

EFFECT OF FINANCIAL SECTOR DEVELOPMENT ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This study looks at how Nigeria's economic growth is impacted by the development of the banking industry. Deposit money bank loans to the agricultural sector, banking system liquidity, and real gross domestic product in Nigeria are the variables being studied. The data for these variables was taken from the Central Bank of Nigeria's Statistics Bulletin 2022, which covered the 42-year period from 1981 to 2022. Robust ordinary least square regression analysis was used to test hypotheses while descriptive statistics, Pearson correlation, skewness/kurtosis normality test, variance inflation factor (VIF), and heteroscedasticity test were used to examine the data using Stata 15. The findings demonstrated that, during the period under consideration, real gross domestic product in Nigeria was significantly positively impacted (0.000) by deposit money bank loans to the agricultural sector. The results also show that banking system liquidity has an insignificant negative effect (0.815) on real gross domestic product in Nigeria. The study recommends among others, that the Nigerian government should collaborate with regulatory bodies and financial institutions to create and implement policies that encourage and facilitate lending to the agriculture sector. The report also suggests that the Nigerian Central Bank use efficient monetary policy instruments to oversee liquidity levels in the banking system.

Keywords: *Banking System Liquidity, Deposit Money Bank Loan to Agriculture, Real Gross Domestic Product.*

INTRODUCTION

Financial development entails an expansion in both the quantity and diversity of financial institutions, together with a notable rise in the percentage of currency as well as the full range of financial assets in relation to GDP and material wealth. In essence, the way the financial system has developed historically is reflected in the way it interacts with the real economy. Whether analyzed in isolation or as an integral component of the economy, financial development offers significant benefits (Taiwo, 2021). Any global economy's financial sector is essential to advancing economic growth and advancement. The way this sector develops affects how well and efficiently it performs its main duty of moving money from the economy's surplus to its deficit sectors.

Financial Sector Development (FSD) extends beyond the mere establishment of financial intermediaries and infrastructure; it encompasses the formulation of robust policies to regulate and supervise financial instruments, markets, and intermediaries (Ang, 2017). The primary goal of an effective financial system is to channel funds from surplus to deficit units, enabling funding for the most promising firms and investment projects across industries. However, the practical implementation often diverges from this ideal, with large enterprises easily securing funding while small and medium-sized businesses (SMEs) must resort to informal finance sources. The prevailing perspective on FSD argues that it improves access to financial instruments and institutions, thereby reducing transaction costs. Consequently, this channeling of funds towards proficient economic entities capable of deploying them in both human and physical capital investments serve to catalyze economic growth.

A positive shift in the output of products and services over a given period of time is referred to as economic growth. Technological developments and advantageous outside circumstances frequently spur this evolution (King & Levine, 1993). In comparison to other eras, it denotes a rise in a country's ability to generate commodities and services. Both nominal and real terms—which account for the effects of inflation—can be used to quantify economic growth. Changes in the gross domestic product (GDP), a measure of a nation's total economic production in the year before, are used to estimate economic growth. This computation includes all products and services generated domestically, whether intended for domestic consumption or international trade. Notably, it focuses exclusively on the final stages of production (Aliero, 2013).

Traditionally, agriculture has played a pivotal role in Nigeria's economic landscape, constituting a significant proportion of the Gross Domestic Product (GDP) and serving as a primary source of employment, especially in rural regions. The facilitation of increased access to financial resources, such as bank loans, empowers farmers to invest in their agricultural ventures, embrace advanced technologies, and elevate overall productivity. This, in turn, has the potential to yield higher agricultural outputs, improved crop yields, and heightened income levels for farmers. Robust financial support also underpins the development of agricultural value chains, encompassing various stages from production to processing and marketing. A well-optimized value chain not only boosts the efficiency of the agricultural sector but also helps encourage more general economic growth.

In Nigerian context, significance of the relationship between liquidity of the banking system and economic growth has been duly acknowledged. The presence of ample liquidity in the banking system is a fundamental prerequisite for ensuring the seamless operation of financial intermediation, a critical component for sustained economic activity. With adequate liquidity, banks are better equipped to extend loans and credit to both businesses and individuals, thereby fostering increased investment, consumption, and overall economic expansion.

While prior research has delved into the connection between financial development and economic growth, there is a pressing requirement for updated and context-specific investigations, particularly considering the distinctive economic, political, and social characteristics of Nigeria. The advent of methodological advancements and increased access to new data sources offers an opportunity for more sophisticated analyses, capable of producing more precise and nuanced results. Moreover, the expanding theoretical literature in these domains has seen a rise in empirical testing and validation, yet the majority of such studies focus on advanced economies, with only limited attention given to emerging and developing nations like Nigeria. Evidently, there are noticeable gaps in scope, methodology, and conclusions in numerous papers that were reviewed. This emphasizes how important it is that the current research project fill up these gaps and add to the corpus of information already in existence.

The agricultural industry is grappling with significant challenges, including restricted access to financial resources, outdated farming methods, and insufficient infrastructure. Farmers frequently struggle to get finance at reasonable rates, which makes it difficult for them to invest in contemporary farming practices, acquire high-quality seeds, fertilizers, and equipment, and manage risks associated with agriculture. This limitation acts as a constraint on their productivity, ultimately impeding the overall growth of the agricultural sector. On a related note, it is crucial to acknowledge that while liquidity is essential, an excess of it without proper risk management can lead to financial instability. Overly

generous lending and credit expansion can lead to the buildup of non-performing loans, which could endanger the banking system's stability and, as a result, impacting economic growth negatively.

The financial industry is essential to an economy, comprising a complex network of interconnected institutions, market tools, and activities that collectively provide financial services. This sector is closely intertwined with the tangible elements of the economy. In Nigeria, significant reform efforts and numerous challenges have marked the evolution of the financial sector (Adelagan, 2005). It is evident that the performance of financial institutions in Nigeria has fallen short of expectations, failing to effectively attract foreign investments and efficiently manage credit allocation, borrower oversight, and regulatory supervision. Additionally, Adeoye (2007) notes that the pricing strategies adopted by these institutions for their products and services inadequately reflect the perceived overall advantages and risks associated with the respective institutions.

The financial sector in Nigeria has faced multiple rounds of reforms and challenges (Adelagan, 2005). Financial institutions in the country appeared to neglect their expected role of attracting foreign capital and effectively managing credit allocation, monitoring, and supervision of borrowers. Additionally, they failed to appropriately price their products and services to reflect the perceived net benefits and risks to the institution, as noted by Adeoye (2007). The underwhelming performance of banks in stimulating the economy laid the groundwork for the early 1990s widespread banking crisis. According to Chete and Adeoye (2005), there is a contention that macroeconomic performance indicators frequently worsen before to a financial crisis, signifying a lack of consistency in economic trends. The elements that led to the banks' financial collapse, which in turn affected economic expansion, included insider trading, poor management, and outright fraud.

The ailing banks have received financial support, contributing to their increased managerial and technical inefficiency when compared to healthier banks. This situation has become a fertile ground for exacerbating financial issues within the banking sector, further hindering its ability to mobilize and allocate financial resources for the economic growth of the country (Fapetu & Obalade, 2015). Currently, the Nigerian economy urgently requires policy measures aimed at boosting per capita income growth to address the rising concerns of unemployment and widespread poverty among its citizens. Consequently, this study aims to examine the impact of financial sector development on the growth of the Nigerian economy.

The empirical works have also demonstrated that, with the exception of Chukwu et al.'s (2023) work, which used data up to 2021, some of the recent studies on the development of the financial sector and economic growth in Nigeria and other countries were not current in the data used for the analysis to reflect the current economic realities, all of the studies ended in 2020 and below. Additionally, these research were carried out in Nigeria. however, none of the study were able to combine these variables like deposit money bank loan to agriculture (DMBLA), banking system liquidity (BSL) on economic growth in one single model. The gaps in the literature that have been found demand more research in this field, which is why this study is necessary to update the data until 2022, add to the body of knowledge in this field in Nigeria, and examine the impact of financial sector development on economic growth in Nigeria.

The primary objective of the study is to examine the effect of financial sector development on economic growth in Nigeria. The specific objectives are to: (i). evaluate the effect of deposit money banks loan to agriculture on economic growth in Nigeria. (ii) Determine the effect of banking system liquidity on

economic growth in Nigeria. In line with the specific objectives of the study, the following null hypotheses are formulated:

Ho1: Deposit money banks loan to agriculture has no significant effect on economic growth in Nigeria.

Ho2: Banking system liquidity has no significant effect on economic growth in Nigeria.

REVIEW OF THE RELATED LITERATURE

Financial Sector Development

The finance industry is very important in any economy by serving as an intermediary that collects excess funds from households, savers, and various sources, and channels these funds towards productive activities in the real economy. It encompasses all the institutions that facilitate these processes within an economy, including central banks, as exemplified by the CBN in 2017. Financial Sector Development (FSD) can be succinctly defined as the improvement of the financial system to address market imperfections. FSD becomes apparent within an economy when markets, intermediaries, and financial instruments collaborate to mitigate adverse impact of imperfect information, limited enforcement mechanisms, and transactional expenses (Čihák et al., 2013).

Limiting the definition of Financial System Development (FSD) exclusively to its capacity to address market imperfections is overly restrictive and does not encompass the full range of functions that the financial system performs for the broader economy. Taking a more comprehensive perspective, as articulated by the Financial Development Index (2012), financial development involves a broader array of elements. It involves the complex interactions between different institutions, regulations, and forces that work together to provide dynamic markets and effective financial intermediation.

Deposit Money Bank Loan to Agricultural Sector

According to Ebele and Irember (2016), bank credit is the distribution of money to various economic sectors on predetermined terms, which may include interest-bearing repayment. Deposit-taking banks are essential to the prosperity of a country by ensuring a consistent flow of funds to sectors facing deficits and facilitating the movement of capital among various economic entities. This movement, known as financial intermediation, involves transferring funds from surplus units to those in need (Ufot, 2004). Agrarian credit, as characterized by Ayeomoni and Aladejana (2016), is a financial mechanism that spans all stages of agricultural activities, contributing to the expansion and improvement of productivity and operational efficiency. Anthony et al. (2015) identified agrarian credit as one of the financial tools used to support agricultural transactions, with customized approaches to meet the unique financial needs of farmers based on planting, harvesting, and marketing timelines.

Banking System Liquidity

Liquidity within the banking system denotes the capacity of banks and financial institutions to promptly fulfill their short-term financial obligations without incurring substantial losses. It signifies the presence of cash and easily convertible liquid assets that can be utilized to cover customer withdrawals, settle interbank transactions, and meet various payment commitments. Ensuring sufficient liquidity is vital for the stability and proper functioning of the banking system, as it enables banks to withstand unforeseen financial challenges, safeguard depositors' funds, and uphold confidence in financial markets. Central bank liquidity provision refers to the pivotal role played by a nation's central bank in supplying liquidity to the banking system when necessary. Central banks function as lenders of last resort, extending short-term loans or emergency funds to financially sound yet temporarily illiquid financial institutions. The primary objective of central banks in providing liquidity support is to avert financial panics, uphold stability in the banking sector, and foster confidence in the overall financial system.

Economic Growth

The capacity to meet the demand for goods and services is continuously improved through economic growth, which is attained by increasing production scale and improving productivity through innovations in items and processes. Usually, this growth is expressed as the actual Gross Domestic Product (GDP) yearly percentage rise over a given period of time. In essence, economic growth is a measure of an economy's capacity to boost output while utilizing its available resources, such as capital and labor. Aliero (2013) emphasizes this viewpoint. The Gross National Product (GNP) which measures the total amount of goods and services generated in an economy, is influenced by the actions of economic participants. GNP is widely used as the standard measure for evaluating a nation's level of economic growth. It follows logically that to promote growth, a country must allocate resources to strengthen productive capability. The quantification of economic growth is achieved through variations in the GDP, a metric that encompasses a nation's total economic output over the past year. This metric includes all items produced for sale, both domestically and internationally, focusing on the final outputs (Aliero, 2013).

Theories Underpinning the Study

Financial Intermediation Theory

The financial intermediation theory was postulated by two prominent economists, James Tobin and Franco Modigliani, in the 1950s and 1960s. They both made significant contributions to the theory, which focuses on the role of financial intermediaries in the allocation of savings to productive investments in an economy. Financial intermediation theory is an essential concept in economics and finance that seeks to explain the role of financial intermediaries in the financial system. The theory is built on several assumptions that help to elucidate the functions and significance of intermediaries in mobilizing and allocating funds between surplus and deficit units.

The theory of financial intermediation emphasizes the crucial role played by effective financial intermediaries in facilitating efficient allocation of capital, managing risk, and disseminating information. As the financial sector advances and financial intermediaries become increasingly sophisticated, their capacity to stimulate economic growth is strengthened. This, in turn, encourages higher levels of investment, the creation of jobs, and overall prosperity in the economy.

Financial intermediation theory underscores the importance of financial intermediaries in promoting economic growth and development. These intermediaries facilitate efficient capital allocation, manage risks, mobilize savings, and improve the overall functioning of financial markets. A well-developed financial sector, supported by effective intermediation, contributes to increased investment, entrepreneurship, and overall economic prosperity.

Empirical Review

Deposit Money Banks Loan to Agriculture and Economic Growth

Chukwu *et al.* (2023) examined the influence of agricultural financing on Nigeria's initiatives to lower rural poverty, from 1981 to 2021. For this study, the data from the Central Bank of Nigeria's (CBN) Statistics Bulletin were evaluated using multiple regression analysis. Real gross domestic product was the dependent variable, whereas government spending on agriculture and commercial bank lending to the sector were the independent variables, loans from the agricultural sector guarantee scheme, and the lending rate to the agricultural sector. The results indicate that government spending on the agricultural sector contributes positively but insignificantly to Nigeria's gross domestic product, while commercial bank credit, loans from the Agricultural Sector Guarantee Scheme Fund, and lending rates all have a positive and significant impact. The study recommends that government at all levels should provide assistance for the industry. The study further recommends that the government should enact

measures to diversify the Nigerian economy, promote agricultural credit operations to reduce risk, and give specialized staff access to oversee loans given to farmers in order to minimize default. The government should make sure that the lending rate on loans to the agricultural sector is reviewed and set at a rate that is favorable to farmers in order to encourage them to take out loans from deposit money banks.

Kelechukwu *et al.* (2023) studied bank loans to the various industrial sector sectors in Nigeria's economic development from 1986 to 2020. Examining the effects of bank lending on manufacturing, government, mining, quarrying, and agriculture on Nigeria's economic development (HDI) is one of the main goals. The study tested the interaction between independent variables and the dependent components of the human development index at the 5% level of significance using data from the World Bank Data Atlas report and the Central Bank of Nigeria (CBN) statistical bulletin from different years. A short- and long-term association was found. Nonetheless, the specific short-term effect demonstrated that bank lending to the government and agricultural sectors of the industrial sector had an unfavorable, negligible correlation with HDI. Bank credit to the mining and quarrying sector of the industrial sector had little effect on HDI, whereas bank credit to the manufacturing sector of the industrial sector had a considerable influence. In conclusion, bank lending to various industrial sector sectors has a short- and long-term relationship, but it has not had the essential and substantial impact on Nigeria's economic development. Therefore, as relevant to developed economies worldwide, the study suggests single-digit interest rates on loans and advances (credit) to sectors of the industrial sector in manufacturing, mining, quarrying, agriculture, and government.

Adegoriola and Ishaku (2023) examined how the performance of the Nigerian economy was affected by the credit distribution made by Deposit Money Banks (DMB) to the manufacturing and agriculture sectors between 1986 and 2020. The Granger causality tests are utilized in the study to investigate the nature of causality and the Autoregressive Distributed Lag (ARDL) is used to assess the short- and long-term implications. Long-run co-integration between the variables is present, as indicated by the ARDL limits test. The DMB loan allocation to the manufacturing sector has a negative and negligible impact on economic growth in both the first and second lags, according to the ARDL approach. The DMB loan distribution to the agricultural sector has a positive and negligible impact on Nigeria's economic growth, as demonstrated by the ARDL approach. According to the Granger causality test, there is no connection between economic growth and DMB credit to the manufacturing and agricultural sectors. According to the report, in order to keep money out of private hands, the government, acting through financial authorities, should make sure that DMB credits are tracked and allocated to the manufacturing and agricultural sectors in a way that makes sense.

Bawa and Miftahu (2023) examined the impact of agricultural loan facilities provided by commercial banks on Nigeria's real production growth. The research adopted some mathematical and econometrics techniques such as ADF for unit root test, ARDL model for both short- and long-term coefficient, Bound test and Diagnostic test. The study revealed that commercial bank credit facilities to agriculture have positive and significant effect on real output growth in Nigeria. The study recommends that Machinery should be set up to ensure that loans given to farmers are utilized for the purpose. Farmers caught using the loans for other purposes should be sanctioned. And also recommend that it is important that commercial bank credit with low interest rate be made available to farmers in order to assist them procure the needed precursor in terms of agricultural facilities. As indication from findings shows that CBCFAs has positive impact on agricultural output growth.

Onyinye *et al.* (2023) examined the effects of financial inclusion and development on Nigeria's economic growth between 1981 and 2019. The study used the traditional linear regression modeling technique, and the findings demonstrated that financial inclusion and development significantly boost Nigeria's economic growth. According to the study, governments should enact laws that would help financial intermediaries raise capital more effectively and make it affordable and available to people (even those from the lowest social strata), businesses, and other economically productive sectors of the economy. This is how Nigeria's growth will be further enhanced by financial development and inclusion.

Adekunle and Ayeni (2021) provided a nexus between credit channels of financial sector development and economic growth in Nigeria estimated with ARDL using data from 1986 to 2018. Findings from the Bound Co-integration result suggested a long-run relationship between credit channels of financial sector development and economic growth in Nigeria. The study found that credit to core sector (agriculture and manufacturing) and credit to government impede economic growth in the short, with credit to core sector stimulating economic growth in the long run. The study used adequate statistical tools of analysis to examine the data. But this study will increase the scope to 2021 data.

Asuquo and Ibiyingibo (2021) studied the real sector development in Nigeria and the sector-specific loan allocation by deposit money banks. The analysis made use of secondary data on Nigeria's GDP from 1981 to 2019. For the analysis, we used error correction mechanisms, cointegration tests, descriptive statistics, and the Phillips-Perron unit root test. The outcome of the cointegration test demonstrated that there is a long-term equilibrium link between the underlying explanatory variables and the GDP share attributed to agriculture. The study discovered a negligible beneficial impact on agriculture's GDP share from deposit money banks' lending to the sector. In line with economic theory, credit interest rates are negatively correlated with agricultural production. This suggests that lower funding costs increase agricultural output and vice versa. Conversely, there is a positive correlation between the inflation rate and the contribution of agriculture to economic growth; nevertheless, the association was not statistically significant at the five percentile. The data were examined using the proper statistical analysis methods in the study. Additionally, the study was conducted in 2021, but the data only went as far back as 2019. This increases the report's relevance. However, this study will expand to include data until 2021.

Mosinmileoluwa (2021) investigated the impact of agricultural credit on the economic expansion of Nigeria from 1981 to 2017. The world development indicator (WDI) and the Central Bank of Nigeria's (CBN) statistical bulletin were the sources of the data. The impact of the Deposit Money Bank Credit to Agriculture Sector (DMBCA) and the Agricultural Credit Guarantee Scheme Fund (ACGSF) on Nigeria's Economic Growth was examined in this study. The Auto-Regressive Distributed Lag (ARDL) test for stationarity was used to evaluate the data. The mixed order of stationarity of the variables at levels and first difference leads to the adoption of ARDL. According to the study's findings, the DMBCA is significant over the long term and has a direct association—but only in the short term—while the ACGSF is not important over the long term, but it does have a direct relationship in the short term as an inverse relationship in the long term. According to the report, the federal government should work together to make sure that farmers, particularly small-scale farmers, can easily receive financial aid and subsidies and that the money is distributed smoothly and suitably.

Banking System Liquidity and Economic Growth

Okonji (2021) looked into how Nigeria's financial sector development affected the country's economy and wellbeing. Time series data covering the years 1970–2015 were used in the study. The number of

bank branches, lending-deposits ratio, liquidity ratio, and bank private sector credit were the four main factors used to proxy financial sector development. The vector autoregressive (VAR) model was used for estimations; the growth of real GDP was used to measure economic growth; the sum of the inflation and unemployment rates was used to compute the discomfort index, which measures the macroeconomic welfare of the citizenry as defined by Okun (1962); the results show that all the financial sector development indicators under study have a significant impact on macroeconomic performance in Nigeria. The findings demonstrate that Nigeria's real GDP growth is positively impacted by financial sector development indices. There is a gap to be bridged because the exogenous factors, the methodology to be employed, and the time frame are different.

Adekunle *et al.* (2013) studied how Nigeria's economic growth and the expansion of the financial sector interact. The ratio of liquidity liabilities to GDP (M2GDP), real interest rate (INTR), and ratio of credit to private sector to GDP (CPGDP) served as proxies for financial development in the study, which employed OLS regression analysis. Real GDP (RGDP) was utilized to quantify economic growth. Only the actual interest rate is found to be negatively correlated by the study. Every explanatory factor has no statistical significance. Contrary to a priori anticipation, the overall statistic indicates that the independent variables were able to account for 74% of the variation in the dependent, but it is statistically insignificant. The real and financial sectors are still not well connected, and this has prevented the necessary expansion toward the 2020 objective. The report suggests that the industry should have robust and resilient institutional development in addition to consistent, open, and equitable policies.

METHODOLOGY

An ex-post facto research design is used in this study. Since the study's phenomena had already occurred and the necessary data were already in existence, an ex-post facto research design was chosen. Data from published sources, such as the CBN Statistical Bulletin (2022) and Annual and Quarterly Reports, were also used in the study. The information utilized to estimate the model was taken from the Central Bank of Nigeria's Statistics Bulletin 2022 with regard to the following variables: real gross domestic product in Nigeria, banking system liquidity, and deposit money bank loans to the agriculture sector. The information was taken from Central Bank of Nigeria statistical bulletin 2022, which covered the 42-year period from 1981 to 2022. The multiple regression method was employed to investigate the impact of financial sector development on economic growth in Nigeria. The ordinary least square (OLS) estimator is the gold standard among all estimators, which makes the selection of this technique imperative. This is because of its advantageous characteristics, which include unbiasedness, lowest variance, and linearity.

The real gross domestic product (RGDP) serves as a proxy for economic growth, and deposit money bank loans to the agricultural sector (DMBLA) and banking system liquidity (BSL) serve as proxies with financial sector development. The functional linear equation is specifically given as follows, having been adapted from Adekunle *et al.* (2013):

$$RGDP = f(DMBLA + BSL)$$

Econometrically, the above function is rewritten into a model as follow:

$$RGDP_t = \beta_0 + \beta_1 DMBLA_t + \beta_2 BSL_t + \mu_t \dots \dots \dots (Model)$$

Where:

RGDP = an indicator representing real gross domestic product (dependent Variable);

β_0 = Intercept term (a constant);

β_1 = Coefficient of deposit money banks loan to agriculture;

β_2 = Coefficient of banking system liquidity;
 DMBLA = a predictor Variable (deposit money banks loan to agriculture);
 BSL= a predictor Variable (banking system liquidity);
 μ = Stochastic error term;
 t = periods; and
 f = Functional relationship.
 A-priori Expectations: $\beta_1, \beta_2 > 0$

Variable Definition and Measurement

Table 1: Variables Measurement

Variables	Type	Measurement	Previous Application
Real Gross Domestic Product	Dependent Variable	This is the total value of goods and services produced in Nigeria after adjusting for inflation.	Abolade <i>et al.</i> (2021) and Adegoriola and Ishaku (2023).
Deposit Money Banks Loan to Agriculture (DMBLA).	Independent Variable	This is the total loans given to the agricultural sector by the deposit money banks in Nigeria.	Adekunle and Ayeni (2021), Chukwu <i>et al.</i> (2023), Kelechukwu <i>et al.</i> (2023) and Onyinye <i>et al.</i> (2023).
Banking System Liquidity	Independent Variable	This is the ratio of total cash available in deposit money banks in Nigeria.	Akintolaet <i>al.</i> (2020) and Okonji (2021).

Source: Researcher’s Variables Definitions, 2023

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Data Presentation

The time series data for forty-two years regarding the Real Gross Domestic Product (RGDP), Deposit Money Banks Loan to Agriculture (DMBLA), Banking System Liquidity (BSL) covering 1981 to 2022.

Data Analysis and Results

Using the Skewness/Kurtosis Normality Test, Pearson Correlation, Variance Inflation Factor (VIF), Heteroscedasticity Test, Robust Ordinary Least Square Regression, and descriptive statistics, the data were analyzed using Stata 15 software.

Descriptive Statistics

Table 2 summarizes the descriptive statistics of the entire data set.

Variable	Obs	Mean	Std. Dev.	Min.	Max.
RGDP	42	38589.74	20854.23	16048.31	74639.47
DMBLA	42	231.1821	401.2637	0.59	1812.47
BSL	42	49.20905	14.51636	26.39	104.2

Source: Researcher’s Computation using STATA 15 software

Table 2 demonstrates that the Real Gross Domestic Product (RGDP) has a mean value of 38589.74, which is within the minimum and maximum values and indicates a good spread during the examined period, and a minimum value of 16048.31, a maximum value of 72393.67. Additionally, the table shows that the real gross domestic product (RGDP) experienced modest growth during the period under

consideration, with its standard deviation of 20854.23 being less than the mean. Table 2 additionally demonstrates that the Deposit Money Banks Loan to Agricultural Sector (DMBLA) has a mean value of 231.1821, which is within the minimum and maximum values, showing a good spread within the examined period, and a minimum value of 0.59, a maximum value of 1812.47. Additionally, the data shows that DMBLA has a standard deviation of 401.2637, which is higher than the mean and suggests that it experienced rapid growth throughout the period under consideration.

Table 2 likewise demonstrates that the Banking System Liquidity (BSL) has a mean value of 49.20905, which is within the minimum and maximum values, showing a good spread within the examined period, and a minimum value of 26.39, a maximum value of 104.2. The table also shows that BSL had weak growth over the time under study, with its standard deviation of 14.51636 being less than the mean.

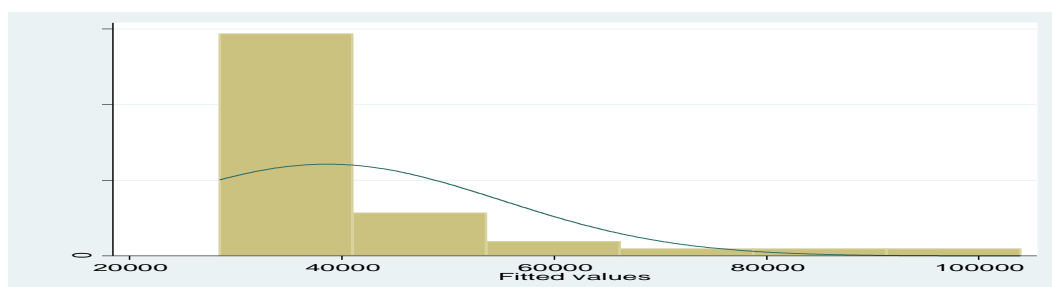
Skewness/KurtosisTest

The findings of the normality test, which used the normal distribution curve and the skewness/kurtosis test, are shown in Table 3 and Figure 1 below.

Variable	OBS	Pr(Skewness)	Pr(Kurtosis)	Adj chi2(2)	Prob>chi2
Residual	42	0.0000	0.0002	27.51	0.000

Source: Researcher’s Computation using STATA 15 software

Figure 1: Normal Distribution Curve



The residual, the adj. chi of 27.51, and the associated probability of value of 0.00, which is less than 0.05, are displayed in Table 3 above. This indicates that the residual is not normally distributed around the mean. The normal distribution curve shown in figure 1 above supports this result even more. This suggests that there has been a violation of a fundamental tenet of the linear regression technique, which only permits normally distributed residuals.

Pearson Correlation

The Pearson correlation matrix for the data set is displayed in Table 4 below, illustrating the strength of the association between the variables.

Variable	RGDP	DMBLA	BSL
RGDP	1.0000		
DMBLA	0.7879	1.0000	
BSL	0.2517	0.3483	1.0000

Source: Researcher’s Computation using STATA 15 software

The degree of relationship between the proxies of an independent variable and the dependent variable is ascertained via the correlation matrix. In order to determine whether the model has a multicollinearity issue, it is also utilized to demonstrate whether there are relationships among the proxies of the factors that are independent themselves. Table 4 conclusion indicates that, with a correlation coefficient of 0.7879, there is a 79% positive and strong association between Nigeria's real gross domestic product (RGDP) and Deposit Money Banks Loan to Agriculture (DMBLA). The correlation coefficient of 0.2517 between Nigeria's Banking System Liquidity (BSL) and real gross domestic product (RGDP) indicates a somewhat favorable 25% link, as seen by the table. In conclusion, the correlations among the proxies of independent variables itself point to mildness, since every coefficient falls below the 0.80 threshold proposed by (Gujarati, 2003).

Heteroscedasticity Test

Table 5: Heteroscedasticity test

Type of test	Chi2	P-Value
Heteroscedasticity Test	9.60	0.001

Source: Researcher's Computation Using STATA 15 software

Heteroscedasticity testing was done to make sure the study's data were consistent with the model. According to the study, the fundamental linear regression model is not followed, indicating that the data is homoscedastic. The heteroskedasticity result in Table 5, which showed a chi2 value of 9.608 with a p-value of 0.001, confirms this. This goes against the homoskedasticity (constant error variance) assumption of classical linear regression, which is fixed with the robust regression technique.

Results of Robust Ordinary Least Regression Model

Table 6 below is the robust ordinary least square regression model conducted for the estimation of this model.

Variable	Coefficients	t-value	Prob.
Cons.	30842.95	4.05	0.000
DMBLA	41.41863	4.53	0.000
BSL	-37.15699	-0.24	0.815
Adj. R. sq	0.6214		
F-statistic	12.67		
Prob. >F	0.0000		

Source: Researcher's Computation using STATA 15 software

According to Table 6 above, the combined impact of Banking System Liquidity (BSL) and Deposit Money Banks Loan to Agriculture (DMBLA) accounts for 62% of the variation in real gross domestic product (RGDP) (Adj. R-sq of 0.6214). With a P-value of 0.000 and an F-statistic of 12.67, the model was found to be appropriate for the research. This suggests that the independent variables have been appropriately incorporated and utilized, and the study's model is fit.

Test of Hypotheses

A robust ordinary least square regression model was utilized to assess the specified hypotheses on the impact of financial sector development on economic growth in Nigeria.

The results in Table 6 above showed that the t-value of 4.53 and the corresponding p-value of 0.000 shows that deposit money banks loan to agriculture has a significant positive effect on real gross domestic product in Nigeria for the period under review. Based on this, the null hypothesis one which says that deposit money banks loan to agriculture has no significant effect on real gross domestic product in Nigeria is rejected.

Table 7 equally indicate that the t-value of -0.24 and the corresponding p-value of 0.815 shows that banking system liquidity (BSL) has an insignificant negative effect on real gross domestic product in Nigeria for the period under review. Based on this, the null hypothesis two which says that banking system liquidity (BSL) has a significant effect on real gross domestic product in Nigeria is accepted.

Discussion of Findings

According to this study, the actual gross domestic product of Nigeria is significantly increased when deposit money banks lend to the agricultural sector. This suggests that if banks lend more deposit money to agriculture, Nigeria's real GDP domestic product will rise by 41.41863. This result is consistent with the a-priori expectation of the researcher and also in line with the financial intermediation theory because the theory emphasizes the link between financial markets and real economic activity. This means that efficient intermediation ensures that funds flow to productive investments, fostering economic growth and development. This result is consistent with the empirical findings of Chukwu et al. (2023) and Bawa and Miftahu (2023). The results, however, do not agree with the empirical findings of Asuquo and Ibiyngibo (2021) and Adegioriola and Ishaku (2023).

The study also shows that Nigeria's actual gross domestic product is negatively impacted by the banking system's liquidity in a negligible way. This suggests that a rise in the liquidity of the banking sector will cause Nigeria's real GDP to drop by -37.15699. This result goes against both the financial intermediation hypothesis, which stressed the function of, and the researcher's a-priori anticipation of financial intermediaries in promoting stability in the financial system. By providing liquidity support during financial crises and acting as a buffer against adverse shocks, intermediaries help prevent a collapse in credit and ensure a smoother functioning of financial markets. The results are consistent with Adekunle et al. (2013)'s empirical findings. Nevertheless, the result deviates from the empirical result of Akintola et al. (2020) and Okonji (2021).

CONCLUSION AND RECOMMENDATIONS

The study demonstrates a clear and positive correlation between the amount of loans provided by deposit money banks to Nigeria's actual GDP (gross domestic product) and agriculture. This suggests that increasing the amount of loans that Nigerian deposit money banks give to the agricultural sector will result in a significant boost to the country's economic growth. One of the main factors propelling Nigeria's economic growth is the increased lending from deposit money banks to the agriculture sector. The banking system liquidity and real gross domestic product (GDP) in Nigeria is characterized by negative effect. This implies that when there is an increase in banking system liquidity, it is associated with a decrease economic growth. The excess liquidity in the banking system leads to adverse economic outcomes in Nigeria. Therefore, policymakers and stakeholders must consider the implications of maintaining high levels of banking system liquidity, as it contributes to a decline in the country's overall economic performance.

In light of the foregoing conclusion, the following suggestions are made:

- i. The Nigerian government should collaborate with regulatory bodies and financial institutions to create and implement policies that encourage and facilitate lending to the agriculture sector. These policies could include incentives for banks that increase their lending to agriculture, such as reduced reserve requirements or preferential interest rates.
- ii. The Central Bank of Nigeria should employ effective monetary policy tools to manage liquidity levels in the banking system. This might involve adjusting interest rates, reserve requirements, and open market operations to ensure that the liquidity in the system is conducive to economic growth. Also, deposit money banks should channel excess liquidity into productive sectors of the economy through increased lending to businesses and individuals. This can be achieved by offering incentives or implementing regulations that encourage responsible lending without compromising credit quality.

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