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**RESEARCH ARTICLE**

# Effect of Financial Management on Bank's Expansion in Nigeria: An Empirical Investigation

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**ABSTRACT**

The nation's developmental progress relies heavily on the financial sector and effective financial management, allowing bank expansion and achieving performance goals. This study examined the impact of financial management practices on the expansion of deposit money banks in Nigeria, using secondary data from annual financial statements between 2014 and 2023. The applied analytical methods involved descriptive and inferential statistics of the Heteroscedasticity test, Hausman test and random effect model, among others, revealed an R-squared value of approximately 0.7909, indicating that about 79 per cent of the combined effects of Return on Assets (ROA) and Return on Equity (ROE) influence bank growth. The findings confirmed that both ROA and ROE are significant positive predictors of development, with p-values below 0.05. The study recommends that banks revisit their credit policies to minimise losses from non-performing loans, reduce expenses, and enhance performance, ultimately boosting their capacity for expansion.

## INTRODUCTION

Effective financial management is a cornerstone of sustainable expansion in the banking sector, particularly in Nigeria, where economic volatility and regulatory challenges persist (Mutai & Miroga, 2023). Capital allocation, risk management, and cost-control inefficiency often hinder growth. Financial management is essential for the growth and development of every economy, and Nigeria is no exception. This necessity has led to establishing banks, which accept deposits from individuals and extend loans and other services to enhance the overall standard of living. The bank functions as an intermediary, facilitating financial transactions between those with surplus funds and others needing capital. Banks provide a fundamental function as intermediary entities within the economy. Enhanced investment, augmented working capital, and elevated consumer expenditure result from its objective to elevate and redistribute community funds. This thus enhances the economy nationwide. The quantification and assessment of the company's success directly impact its profitability. Budiasni et al. (2020) define performance measurement as an organisation's attributes, efficiency, and effectiveness in executing its business operations within the accounting period.

Enhancing the company's financial performance will increase its attractiveness to prospective investors. The interplay of supply and demand dictates the valuation of a company's shares.

Elliott and Yan (2019) have shown that China's financial system has been enhanced to play a crucial role in stimulating economic growth and expansion across many sectors. Prudent financial management by the national government and the policies enacted across all economic sectors have propelled the country to grow and attain the status of the second-largest economy globally. The government, via robust ethical business practices, has facilitated the flourishing of the commercial sector, yielding substantial investment returns. The government has implemented implicit and explicit transactions that have reduced corruption, ensuring that all governmental resources are allocated and utilised appropriately.

In the United States, McKinney (2017) asserts that efficient financial management necessitates enhancing public financial management and governance by formulating rules and regulations. This can be achieved by implementing a rigorous budget and financial reporting system and monitoring the allocation of funds. Lelgo and Obwogi (2018) identified that in Europe, Liquidity Risk emerges from inadequate liquidity for standard operational needs, diminishing banks' capacity to fulfil their obligations when they become due. Tiwary (2019) identified foreign exchange settlement risk as the potential loss incurred when a bank in a foreign exchange transaction disburses the sold currency but fails to receive the purchased currency. Failures in foreign exchange settlement may occur due to counterparty default, operational issues, market liquidity limitations, and more considerations. Market risk arises from instruments and assets exchanged in established markets.

Despite notable advancements in the Nigerian banking sector, effective financial management remains a critical determinant of sustainable expansion. Existing studies often emphasise financial performance indicators such as profitability and liquidity but rarely address how financial management practices influence banks' ability to expand operations. For instance, Zada (2021) found that financial management practices positively impact organisational profitability, including working capital management and capital budgeting. Similarly, Mutai and Miroga (2023) argue that consistent oversight and evaluation of financial activities enhance efficiency. However, empirical research linking these practices to bank expansion in Nigeria remains sparse (Fadun & Oye, 2020; Shehu et al., 2022). Efforts to formalise the financial sector have faced challenges, including regulatory pressures and market inefficiencies (RMB et al., 2019), constraining banks' ability to leverage financial management for growth. This gap necessitates a comprehensive investigation into the role of financial management in driving bank expansion, addressing the interconnected dynamics of financial practices, and providing actionable insights for industry stakeholders.

**Objective of the Study**

i. Evaluate the effect of return on asset (ROA) on the revenue growth of quoted deposit money banks in Nigeria.

ii. To examine the effect of return on equity (ROE) on the revenue growth of quoted deposit money banks in Nigeria.

**Significance of the Study**

This study offers valuable understanding for regulators, bank executives, policymakers, and investors seeking to understand the influence of regulatory risk on bank revenues. Regulators can evaluate current policies and design more effective systems to enhance financial stability and banking oversight. Bank executives may utilise these findings to pinpoint and address performance challenges, implement robust risk management strategies, and allocate resources more efficiently to boost overall performance. Policymakers can leverage these results to formulate evidence-based policies that foster banking growth and recovery. Additionally, investors can make well-informed investment choices and optimise their resources' long-term potential by understanding how management decisions impact an organisation's growth and success. Ultimately, this research addresses critical knowledge gaps and contributes to establishing a more sustainable and efficient financial system.

## LITERATURE REVIEW

### Conceptual Review on Financial Management Practices

### Liquidity Management Practice

Liquidity denotes the capacity to transact an asset, such as a stock or bond, at its prevailing price (Graham & Bordeleau, 2019). This entails overseeing the link between a company's short-term assets and short-term obligations. Liquidity and bank performance are critical determinants of the development, sustainability, survival, expansion, and efficacy of the banking industry, and the capacity to navigate the trade-off between liquidity and performance poses a significant challenge for bank managers (Afolabi et al., 2021). Inadequate liquidity impacts profitability and capital. In severe instances, it results in insolvency and the collapse of banks (Ezu et al., 2023). Financially troubled banks can only obtain market capital at elevated interest rates (Gessesow & Venkateswarlu, 2023). This ultimately results in a deterioration of the banks' performance. Furthermore, a bank's further borrowing to satisfy depositors' demands may jeopardise its capital. Eljelly (2019) contends that a sufficient degree of liquidity is positively correlated with profitability. Managers typically confront the challenge of ensuring adequate funds are accessible to accommodate withdrawals. Isamade et al. (2022) observed that the ratio of liquid assets to liquid liabilities indicates a bank's liquidity management.

### Credit Risk Management Practice

Credit risk management pertains to a bank's strategies to mitigate the risk of borrower failure on any debt or loan by not fulfilling payment obligations as stipulated (Oluwagbade et al., 2023). Shehu et al. (2022) assert that credit risk management aims to optimise a bank's risk-adjusted return by keeping its credit risk exposure within acceptable limits. Ntivuguruzwa et al. (2020) indicated that credit risk management pertains to the likelihood of loss resulting from a borrower's inability to fulfil payment obligations on any form of debt timely. Credit risk management is mitigating losses by assessing a bank's capital sufficiency and loan loss reserves at any moment. Credit risk management involves identifying, assessing, monitoring, and controlling risks associated with the potential default on loan repayments (Golda, 2019). Agbaje et al. (2018) assert that credit risk management significantly influences the financial performance of commercial banks and recommend that sustaining a minimum level of non-performing loans relative to provisions for loans and advances will improve economic performance by positively impacting return on equity. In any company, mainly commercial banks, financial performance is influenced by credit risk management. Ali & Oudat (2020) assert that the proficient management of credit risk is a vital element of holistic risk management, crucial for the sustained performance of a banking institution. Loan risk management strategies and substandard loan quality are the primary causes of bank failures and global banking crises (Mkhaiber & Werner, 2021). The degree to which banks administer credit risk management influences their financial performance and viability.

### Capital Structure Management Practice

As defined by Suttipun (2023), capital structure management involves supervising a financial institution's capital structure. The management of a company's capital structure pertains to the combination of its many funding sources. A combination of debt and equity finances the majority of enterprises. Capital structure management is the proportion of debt and equity employed to fund a company. The proportion of permanent short-term loans, long-term debt, preferred stock, and common equity utilised to finance a corporation (Odubuasi et al., 2020). Capital structure management is characterised as a combination of equity and debt financing. It is typically considered one of the most critical financial variables due to its association with the company's ability to fulfil the needs of all stakeholders, including employees, the community, and shareholders (Mensah, 2016). The management of capital structure impacts the cost of capital, affecting the firm's profitability and share prices (Mei et al., 2019). Capital structure management guarantees that a business implements procedures and mechanisms to ensure effective governance, fostering accountability among management to enhance financial performance and maximise shareholder

wealth. Uddin et al. (2020) asserted that the rivalry between lenders and shareholders consistently benefits shareholders. If a firm's capital structure has more debt than equity, shareholders might pursue high-risk ventures. A financially sound corporation reporting profits is better positioned to fulfil its financial responsibilities, including debt servicing. Conversely, if the performance could be better, financiers may experience increased losses due to unserviced loans. The future profitability of a corporation is determined by the composition of debt and equity in its capital structure management (Nyebar et al., 2023). The debt component of capital structure management consists of short-term and long-term debt. Debt elevates a firm's risk of generating future earnings, augmenting its expectations of enhanced returns.

**Working Capital Management Practice**

Working capital management constitutes a component of a firm's current assets. Working capital management refers to a company's aggregate investment in current assets, which are assets anticipated to be converted into cash within one year or fewer (Ololade et al., 2023). Investment in working capital management entails carrying and shortfall costs, necessitating enterprises to identify the tradeoff between these factors (Ummah et al., 2023). Working capital management is a crucial aspect of financial decision-making concerning asset investment and immediately influences the company's liquidity and profitability. Effective working capital management significantly influences a company's liquidity and profitability, as Mohan & Madhu (2023) concluded. Rafuse (2018) noted that numerous small business failures stem from inadequate working capital management. Effective working capital management is crucial for publicly traded and privately held enterprises. Effective working capital management enables a firm to fulfil its short-term financial obligations, facilitating financing its daily operating activities. Poor working capital management jeopardises a firm's survival (Oluwaleye et al., 2023). The cash conversion cycle measures the duration between the procurement of raw materials and the moment when revenue begins to flow into the company through sales. This illustrates the correlation between working capital management and performance, as efficient working capital management enables a corporation to deliver superior returns to investors. Effective working capital management is crucial to financial success, subsequently impacting a firm's profits. Effective working capital management is vital as it enables a firm to ascertain the optimal quantities of its working capital components for seamless operations (Usman et al., 2022). A rise in stock results in more cash being retained as inventory, potentially causing a liquidity shortfall to meet financial obligations. The company's methods to oversee its working capital management might influence the firm's performance.

**Financial Performance**

Financial performance is a subjective assessment of how effectively organisations utilise the assets from their core business operations to create revenue (Kirkpatrick, 2019). Yusuf et al. (2018) define financial performance as the extent to which a company achieves its financial objectives. It is the practice of quantifying the outcomes of a company's policies and activities in financial terms. It assesses a firm's comprehensive financial well-being over a specific timeframe. It can also facilitate comparisons among analogous organisations within the same industry or across many industries or sectors collectively (Alnajjar, 2017). The financial performance of commercial banks has continually been assessed through numerous profitability metrics. Return on Assets (ROA) is a financial performance metric that assesses commercial banks' capacity to earn income relative to their assets. The ratio omits non-operating income and contributions (Peterson, 2017). ROA offers a more comprehensive viewpoint than other metrics, as it extends beyond the primary function of commercial banks—lending—and monitors income from operational operations, including investments while evaluating profitability independent of the banks' funding structures.

The financial performance of commercial banks primarily relies on efficient financial management that mitigates financial risks. Despite the obligation of commercial banks to establish reserves for bad debts, they remain highly susceptible to losses from bad loans, rendering non-performing loan (NPL) ratios the most effective indicators of asset quality (Kabir & Dey, 2018). The Return on Assets (ROA) is anticipated to be positive, indicating the profit margin of commercial banks; otherwise, it

signifies a lack of profit or a loss (Mutai & Miroga, 2023). In banking and commercial entities, the predominant indicators of profitability are Return on Equity (ROE), which assesses the profits generated for shareholders, and Return on Assets (ROA), which indicates the organisation's capacity to utilise its assets effectively (Peterson, 2017). This study will use the return on assets ratio to assess the financial performance of commercial banks in the country. Return on Assets (ROA) is utilised in this study as it provides commercial banks with insight into the efficiency of financial institution management in using assets to create earnings.

**Empirical Review of Related Studies**

Kumshe et al. (2024) examined the impact of risk management on the financial performance of publicly listed Deposit Money Banks (DMBs) in Nigeria. The study included all listed DMBs as of December 31, 2022, totalling nineteen banks, with sixteen picked purposefully based on criteria. The study employed descriptive statistics and panel regression analysis on five years of data (2018-2022) and found that credit risk, market risk, and capital adequacy risk management positively and substantially affected the financial performance of listed DMBs. Nevertheless, liquidity risk management exhibited a negative yet minor impact. The study suggests that adequate risk management strategies can enhance the economic performance of publicly listed Deposit Money Banks in Nigeria. It advises strengthening liquidity management measures while closely overseeing credit risk, market risk, and capital adequacy to improve financial performance further. Future research could investigate the influence of efficient risk management practices and the implementation of International Financial Reporting Standards (IFRS) on the economic performance of listed Deposit Money Banks (DMBs) in Nigeria.

Adeyina and Henry (2024) examined the relationship between risk management and the financial performance of deposit money banks (DMBs) in Nigeria. The study delineated four distinct aims, research inquiries, and hypotheses to direct its examination. The study employed an ex-post-facto research approach, utilising prior data for secondary analysis due to the researcher's lack of control over the design aspects. The population consisted of twenty-two designated DMBs, with a sample size including United Bank for Africa Plc and Fidelity, chosen via judgmental sampling. Data were acquired from the financial statements of publicly traded DMBs and analysed utilising descriptive statistics and Ordinary Least Squares (OLS) regression analysis with E-views-9 software. The study determined that loan loss provision was not statistically significant and did not substantially impact operational revenue. Recommendations encompassed overseeing borrowers' financial stability, forming dedicated loan loss provision management teams, and engaging with delinquent borrowers to reduce risks and improve economic outcomes.

Mutai and Miroga (2023) assessed the impact of financial management methods on the economic performance of commercial banks in Kenya. Capital structure management, liquidity management, credit risk management, and working capital management were independent variables, whereas Return on Assets was the dependent variable. The study focused on 39 active banks in Kenya over five years, from 2017 to 2021. Data analysis was conducted using Stata 17, yielding the following results: Liquidity management methods demonstrated a negligible positive correlation of 0.004 at a 5% significance level with the financial performance of commercial banks in Kenya. Capital structure management techniques showed a significant positive correlation of 0.001 at a 10% significance level with the financial performance of commercial banks in Kenya. Credit risk management techniques showed a substantial negative correlation of -0.381 at a 1% significance level with the financial performance of commercial banks in Kenya. The report advises bank management to maintain significant liquidity levels to sustain competitive performance.

Wirawan and William (2023) examine the correlation between financial stability, board diversity, and financial success across banking firms listed on the Indonesia Stock Exchange. This study is based on associative explanatory research. Researchers frequently examine audited financial documents accessible on the Indonesia Stock Exchange's website for studies utilising secondary sources. This study involved the collection of 190 research samples by a purposive sampling method. The research criteria encompassed banking firms that conducted an initial public offering (IPO) before 2016. The

observation period spanned from 2018 to 2022. The quantitative data analysis was performed using EViews version 12. The study's findings indicate that financial stability influences a company's financial performance favourably. However, board diversity, measured by the percentage of women on the board, does not affect it.

Jerono and Olweny (2023) investigated the influence of financial risk management strategies on the economic performance of microfinance firms in Kiambu County, Kenya. The research concentrates on the management of liquidity risk, operational risk, credit risk, and market risk. The study's results demonstrate that these risk management strategies have a favourable and significant impact on the financial performance of microfinance institutions in Kiambu County, Kenya. The research employed a descriptive survey design. The target population comprised 31 registered microfinance institutions functioning in Kiambu County. Microfinance institutions ought to enhance their liquidity risk management strategies. This can be accomplished by sustaining adequate liquidity levels, facilitating prompt loan processing, instituting liquidity regulations, and routinely evaluating investments to guarantee advantageous liquidity.

Raimi & Garba (2023) examine the relationship between lease financing and the financial performance of five leasing manufacturing firms listed on the Nigerian Stock Exchange from December 31, 2006, to December 31, 2021. The research utilised secondary data from the yearly audited financial statements and reports of five publicly traded conglomerates leasing manufacturing companies (CLCs). Financial performance is assessed by return on assets, while the total lease and fixed assets turnover index is employed to evaluate lease finance. The study used an ex-post facto research design and a longitudinal panel comprising time series and cross-sectional data. The data were examined via descriptive statistics and regression analysis. The study revealed that total lease has a substantial positive correlation with financial performance, while fixed assets demonstrate a significant positive correlation. Furthermore, overall asset turnover exhibits a considerable negative correlation with financial performance. Consequently, the study advises that the regulatory authorities, including the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC), should focus on implementing additional policy reforms to optimise the utilisation of total assets turnover, thereby enhancing the financial performance of conglomerate lease manufacturing firms in Nigeria.

Al Zaidanin & Al Zaidanin (2021) assess the extent to which independent variables, including capital adequacy ratio, non-performing loans ratio, cost-income ratio, liquidity ratio, and loans-to-deposits ratio, influence the financial performance of sixteen commercial banks in the United Arab Emirates, utilising panel data from 2013 to 2019. Secondary data was obtained from banks and analysed using standard descriptive statistics and the random effects model for hypothesis testing. The regression results indicate that the non-performing loans ratio and cost-income ratio significantly negatively affect the profitability of commercial banks in the United Arab Emirates. Conversely, the capital adequacy ratio, liquidity ratio, and loans-to-deposits ratio exhibit a very weak positive correlation with return on assets; however, they do not serve as determinants of bank profitability due to their statistically insignificant impact. To improve financial performance and reduce the risk of non-performing loans, banks should meticulously monitor loan performance and comprehensively analyse clients' credit histories and repayment capabilities before approving loan applications. The researchers advise that subsequent investigations into the impact of credit risk management on banks' financial performance should incorporate other independent variables and extend the study duration to twenty or thirty years to enhance the accuracy and generalizability of results.

## RESEARCH METHODOLOGY

### Research Design

Research design is a systematic arrangement of data collection and analysis conditions to align relevance to the research objective with efficiency in the research process (Bryman, 2016). It serves as a framework for the study, detailing the researcher's actions from hypothesis formulation and its operational implications to the final data analysis (Kothari, 2004). The research employed an explanatory design appropriate for examining cause-effect relationships that elucidate individuals'

behaviours or responses to specific societal phenomena (Creswell, 2014). This design was meticulously structured to accurately capture the quantitative data necessary for comprehensively assessing financial management practices and the economic performance of commercial banks in Nigeria.

**Target Population**

The target population of a study encompasses a complete set of individuals, cases, or events that a researcher aims to investigate (Bryman & Bell, 2017). By contrast, a population element refers to a specific object subjected to measurement (Mertens, 2014). The study population consisted of all thirteen (13) licensed DMBs listed on the Nigerian Exchange Group (NGX). The selection of commercial banks in Nigeria as the study population was predicated on accessing their audited yearly financial reports from the CBN's databases. All variables are derived from secondary data sources, specifically, the published annual reports of thirteen (13) listed banks, encompassing the decade from 2015 to 2023, the period under examination. This study concentrates on 13 selected deposit money banks as the units of analysis. Consequently, as the target population was less than 100, no sampling was conducted; hence, a census method was employed. The sample should not be used when the study population is small (< 100), as this would exacerbate sample error (Bell et al., 2022).

**Data Collection**

Efficient data collection techniques are crucial for obtaining insights into diaspora entrepreneurs' motivations, problems, contributions, and influence on economic development (Flick, 2018). The research utilised secondary data obtained from secondary data collection sheets. The secondary data were sourced from the audited annual financial reports of commercial banks in Nigeria, accessed via individual firms' websites and databases, and the Central Bank of Nigeria, covering ten years from 2015 to 2023. The decade-long study period allowed the researcher to collect ample data on the study variables, delineating the trend in commercial banks' financial management practices and performance.

**Data Processing and Analysis**

Data analysis is a crucial research stage, facilitating the extraction of insights and patterns related to diaspora entrepreneurship and its impact on economic development (Miles et al., 2013). The data were gathered, encoded, and fed into the STATA software for analysis. The 39 commercial banks constitute the panel for the data. The data include columns for liquidity management, credit risk management, working capital management, capital structure management, and financial performance. Coding involves technical processes in which symbols, typically numbers, are employed to identify raw data and convert them into a format suitable for accounting and easy tabulation (Startz, 2019). It also aided the researcher in narrowing the responses to several categories that encompassed the information essential for the analysis. Consequently, codes were allocated to each response. The data set was subsequently checked for correlation with the collected data using STATA Version 12.

**The Model**

This study employed a multivariate regression model to analyse the linear relationship between the dependent variable (financial performance) and the independent variables (liquidity management, credit risk management, working capital management, and capital structure management). The present study employed multiple regression analysis for various reasons: to ascertain the association between each variable under examination and to evaluate the relationship between dependent and independent variables (Orua, 2019). Additional studies employing the regression model include Golda (2019), who utilised it to ascertain the association between microeconomic factors and

economic growth determinants in Kenya, and Alfadhli and Al Ali (2021), who applied it to investigate the determinants of economic growth in Pakistan.

$Y = f(ROA, ROE)$ …….. (1)

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ …….. (2)

This was transformed into the following;

$REG = \beta_0 + \beta_1 ROA_1 + \beta_2 ROE_2 + \varepsilon$ …….. (3)

Whereby;

REG = Revenue Growth

ROA = Return on Asset

ROE = Return on Equity

$\beta_0$ = Constant

$\beta_{1-2}$ = Coefficient of the Independent Variables

$\varepsilon$ = Error Term

Thus, the analysis conducted encompasses a diagnostic test (Mutai & Miroga, 2023), an examination of multicollinearity, an autocorrelation test (Yahaya & Bala, 2015), a stationarity test including the Dickey-Fuller (DF) test or augmented DF (ADF) (Muhammed, 2023), and a normality test (Akotia et al., 2023), which is a fundamental assumption in multivariate analysis (Onsongo et al., 2020), positing that the errors in predicting the dependent variable Y are typically distributed (Dabbous et al., 2023). The linearity test is also provided, which measures the extent to which the dependent variable varies in response to changes in the predictor variables (Maina, 2018). The heteroscedasticity test posits that the null hypothesis is a constant variance; thus, heteroscedasticity is indicated if the chi-square is negligible (Alam et al., 2023). The Hausman test determines whether to employ fixed or random effect models when the research data consists of time series and cross-sectional data (Olufemi & Sunmisola, 2022). Additionally, hypothesis testing was conducted to validate the multi-regression models using ANOVA and F distribution, as suggested by Mason et al. (2019).

## ANALYSIS AND RESULT

### Descriptive Statistics

Table 1 presents the descriptive statistics of the variables of interest in this study, showing their characteristics such as the mean, median, minimum and maximum values, standard deviation, kurtosis, and skewness. These features of the datasets give the researcher foresight into the specific behaviour expected of the data during analysis and how to address such behaviour before venturing into the analysis properly.

**Table 4.1: Summary of Statistics on the Effect of Financial Management on Revenue Growth of Quoted Deposit Money Banks in Nigeria**

| | ROA | ROE | REG |
|---|---|---|---|
| Mean | 1.404446 | 146.9264 | 9.885385 |
| Median | 1.293500 | 84.00000 | 5.005000 |
| Maximum | 7.000000 | 734.0000 | 98.00000 |
| Minimum | -11.08000 | -1266.000 | 1.200000 |
| Std. Dev. | 2.235691 | 223.2264 | 17.30591 |
| Skewness | -1.985358 | -1.032406 | 4.205667 |
| Kurtosis | 12.70783 | 14.93455 | 20.22144 |
| Observations | 30 | 30 | 30 |

**Source:** Author's Compilation (2024).

The descriptive data in Table 4.1 indicate that the mean is 1.404446, with a range between -11.08000 and 7.000000 and a standard deviation of 2.235691. This suggests that some banks included in the sample had losses during specific years, while in other periods, they generated profits from their investments in assets, which aligns with the business expectations. The fact that the standard deviation exceeds the mean ROA provides further validation for variances across enterprises and periods. The ROE exhibited a consistent pattern, with an average of 146.9264 kobo. The ROE values ranged from -1266.000 to 734.000 kobo, indicating a wide range of variability. The standard deviation of the ROE was 223.2264 kobo, significantly higher than the mean EPS. This suggests substantial variations in ROE among different banks and periods, reflecting each bank's diverse portfolios and financial market viability. Business cycle elements, such as inflation and currency rate volatility, significantly affect the fluctuation in returns and profits on banks' investments. These factors have significantly negatively impacted the nation's economy, deterring local and international investment. Credit risk had a mean of 9.885385 and ranged from 1.200000 to 98.00000. The standard deviation of 17.30591 is higher than the mean. Assessing differences in credit risk across banks and over time based on the creditworthiness of each bank and prevailing economic conditions in the nation's financial market. The studied banks exhibit moderate variance in liquidity risk, as shown by a mean of 39.73908, a standard deviation of 13.45001, and a range of 11.63000 to 878000. However, this variation is more related to ROA, ROE, and revenue growth.

**Inferential Statistics**

**Heteroskedasticity Test**

**Table 4.2: Heteroskedasticity test for Exchange Rate Volatility**

| F | Observed R-square | Prob. F (30) | Prob. Chi-Square (1) | Significance Level |
|---|---|---|---|---|
| 9.654 | 10.454 | 0.0215 | 0.0024 | 0.052 |

**Source:** Author's Compilation (2024).

Table 4.2 confirms the presence of heteroskedasticity through the ARCH test as the Observed R-square value of 0.0215, which is significantly less than the 5% significance level.

**Unit Root test**

The ADF and PP test results show that not all the variables are stationary at levels, as the absolute value of their respective t-statistics values is less than the absolute 0.5% critical value in both tests, as indicated in Table 4.3. However, after testing them at their first difference, they were all stationary as all variables were integrated in the same order of 2. This result is mainly consistent with the findings of Ezu et al. (2023), whose variables became stationary at first difference. Therefore, a co-integration test is necessary to examine further the long-term relationship among the variables (Iwegbu *et al.*, 2019).

**Table 4.3: Results of Augmented Dickey-Fuller Test & Phillips Perron at level and first difference**

| ADF AT LEVEL | | | | | |
|---|---|---|---|---|---|
| **Variables** | **T-Statistics** | **Lag Order** | **P-Value** | **Alterlocal Hypothesis** | **Remark** |
| ROA | -2.1738 | 2 | 0.3506 | Stationary | Not Stationary |
| ROE | -2.1733 | 2 | 0.5720 | Stationary | Not Stationary |
| REG | -2.1740 | 2 | 0.3505 | Stationary | Not Stationary |
| PHILLIPS PERRON TEST AT LEVEL | | | | | |
| ROA | -2.0180 | 2 | 0.5025 | Stationary | Not Stationary |
| ROE | -2.1730 | 2 | 0.3505 | Stationary | Not Stationary |
| REG | -3.0421 | 3 | 0.3312 | Stationary | Not Stationary |
| ADF AT FIRST DIFFERENCE | | | | | |

| Variables | T-Statistics | Lag Order | P-Value | Alterlocal Hypothesis | Remark |
|---|---|---|---|---|---|
| ROA | -2.4754 | 2 | 0.03603 | Stationary | Stationary |
| ROE | -1.3774 | 2 | 0.05703 | Stationary | Stationary |
| REG | -2.4746 | 2 | 0.06900 | Stationary | Stationary |
| PHILLIPS PERRON TEST AT FIRST DIFFERENCE | | | | | |
| ROA | -1.330 | 3 | 0.01 | Stationary | Stationary |
| ROE | -2.182 | 3 | 0.01 | Stationary | Stationary |
| REG | -1.659 | 3 | 0.01 | Stationary | Stationary |

**Source:** Author's Compilation (2024).

**Cointegration Test**

Rejection of the hypothesis implies the existence of Cointegration among some or all the equations. Table 4.4 shows the t-test and critical value test results, the Eigen-normalised cointegration relations and the weights load matrix. The second part of the divide indicates a run relationship among all three 3 equations in the model, which shows the rejection of the null hypothesis at the 5% significance level. This suggests that the series is cointegrated because the individual time series has an integration order different from the linear combination of the time series. The Linear combination of the five-time series variables is s = 1.000 x REG + 0.208 x ROA - 2.262 x ROE.

**Table 4.4: Johansen Cointegration Test**

| VALUES OF TEST STATISTICS AND CRITICAL TEST | | | | | |
|---|---|---|---|---|---|
| | **Test** | **10pct** | **5pct** | **1pct** | |
| r <= 2 | 27.30 | 28.71 | 31.52 | 37.22 | |
| r <= 1 | 46.73 | 45.23 | 48.28 | 55.43 | |
| r = 0 | 72.00 | 66.49 | 70.60 | 78.87 | |
| EIGEN NORMALISED COINTEGRATION RELATIONS | | | | | |
| REG | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| ROA | 0.208 | 0.205 | 0.036 | -1.950 | 2.380 |
| ROE | -2.262 | 0.098 | 7.190 | 2.635 | 1.212 |

**Source:** Author's Compilation (2024).

**Diagnostic Test**

To ensure the efficiency of the VAR model and its correlation with the white noise assumption, a residual-based test of the Breusch-Godfrey L-M test for autocorrelation and the Jacqui Berra test for normality were conducted for the employed model.

**Residual Autocorrelation test**

The LM Serial Correlation Test was employed for the system model to test for residual autocorrelation among variables. This is shown in Table 4.5 to reject the null hypothesis that no autocorrelation exists among the residuals. The probability of observed LM statistics must be greater than 5%. The result depicts a rejection of the null hypothesis for all lags, implying the inexistence of serial correlation among all variables in the model.

**Table 4.5: Residual Serial Correlation LM Tests**

| Covariance Matrix of the Residual | | | |
|---|---|---|---|
| | **REG** | **ROA** | **ROE** |
| REG | 276.131 | 1.38 | 192.891 |
| ROA | 1.392 | 0.005 | 0.692 |
| ROE | 181.892 | 0.692 | 96.113 |
| Correlation Matrix of Residuals | | | |
| REG | 1.0000 | 0.9904 | 1.0000 |

| | | | |
|---|---|---|---|
| ROA | 0.9904 | 1.0000 | 0.9903 |
| ROE | 1.0000 | 0.9903 | 1.0000 |

**Source:** Author's Compilation (2024).

**Normality Test**

The multivariate normality test result for the VAR model depicted in Table 4.6 indicated the rejection of the null hypothesis, which is that the residuals or error terms in the VAR System are normally distributed with the combined p-values of Jarque-Bera, skewness, and kurtosis probability statistics, which is less than the 5% level of significance. The results indicated that all five equations in the model were usually distributed.

**Table 4.6: Multivariate Normality Test**

| **Jarque-Bera Test** | | |
|---|---|---|
| Chi-Squared | df | p-value |
| 242.58 | 28 | <1.2e-6 |
| Skewness | | |
| 52.015 | 5 | 1.742e-2 |
| Kurtosis | | |
| 181.45 | 5 | <2.1e-6 |

**Source:** Author's Compilation (2024).

**Hausman Test**

**Table 4.7: Hausman test for the model**

| | **Coefficients** | | | |
|---|---|---|---|---|
| | **b (fixed)** | **(B) random** | **(b-B) Difference** | **Sqrt(diag(V_b-V_B)) S.E** |
| REG | 0.489 | 0.876 | 0.474 | 0.410 |
| ROA | 0.498 | 0.334 | 0.827 | 0.797 |
| ROE | 0.334 | 0.811 | 1.433 | 0.661 |

b = consistent under Ho and Ha; obtained from strong

B = inconsistent under Ha, efficient under Ho; obtained from strong

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B) ^(-1)](b-B)

= 2.94 Prob>chi2 = 0.7101

**Source:** Author's Compilation (2024).

The Hausman test for the model showed a p-value of 0.7101, which was statistically insignificant at all significance levels. Thus, the random effect estimate is more appropriate for the current data than the fixed and common effects estimators. Therefore, this study utilised the random effect estimate to test the proposed hypothesis.

**Random Effect Model**

In line with the outcome of this study, the R-Square denotes about .7909, indicating that about 79 per cent combined impact of both ROA and ROE have a combined effect on the REG of deposit money banks in Nigeria. Consequently, the regression line of **REG = -.1380 + .2511(ROA) + .6580(ROE)**

shows that both ROA and ROE are positive predictors of REG. As a result, the $H_0$ of the study was rejected as denoted by its predictive value of less than the .05 value applied in this study's analysis.

**Table**

| REG | Random Effect Model | | |
|---|---|---|---|
| | **Coef.** | **Z** | **P>\|z\|** |
| ROA | .2511 | -0.21 | 0.863 |
| ROE | .6580 | 1.64 | 0.006 |
| _cons | -.1380 | -0.05 | 0.941 |
| Number of groups | 3.00 | | |
| Number of Obs | 30.00 | | |
| F (2, 24) | 6.24 | | |
| Prob > F | 0.002 | | |
| R-squared | 0.7909 | | |
| Adj R-squared | 0.7010 | | |

**Source:** Author's Compilation (2024).

## DISCUSSION OF FINDINGS

This study demonstrates that ROA and ROE significantly influence a bank's capacity for expansion, consequently impacting its total assets, deposit growth, loan portfolio, employment levels, and revenue growth (0.79). Nonetheless, this contradicts Yusuf et al. (2018) by asserting that the impact of capital structure management on ROA was negligible for all enterprises except 7up and Nestle. The study results indicated an insignificant association between the ROE and DAR. Nevertheless, nearly all companies exhibited a substantial correlation between ROE and debt-to-equity ratio. They find that enterprises with high leverage typically exhibit greater profitability. Muathe et al. (2018) demonstrated that financial leverage has a statistically significant negative correlation with performance, as indicated by ROA and ROE, suggesting that managers of publicly listed non-financial firms should diminish their dependence on long-term debt for financing. Siro (2017) identified an inverse correlation between capital structure management and the financial performance of publicly traded firms on the Kenyan securities exchange, whereas Orua (2019) found that most microfinance institutions (MFIs) in Kenya primarily relied on equity and donations for financing 72.42%, with debt comprising 27.58%. This supports a positive association between equity financing and the profitability of MFIs in Kenya, which aligns with the findings of this study.

## CONCLUSION AND RECOMMENDATION

This study investigated the effects of financial management practices on commercial banks' expansion in Nigeria, concluding that there is a significant positive impact of both ROA and ROE on the revenue generation rate of banks, as emphasised by its R-Square value of about .7909, indicating that there is about 79 per cent combined impact of both ROA and ROE on the REG of deposit money banks in Nigeria. This study also concluded that ROA and ROE are positive predictors of REG. As a result, $H_0$ of the study was rejected, as denoted by its predictive value of less than the .05 value applied in this study's analysis. This study recommends that commercial banks reassess credit policies and practices. Consequently, companies would mitigate losses from non-performing loans, decrease expenses, and improve performance. All banks must implement Credit Policies that explicitly delineate senior management's perspective on business development priorities and the requisite terms and circumstances for loan approvals. The Lending Guidelines must be revised periodically to account for alterations in the economic landscape and the development of the bank's loan portfolio and disseminated to all lending and marketing professionals. Commercial banks must strive to minimise their operational costs, as this adversely impacts their profit margins and, subsequently, their financial performance, hindering their projected service expansion.

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