

Impact of Credit Risk Management, Capital Adequacy and Financial Performance of Commercial Banks in Nigeria

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ABSTRACT

The Nigerian banking sector plays a critical role in financial intermediation and economic development. However, persistent challenges relating to credit risk exposure and capital adequacy have raised concerns about the sustainability of bank profitability, particularly in the post-pandemic period. This study examines the impact of credit risk management and capital adequacy on the financial performance of commercial banks in Nigeria. Specifically, the study investigates the extent to which credit risk management and capital adequacy influence the profitability of selected commercial banks between 2020 and 2024.

The study is anchored on the Risk–Return Trade-off Theory and the Capital Buffer Theory, which explain the relationship between risk-taking, capital strength, and financial performance. An ex post facto research design was adopted, utilising secondary data obtained from the audited annual financial statements of Access Bank Plc, Jaiz Bank Plc, and Stanbic IBTC Bank Limited. The banks were purposively selected because of the availability and completeness of their financial reports. Data were analysed using descriptive statistics, correlation analysis, and Ordinary Least Squares (OLS) regression. Return on Assets (ROA) was used as a proxy for financial performance, while Loans-to-Assets Ratio (LTA), Capital Adequacy Ratio (CAR), and Deposits-to-Assets Ratio (DTA) served as explanatory variables.

The findings revealed that credit risk management, measured by the Loans-to-Assets Ratio, exerted a negative and statistically significant effect on financial performance, indicating that excessive credit exposure reduces profitability. Capital adequacy exhibited a positive and statistically significant relationship with profitability, suggesting that well-capitalised banks are better positioned to achieve sustainable financial performance. Although the Deposits-to-Assets Ratio showed a positive relationship with profitability, its effect was statistically insignificant. The results further indicate that effective asset management and adequate capitalisation contribute substantially to bank performance.

The study concludes that sustainable financial performance among Nigerian commercial banks depends on prudent credit risk management, strong capital buffers, and effective regulatory oversight. The study recommends that commercial banks strengthen risk-based lending practices, maintain capital levels above regulatory minimum requirements, and diversify their loan portfolios to enhance profitability and financial stability in the long run.

Keywords: Basel III, capital adequacy, credit risk management, Nigerian commercial banks, financial performance, profitability.

INTRODUCTION

The banking sector plays a pivotal role in Nigeria's economic development through the provision of credit facilities, the mobilisation of savings, liquidity transformation, and financial intermediation. As a key component of the financial system, commercial banks facilitate investment, support business expansion, and contribute significantly to economic growth. However, the sector has faced considerable challenges in recent years arising from the COVID-19 pandemic, exchange-rate volatility, inflationary pressures, and tightening monetary policy

measures. Between 2020 and 2024, the combined effects of these economic disruptions exposed weaknesses in the credit portfolios of many banks and highlighted deficiencies in risk management and capital adequacy frameworks (Central Bank of Nigeria [CBN], 2023). The ability of banks to maintain profitability and solvency during this period depended largely on their effectiveness in managing credit risk and maintaining adequate capital buffers.

According to Ali and Iqbal (2021), credit risk management remains one of the most critical determinants of banking sector stability. It influences the quality of loan portfolios, the level of non-performing loans, and ultimately the profitability of financial institutions. Ali and Iqbal (2021) further noted that a rapid increase in non-performing loans threatens capital preservation and may trigger systemic instability within the banking sector. Effective credit risk management policies and procedures help banks minimise potential losses, improve loan portfolio quality, and enhance investor and depositor confidence. In recognition of the importance of risk management, the Central Bank of Nigeria (CBN, 2022) implemented Basel III guidelines and other regulatory reforms aimed at strengthening capital adequacy and improving internal risk governance mechanisms.

According to the Nigeria Deposit Insurance Corporation (NDIC, 2023), capital adequacy is equally important in ensuring the soundness and resilience of banking institutions. Under existing CBN regulations, commercial banks are required to maintain minimum capital adequacy ratios ranging between 10 and 15 percent depending on their license category. Adequate capital serves as a cushion against unexpected losses arising from credit, operational, and market risks while safeguarding the interests of depositors and other stakeholders. NDIC (2023) further noted that strong capital positions enhance public confidence in the banking system and support long-term financial stability. Despite the acknowledged importance of capital adequacy, empirical evidence on its relationship with financial performance remains inconclusive. While Eze and Ogechukwu (2022) reported a positive relationship between capital adequacy and profitability, Lawal and Somoye (2021) argued that excessive capitalisation may reduce profitability by limiting the efficient utilisation of funds.

Financial performance in banking studies is commonly measured using indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM), which reflect management efficiency in utilising available resources to generate profits (Ogunbiyi & Ihejirika, 2020). During the period 2020–2024, Access Bank Plc, Jaiz Bank Plc, and Stanbic IBTC Bank Limited adopted different approaches to credit expansion and capital management. Access Bank pursued aggressive growth through acquisitions and international expansion. Jaiz Bank emphasised non-interest banking principles and risk-sharing arrangements, while Stanbic IBTC focused on portfolio diversification and prudent management of risk-weighted assets. These differing strategic approaches provide a useful basis for examining how credit risk management and capital adequacy influence financial performance in the Nigerian banking industry during the post-pandemic period.

Although numerous studies have examined bank profitability in Nigeria, limited attention has been given to the combined effects of credit risk management and capital adequacy on financial performance using recent post-pandemic data. Existing studies often focus on profitability in isolation while neglecting the interaction between risk management and capital strength. Consequently, there remains a gap in the literature regarding how these factors jointly influence bank performance under contemporary economic conditions. This study addresses this gap by examining selected Nigerian commercial banks between 2020 and 2024, a period characterised by economic recovery, regulatory reforms, and the implementation of Basel III capital requirements. The findings are expected to provide valuable insights for policymakers, regulators, investors, and bank managers seeking to strengthen the resilience and sustainability of the Nigerian banking sector.

Against this background, this study examines the impact of credit risk management and capital adequacy on the financial performance of commercial banks in Nigeria. Specifically, the study seeks to determine the effect of credit risk management on bank performance, assess the influence of capital adequacy on profitability, and evaluate the combined effect of both variables on the financial performance of commercial banks in Nigeria.

The study is guided by the following research questions:

1. What effect does credit risk management have on the financial performance of commercial banks in Nigeria?
2. What impact does capital adequacy have on the profitability of commercial banks in Nigeria?
3. To what extent do credit risk management and capital adequacy jointly influence the financial performance of commercial banks in Nigeria?

In line with these research questions, the study tests the following null hypotheses:

H₀₁: Credit risk management has no significant effect on the financial performance of commercial banks in Nigeria.

H₀₂: Capital adequacy has no significant effect on the financial performance of commercial banks in Nigeria.

H₀₃: Credit risk management and capital adequacy have no significant joint effect on the financial performance of commercial banks in Nigeria.

LITERATURE REVIEW

Conceptual Review

Credit Risk Management and Bank Performance

According to Eze and Ogechukwu (2022), credit risk management consists of providing the appropriate measures to minimise potential losses that a financial institution will face when a borrower defaults. The literature explains that a bank's profitability will be adversely impacted as the economic value of the asset will be the value of the bank as a going concern. The credit risk which will be surrounding the lending to a borrower will be most pronounced when the borrower has a large NPL relative to the amount of credit the borrower has been extended. Waleed et al. (2023) find that in cross-country analysis, higher NPL ratios negatively impact ROA and ROE, especially in countries where the credit appraisal systems are poorly developed, as in the case of emerging economies. Bolarinwa and Oladipo (2022) report that the absence of diligent credit supervision and weak credit appraisal frameworks in Nigerian commercial banks has caused loan defaults, subsequent losses, and capital erosion.

The components of a credit risk management framework, as stipulated in policy documents, include loan portfolio diversification, collateral arrangements, loan loss provisions, and tracking systems. According to Olowolaju and Ojo (2021), the adoption of more sophisticated credit risk systems has enabled Nigerian banks to practice more effective loan loss mitigation. This includes the loss estimation and exposure at default analysis. However, banks lacking credit governance or policy frameworks are more likely to see a deterioration in the quality of their assets in a recession. This has also been stated in the Central Bank of Nigeria (2022) Financial Stability Report, where he states that credit risk concentration within the oil and gas sector was one of the reasons NPL ratios increased in the 2020 to 2021 period.

The extant literature on the relationship between credit risk and bank profitability in Nigeria predominantly reports a negative association. For instance, Abubakar and Danladi (2023), in their analysis of 15 deposit money banks, found that key credit risk indicators, particularly the non-performing loan (NPL) ratio and loan loss provisions, exerted significant adverse effects on both return on assets (ROA) and return on equity (ROE). Similarly, Hassan and Oke (2022) observed that elevated loan impairment charges reduced net interest margins and eroded shareholder value, thereby constraining overall bank performance. In contrast, Adebayo and Oyedele (2021) advanced a more nuanced perspective, arguing that effective liquidity management and adequate capitalisation may enable banks to sustain higher returns despite exposure to credit risk. However, this position provides limited consideration of the threshold beyond which credit risk transitions from a value-enhancing

mechanism to a source of financial distress and potential insolvency. Consequently, the notion of an optimal credit-risk threshold warrants further empirical investigation, as moderate and well-managed risk exposure may enhance profitability, whereas excessive credit risk is likely to undermine financial performance and threaten institutional stability.

Capital Adequacy and Financial Stability

Capital adequacy refers to a bank's capacity to maintain sufficient capital reserves to absorb unexpected losses arising from credit, operational, market, and liquidity risks. It is commonly measured by the Capital Adequacy Ratio (CAR), which relates qualifying capital to risk-weighted assets. Under the Basel regulatory framework, capital adequacy constitutes a core requirement for ensuring banking sector soundness and resilience. Adequate capital provides a buffer against unforeseen losses, strengthens solvency, enhances depositor confidence, and mitigates systemic banking risk (CBN, 2022). According to NDIC (2023), well-capitalised banks are better positioned to withstand economic shocks and sustain operations during periods of financial stress. Financial stability, in contrast, refers to the ability of the financial system to perform its intermediation functions efficiently while remaining resilient to internal and external shocks. A stable banking system effectively manages risks, preserves public confidence, maintains liquidity, and sustains operational continuity during periods of economic uncertainty (CBN, 2023).

The nexus between capital adequacy and financial stability is fundamentally rooted in the capacity of bank capital to absorb unexpected losses. Adequate capitalisation enhances a bank's ability to withstand adverse shocks without compromising its obligations to depositors and other stakeholders. Lawal and Somoye (2021) argued that well-capitalised banks exhibit greater resilience during economic downturns because higher capital levels reduce excessive leverage and strengthen risk-bearing capacity. Similarly, Eze and Ogechukwu (2022) contended that adequate capital improves institutional soundness and lowers exposure to financial distress. This relationship is further reinforced by the Basel III framework, which introduced more stringent capital requirements and countercyclical capital buffers to enhance banking sector resilience and mitigate systemic risk (CBN, 2022). These regulatory measures underscore the importance of maintaining high-quality capital capable of supporting banks during periods of financial instability.

Empirical evidence largely supports the positive association between capital adequacy and financial stability. In emerging economies, where banks remain the dominant channel of financial intermediation, adequate capital serves as a critical safeguard against financial fragility. Lawal and Somoye (2021) found that stronger capital positions improve liquidity, strengthen depositor confidence, and enhance the resilience of Nigerian banks. Likewise, Eze and Ogechukwu (2022) reported that higher capital adequacy contributes significantly to financial sustainability and reduces the likelihood of bank distress. From an international perspective, Kashif et al. (2023) observed that although higher capital buffers may constrain lending in the short term, they substantially improve banking sector stability and reduce systemic vulnerability. Similarly, Djalilov and Piesse (2020) demonstrated that adequate capitalisation enables banks to maintain critical financial functions during episodes of economic volatility and liquidity stress. In Nigeria, recent recapitalisation initiatives and regulatory reforms introduced by the Central Bank of Nigeria have further highlighted the strategic importance of capital adequacy in strengthening financial stability and insulating the banking sector from macroeconomic shocks (CBN, 2023).

The theoretical foundations of this relationship are principally explained by the Buffer Theory of Capital and the Financial Fragility Theory. The Buffer Theory posits that banks maintain capital above regulatory thresholds to absorb unexpected losses and minimise the risk of regulatory intervention during adverse conditions. Conversely, the Financial Fragility Theory suggests that inadequate capitalisation heightens vulnerability to distress, contagion, and systemic crises. Collectively, these perspectives indicate that robust capital adequacy enhances loss-absorption capacity, sustains public confidence, and promotes operational continuity during economic disruptions. Accordingly, the conceptual literature identifies capital adequacy as a critical determinant of financial stability through its role in strengthening resilience, reducing insolvency risk, and supporting confidence in the financial system.

Credit Risk Management and Capital Adequacy on Bank Performance

Recent scholarship has increasingly examined the interrelationship among credit risk management, capital adequacy, and financial performance within the banking sector. The literature suggests that well-capitalised banks are better positioned to absorb credit-risk shocks and maintain solvency, whereas institutions with weaker capital buffers are more vulnerable to deteriorating loan quality and financial instability. Bassey and Effiong (2022) argued that effective capital planning moderates the adverse impact of non-performing loans (NPLs) on bank performance, highlighting the loss-absorbing function of adequate capital. Similarly, Adeleke and Onifade (2023) found that the interaction between the Capital Adequacy Ratio (CAR) and NPLs significantly influences profitability among Nigerian banks, particularly in the post-COVID-19 period characterised by heightened loan default rates.

The relationship between capital adequacy, profitability, and credit risk extends beyond the Nigerian banking industry. Ahmed et al. (2021), in a study of banks across Sub-Saharan Africa, reported that institutions with weaker capital structures experienced a more pronounced negative effect of credit risk on profitability. Their findings suggest that inadequate capitalisation limits banks' capacity to absorb loan losses, thereby weakening financial performance. Conversely, stronger capital positions enhance resilience against credit-related shocks and support sustainable profitability. Evidence from Jaiz Bank Plc illustrates this dynamic, as the bank maintained a Capital Adequacy Ratio exceeding 20% between 2020 and 2024 despite substantial growth in financing assets, indicating that its capital buffer remained sufficiently robust to accommodate potential credit losses (Jaiz Bank Plc, 2024). Collectively, these studies underscore the critical role of capital adequacy in moderating the profitability implications of credit risk and strengthening banking sector resilience.

Theoretical Review

This study is grounded in the Risk–Return Trade-off Theory as its principal theoretical foundation, while the Capital Buffer Theory and Financial Intermediation Theory provide complementary perspectives. Collectively, these theories offer a comprehensive framework for explaining the interrelationships among credit risk management, capital adequacy, and the financial performance of commercial banks in Nigeria.

Risk–Return Trade-off Theory

The Risk–Return Trade-off Theory, developed by Harry Markowitz (1952), posits that expected returns are positively associated with the level of risk undertaken. The theory suggests that higher returns can only be achieved through greater risk exposure; however, excessive risk-taking may increase the likelihood of financial losses and institutional instability. Consequently, rational decision-making requires an optimal balance between risk and expected return.

Within the banking sector, the theory is particularly relevant because lending activities simultaneously represent a primary source of income and a major source of risk. While loan portfolios generate interest earnings and contribute to profitability, they also expose banks to default risk and potential credit losses. As a result, banks must carefully manage their credit portfolios to maximise returns without compromising financial stability. Empirical evidence indicates that effective credit risk management enhances profitability by reducing loan losses and improving asset quality (Ali & Iqbal, 2021). Conversely, weak risk assessment mechanisms and inadequate governance structures may increase default rates and adversely affect financial performance (Adeleke & Onifade, 2023).

The theory is particularly relevant to the present study because it provides a conceptual basis for examining how credit risk management influences the financial performance of commercial banks. It supports the proposition that profitability is not solely determined by the volume of lending activities but also by the effectiveness with which associated risks are identified, monitored, and controlled.

Capital Buffer Theory

The Capital Buffer Theory was advanced by Milne and Whalley (2001) and subsequently extended by Jokipii and Milne (2008). The theory argues that banks maintain capital levels above regulatory minimum requirements to absorb unexpected losses and reduce the probability of financial distress. Excess capital functions as a protective buffer that enables banks to withstand adverse economic conditions while remaining compliant with prudential regulations.

The significance of the theory increased following the implementation of the Basel regulatory frameworks, which emphasise the maintenance of adequate capital buffers as a mechanism for promoting financial stability and enhancing banking sector resilience. In Nigeria, the adoption of Basel III requirements by the Central Bank of Nigeria has reinforced the need for stronger capital positions to improve banks' capacity to absorb shocks arising from credit, market, and operational risks (CBN, 2022).

The relevance of the Capital Buffer Theory to this study lies in its explanation of the role of capital adequacy in shaping financial performance. Banks with stronger capital buffers are generally better positioned to absorb losses, sustain stakeholder confidence, maintain operational continuity, and achieve long-term profitability. The theory therefore provides a useful framework for analysing the contribution of capital adequacy to bank performance within the Nigerian banking environment.

Financial Intermediation Theory

The Financial Intermediation Theory, developed by Douglas Diamond (1984), explains the fundamental role of banks as intermediaries between surplus and deficit economic units. Through this intermediation process, banks mobilise deposits from savers and allocate funds to borrowers for productive investment and consumption purposes. By reducing information asymmetry, monitoring borrowers, and facilitating efficient resource allocation, banks contribute significantly to economic development.

The theory emphasises that the effectiveness of financial intermediation depends largely on the efficient management of risks and capital resources. Credit risk, liquidity risk, and capital adequacy are central determinants of a bank's ability to perform its intermediary functions effectively. Banks that successfully manage these factors are more likely to maintain depositor confidence, preserve financial stability, and achieve sustainable profitability.

In the Nigerian context, commercial banks play a pivotal role in financing economic activities and supporting national development despite persistent macroeconomic challenges. The theory is therefore relevant to this study because it highlights the importance of prudent credit risk management and adequate capitalisation in sustaining banking operations and enhancing financial performance. Effective intermediation can only be achieved when banks maintain an appropriate balance between risk exposure, capital strength, and profitability objectives.

The three theories collectively provide a robust framework for analysing the relationship among credit risk management, capital adequacy, and financial performance. The Risk–Return Trade-off Theory explains the profitability implications of credit risk exposure by emphasising the balance between risk-taking and expected returns. The Capital Buffer Theory highlights the importance of maintaining adequate capital reserves to absorb losses and preserve institutional stability. The Financial Intermediation Theory underscores the role of banks in efficiently allocating financial resources and the necessity of effective risk and capital management in sustaining this function.

Taken together, these theoretical perspectives support the central proposition of this study that prudent credit risk management and adequate capitalisation are critical determinants of sustainable financial performance among commercial banks in Nigeria. Furthermore, the Risk–Return Trade-off Theory is adopted as the underpinning theory because it directly explains the mechanism through which credit risk influences profitability, while the Capital Buffer Theory and Financial Intermediation Theory provide complementary insights into the stabilising role of capital adequacy and the operational context of banking activities.

Empirical Review

Recent evidence from the Nigerian banking sector continues to underscore the importance of effective credit risk management and adequate capitalisation in sustaining profitability under challenging macroeconomic conditions. According to the Central Bank of Nigeria's (CBN) Financial Stability Report (2023), the industry non-performing loan (NPL) ratio declined from 6.0% in 2020 to 4.1% in 2023, reflecting tighter lending standards, improved loan monitoring, and enhanced asset quality management. During the same period, the banking sector maintained an average Capital Adequacy Ratio (CAR) of 13.7%, exceeding the regulatory minimum requirement of 13%, thereby strengthening the sector's capacity to absorb unexpected losses and withstand economic shocks (CBN, 2023).

Bank-level evidence further illustrates the significance of sound risk and capital management practices. Between 2020 and 2024, Access Bank Plc recorded substantial growth in both total assets and profitability, demonstrating resilience amid a volatile economic environment (Access Bank Plc, 2024). Similarly, Stanbic IBTC Bank Limited maintained one of the strongest capital positions within the industry during the period, reflecting a prudent approach to risk management and capital planning (Stanbic IBTC Bank Limited, 2024). Likewise, Jaiz Bank Plc, Nigeria's pioneer non-interest bank, achieved significant growth in assets and earnings while maintaining a conservative financing strategy consistent with Islamic finance principles. Its strong capital position and cautious exposure to risk-sensitive sectors contributed to sustained financial performance and long-term stability (Jaiz Bank Plc, 2024).

Collectively, these developments suggest that effective credit risk management and adequate capital buffers remain fundamental drivers of banking sector resilience and profitability. Evidence from regulatory reports and bank-specific performance indicators indicates that institutions with stronger capital positions and prudent risk management frameworks are better equipped to withstand credit-related shocks and maintain sustainable growth. Nevertheless, the existing literature presents divergent findings owing to differences in methodological approaches, sample characteristics, measurement techniques, and prevailing macroeconomic conditions. Consequently, further empirical investigation using recent audited data from 2020 to 2024 is warranted to provide a deeper understanding of the interaction between credit risk, capital adequacy, and financial performance in the post-pandemic Nigerian banking environment.

METHODOLOGY

This study uses an ex post facto research design to focus on the relationship between credit risk management, capital adequacy, and the financial performance of selected commercial banks in Nigeria between the years 2020 and 2024. The use of an ex post facto design is justifiable, as the researcher cannot alter the historical, secondary financial dataset, and it enables the researcher to gauge the impact of changes in credit exposure and the capital strength on the profitability of the banks within the study period. The years 2020 to 2024 are of special interest, as it includes the period of post-pandemic recovery, changes in regulation, and capital adequacy in the Basel III framework (Basel III: A global regulatory framework for more resilient banks and banking systems. Central Bank of Nigeria [CBN], 2022).

All licensed deposit money banks operating in Nigeria by December 2024 constitute the study population. For this study, three commercial banks—Access Bank Plc, Jaiz Bank Plc, and Stanbic IBTC Bank Limited were selected through purposive sampling. The selection was based on specific methodological considerations, including the availability and completeness of audited financial statements for the study period (2020–2024), the banks' significance within the Nigerian banking industry, and their representation of distinct banking models. Purposive sampling was considered appropriate because the study required institutions with reliable and consistent financial data capable of providing valid measurements of credit risk management, capital adequacy, and financial performance.

The selected banks represent different segments of the Nigerian banking sector and therefore provide a suitable basis for comparative analysis. Access Bank Plc was selected because of its status as a systemically important bank with extensive domestic and international operations, making it representative of large conventional

commercial banks. Jaiz Bank Plc was included because it is Nigeria's pioneer non-interest bank operating under Islamic banking principles, thereby providing insights into a distinct banking model characterised by risk-sharing and alternative financing structures. Stanbic IBTC Bank Limited was selected as a multinational affiliate with a strong capitalisation profile and a relatively conservative risk management framework, representing internationally affiliated commercial banking operations.

The inclusion of these institutions enhances the representativeness of the study by capturing variations in ownership structure, business model, risk appetite, lending practices, and capital management strategies. Such variations are particularly relevant to the examination of credit risk management and capital adequacy because banks operating under different institutional frameworks may exhibit different responses to economic shocks and regulatory requirements. Consequently, the selected banks provide sufficient diversity to facilitate meaningful comparisons and improve the explanatory value of the study's findings regarding the relationship between credit risk management, capital adequacy, and financial performance in the Nigerian banking sector (Jaiz Bank Plc, 2024; Stanbic IBTC Bank Limited, 2024).

For the years 2020 to 2024, secondary data was gathered from the audited financial statements of the selected banks. Variables comprise total assets, loans and advances (or, for Jaiz Bank, financing and investment assets), customer deposits, profit before tax (PBT), profit after tax (PAT), and capital adequacy ratios (CAR), as well as the other measures of the financial statements. Data were also retrieved from the NGX portal to cross-verify these figures for consistency and authenticity. The study relied on audited annual financial statements because they constitute one of the most reliable sources of financial information for empirical banking research. Audited financial reports are independently examined by external auditors to ensure that they fairly represent the financial position and performance of an institution in accordance with applicable accounting and reporting standards. Consequently, the use of audited financial statements enhances the reliability, accuracy, and credibility of the data employed in the analysis. Furthermore, the selected banks prepared their financial reports in compliance with International Financial Reporting Standards (IFRS) and the regulatory requirements of the Central Bank of Nigeria, thereby improving data consistency and comparability across the study period (Access Bank Plc, 2024; CBN, 2023).

This study measured financial performance as the dependent variable using the Return on Assets (ROA) ratio, ascertained by dividing profit of the bank after tax by total assets. ROA is one of the most complete measures of the proficiency of the bank's management in the utilisation of the bank's assets in revenue generation (Ogunbiyi & Ihejirika, 2020). The independent variables include Credit Risk Management, which is measured by the Loans-to-Assets Ratio (LTA) computed as total loans and advances over total assets, whereby the greater the Loans to Assets ratio, the greater the default risk exposure (Ali & Iqbal, 2021), and Capital Adequacy, which is measured by the Capital Adequacy Ratio (CAR), which is total qualifying capital over risk-weighted assets. This ratio signifies the bank's financial strength and ability to withstand losses (Lawal & Somoye, 2021).

To account for the influence of funding structure on bank profitability, the Deposits-to-Assets Ratio (DTA) was incorporated as a control variable in the model. This variable measures the proportion of total assets financed through customer deposits and reflects the extent to which banks depend on deposit liabilities as a primary source of funding. Banks with relatively high deposit bases generally benefit from lower financing costs and enhanced intermediation capacity. However, excessive reliance on short-term deposits may expose banks to liquidity mismatches and refinancing pressures, particularly when long-term lending obligations exceed the maturity structure of deposits, as noted by Hassan and Oke (2022). The inclusion of the Deposits-to-Assets Ratio strengthens the robustness of the model by controlling for variations in funding composition and liquidity structure, thereby enabling a more precise assessment of the independent effects of credit risk management and capital adequacy on bank profitability.

The empirical model for this study is specified as follows:

$$ROA_{it} = \beta_0 + \beta_1 LTA_{it} + \beta_2 CAR_{it} + \beta_3 DTA_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where ROA_{it} represents the return on assets of bank i at time t ; LTA_{it} denotes the loans-to-assets ratio (proxy for credit risk); CAR_{it} is the capital adequacy ratio; DTA_{it} represents the deposits-to-assets ratio. The parameters μ_i and λ_t capture bank-specific and time-specific effects, respectively, while ε_{it} is the stochastic error term.

Considering the structure of the data, OLS regression was used as the primary estimation approach owing to the small sample size and balanced panel structure. Descriptive statistics, correlation matrices, and regression outputs were used to analyse the data for trends and relationships among the variables.

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

The variables utilised in this study are presented in Table 4.1. Return on Assets (ROA) serves as the proxy for financial performance and profitability, reflecting the efficiency with which banks utilise their asset base to generate earnings. The explanatory variables include the Loans-to-Assets Ratio (LTA), Deposits-to-Assets Ratio (DTA), and Capital Adequacy Ratio (CAR), which represent key dimensions of credit exposure, funding structure, and bank capitalisation, respectively. These independent variables were selected based on their theoretical and empirical relevance in explaining variations in the financial performance of commercial banks.

Table 4. 1: Descriptive Statistics Analysis

Variable	Mean	Minimum	Maximum	Standard Deviation
ROA	0.0152	0.0054	0.0324	0.0081
Loans-to-Assets (LTA)	0.362	0.226	0.512	0.091
Deposits-to-Assets (DTA)	0.542	0.357	0.698	0.084
Capital Adequacy Ratio (CAR)	0.165	0.120	0.238	0.038

Source: Authors' computation, 2026

The descriptive statistics presented in Table 4.1 provide preliminary insights into the characteristics of the study variables over the period 2020–2024. The mean Return on Assets (ROA) of 1.52% indicates that the sampled banks generated an average profit of 1.52 kobo for every naira of assets employed, suggesting a moderate level of profitability during the study period. The average Loans-to-Assets Ratio (LTA) of 36.2% indicates that approximately one-third of the banks' assets were committed to lending activities, reflecting a moderate level of credit exposure. Furthermore, the mean Deposits-to-Assets Ratio (DTA) of 54.2% suggests that customer deposits constituted the primary source of funding for the sampled banks, highlighting the importance of deposit mobilisation in banking operations. The average Capital Adequacy Ratio (CAR) of 16.5% exceeds the regulatory minimum requirement prescribed by the Central Bank of Nigeria, indicating that the selected banks maintained adequate capital buffers throughout the study period (CBN, 2022). Overall, the descriptive statistics suggest that the sampled banks operated with moderate profitability, maintained prudent levels of credit exposure, relied substantially on deposit funding, and remained adequately capitalised during the period under review.

Access Bank displayed the greatest growth in total assets, rising from ₦8.68 trillion in 2020 to ₦40.84 trillion in 2024, with profit after tax increasing from ₦80.0 billion to ₦710.8 billion over the same period. Stanbic IBTC adopted a more cautious approach to lending, as evidenced by the average Loans-to-Assets ratio of 35% and a Return on Assets (ROA) of 1.3-2.7%. Jaiz Bank, although of lesser magnitude, improved consistently with total assets growing from ₦233.6 billion in 2020 to ₦1.08 trillion in 2024 and solvency as indicated by an average Capital Adequacy Ratio (CAR) of over 20%.

Correlation Analysis

To investigate the direction and strength of association between the variables of analysis, a correlation matrix was prepared.

Table 4.2: Correlation Matrix

Variables	ROA	LTA	DTA	CAR
ROA	1.000	-0.532	0.211	0.428
LTA	-0.532	1.000	-0.247	-0.395
DTA	0.211	-0.247	1.000	0.087
CAR	0.428	-0.395	0.087	1.000

Source: Authors' computation, 2026

ROA and Loans-to-Assets ratio yield a negative correlation ($r = -0.532$), which indicates that banks with more credit risk and higher loans tend to be less profitable. On the other hand, the ROA and CAR ratios correlate positively ($r = 0.428$), signalling that higher capital adequacy correlates with improved financial performance. The correlation of the ROA and the DTA ratios ($r = 0.211$) also negatively, but only slightly profitably, indicates that deposits as a source of funding will more than likely not profit the bank.

Regression Analysis

An OLS regression model helped to understand the effect of credit risk and capital adequacy on the performance of the banks. The model included both bank-specific and year fixed effects while adjusting for heteroskedasticity (cross-sectional correlation of errors).

Table 4.3: Regression Results (Dependent Variable: ROA)

Variable	Coefficient	Standard Error	t-Statistic	p-Value
Constant	0.0247	0.0048	5.15	0.001
Loans-to-Assets (LTA)	-0.0314	0.0123	-2.55	0.030
Deposits-to-Assets (DTA)	0.0068	0.0091	0.75	0.467
Capital Adequacy Ratio (CAR)	0.0295	0.0107	2.76	0.022
R-squared	0.624			
Adjusted R-squared	0.571			
F-statistic (p-value)	8.41 (0.004)			

Source: Author's computation, 2026

The regression results on table 4.3 reveal that credit risk, proxied by the Loans-to-Assets Ratio (LTA), exhibited a negative and statistically significant relationship with Return on Assets (ROA) ($\beta = -0.0314$, $p < 0.05$). This indicates that higher levels of credit exposure significantly reduced bank profitability during the period under review. Specifically, an increase in Loans-to-Assets Ratio was associated with a decline in Return on Assets, suggesting that excessive credit risk adversely affected financial performance. This result is consistent with the profitability studies of Abubakar and Danladi (2023) and Hassan and Oke (2022), stating that eroding profitability of Nigerian banks is associated with excessive loan exposure.

The regression results further indicate that the Capital Adequacy Ratio (CAR) exerted a positive and statistically significant effect on Return on Assets (ROA) ($\beta = 0.0295$, $p < 0.05$). This finding suggests that banks with stronger capital positions are more likely to achieve higher levels of profitability and maintain greater resilience against credit risk exposure. Adequate capitalisation enhances a bank's capacity to absorb unexpected losses, sustain lending activities, and strengthen stakeholder confidence, all of which contribute to improved financial performance. This result is consistent with the findings of Lawal and Somoye (2021) and Kashif et al. (2023),

who reported that well-capitalised banks tend to exhibit superior profitability and financial stability compared to their less-capitalised counterparts.

The DTA's coefficient reflects a slight profitability impact from systems of customer deposits ($\beta = 0.0068$, $p = 0.467$). This impact, however, is statistically insignificant, meaning deposit systems will not become a profitability game-changer. This finding is comparable to Eze and Ogechukwu (2022). They describe how, although deposits constitute the predominant source of funding for Nigerian banks, direct profitability returns on deposits are rather low. They are also, and predominantly, the result of the rising interest costs on deposits.

The profitability model produced an R-squared value of 0.624, indicating that approximately 62.4% of the variation in Return on Assets (ROA) was explained by the explanatory variables included in the model. This suggests that credit risk, capital adequacy, and funding structure collectively account for a substantial proportion of the variations in bank profitability during the study period. Furthermore, the F-statistic of 8.41 ($p = 0.004$) confirms that the model is statistically significant and possesses adequate explanatory power, indicating that the independent variables jointly influence the financial performance of the sampled banks.

Comparative Bank Performance Trends

Figure 4.1: Trends in total assets and profit after tax across the three banks between 2020 and 2024.

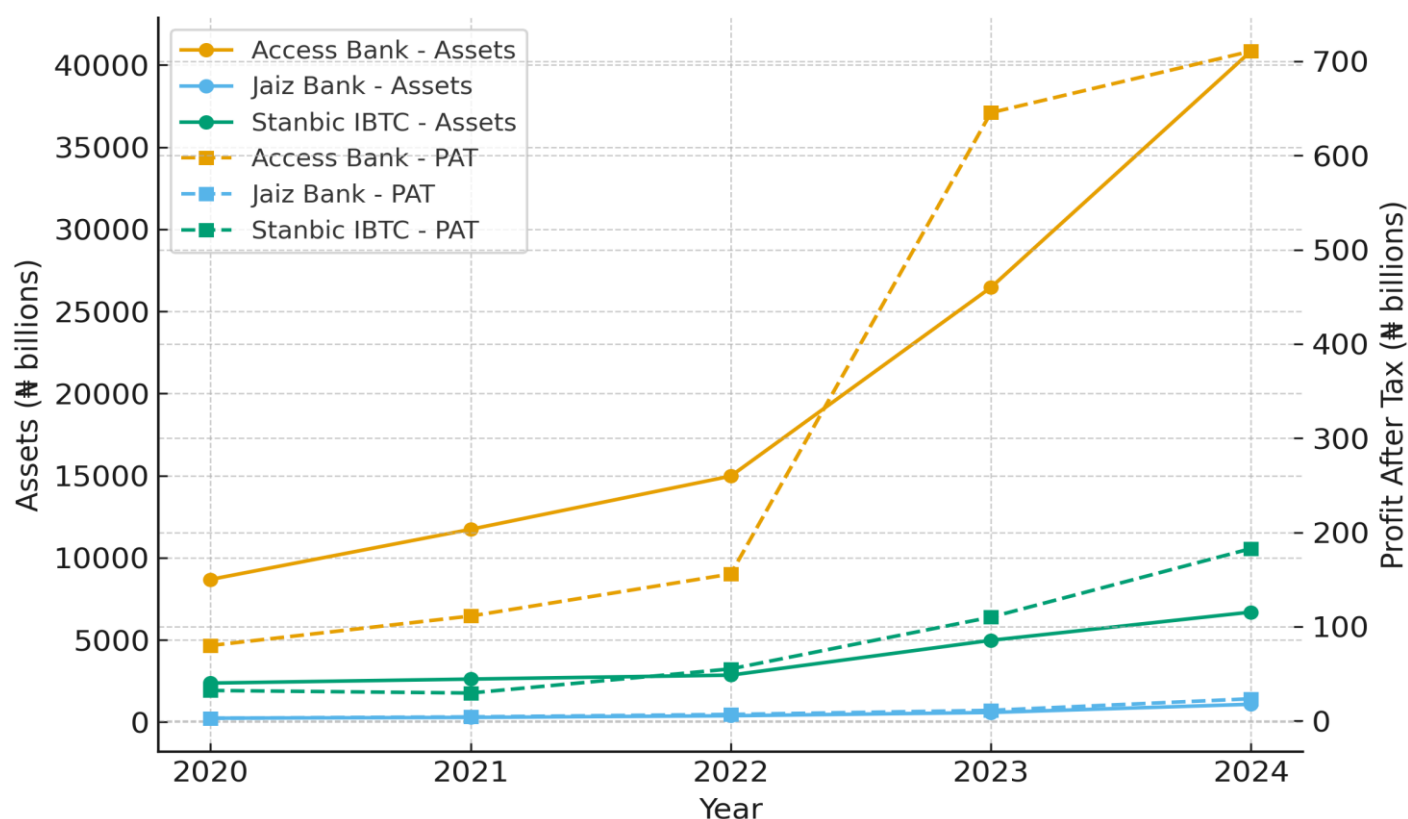


Figure 1: Asset and Profit Growth (₦ billions, 2020–2024)

Source: Researcher's computation, 2026

With regards to profitability relative to the size of assets, Access Bank appears to be the least efficient, considering the pace at which it is expanding its assets due to slower relative success on profitability, merged with its expanding international operations, and subsequent acquisitions. Jaiz Bank displays a balanced and commendable approach to credit risk and capital adequacy, which is rewarded with profit and asset growth. In contrast to Access Bank, Stanbic IBTC is also asset efficient, but it rewards this state with strong relative profit margins.

DISCUSSION OF FINDINGS

The findings of this study reveal that credit risk management and capital adequacy are important determinants of the financial performance of commercial banks in Nigeria during the period 2020–2024. The regression results indicate that credit risk, measured by the Loans-to-Assets Ratio (LTA), exerted a negative effect on profitability, while capital adequacy, measured by the Capital Adequacy Ratio (CAR), exerted a positive and statistically significant effect on profitability. Although the Deposits-to-Assets Ratio (DTA) was positively related to profitability, its effect was not statistically significant. These findings underscore the importance of effective risk management and adequate capitalisation in sustaining bank performance.

The negative relationship between credit risk and profitability supports the Risk–Return Trade-off Theory, which posits that excessive risk-taking may adversely affect returns despite the potential for higher earnings (Markowitz, 1952). The finding suggests that increased credit exposure may reduce profitability through higher loan-loss provisions and the growing risk of loan defaults. This result is consistent with the findings of Abubakar and Danladi (2023), who reported that rising non-performing loans constrained the profitability of Nigerian banks in the post-COVID-19 period. Similar findings were reported by Ali and Iqbal (2021) and Adusei (2022), who found that excessive credit expansion without adequate risk controls negatively affects bank performance. The finding further aligns with the observations of the Central Bank of Nigeria regarding persistent credit quality concerns in key sectors of the Nigerian economy despite improvements in overall non-performing loan ratios (CBN, 2023).

The positive and statistically significant relationship between capital adequacy and profitability validates the Capital Buffer Theory, which argues that banks maintain capital above regulatory minimum requirements to absorb unexpected losses and preserve financial stability (Milne & Whalley, 2001; Jokipii & Milne, 2008). The result suggests that well-capitalised banks are better positioned to withstand financial shocks, sustain lending activities, and maintain stakeholder confidence. This finding corroborates the studies of Lawal and Somoye (2021) and Kashif, Mehmood, and Awan (2023), which found that stronger capital positions enhance profitability and improve access to financial resources. The result also supports the position of the Nigerian Deposit Insurance Corporation that adequately capitalised banks demonstrate greater resilience during periods of economic uncertainty (NDIC, 2023).

The positive but statistically insignificant relationship between the Deposits-to-Assets Ratio and profitability suggests that deposit mobilisation alone does not guarantee improved financial performance. While customer deposits remain a major source of funding, profitability depends largely on how effectively those funds are deployed into productive and income-generating assets. This finding is consistent with Eze and Ogechukwu (2022), who argued that deposit growth without efficient asset utilisation may not significantly enhance profitability. Similarly, Hassan and Oke (2022) emphasised that effective loan deployment and asset management are more critical determinants of profitability than the volume of deposits mobilised.

The findings also support the Financial Intermediation Theory, which emphasises the role of banks in efficiently mobilising and allocating financial resources within the economy (Diamond, 1984). Effective credit risk management and adequate capitalisation enable banks to perform their intermediation functions while maintaining profitability and financial stability. Overall, the findings suggest that sustainable financial performance in the Nigerian banking sector depends on maintaining an appropriate balance between credit risk exposure and capital adequacy. Consequently, banks should strengthen credit appraisal mechanisms, maintain adequate capital buffers, and improve risk management practices to enhance profitability and resilience in an increasingly uncertain economic environment.

CONCLUSION AND RECOMMENDATIONS

This study investigated the influence of credit risk management and capital adequacy on the financial performance of selected Nigerian commercial banks between 2020 and 2024. The findings reveal that credit risk exerts a negative effect on profitability, whereas capital adequacy contributes positively to financial performance. The deposits-to-assets ratio was found to have an insignificant effect on profitability, suggesting

that financial performance depends more on efficient asset utilisation and effective risk management than on deposit mobilisation alone. These results support the propositions of the Risk–Return Trade-off Theory, Capital Buffer Theory, and Financial Intermediation Theory, highlighting the importance of balancing risk exposure with adequate capital strength. The study concludes that effective credit risk management, strong capitalisation, and prudent portfolio diversification are critical determinants of sustainable bank profitability and financial stability in Nigeria.

Based on the findings, the study recommends that:

1. Commercial Banks strengthen credit risk assessment and monitoring mechanisms to minimise loan defaults and improve asset quality.
2. Banks should maintain capital adequacy levels above regulatory thresholds to enhance resilience and sustain profitability.
3. Portfolio diversification should be encouraged to reduce concentration risk and improve earnings stability.
4. Regulatory authorities, particularly the Central Bank of Nigeria, should intensify risk-based supervision and periodic stress testing to ensure the soundness of the banking sector.
5. Banks should improve the productive deployment of customer deposits through efficient lending and investment strategies that support profitability while preserving liquidity and financial stability.

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