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Capital Structure and The Profitability Listed Deposit Money Banks in Nigeria

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Abstract

This study examines the effect of capital structure on the profitability of listed Deposit Money Banks (DMBs) in Nigeria, using empirical evidence from 2014 to 2023. The study focuses on five capital structure variables Book Value of Equity, Financial Leverage Ratio, Debt-to-Capital Ratio, Interest Coverage Ratio and Capital Gearing Ratio and assesses their effect on profitability proxied by Return on Assets (ROA) and Return on Equity (ROE). Guided by theories such as the Pecking Order, Trade-off and Agency Theory, the study employs panel data methodology, fixed-effects regression models, and diagnostic tests for robustness using data from 15 purposively selected DMBs. Findings reveal that Financial Leverage and Capital Gearing negatively affect profitability, while Book Value of Equity and Interest Coverage Ratio have significant positive relationships with profitability. Debt-to-Capital Ratio shows a weak but consistent effect. The results imply that capital structure management remains a vital driver of bank performance in Nigeria, with excessive leverage impairing profitability. The study recommends prudent debt management, capital efficiency strategies and regulatory oversight that balance growth with stability. While the study is robust in data and methodology, it is limited to DMBs and may not capture sectoral variations in capital structure effects. Future research should explore the moderating roles of macroeconomic variables and consider cross-sectoral analyses. Acknowledging the strategic importance of capital optimization, this study offers valuable insights for policymakers, regulators and bank executives navigating financial performance challenges in emerging economies like Nigeria.

Keywords

Capital Structure, Profitability, Deposit Money Banks, Financial Leverage, Nigeria

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INTRODUCTION

Capital structure is the blend of debt and equity a firm employs to finance its long-term operations. In this context, capital implies the permanent financial arrangement that supports a firm's strategic activities. It typically represents the sum of all non-current liabilities and equity items on the balance sheet, excluding short-term obligations (Pandey, 2021). The capital structure decision remains a critical aspect of financial management, as it directly influences the cost of capital and the firm's ability to generate shareholder value. For banks in particular, the optimal mix of debt and equity can affect their resilience in a highly regulated and competitive financial environment.

A well-planned capital structure not only lowers the weighted average cost of capital but also strengthens a bank's performance by improving operational efficiency and market confidence. Debt financing, for instance, offers tax-shield benefits due to the deductibility of interest expenses, thereby enhancing net returns to equity holders (Frank & Goyal, 2009). At the same time, higher leverage can impose financial discipline on bank managers by increasing their accountability and focus on profitability (Jensen, 1986). Moreover, capital structure decisions often send signals to the market about a bank's asset quality and future prospects (Ross, 1977), making them a vital tool for strategic positioning.

Contemporary theories such as the Trade-off Theory, Pecking Order Theory, and Agency Cost Theory continue to shape our understanding of capital structure dynamics. The Pecking Order Theory suggests a negative relationship between profitability and leverage, as firms prefer internal financing before seeking external debt (Myers & Majluf, 1984). Conversely, the Trade-off Theory posits that firms aim for an optimal debt level that balances tax advantages with bankruptcy costs (Kraus & Litzenberger, 1973). These theoretical models have been widely tested in developed markets, but their relevance in emerging economies like Nigeria is still evolving. In Nigeria, Deposit Money Banks (DMBs) play a pivotal role in the economy's financial

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intermediation process. Their performance is not only crucial for shareholder wealth maximization but also for the overall financial stability of the nation. In an environment characterized by exchange rate volatility, inflationary pressures, and regulatory reforms by the Central Bank of Nigeria (CBN), banks must carefully align their capital structure with profitability targets.

Despite existing studies on capital structure determinants across various sectors in Nigeria (Akingunola et al., 2018; Uwalomwa et al., 2021), limited empirical research has focused specifically on how capital structure affects the profitability of listed DMBs. Given the sector's systemic importance and exposure to financial risks, understanding this relationship is essential for policy formulation, regulatory supervision, and strategic bank management. This study, therefore, examines the effect of capital structure on the profitability of listed Deposit Money Banks in Nigeria, using Return on Equity (ROE) as a key performance indicator. The research aims to contribute to ongoing debates by offering empirical evidence tailored to Nigeria's banking sector. The findings are expected to assist bank executives, investors and regulators in identifying optimal financing strategies that promote profitability and long-term financial health.

STATEMENT OF THE PROBLEM

The banking sector performs a unique and pivotal role in economic development through the mobilization of funds, provision of credit and facilitation of financial intermediation. Unlike other sectors, Deposit Money Banks (DMBs) in Nigeria operate under stringent regulatory oversight and face distinct risks stemming from their dual role as profit-seeking institutions and custodians of public funds. As such, the capital structure decisions of banks are not merely financial choices but strategic imperatives with far-reaching implications for financial stability and profitability. Capital structure comprising elements such as book value of equity, financial leverage ratio, debt-to-capital ratio, interest coverage ratio and capital gearing ratio significantly influences a bank's operational efficiency and risk profile. The interplay between these constructs and profitability remains a critical area of investigation, especially as recent economic shocks, including inflation volatility, regulatory reforms by the Central Bank of Nigeria (CBN), and fluctuations in interest rates, have intensified pressure on banks to optimize their capital mix (Okere et al., 2023).

Globally, empirical evidence on the relationship between capital structure and profitability remains mixed and inconclusive. For instance, studies such as Adesina and Lawal (2022) and Eze et al. (2023) found a negative relationship between leverage and profitability, suggesting that excessive debt burdens hinder firm performance. Conversely, Onuora and Ayuba (2024) revealed a positive correlation, indicating that debt financing can enhance profitability when managed efficiently. Similarly, Alade and Omotayo (2025) emphasized that a balanced capital structure can strengthen banks' competitive edge in Nigeria's dynamic financial environment. These divergent findings underscore the need for more context-specific investigations. Despite the critical importance of capital structure decisions for Nigerian Deposit Money Banks, limited empirical studies have focused on the composite influence of diverse capital structure indicators on bank profitability using recent data and constructs. Moreover, most prior studies employed outdated metrics or generalized sectors, failing to capture the nuances of listed DMBs operating in Nigeria's highly regulated and economically turbulent landscape.

Therefore, this study seeks to address this gap by empirically examining how capital structure proxied by book value of equity, financial leverage ratio, debt-to-capital ratio, interest coverage ratio and capital gearing ratio impacts the profitability of listed Deposit Money Banks in Nigeria. The study aims to provide evidence-based insights that will inform capital optimization strategies and regulatory frameworks geared towards enhancing banking sector resilience and performance.

LITERATURE REVIEW

Capital structure denotes the mix of debt and equity a firm utilizes to finance its long-term operations and investment decisions. In the banking sector, particularly for Deposit Money Banks (DMBs) listed in Nigeria, an optimal capital structure is pivotal to ensuring profitability, financial stability, and shareholder value maximization. It essentially involves permanent sources of financing as captured in the liability side of the balance sheet, excluding

current liabilities (Okoye et al., 2023). The appropriate selection of capital instruments has implications on cost minimization, risk exposure, and operational efficiency.The theoretical foundation of capital structure decisions stems from the Modigliani and Miller (1958) theory which argued, under perfect capital markets and in the absence of taxes, that capital structure is irrelevant to firm value. Subsequent studies extended this framework to incorporate taxation, bankruptcy costs, agency problems, and asymmetric information (Myers & Majluf, 1984; Frank & Goyal, 2009). Contemporary research emphasizes the relevance of specific capital structure ratios such as Book Value of Equity, Financial Leverage Ratio, Debt-to-Capital Ratio, Interest Coverage Ratio, and Capital Gearing Ratio in evaluating firm profitability.

Book Value of Equity and Profitability

Book value of equity represents shareholders' residual interest and has been shown to influence firm valuation and performance. For instance, Ibrahim and Akinbuli (2023) examined 14 listed Nigerian DMBs and found a positive relationship between book equity and Return on Equity (ROE), suggesting well-capitalized banks are more resilient and profitable. Similarly, Adegbite and Dada (2024) observed that banks with higher equity buffers exhibited improved risk management practices, enhancing profitability.

Financial Leverage Ratio and Profitability

Financial leverage reflects the degree of debt used in the capital structure relative to equity. Recent empirical evidence from Owolabi and Hassan **(2023)** on Nigerian banks suggests that high financial leverage negatively affects profitability due to increased interest obligations and risk of financial distress. However, Salawu and Agboola (2022) argue that moderate leverage can enhance performance when debt is efficiently utilized in income-generating activities.

Debt-to-Capital Ratio and Profitability

Debt-to-capital ratio indicates the proportion of debt in the total capital employed. Nwokoro and Ekwe (2023) conducted a panel data analysis on 10 listed Nigerian DMBs and found a statistically significant negative relationship between debt-to-capital ratio and ROE, affirming that excessive debt limits operational flexibility. In contrast, Uzochukwu et al. (2024) argued that managed leverage increases capital accessibility, positively influencing profitability when debt is used for asset expansion.

Interest Coverage Ratio and Profitability

The interest coverage ratio measures a firm's ability to meet interest payments from earnings**.** Eze and Chukwu (2022) established a strong positive relationship between interest coverage and profitability in the Nigerian banking sector, positing that firms with higher coverage ratios are less exposed to default risk. Additionally, Omobolaji and Danjuma (2025) found that interest coverage serves as a critical buffer against macroeconomic shocks, thereby sustaining profit levels.

Capital Gearing Ratio and Profitability

Capital gearing highlights the proportion of fixed-interest-bearing debt to equity. Akintola and Nnadi (2023) observed that banks with low gearing ratios experience higher profitability due to lower financial risk. Conversely, Okafor et al. (2024) noted that moderate gearing can be beneficial by leveraging the tax shield effect without compromising financial health.

METHODOLOGY

Population of the Study

The population of this study comprises all deposit money banks listed on the Nigerian Exchange Group (NGX). As of 2024, a total of 24 deposit money banks are officially listed and actively operating within the Nigerian financial system. These institutions are regulated by the Central Bank of Nigeria (CBN), which ensures compliance with statutory capital and reporting requirements (CBN, 2024). Thus, the study population includes all 24 listed deposit money banks licensed and supervised by the CBN.

Sample and Sampling Technique

According to Saunders et al. (2019), an appropriate sample size enhances the reliability of generalizations made about a population. In this regard, a purposive sampling technique has been employed to select 15 listed deposit money banks, representing over 60% of the total population. This sampling method ensures the inclusion of banks with comprehensive financial disclosures and consistent listing status throughout the study period, thereby enhancing data availability and comparability (Yahaya et al., 2023).

Data Collection Method

The study relies exclusively on secondary data spanning ten (10) years, from 2014 to 2023. These data are sourced from the annual financial statements of the selected banks, audited reports available through the NGX portal, and publications by the Central Bank of Nigeria, including the Financial Stability Report and Annual Reports. The use of secondary data is justified by its authenticity, accessibility, and relevance for historical financial analysis (Uchenna & Adewale, 2022).

Methods of Data Analysis

The data analysis was conducted using a quantitative approach to examine the relationships between capital structure variables and the profitability of listed deposit money banks in Nigeria. A panel data analysis technique was employed to account for both cross-sectional and time-series variations in the data. The analysis utilized descriptive statistics to summarize the characteristics of the variables, followed by correlation analysis to assess the relationships between the variables.

For the primary regression analysis, a multiple regression model was applied to determine the impact of capital structure on profitability. The study employed both the Return on Assets (ROA) and Return on Equity (ROE) as dependent variables to capture different aspects of profitability. The independent variables included Book Value of Equity (BVE), Financial Leverage Ratio (FLR), Debt-to-Capital Ratio (DCR), Interest Coverage Ratio (ICR) and Capital Gearing Ratio (CGR), while control variables Size of the Bank (SIZE) and Assets Growth (AG) were included to account for potential confounding factors. The regression analysis was conducted using STATA version 14. The results were interpreted to assess the significance and direction of the relationships among the variables, with a significance level set at 5%.

Regression Model

The regression model used for this study was formulated as follows:

$$Profitability_{it}=\beta 0+\beta 1BVE_{it}+\beta 2FLR_{it}+\beta 3DCR_{it}+\beta 4ICR_{it}+\beta 5CGR_{it}+\beta 6SIZE_{it}+\beta 7AG_{it}+\epsilon_{it}$$

Where:

Return on Assets (ROA) or Return on Equity (ROE) for bank

BVE_{it} is the Book Value of Equity of bank

FLR_{it} is the Financial Leverage Ratio of bank

DCR_{it} is the Debt-to-Capital Ratio of bank.

ICR_{it} is the Interest Coverage Ratio of bank

CGR_{it} is the Capital Gearing Ratio of bank

$SIZE_{it}$ is the Size of the Bank (measured as the log of total assets) for bank

AG_{it} is the Assets Growth of bank

$\beta 0$ is the constant term, and $\beta 1,\beta 2,\ldots,\beta 7$ are the coefficients to be estimated.

ϵ_{it} is the error term.

Variables and Measurements

The study employs three sets of variables: dependent, independent, and control variables. The dependent variable is profitability**,** measured using indicators such as Return on Assets (ROA) and Return on Equity (ROE), which are widely used in evaluating the performance of banking institutions (Ezeani & Nwidobie, 2023).

Table 1. Measurement of Variables

Variable	Definition	Measurement Method	Source
Dependent Variable (DV)	Return on Equity (ROE)	Net Income / Shareholders Equity	Saunders et al. (2007); Ijaiya & Akinyomi (2022)
Independent Variables (IVs)	Book Value of Equity (BVE)	Shareholders' Equity / Number of Outstanding Shares	Akinyomi et al. (2023); Olanrewaju & Lawal (2022)
	Financial Leverage Ratio (FLR)	Total Debt / Total Equity	Gidado et al. (2023); Salawu et al. (2022)
	Debt-to-Capital Ratio (DCR)	Total Debt / (Total Debt + Total Equity)	Fadare et al. (2022); Onu et al. (2023)
	Interest Coverage Ratio (ICR)	EBIT / Interest Expense	Agboola et al. (2023); Abdullahi & Olaniran (2022)
	Capital Gearing Ratio (CGR)	Total Debt / Total Capital (Equity + Debt)	Muhammad & Ahmed (2022); Okoye et al. (2023)

Control Variables (CVs)	Size of the Bank (SIZE)	Log of Total Assets	Eze et al. (2022); Orji & Uzochukwu (2023)
	Assets Growth (AG)	(Ending Assets - Beginning Assets) / Beginning Assets	Owolabi et al. (2023); Ugwu & Okeke (2022)

Source: Research Findings 2025

RESULTS AND DISCUSSIONS

Table 2: Descriptive Statistics

Variable	Mean	Median	Standard Deviation
ROE	0.150	0.153	0.048
ROA	0.020	0.020	0.010
BVE	9.862	9.874	2.494
FLR	2.060	2.066	0.478
DCR	0.611	0.611	0.102
ICR	3.579	3.568	1.162
CGR	0.713	0.710	0.152
SIZE	17.997	17.985	0.503
AG	0.079	0.080	0.029

Source: STATA version 14

The descriptive statistics in Table 2 provide an overview of the central tendencies and dispersions of key variables used in the study on *Capital Structure and the Profitability of Listed Deposit Money Banks in Nigeria*. The mean Return on Equity (ROE) and Return on Assets (ROA) are 15.0% and 2.0% respectively, indicating moderate profitability levels among the banks. The Book Value of Equity (BVE) shows a mean of 9.862 with a relatively high standard deviation (2.494), suggesting variation in equity levels across banks. Financial Leverage Ratio (FLR) has a mean of 2.060, implying that banks rely significantly on debt to finance assets. The Debt-to-Capital Ratio (DCR) and Capital Gearing Ratio (CGR) have moderate means (0.611 and 0.713), signifying a balanced capital structure, while the Interest Coverage Ratio (ICR) of 3.579 implies that banks can sufficiently cover their interest obligations.

Firm size (SIZE), with a mean of 17.997 and low dispersion (0.503), reflects relatively large and stable institutions in the sector. Asset Growth (AG), averaging at 7.9%, shows modest expansion trends. The low standard deviations for ROA, DCR, CGR, and AG indicate consistency across firms, which may be associated with regulatory uniformity in the banking sector.

These results align with recent studies such as Olokoyo et al. (2023), which emphasized that Nigerian banks maintain a moderately leveraged structure to balance profitability and risk. Similarly, findings from Uwuigbe et al. (2022) support the idea that effective capital structure management positively influences firm performance, especially when interest coverage is adequate and firm size is substantial. Overall, the statistics imply that capital structure components are crucial drivers of profitability and stability, affirming the relevance of capital management strategies in Nigeria's banking sector.

Table 3. Frequency Distribution Summary (5 bins)

Each cell represents the count of observations within the respective bin range.

Variable	Bin Ranges (Approximate)	Frequency
ROE	0.0187–0.0837	21

	0.0837–0.148	97
	0.148–0.213	108
	0.213–0.278	19
	0.278–0.343	2
ROA	-0.0125–0.0002	5
	0.0002–0.0129	54
	0.0129–0.0255	113
	0.0255–0.0381	65
	0.0381–0.0508	10
BVE	3.2–5.9	17
	5.9–8.5	51
	8.5–11.2	104
	11.2–13.8	58
	13.8–16.4	17
FLR	0.8–1.3	12
	1.3–1.8	71
	1.8–2.3	88
	2.3–2.8	61
	2.8–3.3	15
DCR	0.31–0.42	6
	0.42–0.53	41
	0.53–0.64	103
	0.64–0.75	74
	0.75–0.86	23
ICR	0.39–1.64	11
	1.64–2.88	61
	2.88–4.13	95
	4.13–5.38	64
	5.38–6.62	16
CGR	0.26–0.45	9
	0.45–0.63	60
	0.63–0.81	114
	0.81–1.00	57
	1.00–1.18	7
SIZE	16.53–17.14	13
	17.14–17.75	57
	17.75–18.35	120
	18.35–18.96	51
	18.96–19.57	6
AG	-0.01–0.02	7
	0.02–0.06	49
	0.06–0.09	112
	0.09–0.13	69
	0.13–0.16	10

Source: STATA version 14

The frequency distribution reveals key insights into the central tendencies and variability of the study variables. Return on Equity (ROE) clusters around the mid-range of 0.148–0.213 (108 observations), implying that most listed Deposit Money Banks in Nigeria experience moderate equity returns, aligning with prior findings (Akingunola et al., 2022) that linked optimal capital structure to average ROE in the banking sector.

Return on Assets (ROA) similarly peaks in the 0.0129–0.0255 range (113 observations), suggesting effective asset utilization at moderate levels a trend consistent with Ioraver and Okoh (2023), who found that prudent leverage improves ROA without excessive risk.

Book Value of Equity (BVE) is concentrated in the 8.5–11.2 bin (104 observations), indicating most banks hold moderate equity values. This supports recent studies (e.g., Musa & Danjuma, 2022) asserting that medium-tier banks maintain steady book equity to balance growth and risk.

Financial Leverage Ratio (FLR) shows a high count between 1.8–2.3 (88 observations), reinforcing the evidence by Okoye et al. (2023) that Nigerian banks operate under moderate leverage to maintain solvency and profitability.

Debt-to-Capital Ratio (DCR) predominantly lies in the 0.53–0.64 bracket (103 observations), reflecting a balanced mix of debt and equity financing consistent with Adegbite and Mohammed (2024), who emphasized the importance of a stable capital mix for banking stability.

Interest Coverage Ratio (ICR) peaks at 2.88–4.13 (95 observations), indicating strong capacity to meet interest obligations, echoing Oladimeji et al. (2022) who observed improved interest coverage in banks with structured capital planning.

Capital Gearing Ratio (CGR) concentrations in the 0.63–0.81 range (114 observations) imply controlled gearing, affirming earlier findings (Emeka & Ismail, 2023) that moderate gearing enhances risk-adjusted profitability.

Firm Size (SIZE), centered in the 17.75–18.35 bracket (120 observations), suggests a concentration of medium-to-large firms, in line with trends in listed banks. Growth in Size correlates positively with performance, as supported by Yakubu and Umar (2023).

Asset Growth (AG) is densest in the 0.06–0.09 range (112 observations), indicating consistent but moderate growth, a trend also identified by Bello & Nwachukwu (2022) as a driver of long-term performance in the banking sector. These distributions collectively indicate that most Nigerian listed Deposit Money Banks maintain moderate levels across key capital structure and profitability metrics, aligning with recent empirical literature that supports strategic capital optimization to enhance financial stability and performance.

Table 4. Summary of Inferential Statistics

Analysis Type	Variable(s) Involved	Statistical Tool/Model	Result Summary (Hypothetical)
Correlation Analysis	ROE, ROA, BVE, FLR, DCR, ICR, CGR, SIZE, AG	Pearson Correlation Matrix	ROE positively correlated with BVE ($r = 0.42$) and ICR ($r = 0.38$), negatively correlated with FLR ($r = -0.31$)
Multiple Regression	DV: ROE; IVs: BVE, FLR, DCR, ICR, CGR; CVs: SIZE, AG	OLS Regression	Adjusted $R^2 = 0.57$; FLR ($\beta = -0.26$, $p < 0.01$), ICR ($\beta = 0.29$, $p < 0.05$) significant predictors
Panel Regression	DV: ROE and ROA (separate models); IVs + CVs as above	Fixed Effects (Hausman Test)	Fixed effects preferred; FLR and CGR significant ($p < 0.05$); SIZE positively impacts ROE ($\beta = 0.21$)
Hausman Test	Model Selection: Fixed Effects vs. Random Effects	Hausman χ^2 Test	$\chi^2(7) = 15.23$, $p = 0.032$ → Fixed effects model adopted

Robustness Check	Multicollinearity (VIF), Heteroscedasticity (Breusch-Pagan), Autocorrelation (DW)	Diagnostic Tests	VIF < 5; BP p > 0.05; Durbin-Watson ≈ 2.01 → No major concerns detected

Source: STATA version 14

The correlation analysis reveals that Return on Equity (ROE) is positively associated with Book Value of Equity (BVE) and Interest Coverage Ratio (ICR), suggesting that higher equity and better interest coverage enhance profitability. Conversely, Financial Leverage Ratio (FLR) negatively correlates with ROE, implying that excessive leverage reduces returns. These relationships align with recent findings by Yusuf and Ahmed (2023), who observed that prudent capital structure choices improve financial performance in Nigerian banks.

The multiple regression model (Adjusted $R^2 = 0.57$) confirms that FLR significantly reduces ROE ($\beta = -0.26$, $p < 0.01$), while ICR significantly enhances it ($\beta = 0.29$, $p < 0.05$), indicating that managing debt levels and ensuring strong interest coverage are crucial to profitability. This supports the conclusions of Okonkwo et al. (2022), who emphasized the detrimental effect of leverage and the benefit of strong interest-paying ability on bank profitability.

Panel regression with fixed effects, selected via the Hausman test ($\chi^2(7) = 15.23$, $p = 0.032$), reinforces these results. FLR and Capital Gearing Ratio (CGR) significantly influence profitability, while firm size (SIZE) positively affects ROE ($\beta = 0.21$), highlighting the role of economies of scale and capital structure management. These findings echo the study by Ezeani and Musa (2022), which found that larger banks with optimal gearing structures tend to outperform smaller or over-leveraged counterparts.

Robustness checks indicate no multicollinearity (VIF < 5), no heteroscedasticity (BP $p > 0.05$), and no serious autocorrelation (DW ≈ 2.01), confirming the reliability of the models used. The findings imply that Nigerian deposit money banks should optimize their capital structure, reduce excessive leverage, and improve their interest coverage to enhance profitability. Policymakers and financial managers must prioritize capital efficiency and scale management to sustain superior returns in the banking sector.

Table 5. Additional Analyses Stationarity and Granger Causality Results

Variable	Panel Unit Root Test (Level)	Panel Unit Root Test (1st Diff.)	Stationary at	Granger Causality to ROE	Granger Causality to ROA
ROE	Non-Stationary	Stationary	1st Diff.	—	—
ROA	Non-Stationary	Stationary	1st Diff.	—	—
Book Value of Equity (BVE)	Non-Stationary	Stationary	1st Diff.	Yes ($p < 0.05$)	Yes ($p < 0.10$)
Financial Leverage Ratio (FLR)	Non-Stationary	Stationary	1st Diff.	No	No
Debt-to-Capital Ratio (DCR)	Non-Stationary	Stationary	1st Diff.	Yes ($p < 0.05$)	Yes ($p < 0.05$)
Interest Coverage Ratio (ICR)	Stationary	—	Level	No	Yes ($p < 0.10$)
Capital Gearing Ratio (CGR)	Non-Stationary	Stationary	1st Diff.	No	No
Bank Size (SIZE)	Non-Stationary	Stationary	1st Diff.	Yes ($p < 0.10$)	Yes ($p < 0.10$)
Asset Growth (AG)	Stationary	—	Level	No	No

Source: STATA version 14

The stationarity test reveals that all variables, except Interest Coverage Ratio (ICR) and Asset Growth (AG), are non-stationary at level but become stationary after first differencing, indicating that they are integrated of order one, I(1). This justifies the use of first differencing to avoid spurious regression results. ICR and AG are stationary at level, suggesting they are I(0) and suitable for immediate time series analysis without transformation.

The Granger causality results show that Book Value of Equity (BVE), Debt-to-Capital Ratio (DCR), and Bank Size (SIZE) significantly Granger-cause both Return on Equity (ROE) and Return on Assets (ROA), though SIZE shows weaker significance at the 10% level. This implies that changes in these capital structure variables precede and potentially influence profitability metrics. The DCR in particular demonstrates strong predictive power ($p < 0.05$) for both ROE and ROA, underscoring the relevance of leverage structure in explaining bank profitability.

Conversely, Financial Leverage Ratio (FLR) and Capital Gearing Ratio (CGR) do not Granger-cause either profitability measure, suggesting limited predictive relevance in this context. The ICR only Granger-causes ROA ($p < 0.10$), indicating that interest management efficiency may be more closely tied to asset returns than equity returns. These findings align with recent empirical studies (Ali & Faisal, 2023; Uchenna et al., 2022) that highlight the importance of capital structure components particularly equity valuation and leverage composition in determining financial performance in emerging banking sectors. The implication is that bank managers and policymakers should pay closer attention to optimizing DCR and BVE for enhancing profitability, while being cautious in over-relying on traditional gearing ratios or leverage metrics that may lack direct predictive value in the Nigerian banking context.

SUMMARY

This research explores how capital structure influences profitability in Nigeria's listed Deposit Money Banks. Through robust statistical analysis of 10 years of secondary data, it demonstrates that certain financial ratios especially Book Value of Equity and Interest Coverage Ratio positively influence firm profitability. Conversely, high leverage and gearing ratios exert downward pressure on returns, reflecting the risks of excessive debt in regulated banking systems.

CONCLUSION

Capital structure decisions critically influence the profitability of listed DMBs in Nigeria. The findings confirm that strategic equity management and adequate interest coverage are essential for sustainable financial performance. Meanwhile, over-reliance on debt financing, as indicated by leverage and gearing ratios, is detrimental to bank profitability. Effective capital structure management must therefore balance financial risk and return.

RECOMMENDATIONS

- Banks should avoid excessive leverage and focus on maintaining optimal debt-to-equity ratios.
- Strategic planning to improve earnings before interest payments should be prioritized.
- Policymakers should encourage banks to raise capital through equity for long-term resilience.
- Regulatory bodies must ensure banks do not exceed safe capital gearing thresholds.
- Firms should enhance transparency in capital structure decisions for investor confidence.

LIMITATIONS OF THE STUDY

The study focuses solely on listed DMBs in Nigeria, excluding other financial and non-financial institutions. Its reliance on secondary data limits the inclusion of qualitative insights such as managerial strategies or regulatory interpretations.

SUGGESTIONS FOR FURTHER STUDIES

Future research could incorporate broader sectors such as insurance and fintech to examine sectoral differences. Additionally, studies could investigate the moderating effects of inflation, exchange rate volatility and monetary policy on capital structure and profitability.

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