Effect of Deposit Money Bank Activities on Financial Sector Development in Nigeria

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ABSTRACT

The specter of non-performing loans (NPLs) looms as a critical concern within the context of Deposit Money Bank (DMB) activities in Nigeria. This apprehension is particularly pronounced when DMBs partake in risky lending practices, resulting in a substantial build-up of non-performing loans. The ramifications of such a scenario extend beyond the individual banks, impacting their financial health and, consequently, casting shadows on the overall stability of the financial sector. Given this foregoing, this study examines the effect of deposit money bank activities on financial sector development in Nigeria using time series data spanned over a period of eleven (11) years 2012 to 2022. The study adopted the ex-post-facto research design and secondary data used in the study was sourced from CBN annual statistical bulletin for relevant years. Descriptive statistics, Augmented Dickey Fuller Test (ADF), error correlation model, ordinary least square (OLS) regression techniques and post estimation test were the main statistical tools used to analysis the data with the help of E-view 10 statistical package. The finding of this study revealed that loans and advances and deposit liability exerts a positive and significant effect on financial sector development while interbank placements have negative and insignificant effect on financial sector development in Nigeria. The study recommended that deposit money banks should advocate for and enforce responsible lending practices among financial institutions, this involves ensuring that loans are extended based on sound risk assessment, with proper consideration given to the borrower's creditworthiness and ability to repay.

Keywords: Loans and Advances, Deposit liabilities, Interbank Placement and Financial Sector Development.

INTRODUCTION

In recent years, the Nigerian financial sector has witnessed significant transformations by the activities of Deposit Money Banks (DMBs). These institutions play a pivotal role in the nation's economic landscape, channeling funds between various sectors, facilitating economic growth, and contributing to overall financial sector development (Sule & Saminu, 2023). The intricate interplay between DMB activities and the broader financial ecosystem has prompted substantial academic and professional interest in understanding their effects on Nigeria's financial sector development.

Deposit Money Banks in Nigeria have a rich history that dates back to the colonial era, the first modern banking institution, the Bank of British West Africa (now First Bank of Nigeria), was established in 1892. Over the years, the banking sector has evolved with the establishment of various banks, both local and international. The Central Bank of Nigeria (CBN) is the primary regulatory authority overseeing the activities of Deposit Money Banks. The CBN formulates and implements monetary policies, ensuring the

stability and soundness of the financial system (Sellami *et al.,* 2020).

DMBs act as financial intermediaries, channeling funds from savers to borrowers. By doing so, they contribute to the growth of the economy by supporting investments and business activities. The activities of DMBs have a significant impact on Nigeria's economic growth. Through their role in facilitating financial transactions and providing credit, they contribute to job creation, infrastructure development, and overall economic stability (Raphael & Okologume, 2023).

The nexus between deposit money banks and financial sector development was traced to the work of (Schumpeter, 1911) who envisaged the role of banks in facilitating technological innovation through their intermediary role. From the standpoint of Schumpeter (1911), efficient allocation of savings through the identification and funding of entrepreneurs with the best chances of successfully implementing innovative products and production processes are tools to achieve this objective (Yaya, 2019). Within the theoretical literature, it is generally accepted that the intensification of financial instruments and institutions would tremendously reduce transaction and information costs in an economy which in turn influences savings rates, investment decisions, and technologically innovative ventures (Nwakoby & Ananwude, 2016).

According to Abdulrahaman and Ajayi (2022), financial sector development is said to occur when a country's financial system becomes more efficient, inclusive, and dynamic over time. This transformation involves the enhancement of various components within the financial ecosystem, including institutions, markets, instruments, and regulations. A developed financial sector enables efficient resource allocation, fosters economic growth, promotes financial stability, and provides a range of financial services that cater to the diverse needs of individuals, businesses, and the overall economy.

Also, Egbetunde, Ayinde and Balogun (2017) opined that financial sector development is said to occur when the cost of acquiring information, enforcing contracts, and executing transactions is reduced to the barest minimum. Financial sector development goes beyond just having financial intermediaries and infrastructures in place. It entails having robust policies for the regulation and supervision of financial instruments, markets, and intermediaries (Ang, 2017). The role of any efficient financial system is to channel funds from surplus to deficit units to finance the best firms and investment projects in various firms. However, in practice, this is not always the case because large firms tend to get funds while small and medium-sized enterprises (SMEs) are left to rely on informal sources of finance. The predominant view on financial sector development is that it increases the accessibility to financial instruments and institutions which in turn decreases transaction costs thereby channeling funds to efficient economic agents who can use it to invest in both human and physical capital toward stimulating economic growth. Furthermore, Adeghe and Okologume (2023) affirmed that financial sector development can also attract domestic and foreign investment, enhance capital formation, and stimulate economic diversification. Thus, financial sector development is a critical driver of sustainable economic growth and prosperity within a country.

The interaction between Deposit Money Bank (DMB) activities and financial sector development in Nigeria has raised pertinent concerns that necessitate a comprehensive examination. Despite Nigeria's rich resource endowment and strategic geographical location, the country's financial sector development has faced several challenges, including overreliance on oil exports, infrastructural deficits, bureaucratic trade barriers, and limited diversification of the economy. While trade services encompass a wide range of activities including transportation, logistics, financial services, and communication, their potential contribution to mitigating these challenges and fostering sustainable economic growth in Nigeria has not been comprehensively studied (Aigbedion & Iyoha, 2019). An excessive reliance on interbank placements can also indicate liquidity stress in the banking sector if a significant portion of a bank's funding comes from interbank borrowing rather than stable deposits, it may indicate potential financial instability. Additionally, economic growth can be hindered if the interbank market is strained, leading to tighter credit conditions.

Despite the potential benefits of savings, Nigeria faces several challenges that hinder the optimal utilization of savings for financial sector development. Low-income levels, unemployment, and informal employment are some of the factors that limit the ability of individuals to save. Moreover, the lack of access to formal financial services and low financial literacy rates impedes effective savings mobilization. A World Bank report on financial inclusion in Nigeria (2020) highlighted the need for comprehensive strategies to address these barriers. It emphasized the importance of creating an enabling environment for financial inclusion, including expanding access to banking services and promoting financial education, as means to encourage greater savings. Nigeria faces several challenges that impact its investment and economic growth prospects. Corruption, inconsistent regulatory policies, security concerns, and an underdeveloped financial sector have deterred investors and hindered sustainable financial sector development. Additionally, the lack of economic diversification beyond the oil sector has made the economy vulnerable to external shocks.

The extant literatures have also shown that some of the studies Ezekiel *et al.* (2022), Phuc (2022) and Sule *et al* (2023) carried out in recent times regarding financial sector development and economic growth in Nigeria and other countries of the world were not current in the data used for the analysis to reflect the current economic realities as all the data ended in 2020 and below except the work of Maimuna and Anthonia (2023) and Raphael and Okologume (2023) whose data covered up to 2021. Furthermore, these kinds of studies were conducted in Nigeria, however, none of the study were able to combine these variables like loan and advances, deposit liabilities, trade services, savings and interbank placement on financial sector development in one single model. These identified gaps in literature call for further study in this area which necessitated this study to investigate the effect of deposit money banks activities on financial sector development in Nigeria, to update the data up to 2022 and add to more literature in this area in Nigeria. Thus, under-listed questions are intended:

1. To what extent does loan and advances affect financial sector development in Nigeria?

2. How does deposit liabilities affect financial sector development in Nigeria?

3. To what extent does interbank placement affect financial sector development in Nigeria?

The basic hypothesis underlying this study are stated thus;

H_{01}: Loans and advances has no significant effect on financial sector development in Nigeria.

H_{02}: Deposit liabilities has no significant effect on financial sector development in Nigeria.

H_{03}: Interbank placement has no significant effect on financial sector development in Nigeria.

LITERATURE REVIEW

Conceptual Framework

This study investigates the effect of deposit money bank activities on financial sector development. This section reviews the extant literature on the subject matter.

Financial Sector Development

Financial sector development refers to the process of enhancing and strengthening the components and functions of a country's financial system to promote economic growth, stability, and inclusiveness, it involves the improvement of financial institutions, markets, and regulatory frameworks to support efficient allocation of resources, effective risk management, and facilitation of economic activities (Abuselidze,

2021). A well-developed financial sector plays a crucial role in channeling savings into productive investments, facilitating transactions, and promoting overall economic development.

Every economy's financial sector is essential for its intermediary role of mobilizing excess funds from households and other savers and channeling the same for productive use in the real sector. The financial sector comprises all financial intermediaries that operate within an economy (CBN, 2017). This definition is anchored on the belief that economic agents are categorized into surplus and deficit spending units. The surplus spending units are individuals, groups or organizations operating within the economy that have excess funds above their immediate needs. They constitute suppliers of surplus funds to the financial system. The deficit spending units are those that have a shortage of funds and thus require borrowing to fund their operations. They are the users of the excess funds supplied by the surplus spending units in the financial system.

According to Abuselidze (2021) the key components of financial sector development include: financial institutions, financial markets, financial infrastructure, regulatory and supervisory framework, financial inclusion, innovation and technology, investor protection and corporate governance, policy coordination and long-term financing and infrastructure development. The development of a country's financial sector involves strengthening its banks, insurance companies, pension funds, and other financial intermediaries. Robust and well-capitalized financial institutions are essential for mobilizing savings, providing credit to businesses and individuals, managing risks, and promoting financial stability.

In essence, Financial Sector Development" refers to the comprehensive and sustained improvement, growth, and efficiency of the financial system within a specific economy. This development involves the enhancement of various financial institutions, markets, and services, as well as the integration of innovative technologies and regulatory frameworks.

Credit to Private Sector

The concept of "credit to the private sector" refers to the total amount of loans and financial assistance extended by financial institutions, such as banks and other lending entities, to private individuals, businesses, and non-governmental organizations within a specific economy (Nguyen & Nguyen, 2021). This indicator is a key measure of the extent to which financial institutions are providing funds to support the activities of the private sector. This private sector includes all non-governmental entities involved in economic activities. This encompasses a wide range of entities, from small businesses and startups to large corporations and non-profit organizations.

Credit to the private sector encompasses various types of loans and credit facilities provided by financial institutions. This can include term loans, working capital loans, overdrafts, trade finance, and other forms of credit tailored to meet the diverse needs of private sector entities (Mohammed & Omale 2020). In essence, credit to the private sector is a fundamental concept in the realm of finance and economics. It reflects the relationship between financial institutions and the private entities that drive economic activities, and it serves as a critical indicator for assessing economic health, development, and the functioning of the financial system.

Deposit Money Bank Activities

Deposit Money Banks (DMBs) play a crucial role in the financial system of Nigeria, as they serve as intermediaries between savers and borrowers, facilitating economic growth and stability. Deposit money bank are financial institutions that accept deposits from individuals, businesses, and other entities, and provide various financial services such as loans, credit facilities, and payment services. The concept of deposit money bank activities in Nigeria encompasses a wide range of functions that contribute to the

overall development of the economy.

Sule and Saminu (2023), opined that one of the primary functions of DMBs is to mobilize funds from individuals, households, businesses, and other economic agents, they offer various types of deposit accounts, such as savings accounts, current accounts, fixed deposit accounts, and others, to attract funds from the public. These deposits serve as the foundation of the banks' lending and investment activities. Deposit money bank play a critical role in the allocation of credit to different sectors of the economy. They provide loans and credit facilities to individuals, businesses, and governments to finance various activities such as investment, consumption, and infrastructure development. Effective credit allocation contributes to economic growth and job creation.

According to Felix *et al.,* (2020) deposit money banks facilitate the smooth flow of payments within the economy and they offer payment services such as check clearing, electronic funds transfers, online banking, mobile banking, and card services. These services enable individuals and businesses to conduct transactions efficiently, promoting economic activities and reducing the reliance on cash transactions. Furthermore, financial intermediation is a core function of deposit money banks (Lenka, 2015). They channel funds from surplus units (savers) to deficit units (borrowers) in the economy. This intermediation process helps in optimizing the allocation of resources by directing funds to productive investments, which in turn supports economic development. In essence, Deposit Money Banks (DMBs) activities" refers to the range of financial services and operations conducted by deposit money banks, which are institutions that accept deposits from the public and provide various financial services.

Loan and Advances

Loans and advances encompass a range of credit facilities, including term loans, working capital loans, overdrafts, and other forms of financing. These credit arrangements may have different structures, interest rates, and repayment terms depending on the purpose and terms agreed upon by the borrower and the bank. The concept of loans and advances has been a subject of interest for various scholars and economists over the years. Different scholars have provided insights into the nature, functions, and implications of loans and advances in the context of financial intermediation, economic growth, and risk management. For the purpose of this study, the concept of loans and advances based on the perspectives of three prominent scholars: Adam Smith, John Maynard Keynes, and Hyman Minsky.

Adam Smith, often regarded as the father of modern economics, discussed the concept of loans and advances in his seminal work "The Wealth of Nations" (1776). Smith emphasized the role of loans in mobilizing savings and channeling them into productive investments. Smith (1776) argued that loans, when used for productive purposes, could generate income and contribute to economic growth. Smith believed that the availability of loans and advances supported the expansion of commerce, manufacturing, and agriculture.

Smith's view aligned with the concept of financial intermediation, were banks act as intermediaries between savers and borrowers, facilitating the allocation of resources to productive uses. Smith (1776) recognized that loans and advances provided individuals and businesses with the necessary capital to undertake projects that could spur economic development. Thus, loans and advances refer to the financial products and services provided by deposit money banks to their customers, which involve the lending of money with the expectation of repayment over a specified period.

Deposit Liabilities

The concept of deposit liabilities is fundamental in the realm of banking and finance. It refers to the obligations that banks and financial institutions owe to their customers who have deposited funds with them.

Deposit liabilities represent the money held by the bank on behalf of its depositors and are considered a key component of a bank's financial position (Musa & Abubakar, 2022). Understanding deposit liabilities is crucial for assessing a bank's financial health, risk management, and its role in the broader financial system.

Akwam *et al.,* (2021) opined that deposit liabilities in Nigeria refer to the funds held by banks and financial institutions that are owed to depositors. These liabilities arise from various types of accounts, including savings accounts, current accounts, fixed deposit accounts, and other deposit instruments offered by banks. In Nigeria, deposit liabilities are governed by the Central Bank of Nigeria (CBN) and regulated under the Banking and Other Financial Institutions Act (BOFIA). The CBN sets regulations and guidelines to ensure the safety and soundness of the banking system and to protect depositors' interests. Deposit liabilities play a critical role in the Nigerian banking system, as they provide a stable source of funding for banks to conduct their lending and investment activities, they also contribute to financial intermediation by mobilizing savings from individuals, businesses, and other entities and channeling them towards productive sectors of the economy.

It is worth noting that deposit liabilities in Nigeria are protected by the Nigeria Deposit Insurance Corporation (NDIC). The NDIC is a government agency established to protect depositors in the event of a bank failure. It provides deposit insurance coverage up to a specified limit per depositor per bank. In recent years, the Nigerian banking sector has witnessed efforts to promote financial inclusion and increase access to banking services. This has led to the introduction of various types of deposit accounts, such as micro-savings accounts and mobile banking services, which aim to cater to the needs of unbanked and underbanked individuals.

Overall, deposit liabilities are a crucial component of the Nigerian banking system, providing a stable source of funding for banks and ensuring the safety and protection of depositor funds. The regulatory framework and deposit insurance scheme in place aim to maintain confidence in the banking system and protect the interests of depositors. The operational definition of "Deposit Liabilities" refers to the financial obligations of a bank to its customers arising from the funds deposited by those customers into various types of accounts. Deposit liabilities represent the amounts that the bank owes to its depositors and are a key component of a bank's liabilities on its financial statement.

Interbank Placements

Interbank placement means certain funds accepted or deposited between financial institutions with proper qualifications, such as policy bank, commercial bank, credit cooperative, financial company, trust company, and security company, in agreed currencies, interest rates and terms, and the principal and interest of which should be repaid by receiving party upon due date. Funds in placement business may be those for or not for settlement due within one year. (CBN, 2017).

Interbank placement, in the context of banking and finance, refers to the practice of banks and financial institutions placing excess funds with other banks for short-term periods. This is typically done to earn interest on surplus funds or to meet regulatory requirements on maintaining a certain level of reserves (Ozigbu & Ezekwe, 2020). In Nigeria, interbank placements play a significant role in managing liquidity, optimizing funds, and fostering cooperation among banks within the financial system.

Abbas, Ali and Ahmad (2021) affirmed that interbank placement in Nigeria refers to the practice of banks' lending or placing excess funds with other banks in the country's interbank market. It is a mechanism for banks to manage their liquidity positions, earn interest on surplus funds, and meet regulatory requirements. The interbank market in Nigeria serves as a platform for banks to lend or borrow funds from each other. Banks with surplus funds may choose to place those funds with other banks in need of liquidity. This can be done through various instruments, such as overnight placements, term placements, or repurchase agreements

(repos).

From the researcher's point of view "Interbank Placements" refers to short-term financial transactions where one bank places funds with another bank for a specified period. These placements involve the temporary transfer of funds between banks, often to manage liquidity, optimize returns, or meet regulatory requirements.

Empirical Review

Loan and Advance and Financial Sector Development

Raphael and Okologume (2023) examined deposit money banks stability and economic growth in Nigeria, covering 1990 to 2021. Data for the study were sourced from both the Central Bank of Nigeria Statistical Bulletin and the World Bank data base, 2021. The study adopted the Autoregressive distributed lag model which was used to determine both the short and long run dynamics of the variables of interest. The study showed that, having controlled for interest rate, bank capital adequacy, bank liquidity, private sector credits and financial access exerted positive high statistically significant effects on economic growth of Nigeria both on the short and long run. The study used appropriate statistical tools of analysis to examine the data. Also, the study was conducted in 2023 and the data covered up to 2021 which is considered current and reflects the economic trends in Nigeria. However, this study employed different proxies to measure the independent variable and the dependent variable used was economic growth why this present study will employ credit to private sector as a measure of dependent variable.

Maimuna and Anthonia (2023) examined the deposit money bank's credit to private sector and economic growth in Nigeria, covering 1981-2021. This study used time series data and were taken from the World Bank Indicators 2021 and the Central Bank of Nigeria's Statistical Bulletin 2021 while ordinary least squares technique was used for the analysis. The results showed that all of the variables, including Gross Domestic Product (GDPG), CPS, INTR, and DMBA, were stationary at 1st difference. The study showed that the variables are cointegrated, which means they have a long-run link, even though interest rate was statistically proven to have a negative impact on economic growth. The study used appropriate statistical tools of analysis to examine the data. Also, the study was carried in 2023 and the data covered up to 2021 which is considered current and reflects the economic trends in Nigeria. However, the study failed to test the long-run effect on granger causality test.

Adeyemo and Olateju (2022) investigated the impact of bank lending on business growth in Nigeria. The research design adopted was the survey method. The population of this study are business men and women in Ibadan North Local Government Area of Oyo State. In this study, 120 business men/women were selected. Majority of the respondents agree that lending to SMEs will encourage self-employment thereby reducing the rate of unemployment in Nigeria. Also, many of the respondents agreed that lending to SMEs boost industrialization as well it improves the economic situation in Nigeria. The result of the hypothesis showed that there was a positive correlation between bank lending and business growth (r = .225, p<0.05) which implies that bank lending significantly enhances the growth of SMEs in Nigeria. The study recommended that Government at all levels in Nigeria should be encouraged to float microfinance institutions in order to enable SMEs access enough funds for their businesses. This present study is unique as it considered the interplay between deposit money bank activities and financial sector development in Nigeria. This study employed the use of primary data which is considered not accurate because errors can occur during data collection, affecting the accuracy of the results. Errors may arise from poorly designed survey questions, ambiguous language, or respondent misunderstanding.

Deposit Liabilities and Financial Sector Development

Ezekiel *et al.* (2022) examined an empirical examination of the impact of banks activities on economic growth in Sierra Leone, covering 2001-2017. The study used data from various reliable sources, which include the Bank of Sierra Leone Stability Report, World Development Indicators and the World Bank Index. The scope of the study is a seventeen-year period starting from 2001 to 2017. An empirical model was carried out using ordinary least square regression. The study found that that domestic credit to the private sector has a positive and significant impact on GDP, while deposit on interest rate has a positive but insignificant impact on GDP. The other indicators such as bank liquidity reserve, interest rate spread, and gross domestic savings neither have positive nor significant to GDP. The study used appropriate statistical tools of analysis to examine the data. However, the study was carried in 2022 and the data covered up to 2017 which is considered belated and required to be updated to reflect the current economic trends in Nigeria. The study of Ezekiel *et al.,* (2022) was carried out in foreign countries (Sierra Leone) with different culture, language, legislation and business environments. Meanwhile, this present study will focus on deposit money banks activities and financial sector development in Nigeria.

Nguyen and Nguyen (2021) examined the impact of investments on economic growth: Evidence from Vietnam, covering 2000-2020. The study used panel data from 63 Vietnamese provinces and regression analysis was used after testing the stationarity of the variables that meet the PMG regression condition. The study found that factors such as labour and trade openness have a negative impact on economic growth in the short term. In the long run, public investment has a negative effect on economic growth, while domestic private investment, foreign direct investment, deposit, and labor have positive effects on economic growth. The study used appropriate statistical tools of analysis to examine the data. Also, the study was carried in 2021 and the data covered up to 2020 which is considered current and reflects the economic trends in Nigeria. However, the study was carried out in another environment outside Nigeria in the past which cannot be generalized because of the environmental differences.

Okwo, *et al.,* (2012) examined the effect of bank credit to the private sector on economic growth in Nigeria. GDP was used as dependent variable while credit to private sector as the independent variable with control were variables inflation and interest. Ordinary least square was used as an estimation tool and Augmented Dicky fuller was used to test for data stationarity. The study was for the period of 1981-2010. Results of the analysis showed that bank credit to private sectors has a statistical strong positive relationship with GDP and that as expected, bank credit to the private sector has statistically significant effect on economic growth. The paper recommends that the CBN should lower its minimum rediscount rate to a moderate level that will enable banks fix low interest rates on their loanable funds while adopting direct credit control to favor preferred sectors like Agriculture and manufacturing. Finally, monetary authorities should through monetary policy reduce legal reserves requirement for banks to enable the banking sector to create more credit for the economy.

Interbank Placement and Financial Sector Development

Adegbite and Owolabi (2017) examined the effects of interbank placements and foreign trade on economic growth in Nigeria. Secondary data were obtained from central bank of Nigeria statistical bulletin covering the period of 1970 to 2015. Multiple regressions were employed to analyze data on such variables Gross Domestic Product (GDP), foreign exchange rate, import, export, trade openness, and inflation rate were all found to have significant effects on the Economics Growth with the Adjusted R2 of 0.9468% (approximately 95%). Based on the finding, it was concluded that foreign trade (proxied by import and export) have positive significant impact on economic growth in Nigeria. But exchange rate has positive significant impact on export but has negative significant effect on import. The study recommended that government should put all things together by enabling a business environment to stimulate foreign trade.

The study of Adegbite and Owolabi (2017) was carried out between 1970 to 2015, this present study will bridge the gap in literature to consider up to date information on the subject matter.

Obi *et al.,* (2016) examined the relationship between interbank placement and output growth in Nigeria in different periods from 1970 to 2014. The study employed the Generalized Method of Moments (GMM) to estimate economic growth equation as a result of endogennity problem. The findings suggested that fixed exchange rates constrain the performance of the Nigerian economy as real exchange rate depicts inverse relationship with economic growth during the whole period and period of fixed exchange regime. This study is considered outdated and there is need to provide a more robust and detailed insight into the subject matter.

Amassoma and Odeniyi (2016) centered their study on the nexus between interbank placements and economic growth in Nigeria using an annual data of forty-three (43) years covering the period (1970–2013). The study made use of multiple regression model, Augmented Dickey Fuller (ADF) test, Johansen cointegration test and the Error correction model (ECM) test. The study establishes that there exists a positive but insignificant impact of exchange rate fluctuation on Nigerian economic growth in both the long run and short run. The study recommends that there is need to encourage domestic production of goods and services for Naira exchange rate appreciation. The study of Amassoma and Odeniyi (2016) is focused on economic growth while this present study will evaluate the interplay between interbank placement and financial service development in Nigeria.

Okorontah and Odoemena (2016) investigated the effects of interbank placement fluctuation on economic growth of Nigeria. Using annual data for the period 1986-2012, the study employed the ordinary least square (OLS) technique, the Johansson co-integration test and the error correction mechanism (ECM). The result suggested that there is no strong relationship between exchange rate and economic growth in Nigeria. It is therefore suggested that Nigeria improve its competitive capacity in the international market through export diversification. Lawal (2016) analyzes the effect of exchange rate fluctuations on manufacturing sector output in Nigeria from 1986 to 2014. Data on manufacturing output, Consumer Price Index (CPI), Government Capital Expenditure (GCE) and Real Effective Exchange Rate (EXC) were sourced from Central Bank of Nigeria and analyzed through Autoregressive Distribution Lag (ARDL). The study discovers that exchange rate fluctuations have long run and short run relationship on manufacturing sector output. The result revealed that exchange rate has a positive effect on manufacturing sector output but not significant. The study recommends that government should strategize to encourage exports and discourage imports in order to achieve a favourable balance of payment. The study of Okorontah and Odoemena (2016) was carried out in the year 2016, thus considered outdated and the need to study the current situation on the nexus became imperatrive.

Theoretical Framework

This study is underpinned by financial intermediation theory.

Financial Intermediation Theory

The Financial Intermediation Theory was postulated by Franklin Allen and Douglas Gale in their seminal paper titled "A Welfare Comparison of Intermediaries and Financial Markets in Germany and the U.S." published in the Journal of Money, Credit and Banking in 1988. Financial intermediation theory refers to the framework that explains the crucial role of financial intermediaries, such as banks, in facilitating the flow of funds between savers and borrowers.

Financial intermediation theory provides a comprehensive framework for understanding the nuanced relationship between Deposit Money Bank (DMB) activities and the development of the financial sector in Nigeria. At its core, this theory underscores the pivotal role of DMBs as intermediaries in the financial

system. Through the mobilization of savings, DMBs facilitate the flow of funds from savers to borrowers, shaping the overall efficiency and stability of the financial sector. The theory emphasizes the significance of credit allocation, where DMBs, as key financial intermediaries, play a critical role in directing funds towards sectors crucial for economic growth. Efficient risk management practices by DMBs are vital, ensuring stability in the financial system and resilience against economic shocks. Liquidity transformation, another key aspect, involves DMBs converting short-term deposits into long-term loans, managing the maturity mismatch and contributing to sector stability. Additionally, financial intermediation theory highlights the role of DMBs in fostering financial inclusion by providing a diverse range of banking services to a broad spectrum of the population. Overall, this theoretical framework serves as a lens through which the impact of DMB activities on financial sector development in Nigeria can be comprehensively analyzed, aiding policymakers, regulators, and stakeholders in formulating strategies for a robust and inclusive financial system.

The financial intermediation theory underpinned this study because the theory plays a pivotal role in fostering financial sector development by channeling funds from savers to productive investment projects. This mobilization of funds allows businesses to expand, create jobs, and contribute to overall economic prosperity.

METHODOLOGY

To estimate the concerned models and examine the statistical significance of the variables that relate to deposit money bank activities and financial sector development, this study employed ex-post facto research design using annual time series data from 2012-2022. The variables are obtained from the Central Bank of Nigeria statistical bulletin (2022). This study will adopt the positivism philosophy. The philosophy is considered more objective and is anchored in scientific methods in testing relationships in a study. Various econometric techniques have been employed in estimating the effects of deposit money bank activities on financial sector development. However, this study used Autoregressive Distributed Lag Model (ARDL) with the help of E-view 10. This is because the ARDL method yields consistent and robust results both for the long-run and short-run relationship between series with different integration orders performed to know if the series were stationary or not. The lag selection test was also done to examine the appropriate lag length for the analysis.

To examine if deposit money banks activities is detrimental to financial sector development, the study modifies and adapts the model developed by Ezekiel *et al.* (2022), Muhammad *et al.* (2019), Musa and Okologume (2020) and Victor (2019). In accordance with the models, the model for this study is as follows:

$$FSD_t = \beta_0 + \beta_1 LOA_t + \beta_2 DL_t + \beta_3 IBP_t + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (i)$$

Where;

FSD = an indicator using credit to private sector (dependent Variable);

β_0 = Intercept term (a constant);

β_1 = Coefficient of loan and advances;

β_2 = Coefficient of deposit liabilities;

β_3 = Coefficient of interbank placement;

LOA = a predictor Variable (loan and advances);

DL = a predictor Variable (deposit liabilities);

IBP = a predictor variable (Interbank placement);

μ = Stochastic error term;

t = periods; and

f = Functional relationship.

A-priori Expectations: $\beta_1, \beta_2, \beta_3 > 0$

In essence, this research is driven by the belief that a thorough investigation into the potential long-run relationships among variables is essential for a comprehensive understanding of the dynamics at play.

Table 1: Variables Measurement

Variables	Type	Measurement	Previous Application
Financial Sector Development	Dependent Variable	It is measured using credit to private sector in Nigeria as stipulated in the CBN financial sector statistical bulletin.	Abimbola (2020) and Sellami *et al* . (2020)
Loan and Advances (LOA).	Independent Variable	This is the total loans and advances given to private sector by the financial institutions in Nigeria.	Anthony *et al*. (2022), Maimuna and Anthonia (2023), Musa and Okologume (2020), Raphael and Okologume (2023).
Deposit Liabilities (DL)	Independent Variable	This is the total customers' deposits with deposit money banks in Nigeria.	Artur and Fitim (2021), Ezekiel *et al.* (2022), Ibekwe *et al*. (2021), Okon *et al.* (2020) and Nguyen and Nguyen (2021).
Interbank placement (IBP)	Independent Variable	This is the total savings with the deposit money banks in Nigeria.	Amery (2022), Matthew and Manu (2020), Sellami *et a.* (2020) and Yaya (2019).

Source: Researcher's Variables Definitions, (2023).

RESULT AND DISCUSSION

Descriptive Statistics

To gain an initial insight into the dataset employed in the study, we conducted an initial analysis using descriptive statistics. This preliminary examination allows us to discern patterns within the, offering a foundational understanding of the characteristics that will be further explored in the subsequent analysis. The summary statistics is presented in Table 2.

Table 2: Descriptive Analysis Result

	FSD	LOA	DL	IBP
Mean	16726.29	15071.21	11529.39	259.9425

Median	16193.86	14662.14	4610.202	232.1568
Maximum	27842.07	24219.81	38523.22	532.4600
Minimum	10440.96	7723.721	1519.275	124.4821
Std. Dev.	5026.189	4992.822	12335.50	132.4483
Skewness	0.897343	0.448659	1.207497	0.716259
Kurtosis	3.221517	2.413140	3.012973	2.498989
Jarque-Bera	1.498734	0.526893	2.673168	1.055596
Probability	0.472666	0.768399	0.262742	0.589903
Sum	183989.2	165783.3	126823.3	2859.367
Sum Sq. Dev.	2.536508	2.497608	1.524309	175425.5
Observations	11	11	11	11

Source: E-View version 10 Output (2024)

Table 2 shows the summary of descriptive statistics of the variables included in the model. It shows the existence of wide variations in the variables as depicted by the mean values during the 2012 to 2022 study period. Table 2 reveals that financial sector development has a mean of 16 billion naira, meaning that the Nigerian financial sector development had an average annual credit to private sector to the tune of 16 billion naira for the period under consideration, while the deviation from the mean (standard deviation) was 5 billion. This means that financial sector development was normally distributed because the standard deviation value was lower than the mean value. The maximum financial sector development within the period of this study was 27 billion naira. This implies that the highest credit to private sector of the deposit money banks is not more than 27 billion naira within the 11 years. Table 2 also shows the minimum value to be 10 billion naira meaning that credit to private sector per annum was not less than 10 billion naira for the period under review. Loan and advance had a mean of 15 billion naira while the deviation from the mean was 4.9 billion. This indicates that the loan and advances was normally distributed since the standard deviation value was lower than the mean value. The maximum percentage within the period under consideration was 24 billion naira, implying that for the period under review, all loan and advances in the deposit money banks do not experience more than 24 billion naira per annum. While the minimum loan and advances experienced within the deposit money banks for the period under review was not less than 7 billion naira per annum. From the table above deposit money banks activities seems to be better off than both the micro-finance industry and other financial institutions. Deposit liability had a mean of 11.5 billion naira, while the deviation from the mean was 12.3 billion. This indicates that the deposit liability was not normally distributed since the standard deviation value was higher than the mean value. The maximum percentage within the period under consideration was 38.5 billion naira, implying that the highest level of deposit liabilities in the banks per annum under review was not more than 38.5 billion naira. While the minimum level of deposit in the deposit money bank per annum was not less than 1.5 billion for the period under review. Finally, the interbank placement had a mean of 259 billion naira while the deviation from the mean was 132 billion naira. This indicates that the interbank placements was normally distributed since the standard deviation value was lower than the mean value. The maximum value within the period under consideration was 532 billion naira, implying that the development within the interbank placement for the period under review was not more than 532 billion naira. The minimum percentage of interbank placement of the deposit money banks per annum for the period under review was 124 billion indicating that interbank placement did not go below 124 billion.

The analysis was also fortified by the value of the skewness and kurtosis of all the variables involved in the model. All the distributions are positively skewed. Variables with value of kurtosis less than three are called

platykurtic (fat or short-tailed) and all the variables are qualified for this during the study period except for LOA and IBP. On the other hand, variables whose kurtosis value is greater than three are called leptokurtic (slim or long tailed), FSD and DL qualified for this during the study period. Jarque-Bera test shows that the residuals are normally distributed as indicated by the probability values greater than 5% in all the variable.

The unit root test adopted here is the Augmented Dickey Fuller Test and the results are shown in Table 3 below;

Table 3: Summary of ADF unit Root Test for the series of FSD, LOA, DL and IBP

VARIABLES	Lags	T-statistic	5% Critical Value	P-Value	Integrated Order	Remarks
FSD	1	-1.293749	-3.25808	0.5824	I (0)	Not Stationary
	2	-3.355244	-3.320969	0.5824*	I (2)	Stationary
LOA	0	-2.492707	-3.259808	0.1472	I (0)	Not Stationary
	1	-4.275042	-3.320969	0.0146	I (1)	Stationary
DL	0	-1.328042	-2.936942	0.6072	I (0)	Not Stationary
	1	-5.720119	-2.938987	0.0000	I (1)	Stationary
IBP	0	1.011189	-2.938987	0.9539	I (0)	Not Stationary
	1	-3.529794	-2.938987	0.0123*	I (1)	Stationary

Source: Researchers Computation (E-view 10) 2024)

It is evidenced from table 3, that LOA, DL and IBP were all found to be stationary at first difference while FSD were stationary at second difference respectively; that is integrated at order one and two and at 5% level of significance. Since all the variables were found to be stationary at first and second different orders, it was logical for the study to conduct ARDL bound test approach to validate the dataset.

Table 4: ARDL Bound Test for Co-integration Analysis

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	13.177648	10%	2.37	3.2
K	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66
Actual Sample Size	10		Finite Sample: n=30	
		10%	2.676	3.586
		5%	3.272	4.306
		1%	4.614	5.966

Source: E-view Version 10 (2024)

The result of the ARDL bounds testing approach for the inflation model in table 4 above indicating that the F-statistic value of 13.177648 calculated at K = 3 (number of independent variables) falls above the upper bound critical value 1(0) at 5% significance level. Therefore, the study concludes that there is a long-run relationship among the model variables and thereby reject the hypothesis of no co-integration at 5%

significance level. This indicates a long-run relationship between the variable for the period.

Table 5: Ordinary Least Square (OLS) Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-705.8845	3939.521	-0.179180	0.8743
D(FSD(-1))	-1.366705	7.043945	-0.194025	0.8641
D(LOA(-1))	2.418448	3.945004	2.613041	0.0423
D(DL(-1))	0.289006	0.332220	2.869926	0.0061
D(IBP(-1))	-17.03794	15.90827	-1.071011	0.3963
ECM(-1)	-0.843528	3.145732	-0.268150	0.8137
R-squared	0.530026	Mean dependent var		1832.809
Adjusted R-squared	0.504908	S.D. dependent var		2100.967
S.E. of regression	2694.573	Akaike info criterion		18.74957
Sum squared resid	14521451	Schwarz criterion		18.80915
Log likelihood	-68.99829	Hannan-Quinn criter.		18.34772
F-statistic	15.41112	Durbin-Watson stat		2.062209
Prob(F-statistic)	0.002476			

Source: E-View Version 10 Output (2024)

From table 4 above, the coefficient of multiple determinations (R^2) is 0.530026 and in line with the time series nature of the data used in this study, the regression model revealed that the range of values between adjusted R^2 and R^2 falls between 53%, and 50% respectively. This indicates that about 53% of the total variations in financial sector development measured by (credit to private sector) is explained by the variations in the independent variables (loan and advances, deposit liabilities and interbank placement), while the remaining 47% of the variation in the model is captured by the error term, which further indicates that the line of best fit is highly fitted and the data set is fit for economic policy. Similarly, from the table above, the coefficient of the intercept (for the OLS result) is negative and insignificant. This indicates that at any given point of time where these explanatory variables are held constant, financial sector development) of Nigeria decreases by -705.8845. In terms of residual test, the model is free from serial correlation as revealed by the Durbin-Watson statistic of 2.06 is within the acceptable range of 1.7 to 2.5 for a sample of at least 50 observations.

The individual independent variables of the study show that loan and advances (LOA) has positive and significant effect on financial sector development (FSD) as indicated by the P-value of (0.0423) which is less than 5% significant level. On the same note, the second null hypothesis posited that deposit liabilities (DL) have positive and significant effect on financial sector development (FSD) as indicated by the P-value of (0.0061) which is less than 5% significant level. Furthermore, interbank placement exerts negative and an insignificant effect on financial sector development (FSD) as indicated by the P-value of (0.3963) which is greater than 5% significant level.

The error correctional model (ECM) correct for the long run relationship and the variable was said to be statistically insignificant at the long run.

Table 6: Post-Estimation Test

Descriptions	Probability Values
Normality's Test;	
Jarque-Bera	0.202854

P-value	0.903547
LM Serial Correlation;	
F-statistics	0.874234
P-value	0.5214
Heteroskedasticity Test;	
F-statistics	0.948816
P-value	0.5850

Source; Researcher Computation from E-view version 10 Output (2024)

Table 6 above reveals that the data is skewed, denoting that the data are normal. This is corroborated by the Jarque-Berra Statistic of 0.202854 and its corresponding P-value of 0.903547 which is greater than the p-value of 0.05.The Breusch-Godfrey Serial Correlation LM Test indicates that there is no autocorrelation. This is given by the F-statistic of 0.874234 and its corresponding P-value of 0.5214. The Breusch Pegan Test of Heteroskedasticity with F-statistics 0.948816 and its corresponding P-value of 0.5850 indicates that there is no problem with heteroskedasticity.

Figure 2: Stability Test
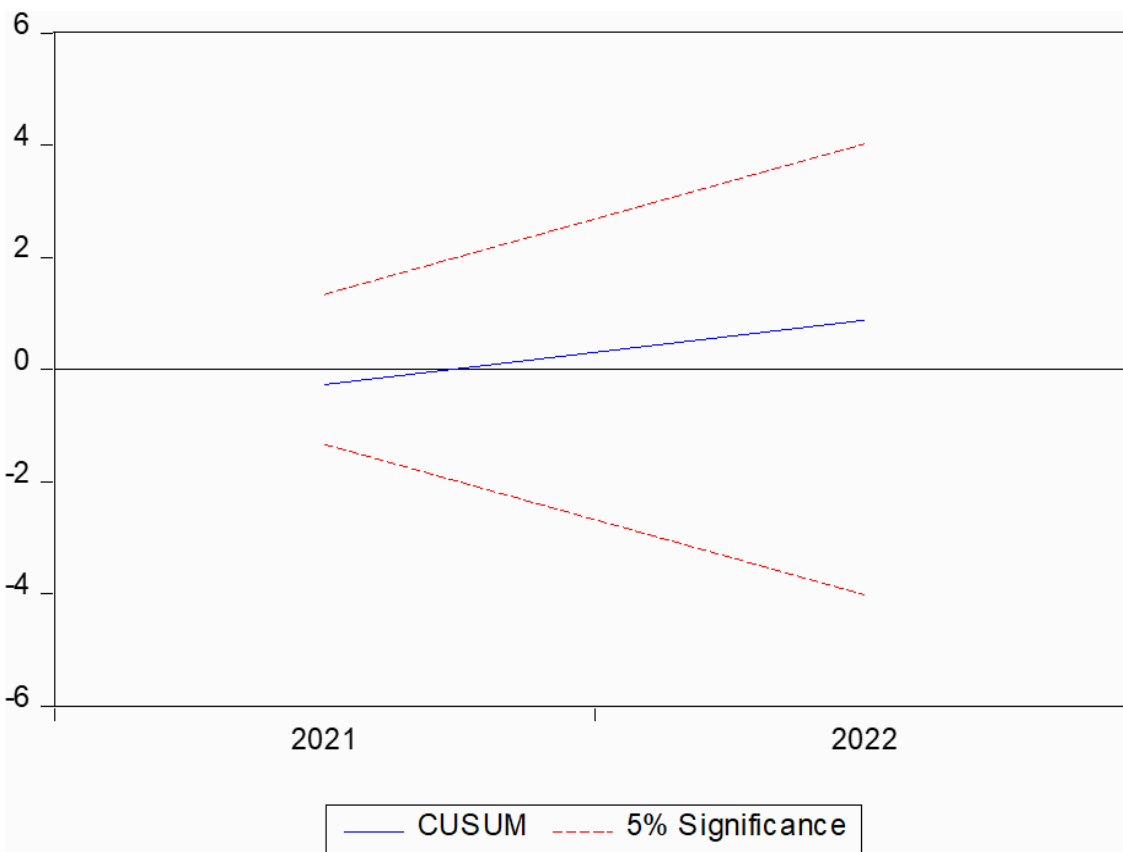
Source: E-View Version 10 Output (2024)

In an attempt to ensure that the OLS model is well fitted, the study employs cumulative sum (CUSUM) test developed by Durbin, Brown, and Evans (1975). The test decision is that, if the plotted CUSUM statistics lies within 5% significance level, the coefficient estimates are accepted. Thus, Figure 2 posited that the CUSUM plot falls within the 5% level of significant (indicated by the two red lines). This shows that the model is stable and not spurious.

CONCLUSION AND RECOMMENDATIONS

The broad objective of these study is to empirically examine the effect of the deposit money banks activities on financial sector development in Nigeria. The study has drawn the conclusions below, based on the analysis of data and discussion of results; specifically, the study concluded that loan and advances have positive and significant effect of financial sector development in Nigeria. This implies that the provision of loans and advances plays a pivotal role in fostering the development of the financial sector in Nigeria. The positive and significant effect observed indicates that these financial instruments contribute substantially to the growth and stability of the sector. Loans and advances serve as catalysts for economic activities by providing the necessary capital for businesses and individuals, thereby promoting entrepreneurship, job creation, and overall economic expansion. This study underscores the importance of a well-functioning credit market in driving economic development and reinforcing the role of loans and advances as vital contributors to the overall financial sector growth in Nigeria. This study congruent the findings of Maimuna and Anthonia (2023) and Adeyemo and Olateju (2022) that loans and advances facilitate liquidity in the market, they enable financial institutions to efficiently channel funds to productive sectors, fostering a dynamic and resilient financial landscape. The study also found that deposit liability was recorded to have a positive and significant effect on financial sector development in Nigeria. By implication a positive and significant effect of deposit liability on financial sector development in Nigeria suggests that the accumulation of deposits within the financial system plays a crucial role in shaping its overall health and robustness. The findings imply that a well-established deposit base contributes significantly to the stability and growth of the financial sector. This study corroborated with the findings of Nguyen *et al.,* (2021) and Ezekiel *et al.,* (2022). On the other hand, the study contradicts the research work of Okwo *et al.,* (2012) who found that deposit liability does not improve economic growth.

The analysis above further reveals that interbank placement exerts negative and insignificant effect on financial sector development. This suggests that an overreliance on interbank placements may have impeded the sector's growth and stability. Negative effects could stem from factors such as heightened systemic risk, as heavy dependence on interbank transactions might create vulnerabilities within the financial network. Counterparty risks and interconnectedness associated with interbank placements could have led to a lack of confidence among financial institutions, limiting their ability to efficiently mobilize and allocate resources. This study is in tandem with the study of Obi *et al.,* (2016) and Amassoma and Odeniyi (2016) whose findings suggested that fixed exchange rates constrain the performance of the Nigerian economy as real exchange rate depicts inverse relationship with economic growth. This result is in disagreement with the findings of Adegbite and Owolabi (2017).

As a result of the analysis of the data and the findings of this study, the following recommendations were proposed.

1. Advocate for and enforce responsible lending practices among financial institutions. This involves ensuring that loans are extended based on sound risk assessment, with proper consideration given to the borrower's creditworthiness and ability to repay.
2. Introduce incentives for individuals and businesses to encourage a saving culture. This could include offering higher interest rates on certain types of deposits, providing tax incentives for savings, or implementing government-backed savings programs.
3. Enhance regulatory oversight and supervision to ensure prudent practices in interbank transactions. Implement and enforce regulations that promote transparency, accountability, and responsible lending and borrowing practices among financial institutions.

This study is limited to time series data. Time series data can be sensitive to outliers or extreme values,

especially if they occur at critical time points. Outliers may distort the overall trend and affect the accuracy of statistical models, leading to misinterpretations of patterns or relationships.

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