

Financial Development and Real Sector Growth: An Empirical Investigation of Nigerian Economy (1970-2022)

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ABSTRACT: *The implementation of several banking sector reforms in Nigeria were undertaken to enhance accessibility of finance to especially, the real sector of the Nigerian Economy, but surprisingly the sector is still bedevilled with inadequate access to finance especially from the deposit money banks that warehoused about 90% of the total financial sector assets. High nominal interest rate is the major cause for many firms to avoid bank-borrowing. These myriad financing challenges facing the real sector calls for the assessment of finance-growth nexus in Nigeria. In this regard, this study examines the long run relationship between selected financial development indicators and real sector growth in Nigeria over the period 1970-2022. Based on the nature of the study, correlational research design was adopted while secondary data source was mainly employed. Johansen and Juselius' (1990) approach to cointegration and Vector's Error Correction Modelling (VECM) was used to determine the extent of the relationship between the variables. The findings of the study revealed that in the short-run, liquid liabilities of deposit money banks, trade openness and credit to the private sector exert statistically significant influence on the real sector of Nigerian Economy while in the long-run, liquid liabilities of deposit money banks, trade openness, credit to the private sector, interest rate spread and government expenditure exert statistically significant influence on the real sector of Nigerian Economy. Conclusively, the study affirmed that the Mckinnon and Shaw (1973) theory of Financial Liberalisation can explain the paucity of funding to the real sector of the Nigerian economy. The policy implications of the study are; financial reforms should focus providing low-cost credit and liberalising the interest rate. Also, government and deposit money banks should direct their on-lending activities and credit facilities towards encouraging and financing entrepreneurs to increase investment and in turn real sector growth.*

KEY WORDS: Financial Development, Deposit Money Bank, Financial Liberalization

INTRODUCTION

Generally, the economy of a nation is usually compartmentalized into four distinct but interrelated sectors. These are the real, external, fiscal or government and financial sectors. The Real sector is concerned with production, processing, fabricating and so on, and includes agriculture, manufacturing industry, building and construction and services. The sector is strategic because it produces and distributes tangible goods (as well as invigorates the service sector) required to satisfy aggregate demand in the economy (Central Bank of Nigeria, 2023). Its performance is therefore, a gauge and an indirect measure of the standard of living of the people. Also, its performance can be used to measure the effectiveness of macroeconomic policies. Government policies can only be adjudged successful if they impact positively on the production and distribution of goods and services which raise the welfare of the citizenry. In addition, a vibrant real sector, particularly the agricultural and manufacturing activities, create more linkages in the economy than any other sector (Oluitan, 2023) and, thus, reduces the pressures on the external sector. Finally, the relevance of the real sector is manifested in its capacity building role as well as in its high employment and income generating potentials.

Assessment of the National Accounts of Nigeria indicates that the real sector contributes over 60.0 per cent to the Gross Domestic Product (GDP) (Alashi, 2022). The capital intense nature of manufacturing and related activities like processing, agriculture among others has made financing needs of the real sector one of the major obstacles to its growth. Though capital and money markets exist to service their financing needs, the size of these markets are mostly inadequate to meet the financing needs of the real sector. Banks are major and preferred means of obtaining finances for the sector, banks' intermediation makes it easier to access surplus funds in the economy to enhance investment and facilitating the exchange of goods and services (Watanabe, 2015). In performing its functions, banks in turn promote their own performance and health (Adegbite, 2016). In other words, deposit money banks usually mobilize savings and extend loans and advances to their numerous customers bearing in mind, the three principles guiding their operations, which are profitability, liquidity and safety.

Despite the strategic importance of the real sector, and the size of the deposit money banks as reflected by its deposits and capital base that emerged after the consolidation and other reforms, the deposit money banks' impact on the real sector is not as anticipated. The development and growth of deposit money banks is not reflected in the flow of credit to the real economy, as the growth rate of credit fell during the periods 2006 and 2014 and while actual credit did not reflect the proportionate contribution of the sector to the GDP (Ajayi, 2023). Also, credit flow from the deposit money banks to the real economy has been grossly inadequate in addition to high interest rates, high cost of energy and stringent government policies. A developed financial sector should reflect the ease with which entrepreneurs with sound projects can obtain financial resources, and

adequate returns should be anticipated on investments. The system should also be able to gauge, subdivide, and spread difficult risks, letting them rest where they can best be borne and should be able to do all these at low cost (Alashi, 2022). The capital intensive nature of the real sector has imposed frequent funds requirements. The “Mega banks” that emerged after Nigerian Banking reform would suggest availability of credit/fund to the vital sector (Alashi, 2022). Though, funding enhances the sector’s growth, but the reality of the Nigerian context is that the real sector is bedeviled with scarcity of loanable funds for growth and expansion of the sector (Adewunmi, 2023). Therefore, the study aimed to examine the role of financial development of deposit money banks in relation to real sector of Nigerian Economy.

After this section, discussion of the concepts, review of related literatures and theoretical underpinning formed the basis for section two. Section three is the Methodology employed for the study, section four discussed the Findings, while the last section concludes and recommends.

LITERATURE REVIEW

Financial Development

Financial sector is the set of institutions, instruments, markets, as well as the legal and regulatory framework that permit transactions to be made by extending credit (Central Bank of Nigeria, 2023). Financial development can be seen as the policies, factors, and the institutions that lead to the efficient intermediation and effective financial markets. A strong financial system offers risk diversification and effective capital allocation. The greater the financial development, the higher would be the mobilization of savings and its allocation to high return projects (World Bank, 2016). Fundamentally, financial sector development is about overcoming “costs” incurred in the financial system. This process of reducing the costs of acquiring information, enforcing contracts, and making transactions resulted in the emergence of financial contracts, markets, and intermediaries (Alashi, 2022). Different types and combinations of information, enforcement, and transaction costs in conjunction with different legal, regulatory, and tax systems have motivated distinct financial contracts, markets, and intermediaries across countries and throughout history. It promotes economic growth through capital accumulation and technological progress by increasing the savings rate, mobilizing and pooling savings, producing information about investment, facilitating and encouraging the inflows of foreign capital, as well as optimizing the allocation of capital (World Bank, 2016).

Financial sector development goes beyond just having financial intermediaries and infrastructures in place. It entails having robust policies for regulation and supervision of all the important entities (World Bank, 2016). The global financial crisis underscored the disastrous consequences of weak financial sector policies. Which in turn, has illustrated the potentially disastrous consequences of weak financial sector policies for financial development and their impact on the economic

Publication of the European Centre for Research Training and Development -UK outcomes (World Bank, 2016). The crisis has challenged conventional thinking in financial sector policies and has led to much debate on how best to achieve sustainable development. A well-structured financial system is important to boost the economy, but the main question is how to measure financial development. In practice, however, it is difficult to measure financial development as it is a vast concept and has several dimensions, but it still has to be measured if it is to be scientific. World Bank(2016) Posits that Financial development can be measured by a number of factors including the depth, size, access, and soundness of financial system (World Bank, 2016). Alashi, (2022) Corroborated that it can be measured by examining the performance and activities of the financial markets, banks, bond markets and financial institutions (Alashi, 2016).

The existing literature for the measurement of financial development comprises two different groups. The first group of studies measure financial development as a result of the observed outcomes of financial development. These studies include size, access and depth of financial systems as a measure of financial development. The second group includes proxies of a country's legal, business, and political conditions as well as the stability of financial. This group actually measures financial development on the basis of the characteristics of its institutional business and political environment. This paper attempts to measure financial development on the basis of observed outcomes of financial development.

Financial Development and the Real Economy

Financial intermediation is the process through which institutions transfer financial resources from surplus units of the economy to deficit units. The ability to discharge this role effectively, depends on enhanced liquidity, variety of financial assets and efficiency in credit allocation (Adewunmi, 2016). Rajan and Zingales (2002) posit that a developed financial sector should reflect the ease with which entrepreneurs with sound projects can obtain financial resources, and the confidence with which investors anticipate adequate returns. The system should also be able to gauge, subdivide, and spread difficult risks, letting them rest where they can best be borne and should be able to do all these at low cost. Thus, improved savings, investment and high productivity will be ensured and hence economic growth.

Economists and policy makers seemed to have initially overlooked these potentials of financial development in influencing economic growth, until when Schumpeter (1952) observes that financial markets (banks in particular) play a significant role in the growth of the real economy by channelling funds from savers to borrowers in an efficient way to facilitate investment in physical capital, spur innovation and the 'creative destruction process'. He contends that entrepreneurs require credit in order to finance the adoption of new production techniques and banks are viewed as key agents in facilitating these financial intermediating activities and promoting economic development. Therefore, the creation of credit through the banking system was an essential source of entrepreneurs' capability to drive real growth by finding and employing new combinations of factor use (Allen & Ndikumana, 1998; Blum, Federmaier, Fink & Haiss, 2002).

The notable early works on finance and development along the Schumpeterian lines include Gurley and Shaw (1955) and Goldsmith (1969). They argue that development of a financial system is crucially important in stimulating economic growth and that under-developed financial systems retard economic growth. The policy implication of this viewpoint is that it is important to formulate policies aimed at expanding the financial system in order to foster growth. However, this view had little impact on development policy making in the early post-war decades, partly because it was not presented in a formal and logical manner, and somewhat because of the dominant influence of the Keynesian doctrine and its financial repression tendencies (Ang, 2015).

The works of McKinnon (1973) and Shaw (1973) marks the first formal argument for the role of financial development in economic growth, in separate works, both argue that economic growth is severely hindered in a repressed financial system by the low level of savings rather than by the lack of investment opportunities. Their central argument is that, interest rate ceiling, directed credit policies and high reserve requirement; lead to low savings, credit rationing and low investment. According to their models, financial saving responds positively to the real rate of interest on deposits as well as the real rate of growth in output, on the other hand, investment is negatively related to the effective real rate of interest on loans, but positively related to the growth rate of the economy (Blum, et al., 2002). This way, an increase in saving relative to the real economic activity leads to an increase in the level of financial intermediation and consequently leads to an increase in investment, thus any control of nominal interest rate is an attempt to slow capital accumulation because it leads to a reduction in the real rate of return on bank deposits which discourages saving (Ayadi, Adegbite & Ayadi, 2015).

Based on above, financial liberalization policy was suggested by McKinnon (1973) and Shaw (1973), in order to attain economic growth. Although, reproaches were levelled against financial liberalization especially in economies characterized by inflation and excessive fiscal deficits, many developing countries embraced it particularly after the international financial crisis of Latin America in the early 1980s. It is against this background that respective governments and monetary authorities of developing countries put in place various structures and pursued designated policies and programmes aimed at enhancing the efficiency and effectiveness with which the financial intermediaries, namely banks and other financial institutions, carry out their financial intermediation function; and to align same with the dictates of growth and development of their economies (Ezirim & Muoghalu, 2015).

In pursuit of the above policies and programmes, Nigeria implemented the Structural Adjustment Programme (SAP) in 1986, and the Central Bank of Nigeria (CBN) deregulated the financial sector, new banks proliferated, largely driven by attractive arbitrage opportunities in the foreign exchange market (Hesse, 2007). Moreover, recently the CBN executed a financial sector consolidation and recapitalization policy aimed at raising the capital base of financial institutions

Publication of the European Centre for Research Training and Development -UK for effective intermediation. However, relative to the prederegulated period, financial intermediation never took off and even declined in the 1980s and 1990s. Deposits in financial institutions and credit to the private sector, both relative to GDP decreased over the period 1986 to 1992. The increased number of banks and financial capital in the financial sector was thus channelled into arbitrage and rent-seeking activities rather than financial intermediation, for instance, at least half of the banking system's assets are tied up in government debt and only about half of the increase in deposits experienced in recent years has gone into private sector lending (King, 2003). Thus, Nigeria's banking sector is still characterized by a high degree of fragmentation and low levels of financial intermediation (Hesse, 2007).

Nzotta and Okereke, (2009) studied financial deepening and economic development in Nigeria. Using data covering the period between 1986 and 2007, the study found that financial deepening did not support economic growth in Nigeria. Osuji and Chigbu (2009) investigated the impact of financial development variables on economic growth in Nigeria, using time series data for the period 1960-2008. The research utilized co-integration analysis, causality test and error correction mechanism for analysis of the data; using variables such as money supply and credit to private sector and GDP. The results showed that money supply and credit to private sector positively impacted on economic growth in Nigeria and were as well co-integrated with GDP for the study period. The Granger test shows a bi-directional causality existing between GDP and all the explanatory variables. Odeniran (2010) researched on the relationship between the financial sector development and economic growth in Nigeria, using time series data for the period of 1960-2009. Using the Granger causality tests; the variables used were ratio of broad money stock to GDP, growth in net domestic credit to GDP, used to proxy financial development. The results showed a bi-directional causality between financial development and economic growth. Samson and Elias (2010) studied financial sector development and economic growth in Nigeria. Their study covered the period between 1960 and 2009. They tested the competing finance-growth nexus hypothesis using Granger causality test in a VAR framework. They found that various measures of financial development granger cause output even at 1 percent level of significance with the exception of ratio of broad money to GDP. They also found that net domestic credit is equally driven by growth in output, indicating unidirectional causality. Shittu (2012) investigated the impact of financial intermediation on economic growth in Nigeria using co-integration tests and error correction techniques. The results show that financial intermediation has a significant impact on economic growth. Hashim and Mamman (2014) using multiple regression (total assets and the growth of the real sector (proxy by the Gross Domestic Product [GDP]), broad money supply [M2] and CPS) and based on the coefficient of determination (R square), the study revealed a 96.1% variation between the CPS and real sector growth in Nigeria. The study concludes that there is a statistically significant impact of credit to private sector on the real sector of Nigeria.

Moreover, Emecheta and Ibe (2015) investigates the impact of bank credit on economic growth in Nigeria. They applied the reduced form of vector autoregressive (VAR) technique using time series data from 1960 to 2011. Current gross domestic product (GDP) is the dependent variable and proxy for economic growth, while bank credit to the private sector (CPS) to GDP ratio and broad money (M2) to GDP ratio were proxies for financial indicator and financial depth respectively. A major finding of the study is that there is a significant positive relationship between bank credit to the private sector, broad money and economic growth. Alashi (2016) examined the implications of financial development on economic growth in Nigeria, using time series data for the period of 1990-2013. The study applied the co-integration analysis with its error correction mechanism; the variables included Real Gross Domestic Product, Financial deepening (ratio of money supply to GDP, liquidity ratio, interest rate and the credit to private sector). The findings show that financial sector development has not significantly improved private sector development, while the capital base and liquidity ratio has improved the level of economic growth in Nigeria while Adewunmi (2016) investigated the long-run and short-run relationship between financial structure and economic growth using time series data. The study applied the error correction model was used to estimate the short-run dynamic coefficients. The results revealed that financial market structure has a negative and significant effect on the economic growth of Nigeria.

This study aims at filling this gap by examining the financial development and economic growth relationship through deposit money banks and real sector of Nigerian economy using four selected financial indicators (Liquid liabilities (RLG), Private credit (RCG), Interest Rate Spread (IRS), Level of investment (GFCF)) and two additional control variables (Government Expenditure (TGE) as an indicator of macroeconomic stability and Trade Openness (TTR) to represent the accessibility of the economy) to control the possible effects of other growth determining factors, which no past study has been able to capture them together in a single model. Also using a different econometric tool, the Johansen and Juselius' (1990) co-integration and Vector Error Correction Model (VECM) approach as against the correlation coefficient and regression analysis mostly used in the literature.

Theoretical Framework

There is vast literature on finance economic relationship, these literatures follow many strands of arguments with varying and often contradicting views. The possible link between the financial sector and the real sector received less attention from economists until the early twentieth century when the German economist Schumpeter (1952) observes that, the financial market, especially the banks play a significant role in the growth of the real economy. He argues that, banks mobilise and channel funds efficiently which, provide the necessary credit to entrepreneurs to finance investment in physical capital, adopt new production techniques thereby spurring technological innovation and setting stage for the creative destruction process, all these sum up to economic

Publication of the European Centre for Research Training and Development -UK growth (Allen & Ndikumana, 1998; King & Levine, 1993). This view implies that financial development causes economic growth, thus, Schumpeter was the pioneer of the supply leading hypothesis of the finance-growth relationship. However, his analysis lacks any analytical basis.

Supply-Leading Hypothesis

The supply-leading hypothesis was logically argued out by McKinnon (1973) and Shaw (1973) in their financial repression theory. They argue that economic growth is hindered in a repressed financial system which is, characterised by interest rate ceiling, directed credit policies and high reserve requirement. According to the duo, this phenomenon leads to low level of saving, credit rationing and low investment. Therefore, they proposed financial liberalisation which will allow the real rate of interest to rise thereby raising the financial savings. The crux of the matter is this, an increase in saving relative to real economic activity leads to an increase in financial intermediation which in turn leads to an increase in productive investment and economic growth (Ayadi, Adegbite & Ayadi, 2015). The policy implication of this viewpoint is that formulating policies that liberalise the financial system and enhance financial intermediation will result in high economic growth. However, the failure to record any meaningful success by most of developing countries who implemented these policies raises many questions on the viability of this hypothesis. Nigeria being the focus of this study is not an exception to this, this is because the financial sector was liberalised through the adjustment programme implemented in 1986, yet the financial sector failed in its primary function of financial intermediation and promoting the growth of the real economy. Confirming this, Hesse (2007) reports that relative to the pre-deregulated period, financial intermediation never took off and even declined in the 1980s and 1990s and that Nigeria's financial sector was still characterized by a high degree of fragmentation and low levels of financial intermediation up to 2004.

Demand-Following Hypothesis

The above realities prompted some economists to come up with the demand-following hypothesis pioneered by Robinson (1952) who asserts that where finance follows growth leads. This hypothesis regards financial development as endogenously determined by the real economy or its needs, meaning that as the economy grows, the demand for financial services and assets emanate. In this regard, all a country needs to do is to promote economic growth and financial development will automatically follow. Nevertheless, this view is regarded as a temporary situation that may persist only under special circumstances, such as transition to a market economy (Blum, Federmaier, Fink & Haiss, 2002), thus, it cannot be generalised to highly regulated economies.

Similarly, using endogenous growth model, Pagano (1993), reveals that financial intermediation can affect economic growth positively by acting on the saving rate, on the fraction of saving channeled to investment, or on the social marginal productivity of investment. Nonetheless, he outlines some exceptions in which improvements in risk-sharing and in the household credit market may decrease the saving rate and hence the growth rate, therefore, financial development

Publication of the European Centre for Research Training and Development -UK is too generic a term; to gauge the impact on growth, one must specify the particular financial market concerned. Going by this, the focus of this study on banking sector development in Nigeria is consistent with agreed norm and logical. However, the studies so far ascribe no role to government in the finance growth relationship; even though government's fiscal and monetary policies can directly or indirectly affect the financial sector.

METHODOLOGY

The study adopts correlational research design which involves the use of inferential statistics considering the objectives of the study, hypotheses and the data used. This method is considered appropriate because it was used to establish whether, and to what degree a relationship exist between two or more quantifiable variables (Gay, 2015). The dependent variable for the study was the measure of the real sector growth, that is, the real GDP. The independent variables of this study are four selected financial development indicators in the banking sector. They are as follows: Liquid liabilities, Private credit, Interest Rate Spread, and two additional control variables namely Government Expenditure and Trade openness.

The population of this study comprises the activity sectors of the Nigerian Real Sector namely;, Agriculture, Industry, Building and Construction, Wholesale and Retail Trade, and Services and all the deposit money banks (DMBs) listed and approved by the Central Bank as obtained from the annual report of the Central Bank of Nigeria from 1970 – 2022. Based on the nature and objectives of the study, all the population was used as the sample size of the study.

The study is basically secondary in nature. The study used annual time series data covering the period from 1970 to 2022, which is obtained from the statistical bulletin of the Central Bank of Nigeria. To examine the dynamic relation between the variables of this study a co-integration vector-error correction model (VECM) was used; these techniques was used to establish long-run relationships between variables and an equilibrium relationship is said to exist when the variables in the model are co-integrated.

Model Specification

Accordingly, the VECM for this study is specified below:

$$\begin{aligned} \Delta \ln(GDP)_t &= \beta_0 + \sum_{i=1}^p \beta_1 \Delta \ln(GDP)_{t-i} + \sum_{i=1}^p \beta_2 \Delta \ln(RCG)_{t-i} \\ &+ \sum_{i=1}^p \beta_3 \Delta \ln(RLG)_{t-i} + \sum_{i=1}^p \beta_4 \Delta \ln(TGE)_{t-i} + \sum_{i=1}^p \beta_6 \Delta \ln(TTR)_{t-i} \\ &+ \sum_{i=1}^p \beta_6 \Delta(IRS)_{t-i} + \delta ECT + \eta_t \end{aligned}$$

Where Δ is the change in the natural logarithm of the variable or the difference operator, p is the optimal lag length, \ln is natural logarithm sign. **GDP**= Real GDP, **RCG**= ratio of private credit to GDP, **RLG**= ratio of banking sector liability to GDP, **TGE**= total government expenditure, and **TTR**= openness or trade. **IRS** is the interest rate spread which is not logged because it is a rate, **ECT** is the error correction term and δ is its coefficient and finally η is the error term of the model. Since VECM is based on VAR, similar models were also specified for all the variables in the study. VECM is employed for this study because it provides both short-run and long-run relationship between the dependent and independent variables; it creates stationarity of a variable even when they are non-stationary through a combination of the stochastic equations under co-integration (Adewunmi, 2023).

RESULTS

Stationarity Test of Variables Data

The augmented Dicky-Fuller (ADF) and the Phillips and Perron (PP) tests for unit root and stationarity on all the variables at levels and first difference is presented in Table 1 (see appendix). It shows that all the variables have a unit root; implying they are not stationary at their levels meaning they have to undergo differencing to be stationary before they can be used for further analysis. However, the tests show that the first difference of the variables has no unit root and the null hypothesis was rejected at 5% level of significance, indicating that all the variables are integrated of the same order, that is I(1).

Johansen's Cointegration Test**Table 2: Johansen's Cointegration Tests Result**

Hypothesized No. of CE(s)	Trace Statistic	5%Critical Values	Max-Eigen Statistic	5%Critical Values
None * ($r = 0$)	126.0735*	125.6154	48.02579*	46.23142
At most 1 ($r \leq 1$)	78.04776	95.75366	26.16539	40.07757
At most 2 ($r \leq 2$)	51.88237	69.81889	20.74444	33.87687
At most 3 ($r \leq 3$)	31.13792	47.85613	13.56351	27.58434
At most 4 ($r \leq 4$)	17.57442	29.79707	10.86512	21.13162
At most 5 ($r \leq 5$)	6.709291	15.49471	6.623725	14.26460

Max-Eigen and Trace Statistic tests indicate 1 cointegrating equation at 5% level. * denotes rejection of the hypothesis at the 5% level of significance. Dependent Variable: LNGDPDate: 05/1/16Time: 20:37 Sample: 1970 2023. Source: Researcher's Computation, 2023. The Johansen's cointegration test results are given in Table 2; The Trace Test indicates the existence of one cointegrating equation at the 5% significance level. This cointegrating equation means that one linear combination exists between the variables that force these indices to have a relationship over the entire time period. The Maximum Eigenvalue Test also shows one cointegrating equations at the 5% level confirming the Trace Test. Therefore, the trace test and the maxEigen test reveal that there is one cointegration equation at 5% level of significance, or $r = 1$; thus the study concludes that the variables in the model have a long-run equilibrium relationship.

Vector Error Correction Model

If co-integration exists, a longrun equilibrium relationship is said to exist between the Variables, VECM is applied in order to examine the short run properties and the adjustment to the longrun of the co-integrated series. In case of no co-integration VECM is no longer required. Table 3 summarizes the VECM results for the MGDP model.

Table 3: Results of the VECM for the MGDG Model

Dependent Variables	D(LGDP)	D(LRCG)	D(LRLG)	D(LTGE)	D(LTTR)	D(IRS)
Independent Variables	Coefficients (t-statistics in parenthesis)					
<i>ECTt-1</i>	-0.010211	-0.015978	-0.009544	0.002587	0.008688	-0.139587
	[-1.95007]	[-1.88925]	[-1.11893]	[0.42826]	[1.23429]	[-1.98956]
D(LGDP(-1))	0.712117	-0.248238	-0.503025	-0.731143	-0.357746	-4.295853
	[1.01478]	[-0.34165]	[-0.68645]	[-1.40863]	[-0.59158]	[-0.71269]
D(LRCG(-1))	-0.689037	0.839380	0.379128	-0.463276	-0.771351	3.150481
	[-1.46907]	[1.72844]	[0.77408]	[-1.33541]	[-1.90841]	[0.78200]
D(LRLG(-1))	1.381248	-1.070239	-0.843328	-0.102904	0.660332	-7.207765
	[1.93307]	[-1.44661]	[-1.13024]	[-0.19471]	[1.07241]	[-1.17438]
D(LTGE(-1))	-0.249292	0.379985	0.430175	-0.108736	0.408862	1.538168
	[-0.93029]	[1.36952]	[1.53727]	[-0.54860]	[1.77054]	[0.66826]
D(LTTR(-1))	0.242971	-0.302187	-0.280474	0.043238	-0.210905	-4.005606
	[1.14864]	[-1.37976]	[-1.26976]	[0.27635]	[-1.15701]	[-2.20461]
D(IRS(-1))	-0.018185	0.032262	0.007415	-0.025760	-0.002517	-0.306556
	[-0.83456]	[1.43001]	[0.32586]	[-1.59833]	[-0.13406]	[-1.63792]
Constant	-0.009019	0.085988	0.156574	0.390953	0.200126	2.161990
	[-0.05096]	[0.46927]	[0.84724]	[2.98667]	[1.31224]	[1.42225]
R-squared	0.645686	0.197087	0.104594	0.194378	0.396303	0.414780
F-statistic	0.639489	0.920494	0.438046	0.904789	2.461729	2.657847

Source: Researcher's Computation, 2023

The presence of co-integration between variables suggests a long term relationship among the variables under consideration. Since VECM is based on VAR, similar models were also specified

Publication of the European Centre for Research Training and Development -UK for all the variables in the study (that is, a model is made on each variable as a dependent variable). But for the purpose of this study, the model for the GDP as the dependent variable was interpreted and discussed below. The results in table 3 indicates that the growth in the real sector of the Nigerian economy is predicated by the variables GDP, RCG, RLG, TGE, IRS and TTR with a coefficient of determination of 64.5% ($R^2 = 0.645686$). Thus, implying that these variables significantly account for 64.5% variation in real sector growth in Nigeria for the period under study (1970-2016). The remaining 44.5% is as a result of other factors outside the model which were depicted as U_t (error term).

The LRLG, LRCG, and LTTR are statistically significant and LTGE and IRS are statistically insignificant to the GDP in the short run according to the coefficients and t values shown.

The coefficients are interpreted as follows:

- i. The private credit LRCG has a negative coefficient of -0.689037 and its statistically insignificant that is, a 1% increase in the LRCG leads to a 0.69% decrease in the LGDP in the short run that is, it adjusts its disequilibrium at the speed of 68.9% in between 1 year.
- ii. The total Government expenditure LTGE has a coefficient of -0.249292 and its statistically insignificant, that is, a 1% increase in LTGE leads to 0.25% decrease in the LGDP in the short run that is, it adjusts its disequilibrium at the speed of 24.9% in between 1 year.
- iii. The interest rate spread IRS has a negative coefficient of -0.018185 and its statistically insignificant, that is, a 1% increase in IRS leads to 0.02% decrease in the LGDP in the short run that is, it adjusts its disequilibrium at the speed of 1.8% in between 1 year.

Moreover, The LRLG and LTTR have positive relationship. The appreciations of the GDP are related to increasing LRLG, thus, the estimated model was able to produce a consistent result. Thus, 1% appreciation of the LRLG is likely to increase GDP by 1.38% and this estimate was significant and the appreciations of the GDP are also related to increasing LTTR, thus, 1% appreciation of the LTTR is likely to increase GDP by 0.24% and both has a statistically significant t values which indicates significance at the 10%.

The ECT coefficients indicate the adjustment to the long run as well as long run causality. The a priori expectation is that they are supposed to have negative and significant coefficients. However, the result indicates that the GDP, RCG and IRS models have negative and significant coefficients; indicating that the adjustment to the long run is taking place in these models. It was however observed that the coefficients were very tiny and negative for all the results except models TGE and TTR which were positive, though still tiny. This runs contrary to the findings of Crowley (2008) because the coefficient for his study was large in his results, though not significant.

The coefficients are interpreted as follows:

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- i. The GDP model has a negative ECT coefficient of -0.010211 and its statistically significant as indicated by the t value, that is, the estimated coefficient indicates that about 1.0 per cent of the disequilibrium is corrected for 1 year, indicating that the adjustment is taking place in these model.
- ii. The RCG Model has a negative ECT coefficient of -0.015978 and its statistically significant that is, about 1.6 per cent of the disequilibrium is corrected for 1 year, indicating that the adjustment is taking place in these model.
- iii. The interest rate spread IRS Model has a negative coefficient of -0.018185 and its statistically significant, that is, about 1.8 per cent of the disequilibrium is corrected between 1 year, and adjustment to the long run is taking place in these model.

This is contrary to the RLG models which have correct sign but are statistically not significant which implies that 0.9% of the disequilibrium is corrected for 1year respectively. The TTR and TGE models have positive signs but significant which is contrary to the apriori expectation; this means a shock to these models in the short run is not adjusted towards the long run equilibrium.

Test of Longrun Impact of Financial Development on Real Sector Growth as proxied by GDP

The hypotheses raised in the study were to examine the impact of financial development on real sector growth of Nigerian economy. The outcome of the hypotheses on the longrun relationship between GDP and the financial development indicators – liquid liabilities RLG, private credit RCG, interest rate spread IRS, and the control variables Government expenditure TGE and trade openness TTR are detailed below: The normalized cointegrating equation for the period 1970-2016 is presented in table 4.4 below.

Table 4: The Normalized Cointegrating Equation

Variables	LGDP	LRCG	LRLG	LTGE	LTTR	IRS
coefficients	1.00000	-0.55130	0.56209	-0.10479	0.25446	-0.30298
t- statistics		(6.764)	(6.644)	(2.360)	(5.247)	(6.313)

Source: Researchers Computation, 2023

Since the existence of one cointegrating equation was identified, a stable equilibrium relationship is present. The results are normalized on the LGDP. The results indicate that the RCG, TGE and IRS have the expected signs and are statistically significant according to the coefficients and t values shown.

DISCUSSION

The coefficients are interpreted as follows:

The private credit RCG has a negative coefficient of -0.55130 and its statistically significant that is, a 1% increase in the RCG leads to a 0.5513% increase in the LGDP in the long run. This finding agrees with the hypothesis of German economist Schumpeter ([1911] 1952) and the findings of Allen and Ndikumana (1998) and King and Levine (1993). They argue that, banks mobilise and channel funds efficiently which, provide the necessary credit to entrepreneurs to finance investment in physical capital, adopt new production techniques thereby spurring economic growth. Similarly, Beck, Cull and Jerome (2005) in their study also observe private credit as a good predictor of economic growth while the recent study by Crowley (2008) also support this position. The research work by Hashim and Mamman (2014) and Emecheta and Ibe (2015) also conclude that there is a statistically significant impact of credit to private sector on the real sector of Nigeria.

The total Government expenditure TGE has a coefficient of -0.10479 and its statistically significant, that is, a 1% increase in TGE leads to 0.1048% increase in the LGDP in the long run. This runs contrary to the findings of Beck, Cull and Jerome (2005); Levine (2002); Odedokun (1998) and King and Levine (1993) who empirically prove that credit to the public sector is weak in generating growth within the economy because they are prone to waste and politically motivated programmes which may not deliver the best result to the populace. Similarly, the result also disagrees with the observation of Allen and Ndikumana (1998) who observe that Government expenditure can reduce economic growth by the crowding out effect on private investment and the inflationary pressures it can lead to due to the need for monetary financing of fiscal deficits.

The interest rate spread IRS has a negative coefficient of -0.30298 and its statistically significant, that is, a 1% increase in IRS leads to 0.3030% increase in the LGDP in the long run. This finding agrees with McKinnon and Shaw (1973) and Ayadi, Adegbite and Ayadi (2015), they propose a financial liberalisation which will allow the real rate of interest to rise thereby raising the financial savings and increase in saving relative to real economic activity leads to an increase in financial intermediation which in turn leads to an increase in productive investment and economic growth. The policy implication of this viewpoint is that formulating policies that liberalise the interest rate and enhance financial intermediation will result in high economic growth. However, in reality, the failure to record any meaningful success by most of developing countries who implemented these policies raises many questions on the viability of this assertion.

Moreover, The LRLG and LTTR have positive signs and statistically significant negative relationship with the GDP. The depreciations of the GDP are related to increasing RLG, thus, the

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estimated model was able to produce a consistent result. Thus, 1% appreciation of the RLG is likely to reduce the GDP by 0.5620%. This finding is contrary to the observations of Hashim and Mamman (2014) and Emecheta and Ibe (2015), the major finding of their studies is that there is a significant positive relationship between liquid liabilities and economic growth. Moreover, it agrees with Aziakpono (2003) that asserts that liquid liabilities are the sum of demand deposit, savings and time deposits; it provides an alternative to the broad money ratio especially when dealing with developing countries. This is because in developing countries, a large component of the broad money stock is currency held outside the banking sector. Therefore, a rising ratio of broad money to GDP may reflect the more extensive use of currency than an increase in the volume of bank deposits and reduces the availability of bank credit for intermediation as such reduces economic growth.

The reduction in GDP are also related to increasing TTR, thus, 1% appreciation of the TTR is likely to reduce GDP by 0.2545% and both has a statistically significant t values. This observation contradicts the result of Gregorio and Guidotti (1995), Adelakun (2010) and Adegbaaju and Olokoyo (2015), which shows that Trade openness as proxied by foreign capital flow is highly significant in enhancing economic growth within the economy. The findings show that a one percent increases in real total capital flow will cause about three basis point increase in real private sector credit and economic growth. In essence, the effect of real total capital flow is significant to the growth of the economy. This observation is in agreement with the findings of Crowley (2008). According to his study, foreign capital flow was not significant in the study, thus concluded that foreign capital was not significant for financial development in the countries that were studied. However, the result contradicts the findings of Arvai (2005) and Duenwald et al (2005). The two studies observed that foreign inflows are important in driving economic growth. Based on the findings, table 5 below summarizes the major findings of the study.

Table 5: Summary of Major findings

S/No.	Null Hypothesis	Decision (Shortrun)	Decision (Longrun)
1	Liquid liabilities of deposit money banks has no significant impact on real sector of Nigerian Economy	<i>Rejected</i>	<i>Rejected</i>
2	Private credit of deposit money banks has no significant impact on real sector of Nigerian Economy	<i>Rejected</i>	<i>Rejected</i>
3	Interest rate spread of deposit money banks has no significant impact on real sector of Nigerian Economy	<i>Accepted</i>	<i>Rejected</i>

Source: Researcher, 2023

CONCLUSION

The banking sector in any economy is strategically important to the growth and development of all other sectors in that economy hence, the continuous desire for the banking sector to remain healthy, sound and stable through satisfactory performance is important for the growth of the real sector. Within the period under review in the long-run, ratio of liquid liabilities to GDP and trade openness has a statistically significant and negative influence on real sector growth and there is a statistically significant positive relationship between real sector growth as represented by GDP and ratio of credit to private sector to GDP, total government expenditure and interest rate spread. This has confirmed the assertion by McKinnon and Shaw (1973) that financial liberalisation which will allow the real rate of interest to rise thereby raising the financial savings and increase in saving and credit availability relative to real economic activity and leads to an increase in financial intermediation which in turn leads to an increase in productive investment and economic growth.

Recommendations

Based on the summary of findings and conclusion and the following recommendations are put forward for implementation for further enhancement of the performance of Nigerian banks and also to ensure growth and development in the nation's real economy:

- i. Since banks' operations are to some extent function of a regulatory body, the CBN should always ensure that the banks' maintain high liquidity because entrepreneurs that do most investments prefer using borrowed money.
- ii. CBN should put in place an effective mechanism through the banks' that will ensure deposit money banks direct their on-lending activities and credit facilities towards encouraging entrepreneurs which prove to increase investment and in turn real sector growth.
- iii. Financial reforms and policies should focus on liberalising the economy and enhance financial intermediation that will encourage openness of trade so as to attract investors from outside the economy. Also Government should direct their borrowing towards encouraging and financing entrepreneurship development which prove to increase investment and in turn real sector growth and the banks should effectively utilize government policies to enhance their financial intermediary role to the real sector of the economy and Management of banks should be encouraged by monetary authorities to adopt entrepreneur friendly policies in granting credit to ensure speedy growth of the Nigerian economy.

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