LEVERAGE DECISIONS AND BANKS' PROFITABILITY: EVIDENCE FROM THE NIGERIAN BANKING SECTOR

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Abstract
Leverage decisions create a critical challenge for banks' profitability in the Nigerian banking sector, as undue reliance on debt financing intensifies financial risk and instability, while insufficient leverage limits returns. The relevance of financial leverage lies in the tax deductibility associated with debt, as it allows firms to deduct interest payments before paying tax. An ex-post facto research design was adopted. Secondary data from 25 deposit money banks were used from 2004 to 2023. Building on this concept, the study examined the impact of leverage decisions on the performance of commercial banks in Nigeria, acknowledging that bank profitability is crucial for financial stability and economic development. The Pooled Ordinary Least Squares (POLS) Regression technique and descriptive statistics were employed. The regression results revealed that leverage decisions had a positive impact on bank returns, with a 1% increase in leverage decisions leading to a 0.3143% ($\beta = 0.3143$, $p < 0.001$) increase in bank profitability. Furthermore, the findings revealed that the ratio of Equity to Total Assets (EQTA) and the ratio of Long-term Debt to Total Assets (LTDTA) have a significant negative effect on Return on Assets (ROA), while the ratio of Equity to Total Debt (EQTD) has a positive but insignificant effect on ROA. This result implies that Bank managers should adopt strategic leverage decisions as part of financial planning to enhance returns. Policymakers and bank regulators should design policies that encourage banks to enhance their capital structure, complementing debt and equity to maximize returns without compromising financial stability.

Keywords: Leverage decisions, ratio of equity to total assets, ratio of equity to total debts, ratio of long-term debt to total assets, return on assets.

1.0 Introduction

Leverage decisions have become a top priority through which banks strategize to expand, fund projects, and acquire assets, while investors use leverage to magnify their buying power. This leverage decision lies at the heart of corporate finance, as it determines how organizations fund their operations and growth through a mix of debt and equity. Under the hypothesis of Modigliani and Miller (1958), in Akpan (2009), a firm's investment policy should depend solely on its cash flow and profitability. The performance of the banking sector is a critical determinant of economic stability and

growth, particularly in an emerging or growing economy like Nigeria (Francis, 2025). The efficiency of banks is measured using return on Equity, Net interest margin, and return on assets (Olowe & Fasina, 2023). Leverage decision is therefore a financial strategy that involves using borrowed funds (debt) to increase the potential return on an investment (Haynes, 2025; and Dsouza, 2024). A decision made or taken on whether to rely more heavily on debt or equity is not merely a technical accounting matter or issue, but a strategic choice that shapes profitability, shareholder value, and even the long-term survival of the banking sector. Financial leverage provides the potential to increase shareholders' returns, but also creates the risk of loss for them. A high leverage ratio amplifies returns when investments perform well, but also magnifies losses during economic downturns due to changing market factors and an evolving policy climate, which has a substantial impact on the banking sector (Chizuru & Ogoke, 2024).

Bank profitability refers to a bank's ability to generate earnings and is influenced by cost efficiency, economic activity, inflation, and competition. Banks serve as intermediaries between savers and investors, facilitating the flow of funds to productive activities (Mashamba & Chikutuma, 2023). In Nigeria, the bank's profitability has been characterized by strong earnings, with lending banks such as Zenith Bank and Guarantee Trust Holding Company reporting over a trillion Naira in profit (Frank & Sylvanus, 2022).

A notable gap still exists in integrating details on leverage decisions, such as equity-to-total assets and long-term debt-to-assets, into the analysis of bank performance in Nigeria. However, increased dependence on debt can magnify financial risk. During economic downturns, highly leveraged banks may struggle to meet their debt obligations, which could lead to insolvency. Moreover, if assets are of lower quality or deteriorate, a bank with a lower equity buffer might not be able to absorb losses, leading to instability and subsequent bank losses. Due to banks' heavy reliance on short-term debt to fund long-term assets, banks may face liquidity issues if they cannot roll over their debt. This can lead to a liquidity crisis. A high ratio in leverage decisions may indicate that a bank is overcommitting to long-term debt for asset funding, which can limit flexibility if interest rates rise or if the bank needs to respond quickly to financial demands. The study aims to investigate the effect of leverage decisions on banks' profitability using three dimensions of financial leverage. The objectives are to:

i. Examine the effect of the equity-to-total assets ratio on returns on assets.
ii. Determine the impact of the long-term debt ratio to total assets on return on assets.
iii. Investigate the relationship between the equity-to-total-debts ratio on return on assets.

The study's research hypotheses were put forward as follows:

H_{01}: The equity-to-total assets ratio does not have a significant effect on return on assets in Nigeria.

H_{02}: The long-term debt ratio to total assets does not have a significant effect on return on assets in Nigeria.

H_{03}: The Equity to total debt ratio does not have a significant effect in Nigeria

The significance of leverage decisions on banks' profitability are:

i. It assists regulatory agencies in designing and enforcing optimal capital requirements while allowing banks to remain profitable.
ii. It is significant because it provides insight into how banks can balance debt financing with risk management, thereby reducing the likelihood of bank systemic failure.
iii. Again, research findings will assist banks in determining the optimal mix of debt and equity financing to maximize returns.
iv. The study of leverage decisions assists banks in making financing decisions that boost returns on assets and ultimately enhance shareholder value.
v. Stakeholders like investors and financial analysts rely on the results from such research to evaluate bank performance and long-term sustainability when making investment decisions.
vi. Finally, the study will contribute to and expand knowledge on leverage decisions in Nigeria.

2.0 Literature Review

One of the many decisions often confronted by a financial manager is financing decisions. Conceptually, financing decisions concern the sourcing of funds and the required mix of capital structure. (Mbat, 2015). It is the use of fixed-charge capital with owner's equity in the capital structure. Leverage decisions involve decisions about the proportion that the various securities bear in relation to the total capital of the firm or business. The cost of debt is an increasing function of the amount of debt. Therefore, the higher the amount of debt, the higher the cost of debt if the interest rate remains constant. Financial leverage has the advantage of tax deductibility that goes with debt. By implication, businesses, firms, and banks are allowed to charge interest on debt to generate a profit before paying tax. This would subsequently leave a small portion of profit for tax purposes, unlike a business that does not use debt in financing its operations but relies entirely on equity (Akpan, 2009).

The ratio of equity to total assets measures the proportion of a bank's non-current assets that are financed through shareholders' equity rather than debt (Francis, 2025). The ratio evaluates a company's financial leverage (Fernando, 2025). It measures how a business finances its operations by borrowing money (debt) or using owner/investor funds (Stanley, 2025). Arithmetically, it is total equity divided by total assets (Abubakar, 2015). In the banking sector, financial leverage decision plays a significant role in enabling banks to extend credit and finance large-scale projects that cannot be fully supported by equity. However, though leverage can amplify returns, but can also cause an upsurge in financial obligations of banks, which can impact their profitability and stability if not properly managed (Amah & Nwosu, 2023).

It is worth noting that a high equity-to-total assets ratio reflects strong capitalization and a low financial risk, which is essential for maintaining investor and regulatory confidence (Central Bank of Nigeria, 2023). Comparatively, a low ratio suggests that the bank is heavily financed by debt, which will likely cause a rise in interest expenses and financial distress during an economic downturn. This is a leverage decision ratio that measures the proportion of a bank's total assets that are financed typically through debt. (Kenton, 2019). It is mathematically computed as total long-term debt divided by total assets. A moderate level of long-term debt can support bank growth by enabling the financing of long-term investment without an immediate repayment pressure (Abubakar, 2015). The equity-to-total-assets ratio is a proportion of a company's

equity to non-current assets that are leveraged. It is the proportion of a company's assets that are financed by its shareholders' contribution (Gurung, 2025; Waterworth, 2024). A low ratio suggests that the bank is heavily financed by debt.

Bank profitability refers to a bank's ability to efficiently utilize resources to generate sustainable profits while maximizing shareholder value (Athanasoglou & Delis, 2014). In Nigeria, bank profitability has shown resilience, driven by high interest rates, increased non-interest income (such as bank charges), and foreign exchange gains, which resulted in the recorded profits of banks in 2023 and 2024 (CBN, 2024). In Nigeria, bank profitability or performance is typically affected by inflation, currency fluctuations, and credit risk exposure (Ezenwa & Eze, 2023).

Return on Assets

This ratio indicates how efficiently a bank utilizes its non-current assets to generate profit (Hargrave, 2025). The return on assets (ROA) is a measure of a bank's performance, indicating its profitability relative to total assets. It is computed as dividing gross income by total assets expressed as a percentage (Bello & Yakubu, 2024). For the banking sector, a higher ROA indicates efficient asset utilization and better income generation, while a lower ROA may be indicative of operational inefficiency or increased costs associated with asset management.

Conceptual Framework

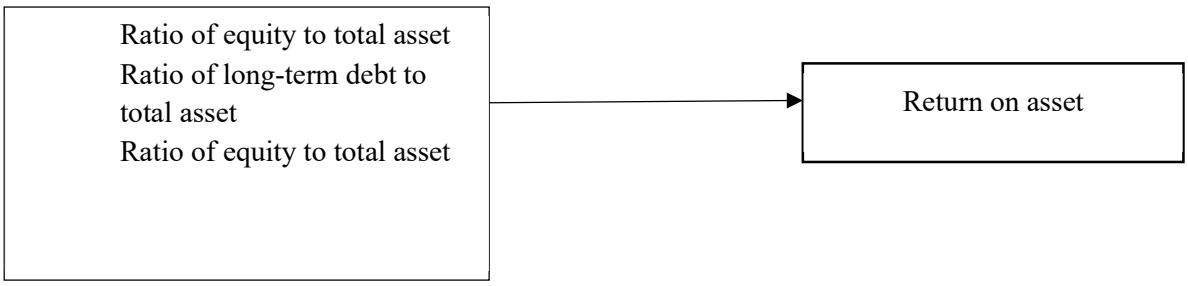


Fig 1. Research Conceptual Framework

Conceptually, the equity-to-total-assets ratio, long-term-debt-to-total-assets ratio, and equity-to-total-debt ratio influence the returns of banks in Nigeria through funding structure and cost of capital. A higher equity-to-total-assets ratio strengthens capital buffers and reduces reliance on interest-bearing liabilities. Equally, long-term-debt-to-total-assets reflects the extent to which banks employ long-term leverage to finance assets; when debt is efficiently deployed to generate earnings above borrowing costs, return on assets increases. Meanwhile, a higher equity-to-total-debt ratio enhances solvency and risk-absorption capacity, fostering depositor confidence and stable earning-asset expansion that supports return on assets, while too low a ratio exposes banks to financial fragility.

Theoretical Framework

The study is based on the work of Merton Miller and Franco Modigliani (1958) in Akpan (2009). The duo proposed that under perfect capital markets, the value of a firm is independent of its capital structure. In other words, whether a firm is financed through equity or debt does not matter, as this does not affect its total value. However, the modern model (Modigliani & Miller, 1963) incorporated the effect of corporate taxes, acknowledging that firms could benefit from interest tax shields provided by debt

financing. In Nigeria, the assumption of perfect markets does not hold due to various market frictions and regulatory constraints. Nonetheless, the theory provides a notwithstanding, the theory's underpinnings make clear how capital structure decisions might influence firm performance. In practice, while Nigerian banks may aim to optimize their capital structure to enhance returns, real-world considerations such as risk exposure, the cost of borrowing, and regulatory capital requirements mean that the theory's assumptions are only partially applicable.

The study is supported by the Trade-off theory, which builds on the Modigliani and Miller framework by recognizing that there are benefits and costs associated with debt. It posits that firms seek an optimal capital structure by balancing the tax benefits of debt against the costs of financial distress and bankruptcy (Kraus & Litzenberger, 1973). In the banking industry, this theory is particularly relevant because banks are inherently leveraged institutions. Nigerian commercial banks must continually weigh the potential benefits of higher debt such as increased lending capacity and tax shields against the increased risk of insolvency and loss of investor confidence if leverage becomes excessive (Bello & Yakubu, 2024). The theory supports the idea that there is a target level of debt-to-equity that maximizes firm performance, which aligns with the regulatory frameworks established by the Central Bank of Nigeria to ensure capital adequacy. This makes the Trade-off theory particularly relevant for analyzing how leverage ratios impact return on assets (ROA) in the Nigerian banking context.

The study is also anchored on the Pecking order theory propounded by Myers and Majluf (1984), Mbat (2015). The theory suggests that firms prefer internal financing over external sources due to information asymmetry. In banking, this theory helps explain why many institutions rely heavily on retained earnings and short-term borrowings rather than issuing new equity. Nigerian banks, particularly during periods of economic uncertainty or post-recession recovery, often exhibit these behaviors by relying more on internal capital and customer deposits rather than raising equity capital (Olanrewaju & Adebayo, 2022). The theory is useful in explaining funding choices, but it does not fully account for the regulatory capital requirements banks must meet or the strategic use of long-term debt to support growth. Hence, while insightful, the theory may not fully capture the performance implications of different leverage dimensions in regulated banking environments.

Among the three theories discussed, the Trade-off theory is most appropriate to anchor this study. This is because the theory recognizes both the positive and negative implications of debt financing and supports the philosophy of an optimal capital structure. The Trade-Off Theory provides a balanced perspective on how Nigerian banks can strategically manage leverage to optimize performance while mitigating financial distress risks. It also aligns with the practical realities of Nigerian banking, where regulatory pressures, tax considerations, and risk management are key factors in capital structure decisions (Ali & Suleiman, 2023). Therefore, this study adopts the Trade-Off Theory as its guiding framework to analyze how different leverage dimensions affect bank performance over twenty years.

Empirical Review

Globally, several studies have examined the connection between financial leverage and the performance of financial institutions. Berger & Bouwman (2023) found that banks with stronger capital positions and balanced leverage structures performed better during financial crises, showing resilience in both profitability and asset quality. Similarly, Ali & Suleiman (2023) investigated 120 banks across emerging markets and reported that

financial leverage has a significant but mixed effect on performance, with moderate leverage improving ROA while excessive debt levels reduced profitability. Myers & Majluf (1984) also observed that the preference for debt over equity financing can influence a firm's long-term financial sustainability. However, many global studies tend to focus on developed markets, leaving limited evidence on how these findings translate to the banking systems of developing economies such as Nigeria, where economic volatility and regulatory frameworks differ substantially. In Africa, research has also explored the influence of leverage on bank performance. Nyasha & Odhiambo (2023) analysed panel data from South African banks and found that capital structure decisions significantly affect ROA and ROE, particularly in periods of market instability. Bello & Yakubu (2024) found, in a study of Kenyan commercial banks, that high levels of long-term debt negatively impacted ROA, whereas an optimal equity-to-total assets ratio improved performance. These findings align with the Trade-Off Theory by emphasizing the need for a balanced capital structure. Nonetheless, many regional studies fail to consider different leverage dimensions, such as equity-to-debt or long-term debt-to-assets ratios, in detail, which limits a deeper understanding of how specific leverage factors impact bank performance. Abubakar et al. (2025) found that the optimal structure differs across industries, firms, and other market conditions. The findings further revealed that moderate leverage adds value to shareholders' returns and enhances long-term sustainability. Nkasi (2024) found that optimal use of leverage and prudent debt management improve financial performance in Nigeria's manufacturing sector. The study also revealed a negative correlation between leverage and return on assets.

In Nigeria, research on financial leverage and the performance of commercial banks has grown in recent years. Olanrewaju & Adebayo (2022) found that equity financing positively influenced ROA in selected Nigerian banks, while high debt ratios negatively impacted profitability. Similarly, Okonkwo & Chukwuma (2023) revealed that excessive financial leverage increased operational risks and reduced asset returns. Bello & Yakubu (2024) emphasized that maintaining capital adequacy and optimal debt ratios significantly improves bank performance and stability. However, these studies often covered short timeframes or limited sample sizes, failing to analyze the long-term impact of leverage over extended economic cycles. Furthermore, few Nigerian studies have comprehensively examined leverage using the three dimensions equity-to-total assets, equity-to-total debt, and long-term debt-to-total assets while focusing on ROA as a key performance metric.

The reviewed literature reveals gaps in both scope and methodology as revealed below:

i. First, most studies have not simultaneously considered multiple leverage dimensions to assess their collective impact on bank performance.
ii. Second, limited research has examined these relationships over long periods covering diverse economic phases, such as recessions, reforms, and post-pandemic recovery.
iii. Third, existing Nigerian studies have not adequately focused on the interplay between leverage and ROA over a 20-year horizon.
iv. This study fills these gaps by examining at least 25 Nigerian commercial banks over the period 2004-2023, with an analysis on the impact of financial leverage/leverage decisions through its three dimensions on ROA, and providing robust empirical insights into how leverage decisions can influence long-term bank performance.

3.0 Methodology

This study employed an ex-post facto research design. The design is appropriate because it relies on historical financial data rather than experimental manipulation. This enabled the assessment of cause-and-effect relationships that exist between leverage dimensions and return on assets (ROA). The study population comprised all 25 commercial banks operating in Nigeria as of 2023. As a result of the manageable size of the population and the availability of reliable secondary data, the study employed a census approach, using all 25 banks as the sample size. The analysis spans 20 years, covering 2004 to 2023, thereby capturing trends across different economic and regulatory cycles. Data on financial leverage were sourced from the annual reports of the banks, Nigerian Stock Exchange publications, and the CBN statistical bulletin. The normality of data was handled using log transformation, and the Variance inflation factor (VIF) was used to check multicollinearity and identify highly correlated predictors. A VIF value greater than 5 or 10 indicates high multicollinearity. The pooled OLS was used for analysis. This is because certain statistical conditions make it appropriate to treat panel (time-series) data as a single pooled dataset. Moreover, the researcher assumes that the intercept and slope coefficients of the regression model are constant in the model and that unobserved heterogeneity does not bias the estimates. The results remained consistent in sign and significance, indicating that the findings are robust to changes in estimation technique and model assumptions. A model was specified to assess the individual and combined effects of leverage ratios on the performance of banks. The choice of this model is based on the reason that (Abubakar et al., 2025; Okoi et al, and Francis, 2025) conducted a similar work with an acceptable outcome. The null hypotheses were tested at a 5% significance level, with results presented using tables and charts for clarity.

Model Specification

The model for this study is stated below:

$ROA = f\ (EQTA, EQTD, LTDTA)$ ……1

$ROA_{it} = \beta 0 + \beta 1 EQTA_{it} + \beta 2 EQTD_{it} + \beta 3 LTDTA_{it} + \mu it$……..2

Where:

ROA it = Return on Assets of commercial banks i at time t

EQTAit = Ratio of equity to total assets of bank i at time t

EQTD it = Ratio of equity to total debt of bank i at time t

LTDTA it= Ratio of long-term debt to total assets of bank i at time t

β_0 = Intercept term

β_1, β_2, β_3 = Coefficients of the independent variables

μit = Error term which captures other factors not included in the model

4.0 Results and Discussions

Table 1: ***Descriptive Statistics***

	ROA	EQTA	EQTD	TDTA
Mean	0.245455	1.231623	0.761481	0.678543
Median	0.135850	0.849695	0.537293	0.457932
Maximum	1.244100	23.804910	29.628300	27.569764
Minimum	-0.026900	0.004624	-59.668900	-40.547432
Stand. Deviation	0.256101	2.066568	3.677182	2.432175
Skewness	1.402040	6.767993	-7.061216	-6.217342
Kurtosis	4.150707	58.58808	168.0913	153.5624

Jackque Bera	191.395	68192.84	538097.5	456753.2
Probability	0.000000	0.000000	0.000000	0.000002
Sum	122.7277	615.7615	380.7404	231.564
Sum Sq Dev.	32.72837	2131.082	6747.315	5431.268

Source: EViews 10, 2025.

Table 2: ***Correlation Matrix***

ROA	EQTA	EQTD	LTDTA
1.000000			
-0.11314			
-2.54119	1.000000		
-0.04545	0..655983	1.000000	
-1.01526	19.395		
-0.15045	0.272195	-0.264979	1.000000
-3.39601	6.312634	-6.132447	

Source: EViews 10, 2025.

Table 3: ***Redundant Fixed EffectTest***

Test Period: Fixed Effects

Effect Test	**Statistics**	**d.f**	**Prob.**
Period	0.378144	(19.477)	0.9927
Period Chi-square	1.476009	19	0.9913

Source: EViews 10, 2025.

Table 4: ***Pooled Ordinary Least Square (POLS) Regression***

Variable	**Coefficient**	**Std Error**	**t-statistics**	**Prob.**
C	0.314338	0.018257	17.21731	0.0000
EQTA	-0.016177	0.00552	-2.913698	0.0037
EQTD	0.000372	0.003131	0.118868	0.9054
LTDTA	-0.046055	0.012169	-3.784836	0.0002
R-Squared		0.469900	Mean dependent Var.	0.245456
Adjusted R-Squared		0.412260	S. D. dependent Var.	0.256107
S. E of regression		0.250777	Akaike Info Criterion	0.079481
Sum Squared resid		31.19046	Schwarz Criterion	0.113099
Log Likelihood		-15.84530	Hanna-Quinn Criter	0.092613
F-statistics		8.152129	Durbin-Watson Stat.	0.473732
Prob. (Statistics)		0.00026		

Source: EViews 10, 2025.

Heteroskedasticity LR Test

	Value	**Df**	**Probability**
Likelihood	221.7577	25	0.3400
	Value	Df	
Restricted Logl	-15.84530	496	
Unrestricted Logl	95.03355	496	

Source: EViews 10, 2025

The descriptive statistics in Table 1 provide a clear overview of the variables used in this study: Return on Assets (ROA), the ratio of equity to total assets (EQTA), the ratio of equity to total debt (EQTD), and the ratio of long-term debt to total assets (LTDTA). The mean ROA of 0.25 suggests that, on average, Nigerian commercial banks generate about 25% returns relative to their total assets, though the standard deviation of 0.26 reflects some variability in performance. EQTA and EQTD also show relatively higher means of 1.23 and 0.76, respectively. This indicates a moderate reliance on equity financing across the banks. The high maximum values and significant skewness in EQTA and EQTD indicate the presence of outliers, suggesting that a few banks have extremely high leverage ratios. Additionally, the negative minimum value for EQTD highlights an instance of negative equity or high debt exposure. The Jarque-Bera statistics and probabilities for all variables ($p = 0.0000$) confirm the non-normal distribution of data, which implies that further econometric techniques are necessary to ensure valid inference.

The correlation matrix in Table 2 highlights the relationship between ROA and the financial leverage variables. The ROA shows a weak negative correlation with EQTA (-0.113), EQTD (-0.045), and LTDTA (-0.15), indicating that an increase in leverage ratios is slightly associated with a lower return on assets, though the relationships are not strong. Among the independent variables, EQTA and EQTD exhibit a strong positive correlation (0.66), indicating that banks with higher equity relative to assets tend to have a similar structure in terms of equity relative to debt. LTDTA thus has a moderate positive correlation with EQTA (0.27) but a negative correlation with EQTD (-0.26), implying that banks with higher long-term debt tend to have lower leverage ratios, suggesting that a few banks have extremely high leverage ratios. Additionally, the negative minimum value for EQTD highlights an instance of negative equity or high debt exposure. The Jarque-Bera statistics and probabilities for all variables ($p = 0.0000$) confirm the non-normal distribution of data, which implies that further econometric techniques are necessary to ensure valid inference.

The results of the redundant fixed effect test in Table 3 indicate that the period effects are not statistically significant, as evidenced by the F-statistic (0.3781) and Chi-square statistic (1.4760), both of which have very high p-values (0.99). This suggests that fixed effects are unnecessary, and a pooled regression model is considered more suitable for analyzing the relationship between financial leverage and ROA.

The regression analysis in Table 4 shows how financial leverage `variablescan` affects the return on assets (ROA) of Nigerian commercial banks. The constant term (C) is positive and significant (0.3143, $p < 0.05$). This indicates that, when leverage variables are held constant, banks' profitability will still increase by 0.3143. The constant term shows the value of the dependent variable in the absence of the explanatory variables. Moreover, EQTA has a negative and significant effect on ROA (-0.0162, $p < 0.05$). This means that for every one unit increase in the equity-to-total-assets ratio, ROA decreases by 0.0162 units, holding other factors constant. This also suggests that a higher ratio of equity to total assets slightly reduces asset returns, possibly because higher equity levels reduce the potential gains from leveraging debt. This also implies that as banks rely more on equity financing relative to total assets, their return on assets tends to decline. On the other hand, EQTD has a positive but insignificant effect (0.0004, $p > 0.05$), indicating that its impact on ROA is negligible. This suggests that as the equity-to-debt ratio increases, ROA tends to increase - albeit

very slightly. The p-value indicates that this relationship is not statistically significant at conventional levels (e.g., 5%). Moreover, the equity-to-debt ratio may not be a reliable predictor of ROA in the model. Other variables might be more influential. This could suggest that the bank's ROA is influenced more by various factors, such as asset utilization, sales efficiency, or operational costs, rather than its capital structure. The ratio of long-term debt to total assets (LTDTA) shows a negative and highly significant effect (-0.0461, $p < 0.05$), meaning that for every unit increase in the long-term debt to total assets ratio, ROA decreases by approximately 0.0461 units, indicating that increased long-term debt reduces profitability due to rising interest obligations. This implies that higher reliance on long-term debt might be detrimental to the bank's profitability. Additionally, the bank may be over-leveraged, with the cost of debt exceeding the returns generated from its assets. This could be due to high interest rates, inefficient asset utilization, or poor leveraging decisions. Therefore, the bank may need to reassess its capital structure and risk management strategies to optimize its debt-to-asset ratio and minimize potential losses. The R-squared value (0.47) indicates that approximately 47% of the variation in ROA is explained by the leverage ratios, while the significant F-statistic ($p < 0.0001$) confirms the model's overall reliability. The Durbin-Watson test of 0.473732, which is less than 2, means that there was positive autocorrelation in the series, meaning that the variables were positively correlated with its own past values over time. One of the limitations of the model is a low Durbin-Watson result.

The heteroskedasticity LR test in Table 5 above shows a probability value of 0.34, which is a greater value than 0.05, indicating that the null hypothesis of homoskedastic residuals cannot be rejected. That means there is no evidence of heteroskedasticity in the model, and that the regression results are reliable and consistent. Meaning that the absence of heteroskedasticity ensures that the OLS estimates of coefficients and their standard errors are reliable; the p-values, t-statistics, and F-statistics can be trusted for hypothesis testing, as they are not affected by heteroskedasticity and the model is well-specified, with no obvious omitted variables or functional form issues that could lead to non-constant variance.

Discussion of Findings

Effect of EQTA on ROA

The ratio of equity to total assets (EQTA) has a negative and significant effect on ROA, indicating that higher equity levels relative to total assets slightly reduce the return on assets. This outcome suggests that while maintaining a strong equity position enhances stability and regulatory compliance, excessive equity financing may dilute returns on assets by reducing the potential benefits which is derived from debt leverage. This result does not differ from prior findings and aligns with the findings of Nyasha and Odhiambo (2023), who reported that excessive reliance on equity in South African banks reduced profitability due to the lower benefits of leverage. Similarly, Berger and Bouwman (2023) noted that while equity boosts capital strength during crises, it may hinder profitability in stable economic conditions if not optimally balanced with debt.

Effect of EQTD on ROA

In contrast, the ratio of Equity to total debt (EQTD) exhibits a positive but insignificant relationship with ROA, suggesting that changes in EQTD do not significantly impact the profitability of Nigerian banks. This result indicates that variations in the proportion of equity relative to debt may not directly affect returns, possibly due to the moderate use of debt financing across the banking sector or the influence of other operational

factors. This finding supports the results of Ali and Suleiman (2023), who observed a weak and statistically insignificant effect of EQTD on bank performance in emerging markets. It also aligns with the assertion by Bello & Yakubu (2024) that while capital structure is essential, its impact on performance is often mediated by external factors, such as economic cycles and regulatory frameworks.

Effect of LTDTA on ROA

The ratio of long-term debt to total assets (LTDTA) exhibits a negative and statistically significant relationship with ROA, suggesting that a higher reliance on long-term debt financing is associated with reduced profitability. This can be attributed to the rising interest costs and repayment obligations associated with long-term debt, which diminish net earnings. The result is consistent with Olanrewaju and Adebayo (2022), who found that high levels of long-term debt reduce the firm's profitability.

5.0 Conclusion

The study examined the impact of leverage decisions on the performance of commercial banks in Nigeria, acknowledging that bank profitability is crucial for financial stability and economic development. A negative significance in the long-term debt to total assets ratio implies that an increase in long-term debt is associated with a decrease in returns on assets. This could imply that banks are over-leveraging themselves, leading to reduced profitability due to increased interest expenses. The negative significance in the equity-to-total-assets ratio might indicate that banks are not utilizing their equity efficiently to generate returns. This could be due to various factors such as poor investment decisions or inadequate risk management. If a bank's assets decline in value, a high debt-to-asset ratio can make it difficult for the bank to meet its obligations, potentially leading to financial instability. The positive relationship between equity and returns on assets implies that increased equity may be beneficial for banks; however, the insignificance indicates that this relationship is not strong enough to be statistically significant. This could indicate that banks are adequately utilizing their equity, but not necessarily in a way that significantly affects their profitability.

The insignificance of the equity-to-debt ratio might suggest that other factors, such as asset quality, management efficiency, or macroeconomic conditions, have a more significant impact on banks' returns on assets. The study recommended reviewing the debt-to-equity mix to minimize costs and maximize returns, considering debt restructuring or repayment to decrease the burden on assets, focusing on efficient asset deployment to enhance ROA, and assessing equity investments' returns, as well as considering rebalancing**.** Also, banks should know that optimizing the capital mix, reducing excessive long-term debt, and strengthening financial policies can help achieve sustainable performance. One of the limitations of this study is that frequent changes in banking regulations by the CBN and other regulatory bodies may alter the relationship between leverage and returns to assets, making it challenging to attribute changes exclusively to leverage decisions. Future research could focus on leveraging decisions and profitability in the selected hospitality industry.

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