

Estimated Model of Financial intermediation and Net Profit Margin of Quoted Commercial Banks in Nigeria

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Article History	Abstract
Original Research Article	<p><i>This study examines the relationship between financial intermediation activities and net interest revenue among publicly listed commercial banks in Nigeria. This study enhances the existing literature by investigating the direct effects of core intermediation indicators, such as deposit mobilization, credit allocation, financial intermediation costs, loan-to-deposit ratio, and branch network size, in contrast to previous research that primarily focused on interest rates and overall profitability. A quasi-experimental research approach was employed, utilizing secondary data obtained from the annual reports and financial statements of publicly traded commercial banks, in addition to the Central Bank of Nigeria's Statistical Bulletin. We used the Statistical Package for Social Sciences (SPSS) to look at the data. Net interest income was the dependent variable, and the intermediation variables that were found were the independent predictors. The empirical findings indicated that financial intermediation variables collectively accounted for 52.5% of the variation in net interest income. Deposit mobilization and credit allocation had a positive and statistically significant effect on net interest income. On the other hand, financial intermediation costs, the loan-to-deposit ratio, and branch expansion had negative and statistically insignificant effects. Based on these results, the study suggests that commercial banks use cost-effective intermediation methods to boost investor confidence. It also says that the Central Bank of Nigeria should lower the amount of cash it needs to keep on hand to make it easier for businesses to get loans. It is also a good idea to strengthen attempts to get more deposits in order to better manage liquidity, increase lending capacity, and make more money. Also, to keep the bank's performance up, it's important to optimize the loan-to-deposit ratio and use good cost management procedures. From a policy point of view, the Central Bank's Monetary Policy Committee needs to make monetary policies that encourage more deposits to be moved about in the banking system.</i></p> <p>Keywords: Financial Intermediation, Deposit Mobilization, Credit Allocation, Financial Intermediation Cost, Number of Commercial Bank Branches Net Profit Margin, Commercial Banks.</p>
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INTRODUCTION

Profitability is the foundation for commercial banks to come up with new products, offer more services, and run their businesses more efficiently (Hempell, 2002). The overall stability of the banking sector in an economy is intimately linked to the level of profitability achieved by banks, as elevated profit margins augment their ability to mitigate financial risks and endure economic disruptions. Many people also think that being profitable is necessary

for banks to work well (Jayaraman et al., 2021). Evidence from the Nigerian banking sector shows that commercial banks have quite different levels of performance. Some banks do very well, while others do only slightly better than average. This gap has perpetuated academic discourse concerning the principal determinants of bank performance. It is widely acknowledged that macroeconomic conditions, bank-specific attributes, and monetary policy frameworks

collectively impact banking outcomes. However, the dynamic nature of fund mobilization and allocation has heightened the significance of financial intermediation in contemporary banking systems (Saksonova, 2014). During this process, households, businesses, and government agencies take turns becoming surplus and deficit economic units. Banks make a lot of money from the interest margin that comes from paying interest on deposits and charging interest on loans. The difference between the rates they charge for loans and deposits is the main source of their income (Salem et al., 2019).

In today's world of rising prices, banks' interest income and expenses have changed a lot since interest rates have gone up quickly. This is because maturity transformation causes structural mismatches between assets and liabilities. As a result, the direction and size of fluctuations in net interest income have become very important for the stability of banks. Net interest income is a commonly accepted measure of how well banks are doing since it shows both the cost of intermediation and the overall health of banks (Chandra et al., 2021). The difference between lending and deposit rates is the payment for acting as an intermediary when there is uncertainty about the availability of deposits and the demand for loans. The factors that affect net interest income usually come from things like the bank's own features, the industry as a whole, and the economy as a whole (Williams, 2007). Financial intermediation is when financial institutions take on debts to buy financial assets through market transactions. This moves money from savers to borrowers. Banks play a key role in this process by taking deposits from people who have extra money and giving loans to people who need it. Over time, savers receive interest on their savings and borrowers pay back their loans with interest (Phuon et al., 2020).

Banks play an important function as middlemen between the parts of the economy that have too much money and the parts that need it, but this costs both depositors and borrowers (Tabash, 2019). The financial repression hypothesis linked to the McKinnon–Shaw framework makes it clear that operational efficiency is very important for good intermediation. The main job of financial intermediation is to take funds from units who have more than they need and give them to units that need them as loans and advances (Selvara & Weiss, 2014). To stay profitable, banks need to efficiently move deposits around to support more lending (Obamuyi, 2013), which shows how closely deposit mobilization, credit creation, and profitability are linked. Vohra and Sehgal (2012) contended that the efficacy of this intermediation process has direct repercussions on bank performance. Loans are the main way that banks make money, and when the supply of credit goes up, it is usually because of an expansionary monetary

policy. Savings mobilization, serving as an ancillary intermediation role, relies on public trust, institutional advancement, branch proliferation, and existing monetary and macroeconomic circumstances (David et al., 2021).

While comprehensive empirical investigations have analyzed the factors influencing commercial bank profitability, current studies predominantly concentrate on bank risk, efficiency, and intermediation costs within various national frameworks. For example, Gupta, Sarker, and Mohammad (2021) looked at how risk, efficiency, and intermediation costs all worked together in Bangladeshi commercial banks. Jayaraman, Azad, and Ahmed (2021) looked at how important financial variables affected net profit in certain banks in Oman. In the same way, David and David (2021) looked at how financial intermediation affects bank performance in Ghana by looking at data from universal banks. Nevertheless, there has been insufficient empirical scrutiny regarding the relationship between financial intermediation and net interest revenue specifically among publicly listed commercial banks in Nigeria, indicating a distinct gap that the current study aims to fill.

LITERATURE REVIEW

Financial Intermediation

Financial intermediation is the process by which financial institutions create financial assets in organized financial markets to connect economic units with surpluses and deficits. This helps to fix financial imbalances through a price-based compensation mechanism, which is usually shown by interest rates (Ezirim et al., 2010). In the case of deposit money banks, this role mostly has to do with getting deposits and giving out credit. This includes both the money that savers put in and the money that banks give out (Ezirim, 2005). Bank lending is a key aspect of the intermediation process and is very important for economic growth and development, especially in developing countries. Even though scholars disagree on whether finance causes economic growth or the other way around, bank lending is still quite important. Additionally, commercial banks serve as essential conduits for government monetary policy, enabling the attainment of macroeconomic goals including full employment, economic stability, sustainable growth, and balance of payments equilibrium (Odior, 2013).

Empirical studies investigating financial intermediation and its direct effects on bank performance are still somewhat scarce in the current literature. Many studies have examined the link between financial intermediation and economic growth, but fewer have looked at how it affects the performance of the banking sector. Prominent exceptions are the research conducted by Akoto and Nubieu

(2014), which examined the impact of financial intermediation on bank profitability through evidence from Ghana. Nonetheless, a significant portion of the existing empirical literature has been executed outside the Sub-Saharan African (SSA) environment, predominantly focusing on indices of financial depth rather than performance outcomes. This study evaluates bank performance through two principal dimensions: financial stability and return on assets. A solvency index, which is the amount of money set aside for loan losses compared to the total amount of loans and advances, is used to determine financial soundness. This shows how well banks are able to recover debts. This move is likely to have a big effect on profits and the general performance of banks.

Deposits of Financial Institutions

The banking sector's main source of funding is customer deposits, which make up around 75% of all funding obligations. The Central Bank of Nigeria (CBN) said that as of December 2016, total bank deposits were ₦1,488,168 trillion. CBN supervisory reports from 2001 to 2016 show that deposits have been steadily rising. Through deposit mobilization, commercial banks do important things including getting people to save money, spreading out risk, and making sure that money is used in the best way possible. But the natural difference between deposits coming in and loans going out puts banks at risk of having to pay a lot of different intermediation charges (Ngugi, 2001). Banks charge for intermediation services by establishing interest rates on deposits and loans to make up for these uncertainty. The difference between the costs of borrowing and the profits on lending shows the costs of intermediation, which include charges for information, transactions, administration, default risks, and operations (Rhyne, 2002). Consequently, interest rate spreads are influenced by the structural attributes of the banking industry and the existing policy framework (Ngugi, 2001). Risk-averse banks usually have narrower spreads since they have higher ideal lending rates and less credit available. However, macroeconomic factors including monetary and fiscal policy actions also affect actual spreads (Emmanuelle, 2003).

The way banks decide on interest rates depends a lot on how the market is set up and how they manage risk. Banks are thought to either try to maximize their projected earnings or the expected utility of those profits. Interest rate spreads are made up of different parts depending on the state of the market. For example, when banks have market dominance in lending and deposit rates are set by competition, changes in loan rates are the main cause of interest spreads (Ngugi, 2001). Customers put money into savings, checking, or money market accounts at banks to keep it safe. The conditions of the contract control how the money can be

withdrawn. From an accounting standpoint, deposits are liabilities for banks because when you deposit money, you give the bank ownership of it. When you put money in the bank, it becomes the bank's property, and you have a claim against the bank. Obamuyi (2013) says that banks need to be able to efficiently move deposits around in order to keep making money. This is because banks need to be able to lend more money. This shows how closely related deposit mobilization and credit creation are. It also suggests that banks that can mobilize more deposits are more likely to be profitable.

Bank Credit to Customers

An expansion in financial intermediation enhances credit availability, whereas a contraction produces the opposite effect. Given that loans constitute the largest proportion of bank assets, lending decisions remain a central function of banking operations. When deposits are successfully mobilized but creditworthy borrowers are insufficient, banks incur elevated holding costs on idle funds. In many developing economies, surplus liquidity is often redirected into government securities, which typically yield lower returns than private-sector lending and contribute minimally to financial sector deepening. The loanable funds theory posits that interest rates are determined by the interaction between the supply of loanable funds and the demand for credit (Fry, 1995). More recent contributions to the literature argue that the competitive structure of the banking industry depends on the responsiveness of loan demand and deposit supply to intermediation charges (Entrop et al., 2012). In this study, the ratio of total credit to aggregate deposits is employed as an indicator of banks' capacity and willingness to extend credit, thereby serving as a proxy for financial sector development, with higher ratios reflecting stronger intermediation performance.

Operating Cost

Operating costs are a major part of the costs of financial intermediation. Based on financial intermediation theory and the loanable funds framework, higher operating costs lead to higher intermediation costs. This, in turn, makes interest rate spreads wider as lenders try to make up for increased operational costs. Effective management of operational costs increases the productivity of managers and boosts bank profits. As a result, the ratio of operating costs to total assets is likely to have a negative effect on profitability (Said & Tumin, 2011). Empirical data substantiates this claim, as Athanasoglou, Brissimis, and Delis (2005) illustrate a significant inverse relationship between operating costs and bank profitability.

Bank Interest Rate

As previously mentioned, the loanable funds theory asserts that interest rates are established by the interplay between

the availability of loanable funds and the demand for credit (Fry, 1995). In contrast, Keynes' liquidity preference theory, presented in *The General Theory*, posits interest as remuneration for forgoing liquidity over a specified duration, characterizing interest rates as a monetary rather than a tangible phenomenon. Economists think that low real interest rates over time make people less likely to save. This is why many economists say that liberalizing the financial sector—by boosting real interest rates—can encourage saving and make financial intermediation stronger. On the other hand, supporters of a growth model headed by the private sector say that reduced interest rates on loans stimulate businesses to expand and grow. Even though these stances seem to be at odds with each other, they are actually different parts of the same process, with the interest rate spread being the most important way to keep everything in balance. Deposit rates should be high enough to encourage people to save, while lending rates should be low enough to encourage productive borrowing. This would minimize the spread and make intermediation more efficient.

Rose and Hudgins (2008) contend that the interest rate spread is a critical measure of a financial institution's efficiency and efficacy in mobilizing and allocating funds, as well as the level of competition in the banking sector. Samuelson's early theoretical work (1945) said that higher interest rates usually make banks more profitable. Empirical findings are inconclusive: studies by Molyneux and Thornton (1992) and Demirgüç-Kunt and Huizinga (1998) indicate a positive correlation between interest rates and bank profitability, whilst research by Naceur (2003) and Lehmann and Manz (2004) reveals a negative correlation. This study utilizes average lending and borrowing rates to represent interest rate dynamics. Financial intermediation means moving money from units with too much money to units with too little money. This turns deposits into bank assets like loans and overdrafts. Andrew and Osuji (2013) stress that this transformation function lets banks turn savings into investments that create jobs and boost the economy.

Cost of Financial Intermediation

The cost of financial intermediation (CFI) is often described as the net interest margin, which is the difference between the interest received on loans and advances and the interest given to depositors (Al-Jarrah, 2010; Bernanke et al., 1991). From the point of view of a developing economy, CFI has become a more and more important concern since it shows both risk exposure and operational efficiency in the banking system (Al-Jarrah, 2010). Previous research indicates that intermediation costs significantly influence market competitiveness and enhance the efficiency of fund mobilization. In highly competitive markets, major banks

with a lot of capital often have an edge when it comes to pricing since their cost of capital is cheaper. This lets them control lending markets and affect how loans are priced (Brock & Franken, 2002). Ho and Saunders (1981) put out the dealership model, which says that intermediation costs are mostly affected by risk exposure, market competitiveness, transaction volume, and changes in interest rates. These indicators show how closely market structure and intermediation pricing are related, which has direct effects on how banks take risks and set loan prices. Additionally, heightened competitiveness may deter investment in information gathering, rendering operational efficiency an increasingly vital consideration (Hauswald & Marquez, 2006). This interplay between intermediation cost, risk, efficiency, bank size, and competitive conditions highlights the necessity for empirical examination.

From a different angle, the cost of financial intermediation is the economic value that comes from a bank's capacity to move money around quickly (Al-Jarrah, 2010). This connects CFI directly to how well a bank does and how much money it makes. Ho and Saunders (1981) made the first important contribution to the idea of the net interest margin as payment for banks' intermediation services. Islam and Nishiyama (2016) later built on this idea. This margin is the difference between the costs of deposits and the costs of lending. It is affected by four main things: how risk-averse banks are, how much competition there is in the market, the amount of transactions, and changes in interest rates. These factors together explain why intermediation costs vary amongst banking systems and show how important it is to look at CFI in the bigger picture of risk management, efficiency, and market structure.

Net Interest Income

Net interest income is the difference between the interest that banks make on interest-bearing assets and the interest that they pay to depositors and other fund providers, based on the assets that they earn. People generally agree that it is a key sign of how profitable and financially stable commercial banks are. Because deposit mobilization and lending are the main things that commercial banks do, the difference between borrowing and lending rates is what makes them money. The ratio of net interest income to total interest income shows how much of the interest income is left over after paying interest. Because customer deposits are the main source of money and loans and advances are the main way to use that money, interest expenses and interest earnings inevitably come from these operations. The net interest income that comes from this is very important for banks' profits, cash flow, and ability to pay their debts. Even if new technologies and products have made fee-based income streams bigger, lending activities still bring in the most money for banks.

Previous studies underscore the significance of concentrating on net interest margins as an indicator of banking efficiency. Kasman et al. (2010) contend that net interest margins yield significant insights into the operational efficacy of banking institutions. Empirical data indicates that broader interest spreads enhance bank profitability (He, 2018), whereas fluctuations in interest rates are typically linked to enhanced profit performance (Said & Tumin, 2011). So, the net interest margin shows how well banks do their basic jobs of getting deposits and giving out loans. Even while banks are offering more fee-based services, interest-related income is still the biggest part of their income.

Qin and Dickson (2012) also found that the interest revenue banks make from lending, minus the interest they pay on deposits and borrowings, is the biggest source of their profits. This study uses net interest margin, return on assets, and return on equity as major performance metrics to measure profitability. However, evidence from Lepetit et al. (2008) shows that banks that depend a lot on non-interest earning operations are more likely to fail and are at a higher risk of insolvency than banks that rely on traditional lending. Maudos and Solís (2009) also say that banks with more market dominance are better able to go after larger intermediation margins. Banks may try to pass on their operational expenses to borrowers by charging higher interest rates on loans or to depositors by paying lower interest rates on deposits. However, competition is forcing banks to become more efficient by offering attractive deposit rates and competitively priced credit. So, in order to be profitable in a very competitive financial market, banks need to come up with ways to make sure that they use consumer deposits in the best way possible.

Financial Intermediation Theory

Akoto and Nabieu (2014) assert that the efficacy of financial intermediation is contingent upon the efficient alignment of surplus funds with deficit financing requirements, indicating the successful deployment of excess resources to mitigate funding shortfalls. Kolb and Rodriguez (1993) elucidate that commercial banks alleviate discrepancies between savers and borrowers via four principal intermediation functions: size transformation, maturity transformation, risk transformation, and information processing. Kindleberger (1984), on the other hand, thinks of financial intermediation in terms of three main areas: borrowing at the retail level and lending at the wholesale level, maturity transformation through short-term borrowing and long-term lending, and the spreading out of financial risks.

Ngugi (2001) contends that the asynchrony between deposit inflows and loan disbursements incurs costs for intermediaries in terms of intermediation pricing. Banks

charge for intermediation services by setting deposit and lending interest rates. Intermediation costs are the difference between gross borrowing costs and net lending returns. This is how banks make up for the fact that they have to work in an uncertain environment. The difference between lending and deposit rates is often used to measure how well intermediation works. Kolb and Rodriguez (1993) and Brownbridge (1998) contend that fluctuations in interest rate spreads are mainly due to the risk profiles of bank deposits and loans. In contrast, Ngugi (2001) underscores the significance of market structure—particularly the nature of banking operations in competitive versus imperfect market conditions—as a crucial factor.

Modern financial intermediation theory is based on the idea that intermediaries exist to lower transaction costs and make information more equal (Diamond, 1984). Nonetheless, progress in information technology, financial liberalization, and market expansion has markedly reduced transaction costs and informational barriers, prompting several theoretical frameworks to propose a declining significance of intermediaries. This perspective contradicts empirical evidence, which consistently underscores financial intermediation as a value-generating economic activity, evidenced by the enduring and increasing significance of financial institutions. This seeming contradiction implies that existing financial intermediation theories provide an inadequate rationale for the persistence and significance of financial intermediaries in contemporary economies.

Liquidity Preference Theory

Keynes (1936) first came up with the idea of liquidity preference theory. He said that the relationship between the supply of money and the demand for money balances determines interest rates. This theory posits that individuals seek money not solely for transactional interests but also for precautionary and speculative reasons. As income rises, both transaction and precautionary demands go up. However, speculative demand goes down as interest rates go up because people lose out on interest profits. Keynes also said that investors prefer short-term securities over long-term ones due of liquidity concerns. This means that investors need higher interest rates to get them to keep assets with longer maturities. This preference leads to an upward-sloping yield curve, which shows that investors want a higher return on their money when they put it into less liquid, longer-term securities.

The hypothesis is based on the idea that people usually want liquidity, thus they need to be paid to invest in things like bonds, stocks, or real estate, which are less liquid. The liquidity premium is anticipated to rise with the duration investors must wait to retrieve their capital; nevertheless, Auerbach (1988) observed that the rate of this premium's

increase typically declines as maturity extends. In terms of money, liquidity preference theory says that forward rates should be higher than predicted future spot rates. This is because investors who don't want to take on risk want to be paid more for keeping securities for a longer period of time. Higher advance rates, which are meant to encourage investment into long-maturity assets, show this premium.

Reilly and Norton (2006) pointed out that savings behavior is closely related to income levels within the larger Keynesian framework. They found that investors are often willing to accept lower yields on short-term securities to avoid the greater price volatility that comes with long-term bonds. Nonetheless, the theory has faced criticism. Were and Wambua (2014) contended that liquidity preference theory is plagued by a logical inconsistency stemming from mutual determination, observing that although Keynes asserted interest rates are dictated by liquidity preference, his analysis frequently positions interest rates as determinants of liquidity preference instead. Critics contend that Keynesian theory implicitly regards the interest rate as an exogenous factor rather than a variable determined endogenously inside the economic system.

Clark's Theory of Profitability

Clark put out one of the first ideas of profitability by considering a perfectly foreseen economy that runs at a loss. All resources are freely moveable, there is no monopolistic power, and all market transactions are frictionless; these are the tenets of this theoretical framework's ideal, static, competitive economic system. In this type of economy, the only incentives are salaries for managers, and everyone acts with complete confidence. The system's static equilibrium is restored when any change, whether it's in population, capital accumulation, or production techniques, temporarily disturbs it. This is because the system automatically adjusts wages, interest rates, output, and prices to account for the change. A profit-driven economy, on the other hand, displays radically different dynamics due to the fact that profits are generated by change, innovation, and uncertainty. Market competition maintains such an economy's shock-absorbing capabilities. By bringing the price of goods and services into line with their production costs, competition eventually reduces profits and losses, as pointed out by Knight (1921), bringing the economy closer to a state of equilibrium.

Empirical Review

Using cross-sectional data collected from financial statements and the Central Bank of Nigeria Statistical Bulletin for the period 2011-2020, Nkpe (2026) examined how effective banking practices affected the performance of listed commercial banks in Nigeria. Utilizing liquidity reserves, credit allocation, deposit mobilization, and risk

management as explanatory variables, return on equity was used as a performance measure. The study evaluated model with pooled, fixed, and random effects using panel data approaches. The Hausman test confirmed that the fixed effects specification was the most appropriate. Overall, the model was statistically significant, and the findings showed that the chosen banking practice factors explained a large percentage of the variance in return on equity. Credit allocation and deposit mobilization had good impacts on return on equity, whereas risk management and liquidity reserves had negative consequences. Nevertheless, the results also showed that risk management, liquidity reserves, deposit mobilization, and loan distribution were statistically significant factors that affected return on equity. Improving operational efficiency and providing ongoing staff training were suggested as ways to boost banking performance in the study.

In their 2021 study, Jayaraman, Azad, and Ahmed used panel time-series data spanning 2007–2019 to analyze the effect of important financial variables on the profitability of five Omani commercial banks. Assets, deposits, loans, and interest income were found to have positive connections with net profit according to their investigation. Net profit and the net loans-to-deposits ratio were found to be negatively related, on the other hand. The results showed that net loans were the most important factor in determining profitability, which makes sense given the importance of lending activities in generating revenue. Excess liquidity and greater capital adequacy ratios were linked to worse profitability as a result of increasing capital expenses, whereas assets and capital adequacy showed mixed effects. In order to increase bank profitability, the study stressed the significance of having a solid and properly managed loan portfolio.

Using a two-step system generalized method of moments (GMM) estimator on unbalanced panel data from 32 banks over the period of 2000-2016, Gupta, Sarker, and Mohammad (2021) examined the joint effects of bank risk, efficiency, and financial intermediation costs in Bangladeshi commercial banks. They found that banks' returns were negatively impacted by greater risk-taking, although intermediation spreads were decreased as a result of efficiency improvements. The study also found that cost-efficient banks take on more credit risk, even when they end up reducing their overall risk exposure due to better efficiency improvements. Research has shown that larger banks are more willing to take risks, but less efficient overall. On the other hand, more competition in the market makes banks more risk-taking and efficient overall, and it lowers the costs of intermediation.

Using yearly time-series data from sixteen universal banks in Ghana from 1996-2018, David and David (2021)

evaluated the effect of financial intermediation on bank performance. Using the Augmented Dickey-Fuller approach to test for stationarity, multiple regression analysis was then conducted. The findings showed that borrowing rates, operational expenses, and reserve requirements all had a substantial impact on the performance of the banks. Efficiency improved with higher operating costs, performance improved with lower reserve levels, and profitability improved with higher borrowing rates. Policymakers, commercial banks, and central banks can all benefit from the study's conclusions, which aim to make the banking industry more efficient and effective.

Amidst banking reforms and restructuring, Adewole, Dare, and Ogunyemi (2019) investigated the continuing discussion over financial intermediation and the efficiency of Nigerian commercial banks. Significant correlations were discovered between total lending and lending rates, overall credit ratios and cash reserve needs, and bank performance measures such as total assets and capital, according to the study, which used data from the Central Bank of Nigeria Statistical Bulletin and statistical analysis based on regression. Nonetheless, liquidity ratios, loan-to-deposit ratios, and bank performance were not shown to be significantly related. In addition, the results demonstrated a strong correlation between total credit and GDP, highlighting the importance of bank lending to economic expansion. To boost bank performance and encourage economic growth, the authors suggested reducing lending rates, bolstering capital utilization, enhancing liquidity management, and expanding loan allocation to the real sector.

In their study of Nigerian deposit money banks, Onyekachi and Okoye (2013) discovered that both lending rates and monetary policy rates had a positive and statistically significant impact on the performance of the banks. Effective administration of lending, backed by strong deposit mobilization and cost-reduction measures, is crucial for profitability, financial stability, and economic development, according to the authors. They also stressed that lending is still the key driver of banking operations. Their research shows that deposit mobilization is crucial to the health of banks and the effectiveness of their lending operations.

Vohra and Sehgal (2012) reached a similar conclusion, stating that interest revenue is the primary source of bank earnings, and that the two most important responsibilities of banks are deposit mobilization and cautious lending behavior. Bank profitability, financial system stability, and economic growth are fundamentally impacted by the maintenance of high deposit levels and solid credit management policies, according to the study. Researchers Richard and Gladys (2014) looked at information from

eight big Ghanaian banks between 2004 and 2010 and found that the banks with the highest deposit mobilization also had the highest loan and advance volumes. They concluded that efficient cost management is just as critical as deposit mobilization and credit expansion, as their results showed that increased lending volumes did not automatically result in increased profitability. Government policies that promote deposit mobilization and enhance financial intermediation were also suggested as supporting measures in the study.

The gap between lending and deposit rates, according to Baghwan Chowdhry (2010), is the main source of bank profits. He maintained that deposit mobilization cannot produce profits on its own; lending is necessary for this. According to the research, financial intermediation may be jeopardized if lending rates were set too high. This is because such rates would increase the cost of capital, discourage investment, and lower the demand for credit. The author posits that wider interest spreads could be an indication of banking sector inefficiency, moral hazard, or fragility. Khan et al. (2014) determined a high positive association between interest rate fluctuations and bank profitability in Pakistan. This suggests that changes in interest rates are closely linked to variations in bank profitability.

Using yearly data from 1999 to 2012, Ogunbiyi (2014) studied how interest rates affected the profitability of deposit money banks in Nigeria. The results showed that return on assets, a measure of profitability, was significantly impacted by maximum lending rates, real interest rates, and savings deposit rates; return on equity was similarly negatively impacted by real interest rates. These effects were statistically significant. Interest rate variables did not show a significant correlation with net interest margin, indicating that interest rates may have different effects on bank profitability depending on the metric used to measure performance.

Using panel data spanning 2003–2014, Selvaraj and Weiss (2014) examined the effect of credit risk on the profitability of Ethiopian commercial banks. They discovered that capital adequacy, non-performing loans, and loan loss provisions were the most influential factors in profitability. Both internal management-related variables and external macroeconomic variables, such as GDP growth and inflation, influence profitability, as Duraj (2015) showed with an emphasis on Albanian banks. These results demonstrate how macroeconomic stability and institutional efficiency work together to affect the banking sector's performance.

Noting that big banks continue to reap the benefits of economies of scale, Onuonga (2014) examined the internal factors that determine profitability among the top six commercial banks in Kenya. The factors that emerged as

significant predictors of profitability included bank size, capital strength, operating expenses, ownership structure, and the loan-to-asset ratio. Similarly, Mwangi (2014) discovered that deposit-taking microfinance institutions in Kenya's financial success was strongly correlated with lending interest rates.

Interest rate spreads at Kenyan commercial banks were not significantly related to loan size, according to research by Wambugu (2014). This suggests that spread variations are not only explained by loan size. Despite more investment in online banking, the anticipated beneficial effect on bank profitability has not entirely materialized, according to Zipporoah and Simba (2015), who studied the effect of technologically-based banking innovations on financial performance. In their analysis of the impact of macroeconomic variables on bank profitability, Simiyu and Ngile (2015) discovered that real GDP growth had a small but positive effect, real interest rates had a negative effect, and exchange rates had a large but positive influence.

All things considered, the research shows that interest rates, mobilization of deposits, allocation of credit, cost efficiency, risk management, technological innovation, and macroeconomic conditions all interact in complicated ways to affect bank profitability. Nevertheless, there is still a need for additional research into the determinants of financial intermediation and their effects on bank performance outcomes, especially in the Nigerian banking sector, since empirical results are inconsistent between nations and settings.

Literature Gap

When it comes to financial intermediation and bank profitability, this chapter covered the theoretical underpinnings, conceptual viewpoints, and empirical data from both established and developing financial markets. It stresses the fact that many internal and external variables affect commercial banks' profitability. Having said that, the majority of the data comes from wealthy economies (Zipporoah & Simba, 2015). In addition, Ngerebo-A & Lucky (2016) and Simiyu & Ngile (2015) were among the research that mainly looked at interest rates and profitability rather than financial intermediation and profitability. These analyses notably neglected important intermediation variables like deposit mobilization and credit distribution. Consequently, this research aims to fill that void by conducting an empirical examination of the correlation between financial intermediation factors and the net interest revenue of Nigerian commercial banks that are listed.

METHODOLOGY

This study utilized a quantitative research methodology to produce numerical data conducive to objective analysis and

hypothesis testing. Quantitative methods align with the positivist research paradigm, which prioritizes objectivity and the empirical analysis of observable events. Numerical data enabled the utilization of statistical software for comprehensive data analysis, adhering to accepted methodological standards (Creswell & Creswell, 2018; Sekaran & Bougie, 2019). The research design offers a systematic framework that directs the research process, connecting research objectives with suitable data sources, analytical methodologies, and procedural actions necessary to fulfill the study's aims (Creswell & Creswell, 2017). An explanatory research design was utilized, facilitating the examination of causal links among the study variables (Benitez et al., 2020).

The research utilized just secondary data, characterized as information initially gathered by entities other than the researcher (Boslaugh, 2007). Data were collected from thirteen listed commercial banks from 2015 to 2024, a period deemed enough for capturing fluctuations in financial intermediation practices and net interest revenue within Nigeria's banking sector. This method uses the depth and reliability of existing datasets to help with a strong analysis of the correlations between the variables.

We ran diagnostic tests to make sure the regression models were correct and strong. The Wooldridge test for autocorrelation in panel data was used to check for serial correlation. This test is well-known for being easy to use and good at finding first-order serial correlation. A statistically significant finding signifies a breach of the independent residuals assumption, which may result in biased and inefficient estimators (Gujarati & Porter, 2009). The test results are displayed in the tables that correspond to each study objective.

The Breusch-Pagan test was used to check for heteroscedasticity. This test looks at whether the variance of the regression residuals depends on the explanatory factors. A significant test statistic indicates heteroscedasticity, suggesting a violation of the constant variance assumption and the potential for inefficient estimates and inaccurate statistical inference (Gujarati & Porter, 2009). The test results are also shown in the relevant tables, and they were utilized to help make the right changes to the model so that the estimation results are accurate.

Model Specification

The general model of the study is estimated below.

$$\phi_{it} = \alpha + \beta_1 Y_{it} + \mu_{it}$$

For the first objective with the net interest income (NII) the model estimated below the

independent variables and the control variables.

$$NII_{it} = \alpha + \beta_1 DM_{it} + \beta_2 CA_{it} + \beta_3 FIC_{it} + \beta_4 LTDR_{it} + \beta_5 NBB_{it} + \mu_{it}$$

Where

NII = Net interest income

DM = Deposits mobilization of the commercial banks

CA = Credit allocation of the commercial banks

FIC = Financial intermediation cost

LTDR = Loan to deposit ratio

NBB = Number of commercial banks branches

α = represents the interception

β = representing the coefficients of the independent variables

μ_{it} = represents the error terms

it = i represents the institution and t represents the time or the period.

Diagnostic test

To fortify the empirical findings, the study performed a variety of diagnostic tests, encompassing evaluations of multicollinearity, heteroscedasticity, and serial correlation (autocorrelation). Zero-order correlation coefficients and Variance Inflation Factor (VIF) statistics were used to check for multicollinearity. We looked at the pairwise correlations between the explanatory variables. Coefficients higher than 0.80 were seen as signs of possible multicollinearity. We also calculated the VIF values, which showed that values over 10 were a symptom of substantial multicollinearity problems (Gujarati & Porter, 2009). The results of these tests are shown in the descriptive statistics table, which shows which variables may need more attention or changes to the model. It is important to control for multicollinearity because too much correlation between regressors can make standard errors bigger, change coefficient estimates, and make statistical inference less accurate.

RESULTS AND DISCUSSION

Table 1: Correlation Matrix for Estimates of Fixed Effects^a

Parameter	Intercept	DM	CA	FIC	LTDR	NBB
Intercept	1	-.992	-.114	-.933	.905	.964
DM	-.992	1	.030	.932	-.890	-.973
CA	-.114	.030	1	.322	-.455	-.044
FIC	-.933	.932	.322	1	-.985	-.912
LDTR	.905	-.890	-.455	-.985	1	.876
NBB	.964	-.973	-.044	-.912	.876	1

a. Dependent Variable: NII.

The findings indicated that deposit mobilization, credit allocation and financial intermediation cost are negatively correlated to net interest income of the quoted commercial banks while loan to deposit ratio and number of commercial banks branches are positively correlated to net interest income of the quoted commercial banks over the periods of the study.

Table 2: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1904.718	3	634.906	21.030	.000 ^b
	Residual	6569.189	21	312.819		
	Total	8473.906	24			

a. Dependent Variable: NII

Source: Researchers' Computation (2026)

The adequacy of the model in explaining the effect of financial intermediation on the net interest income of quoted commercial banks was evaluated using a two-way ANOVA. The results yielded an F-statistic of 21.030 with a corresponding p-value of 0.000, as reported in Table 2, indicating that the model is statistically significant and appropriately specified for predicting the influence of the explanatory variables on the net interest income of quoted commercial banks in Nigeria.

Table 3: Type I Tests of Fixed Effects^a

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	29.284	6.289	.018
DM	1	28.168	.053	.819
CA	1	36.926	.026	.874
FIC	1	37.818	2.399	.130

LDTR	1	33.638	1.190	.283
NBB	1	32.427	.459	.503

a. Dependent Variable: EPI.

Source: Researchers' Computation (2026)

Table 3 presents the type I test of fixed effect, the results found the F-statistic and F-significant are statistically not significant except the regression intercept, this implies that the null hypotheses is not rejected among the variables.

Table 4: Intercept

		L1
Fixed Effects	Intercept	1
	DM	11.163
	CA	10.383
	FIC	11.524
	LDTR	11.295
	NBB	11.088

Source: Researchers' Computation (2026)

Table 4 reports the estimated intercepts of the independent variables across the study period. The results indicate that all explanatory variables exhibited positive intercepts with respect to the dependent variable throughout the period under review. Specifically, the intercept associated with deposit mobilization was estimated at 11.163%, credit allocation at 10.386%, financial intermediation cost at 11.524%, loan-to-deposit ratio at 11.295%, and the number of commercial bank branches at 11.088%. These positive intercept values suggest a baseline positive contribution of each variable to net interest income over the study horizon.

Table 5: Regression Estimator

Parameter	Coefficient	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	4.889799	12.585095	28.953	3.389	.000	-20.851431	30.631029
DM	4.146136	2.180432	30.592	3.067	.000	-4.303287	4.595558
CA	1.153295	.575437	39.681	2.004	.042	-.009997	2.316587
FIC	-.096920	.154887	32.575	.626	.536	-.218356	.412197
LTDR	-1.078341	1.012267	33.092	-1.065	.294	-3.137596	.980914
NBB	-.057848	.085339	32.427	-.678	.503	-.231589	.115893

a. Dependent Variable: NII

Source: Researchers' Computation (2026)

Deposit Mobilization

The estimated coefficient for deposit mobilization is positive (4.146136) and statistically significant at the 5% level, as indicated by a p-value of 0.000 (< 0.05). This result demonstrates that deposit mobilization exerts a positive and significant effect on net interest income. An increase in deposits over the study period enhances banks' capacity to extend credit, thereby contributing to higher net interest income through expanded interest-earning activities. This finding is consistent with the theoretical argument advanced by Kosmidou (2008), which suggests that banks with lower liquidity constraints are better positioned to generate higher income through aggressive lending strategies. The result also aligns with empirical evidence from Haque et al. (2016) and Lestari et al. (2021), who reported a positive and significant relationship between the loan-to-deposit ratio and net interest margin, indicating that

improvements in credit utilization relative to deposits lead to higher interest income.

Credit Allocation

The regression coefficient of 1.153295 and the probability value of 0.042, which is below the 5% significance threshold, show that credit allocation has a positive and statistically significant influence on net interest income. This means that if credit allocation goes up during the course of the study, net interest revenue also goes up. Banks' interest-earning assets grow when they lend more money, which means they get more interest from clients and their overall net interest income goes up.

Financial intermediation cost

With a probability value of .536 ($0.536 < 0.05$) and a regression coefficient of -.096920, financial intermediation cost does not have a significant negative impact on net

interest income, indicating that it does not have any meaningful value. Net interest revenue declines throughout the study's time periods when the cost of financial intermediation rises. This causes quoted commercial banks' net interest income to fall across the study's time periods.

Loan to Deposit Ratio

The Loan to Deposit Ratio does not have a significant impact on Net Interest Income because the probability value of .294 is higher than 0.05 ($0.294 > 0.05$) and the coefficient regression is -1.078341. Over the course of the research, net interest income fell as the loan-to-deposit ratio rose. This causes quoted commercial banks' net interest income to fall across the study's time periods.

Number of commercial banks branches

The number of commercial bank branches shows a negative but statistically insignificant relationship with net interest income, as indicated by a regression coefficient of -0.057848 and a probability value of 0.503, which exceeds the 5% significance level. This result implies that changes in branch expansion do not have a meaningful effect on net interest income during the study period. Although the negative coefficient suggests that increases in the number of branches may be associated with marginal declines in net interest income, this relationship is not statistically significant and therefore cannot be generalized.

Table 6: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
					R Square Change	F	Change df1	df2		Sig. F Change
1	.674 ^a	.525	.514	17.68668	.225	5.030	3	21	.001	1.185

a. Predictors: (Constant), DM,CA,FIC,LTDR,NBB
b. Dependent Variable: NII

The regression results show that R was .674^a which shows that the correlation between financial intermediation and net interest income of the quoted commercial banks is positive. R squared is the fraction of the variation in dependent variable (net interest income) that can be accounted for by independent variables (deposit mobilization, credit allocation, financial intermediation cost, loan to deposit ratio and number of commercial banks branches). The findings indicated that the financial intermediation function of the quoted commercial banks in this study account for up to 52.5% of the variations in net interest income. This therefore implies that other factors not studied in this study account for the remaining 47.5% of the net interest income of the quoted commercial banks and therefore, further research can be conducted to determine those factors.

CONCLUSION

This study aimed to find the relationship between financial intermediation and the net interest income of quoted commercial banks in Nigeria. The study used data from central banks of Nigeria and financial statement of the quoted commercial banks from 2016-2025. The findings indicated that the financial intermediation function of the quoted commercial banks in this study account for up to 52.5% of the variations in net interest income. Furthermore, the study found that deposit mobilization and credit allocation have positive and significant influence on net interest income while financial intermediation cost, loan to deposit ratio and number commercial banks branches have

negative and no significant influence on net interest income of the quoted commercial banks.

RECOMMENDATIONS

- i. Commercial banks should reduce the cost of financial intermediation so that investors can regard commercial banks as the primary source of finance. In addition, the Central Bank of Nigeria should reduce the liquidity reserve requirement of commercial banks to enable adequate credit allocation to investors.
- ii. Commercial banks should enhance deposit mobilization to maintain higher levels of liquidity. This will improve their ability to meet customer withdrawals and increase loans and advances to customers.
- iii. The loan-to-deposit ratio should be increased to ensure effective credit allocation to the real sector for productive activities, thereby improving the profitability of quoted commercial banks.
- iv. Bank management should not only implement strategies to mobilize deposits and extend loans but also put effective cost-management measures in place. Furthermore, the government, through the Central Bank of Nigeria's Monetary Policy Committee, should formulate policies that encourage deposit mobilization within the banking sector.

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