deepening in Economics Development. Oxford; Oxford University Press.

Shittu A. I. (2012). Financial Intermediation and Economic Growth in Nigeria. British Journal of Arts and Social Sciences, 4(2):164-179.

Van Wijnbergen, S. (1982). Interest Rate Management in LDCs Journal of Monetary Economics, 12(3), 433-452.

Appendix 1: Data on Gross Domestic Product and Banks Financial Intermediation Functions Indicators

Years	GDP	CPS	DLS	MOS
1970	5203.70	351.40	624.80	949.90
1971	6570.70	502.00	657.10	1,005.30
1972	7208.30	619.50	793.70	1,161.30
1973	10,990.70	735.50	1,443.70	1,414.00
1974	18,298.30	938.10	1,694.00	2,156.20
1975	21,558.80	1,537.30	2,779.20	3,622.40
1976	27,297.50	2,122.60	4,164.40	5,278.90
1977	32,747.30	3,074.70	5,235.20	7,056.70
1978	36,083.60	4,109.80	5,302.60	7,699.50
1979	43,150.00	4,618.70	6,967.70	9,857.70
1980	31,546.80	6,234.23	10,009.10	14,397.40
1981	47,619.66	8,818.50	10,676.90	15,548.10
1982	49,069.30	10,459.40	12,018.90	16,894.00
1983	53,107.40	10,849.10	13,938.50	19,368.90
1984	59,622.50	11,309.50	15,734.80	21,600.50
1985	68,916.30	12,326.10	17,597.10	23,818.60
1986	71,070.90	15,609.00	18,136.60	24,592.70
1987	105,22.90	17,665.60	23,086.70	29,994.60
1988	139,085.30	19,716.70	29,065.10	42,780.30
1989	216,777.50	22,326.40	27,260.90	46,222.90
1990	267,550.00	26,565.80	38,777.30	64,932.70
1991	312,139.80	30,531.30	58,208.70	86,152.50
1992	532,613.80	53,510.20	75,047.70	128,283.70
1993	683,869.80	63,559.70	110,453.60	194,506.10
1994	899,863.20	111,891.80	140,839.30	264,285.70
1995	1,933,211.60	164,071.90	171,569.80	315,670.00
1996	2,702,719.10	201,740.30	208,680.70	315,669.50
1997	2,801,972.60	255,302.90	274,521.00	368,762.30
1998	2,708,430.90	300,172.60	304,888.80	531,513.40
1999	3,194,023.60	392,603.00	441,283.00	699,733.70
2000	4,537,640.00	527,948.50	664,031.60	1,036,079.50
2001	4,537,640.00	844,486.20	928,327.00	1,318,869.20
2002	5,403,006.80	948,464.10	1,100,710.30	1,505,566.96
2003	6,947,819.90	1,203,199.00	1,294,472.80	1,952,453.92
2004	11,411,066.90	1,519,242.70	1,606,174.70	2,131,908.82
2005	14,610,881.50	1,991,146.40	1,954,727.11	2,637,554.91
2006	18,564,594.90	2,609,289.40	1,889,500.60	3,797,657.91
2007	20,657,317.80	4,820,695.70	2,345,670.95	5,127,223.40
2008	24,296,329.30	7,799,400.10	3,936,512.98	8,008,865.20
2009	24,794,238.66	8,791,800.90	4,729,546.03	9,411,188.11
2010	29,205,782.96	9,571,942.30	4,679,900.68	11,034,908.94
2011	38,016,971.08	10,068,142.70	1,218,645.30	12,172,547.49
2012	40,566,273.48	10,564,343.10	2,072,678.85	13,895,009.39
2013	44,971,867.54	11,060,543.50	2,675,890.87	15,160,230.29
2014	52,670,645.64	17,128,780.98	3,248,655.85	17,680,980.52

SOURCE: Central Bank of Nigeria (CBN) Statistical Bulletin (2014)

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Academic conference: http://www.iiste.org/conference/upcoming-conferences-call-for-paper/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar