
**EFFECTS OF LONG-TERM DEBT ON BANK PERFORMANCE:
EVIDENCE FROM LISTED DEPOSIT MONEY BANKS IN NIGERIA**

***Nkasi, E. Ernest**

Department of Accountancy, Federal polytechnic Bali, Taraba State- Nigeria.

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Department of Accountancy, Federal polytechnic Bali, Taraba State- Nigeria.

Doi: <https://doi-doi.org/101555/ijarp.7881>**ABSTRACT**

This study examined the relationship between long-term debt and the financial performance of listed deposit money banks (DMBs) in Nigeria over the ten-year period from 2015 to 2024. Using an ex-post facto research design, secondary data were sourced from the annual reports and financial statements of all 13 DMBs listed on the Nigerian Exchange Group (NGX). Panel data regression based on a random effects model, selected following Hausman specification tests, was employed to analyze the effects of long-term debt (measured as long-term debt to total assets) on return on assets (ROA), with firm size and profit margin as control variables. The findings revealed that long-term debt had a positive and statistically significant influence on ROA at the 1% significance level (coefficient = 5.328731, $p = 0.000$). This result is consistent with the trade-off theory, which posits that debt provides tax shield benefits that reduce the cost of capital and enhance firm value. The study concludes that long-term debt improves financial performance by providing management with an optimal capital mix to finance operations. This study recommended that bank management should prioritize long-term debt as a means of business financing and that the central bank of Nigeria (CBN) regulate the financial sector through monetary and fiscal policies to reduce the cost of borrowing.

KEYWORDS: Long-term debt, return on assets, deposit money banks, financial performance, capital structure, trade-off theory.

1. INTRODUCTION

The financial performance of the Nigerian banking sector is a critical driver of national development and economic growth, with the sector's contribution to GDP rising from 2.9% in 2024 to over 3.2% in 2025 (National Bureau of Statistics, 2025). However, despite this growth, Nigerian deposit money banks (DMBs) face persistent challenges, including high non-performing loans, poor risk management, and suboptimal capital structures that threaten financial stability (Ogbulu & Adebayo, 2023). A firm's survival depends on how effectively it sources and combines capital to fund operations for maximum returns (Shahi et al., 2025; Li, 2025). The historical collapse of some Nigerian banks has been traced directly to financial managers' failure to secure optimal capital structures (Ebeneza, 2020).

Long-term debt offers potential benefits, including tax shields and financial stability (Modigliani & Miller, 1963); however, its effect on bank performance in Nigeria remains unclear. Empirical evidence shows mixed results: Jovanović and Petrović (2023) found that long-term debt positively impacts return on assets (ROA) in Serbian manufacturing firms, while Obumeneme et al. (2023) reported a negative significant influence in Nigerian oil and gas companies. This ambiguity, combined with Nigeria's unique regulatory environment including the Central Bank of Nigeria's recent recapitalization directives requiring capital bases of ₦20 billion to ₦500 billion (CBN, 2026) necessitates context-specific investigation.

This study is underpinned by the trade-off theory (Modigliani & Miller, 1963; Kraus & Litzenberger, 1973), which suggests that firms balance the tax shield benefits of debt against the costs of financial distress. The Pecking Order Theory (Myers & Majluf, 1984) is also relevant, positing that firms prefer debt over equity to avoid signaling negative information to investors.

Therefore, this study investigates the relationship between long-term debt and the financial performance of listed DMBs in Nigeria from 2015 to 2024. The null hypothesis posits that long-term debt has no significant relationship with financial performance (measured by ROA).

2. Methods

2.1 Research Design and Sample

This study employed an ex-post facto research design, as all variables had already occurred and were obtainable from secondary sources. The population comprised all thirteen (13)

DMBs listed on the Nigerian Exchange Group (NGX) as of December 31, 2024. A census technique was adopted, using all 13 banks as the sample.

2.2 Data Source and Variables

Secondary data were extracted from the annual reports and financial statements of the banks covering a ten-year period from 2015 to 2024. The dependent variable was Return on Assets (ROA) (Net Income / Total Assets). The independent variable was Long-term Debt (LTD) measured as the proportion of long-term debt to total assets. Control variables included firm Size (FSZ) (natural logarithm of total assets) and Profit Margin (PM) (net profit after tax / turnover).

2.3 Model Specification

The following panel regression model was adopted from Manalu et al. (2025):

$$ROA_{it} = \beta_0 + \beta_1 LTD_{it} + \beta_2 CSZ_{it} + \beta_3 PM_{it} + \epsilon_{it}$$

2.4 Data Analysis

Data analysis involved descriptive statistics, a Pearson correlation matrix, and panel regression. The Hausman test was used to select between Fixed Effects (FE) and Random Effects (RE) models. The Variance Inflation Factor (VIF) tested for multicollinearity. All analyses were conducted using STATA 14.

3. RESULTS

3.1 Descriptive Statistics

Table 1 shows that the mean ROA for the sampled banks was 2.414%, with a maximum of 2.9% and a minimum of -1.1%. The average long-term debt to asset ratio was 24.05%, ranging from 12.3% to 32.4%. The mean profit margin was 8.12%, while the average firm size was 16.05.

Table 1: Descriptive Statistics.

VARIABLE	OBS	MEAN	STD. DEV	MIN	MAX
ROA (%)	130	2.414	0.191	-1.1	2.9
LTD (%)	130	0.2405	0.037	0.123	0.324
FS	130	16.047	1.435	13.13	19.4
PM (%)	130	8.118	6.343	-0.102	31.11

Source: Researcher's computation(2026)

3.2 Correlation and Multicollinearity Tests

The correlation matrix indicated a weak positive correlation between long-term debt and ROA (0.2481). The VIF test confirmed the absence of harmful multicollinearity, with all VIF values below 1.05 (far less than the threshold of 10).

3.3 Regression Analysis

The Hausman test ($p = 0.091$) favored the Random Effects (RE) model. The RE regression results are presented in Table 2.

Table 2: Regression Results. (Random Effects Model)

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-value</i>	<i>p-value</i>
<i>LTD</i>	5.328731	2.04158	2.61	0.000*
<i>PM</i>	0.0398442	0.0122595	3.25	0.000***
<i>FS</i>	0.0158356	0.05384	0.29	0.770
<i>Intercept</i>	-1.10014	1.494858	-0.74	0.460
<i>R-squared</i>	63%			
<i>Prob. > F</i>	0.000000			

*Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The model demonstrated a good fit ($R\text{-squared} = 63\%$, $p < 0.01$). Long-term debt (LTD) had a positive and statistically significant influence on ROA at the 1% level (coefficient = 5.328731, $p = 0.000$). Profit margin (PM) also showed a positive significant effect ($p = 0.000$), while firm size (FS) was positive but insignificant ($p = 0.77$).

4. DISCUSSION

The finding that long-term debt positively and significantly influences ROA indicates that an increase in long-term debt corresponds to a substantial improvement in the financial performance of listed DMBs in Nigeria. Consequently, the null hypothesis is rejected.

This result is consistent with the Trade-Off Theory, which posits that debt provides tax shield benefits that reduce the cost of capital and enhance firm value (Modigliani & Miller, 1963). The finding aligns with Jovanović & Petrović (2023) on Serbian manufacturing firms and Manalu et al. (2025) on Indonesian infrastructure companies, both of whom found a positive relationship between long-term obligations and profitability. It also supports the views of Revi & Noolaithe (2022) and Akanbi et al. (2022).

However, this finding contrasts with Obumeneme et al. (2023) in Nigerian oil and gas companies, who found a negative significant influence, and with Vlora et al. (2024) in Kosovo, who found a negative impact. These contrasts may be attributed to sectoral differences (e.g., oil and gas face different risk profiles than banking) and differences in

regulatory environments. The positive relationship suggests that for Nigerian banks, the benefits of long-term debt—providing an optimal capital mix to finance operations and matching the maturity of long-term assets—outweigh the potential costs of financial distress.

5.1 CONCLUSION

Based on the findings, this study concludes that long-term debt improves the financial performance of listed deposit money banks in Nigeria. The positive and significant relationship supports the Trade-Off Theory, indicating that tax shield benefits from interest payments reduce the effective cost of capital, thereby enhancing firm value.

5.2 Recommendations

For Bank Management: Management should prioritize long-term debt as a means of business financing, as it positively influences financial performance. They should also adopt maturity matching, using long-term debt to finance long-term assets.

For Government and Regulators (CBN): The government should regulate the financial sector through monetary and fiscal policies to reduce the cost of borrowing. The CBN should adopt flexible debt-equity guidelines rather than relying solely on equity-based recapitalization.

For Policy: Evidence-based capital structure reforms tailored to Nigeria's banking sector could enhance foreign investor confidence and financial system stability.

5.3 Limitations and Future Research

This study was restricted to listed DMBs in Nigeria over a ten-year period (2015–2024). Future research should:

1. investigate other Nigerian sectors (e.g., manufacturing, ICT);
2. incorporate additional variables like cost of debt and debt-to-equity ratio;
3. extend the time frame; and
4. examine non-listed deposit money banks in Nigeria.

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