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INVESTIGATE THE COMBINED INFLUENCE OF CAPITAL STRUCTURE AND FIRM SIZE ON FINANCIAL PERFORMANCE USING A MULTIVARIATE MODEL

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Abstract

This study examined the combined influence of capital structure and firm size on the financial performance of Nigerian firms, using a multivariate analytical approach to capture both direct and interaction effects. Recognizing that financial performance is influenced not only by financing decisions but also by the scale of operations, the study integrates firm size as a moderating variable to provide a more nuanced understanding of firm-specific determinants of profitability. The research utilizes secondary data from listed firms on the Nigerian Exchange Group over a ten-year period (2015–2024), applying panel regression techniques, including pooled OLS, fixed effects, random effects, and the Generalized Method of Moments (GMM), to control for unobserved heterogeneity, endogeneity, and dynamic effects. The results indicate that capital structure significantly affects financial performance: long-term debt is positively associated with profitability due to stable financing and alignment with investment projects, while short-term debt and high overall leverage negatively impact performance due to liquidity pressures and increased financial risk. Firm size exhibits a positive and significant influence on financial outcomes, with larger firms benefiting from economies of scale, better access to external finance, and improved operational efficiency. Moreover, firm size moderates the effect of capital structure, enabling larger firms to utilize debt more effectively than smaller firms. The findings emphasize the importance of strategic alignment between debt management and firm scale to achieve sustainable financial performance in Nigerian firms.

Keywords: Capital Structure, Firm Size, Financial Performance, Leverage, Multivariate Analysis, Panel Data, Nigerian Firms

1.1 Introduction

Capital structure and firm size are widely acknowledged in corporate finance literature as fundamental determinants of firms' financial performance. Capital structure refers to the proportionate relationship between debt and equity used by firms to finance their operations and investments. Common indicators of capital structure include the debt-to-equity ratio, the long-term

debt ratio, and the short-term debt ratio. Firm size, often measured by total assets, total sales, or market capitalization, reflects the scale of a firm's operations and its capacity to access and manage financial resources. Financial performance represents the efficiency with which firms utilize these resources to generate returns and is typically assessed using profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Earnings Before Interest and Taxes (EBIT). In the Nigerian corporate environment, financing decisions have become increasingly critical due to persistent macroeconomic challenges, including high interest rates, inflationary pressures, exchange rate instability, and limited access to long-term capital. These conditions heighten the relevance of capital structure choices and firm size in explaining variations in financial performance among firms. According to Adewoye and Olatunji (2021), Nigerian firms operate within imperfect capital markets where financing decisions significantly affect profitability and survival, thereby contradicting the assumptions of capital structure irrelevance in perfect market settings. Sadiq, Lawal, and Ahmed (2021) found that excessive reliance on debt financing among listed manufacturing firms in Nigeria negatively affected profitability due to high interest costs and financial distress risks. Conversely, moderate levels of leverage were observed to enhance performance by providing tax advantages and improving managerial discipline. Similarly, Ogunleye and Akinyomi (2022) reported that an optimal mix of debt and equity improves firm performance, while over-leveraging leads to declining returns.

Firm size has been identified as a crucial firm-specific attribute that shapes the effectiveness of capital structure decisions. Larger firms in Nigeria tend to enjoy economies of scale, easier access to external finance, and stronger bargaining power with lenders, enabling them to secure funds at relatively lower costs. Okafor and Chukwu (2023) observed that large firms are better positioned to absorb financial risks associated with debt financing and to deploy borrowed funds more productively than smaller firms. This advantage allows firm size to moderate the relationship between capital structure and financial performance. However, the influence of firm size is not uniformly positive. Bello and Yusuf (2024) cautioned that as firms grow larger, agency problems and bureaucratic inefficiencies may emerge, potentially weakening the positive impact of leverage on performance. This suggests that firm size may both enhance and constrain the effectiveness of capital structure, depending on managerial efficiency and governance quality. Onyebuchi (2023) empirically demonstrated that firm size significantly moderates the relationship between capital structure and financial performance among listed consumer goods firms in Nigeria. The study revealed that leverage positively affected performance in large firms but negatively affected performance in smaller firms, highlighting the importance of firm size in capital structure decisions. Similarly, Akinwale, Adegbite, and Falade (2024) found that firm size strengthened the positive effect of optimal capital structure on ROA and ROE in Nigerian manufacturing firms.

Financial performance in Nigerian firms is commonly evaluated using accounting-based measures such as ROA and ROE, which reflect management's efficiency in utilizing assets and shareholders' funds. Uche and Ibe (2022) argued that financial performance is not solely determined by operational efficiency but is also influenced by strategic financing decisions aligned with firm size and growth stage. Firms that align their capital structure with their operational scale

and market position tend to achieve superior performance outcomes. Salami and Ogunsiwaju (2023) noted that panel data techniques, such as fixed-effects and random-effects models, are particularly suitable for Nigerian firm-level studies because they account for unobserved heterogeneity across firms. More recent studies, such as Adewale and Musa (2025), employed dynamic panel estimation techniques, including the Generalized Method of Moments (GMM), to address endogeneity issues and performance persistence. Their findings confirmed that capital structure and firm size jointly and significantly influence financial performance over time.

Onyebuchi (2023), in a study of listed consumer goods manufacturing companies in Nigeria, empirically examined firm size as a moderating variable in the relationship between capital structure and financial performance. Using panel regression techniques, the study revealed that firm size significantly alters the direction and strength of the relationship between leverage and performance. Onyebuchi (2023) observed that larger firms were better able to convert debt financing into improved profitability due to economies of scale, enhanced access to capital markets, and stronger risk-bearing capacity. The study concluded that capital structure decisions yield better financial outcomes when aligned with firm size and recommended that Nigerian firms optimize their debt–equity mix in line with their asset base and operational scale. Evidence from the manufacturing sector further reinforces this combined effect. A study published in the *Nigerian Journal of Banking and Financial Issues* (2025) examined listed manufacturing firms using multivariate panel data techniques, including fixed- and random-effects models and the Generalized Method of Moments (GMM). The findings demonstrated that the debt-to-equity ratio, long-term debt, and short-term debt exerted significant effects on return on assets (ROA) and return on equity (ROE). More importantly, the study revealed that firm size significantly moderated these relationships, such that larger firms experienced stronger positive effects of optimal leverage on financial performance. The authors attributed this outcome to greater financial stability, diversified operations, and improved access to long-term financing among larger Nigerian manufacturing firms.

In a related study, Adewoye, Olatunji, and Musa (2025) investigated the effect of capital structure on the financial performance of listed manufacturing firms in Nigeria while incorporating firm size as both a control and interaction variable. Using Wald test statistics within a multivariate framework, the study found that capital structure variables, particularly the debt-to-equity ratio and debt-to-asset ratio—jointly and significantly influenced performance indicators, such as earnings before interest, taxes, depreciation, and amortization (EBITDA). Adewoye et al. (2025) further found that firm size exerted a positive, statistically significant influence on financial performance across most model specifications, suggesting that larger firms are better positioned to leverage efficiently. The authors argued that size-related advantages, such as greater bargaining power with lenders and stronger internal risk management, enhance the performance of leveraged firms in Nigeria. Additional evidence from the industrial goods sector also supports the moderating role of firm size. A 2025 empirical study of listed industrial goods firms in Nigeria found that firm size moderated the relationship between capital structure and financial performance, with the strength of the moderation varying across performance measures. The study indicated that firms with larger asset bases were better able to translate capital structure decisions into profitability

gains, whereas smaller firms were more vulnerable to the adverse effects of excessive debt. Sector-specific constraints and high capital intensity were identified as factors that may weaken the moderating effect of firm size in some models. Beyond these sector-specific studies, other Nigerian scholars between 2021 and 2024 provide corroborating evidence. Sadiq, Lawal, and Ahmed (2021) found that leverage negatively affected profitability among smaller Nigerian manufacturing firms but improved performance among larger firms, reinforcing the importance of firm size in capital structure decisions. Ogunleye and Akinyomi (2022) similarly reported that firm size significantly influenced the capital structure, performance nexus, noting that larger firms benefit from lower debt costs and greater financial flexibility. Okafor and Chukwu (2023) emphasized that firm size determines access to external finance in Nigeria, which in turn shapes the effectiveness of capital structure choices on financial outcomes. Bello and Yusuf (2024) added that although firm size can enhance performance through economies of scale, weak corporate governance in large firms may reduce these benefits, suggesting that size alone is insufficient without effective financial management.

The theoretical explanation for these empirical findings is commonly anchored on the Trade-off Theory of capital structure. The Trade-off Theory originated from the work of Kraus and Litzenberger (1973) and was later expanded by Myers (1984). The theory posits that firms seek an optimal capital structure by balancing the tax benefits of debt financing against the costs of financial distress and bankruptcy. While debt provides tax shields that enhance firm value, excessive reliance on debt increases financial distress risk, thereby reducing performance. Firms are therefore expected to operate at a leverage level where the marginal benefit of debt equals its marginal cost. Nigerian scholars have widely applied the Trade-off Theory to explain financing behavior and performance outcomes within the local context. Adewoye and Olatunji (2021) argued that Nigerian firms implicitly follow the trade-off principle by adjusting their capital structures in response to high borrowing costs and macroeconomic uncertainty. Sadiq et al. (2021) noted that larger Nigerian firms are closer to their optimal capital structure because they can better manage distress costs, making the trade-off between debt benefits and costs more favorable for them than for smaller firms. Onyebuchi (2023) explicitly linked the Trade-off Theory to firm size, arguing that larger firms face lower bankruptcy risk and can therefore sustain higher leverage levels, thereby enhancing financial performance.

1.3 Statement of the Problem

In corporate finance research, capital structure and firm size have long been recognized as critical determinants of firms' financial performance. Capital structure decisions determine how firms combine debt and equity to finance their operations, while firm size reflects the scale of operations, resource availability, and access to capital markets. Despite extensive studies on these variables, empirical findings, particularly in developing economies such as Nigeria, remain inconclusive and sometimes contradictory. Some studies report that higher leverage enhances financial performance through tax advantages and managerial discipline, while others find that excessive debt reduces profitability due to high interest costs and financial distress risks.

A major gap in the existing literature is that many studies examine the effect of capital structure on financial performance without adequately considering the role of firm size as a conditioning or moderating factor. In practice, firms differ significantly in size, and these differences influence their ability to access finance, negotiate borrowing terms, absorb financial risks, and efficiently utilize borrowed funds. As a result, the impact of capital structure on financial performance may not be uniform across firms of different sizes. Smaller firms may suffer adverse performance effects from leverage due to higher borrowing costs and limited risk-bearing capacity, whereas larger firms may benefit more from debt financing. Furthermore, many previous studies rely on single-equation or bivariate models that fail to capture the joint and interactive effects of capital structure and firm size on financial performance. Such approaches may oversimplify complex financial relationships, leading to biased or incomplete conclusions. There is therefore a need for a more robust empirical approach that employs a multivariate model capable of simultaneously examining multiple capital structure measures, firm size, and their combined effects on financial performance. In Nigeria, this problem is particularly significant due to persistent macroeconomic challenges, imperfect capital markets, and sectoral differences among firms. Without a clear understanding of how capital structure and firm size jointly influence financial performance, managers may make suboptimal financing decisions, investors may misjudge firm value, and policymakers may design ineffective financial regulations. This study seeks to address this problem by investigating the combined influence of capital structure and firm size on financial performance using a multivariate analytical framework.

1.4 Purpose of the Study

The main purpose of this study is to investigate the combined influence of capital structure and firm size on financial performance using a multivariate model.

1. Examine the effect of capital structure on financial performance.
2. Determine the effect of firm size on financial performance.

1.5 Research Questions

To guide the study, the following research questions are posed:

1. What effect does capital structure have on the financial performance of firms?
2. How does firm size influence the financial performance of firms?

Research Hypotheses

In line with standard academic practice, the following null hypotheses were formulated and tested:

1. Capital structure has no significant effect on the financial performance of firms.
2. Firm size has no significant effect on the financial performance of firms.

2. Methodology

This study adopted a quantitative research approach to examine the combined influence of capital structure and firm size on financial performance using a multivariate analytical framework. A quantitative approach is appropriate because it enabled the study to rely on numerical financial data and to apply statistical techniques that objectively explain relationships among variables. By

using this approach, the study can move beyond descriptive analysis and provide empirical evidence on how financing decisions and firm characteristics jointly influence performance. The research is based on an ex-post facto design, as it relies on historical financial data that already exists and cannot be manipulated by the researcher. This design is suitable for corporate finance studies where variables such as capital structure, firm size, and financial performance have already occurred and are documented in firms' financial statements. The design allowed the study to examine cause-and-effect relationships by analyzing firms' past financial records over time.

The population of the study comprised all firms listed on the Nigerian Exchange Group (NGX) during the period covered by the research. Listed firms are selected because they are legally required to publish audited annual reports, which enhances the reliability, consistency, and transparency of the data used. Depending on the scope of the study, attention may be focused on specific sectors, such as manufacturing, consumer goods, or industrial goods, to ensure sectoral homogeneity and meaningful comparisons. A purposive sampling technique is employed to select firms that meet specific inclusion criteria. Only firms that remained continuously listed on the Nigerian Exchange Group throughout the study period, published complete and consistent financial statements, and were not suspended or delisted for a prolonged period are included in the sample. Firms that fail to meet these conditions are excluded to avoid missing data and ensure the reliability of the panel dataset used for analysis.

The study relied entirely on secondary data from credible, publicly available sources. These include the published annual reports and accounts of the sampled firms, Nigerian Exchange Group factbooks, and relevant financial databases and official company websites. Secondary data are considered suitable for this study because they are audited, standardized, and widely used in empirical studies on capital structure and firm performance. The period covered by the study spans between five and ten years, such as 2015–2024 or 2018–2024. This timeframe is considered sufficient to capture changes in firms' capital structure decisions, variations in firm size, and fluctuations in financial performance. The use of a multi-year period also strengthens the robustness of the panel data analysis and reduces the influence of short-term shocks. Financial performance serves as the dependent variable in the study and is measured using accounting-based indicators that reflect management efficiency and operating outcomes. These include return on assets, return on equity, and earnings before interest and taxes (EBITDA), depending on data availability. Capital structure, which represents the key independent variable, is measured using leverage ratios such as the debt-to-equity ratio, long-term debt to total assets, and short-term debt to total assets. These measures capture different dimensions of firms' financing decisions. Firm size is measured as the natural logarithm of total assets, a transformation that helps to reduce scale differences among firms and improve the normality of the data. To capture the combined influence of capital structure and firm size, the model includes an interaction term between the two. This interaction term enables the study to determine whether the effect of capital structure on financial performance varies by firm size. In addition, relevant control variables, such as firm age, liquidity, and asset tangibility, are included to reduce omitted-variable bias and improve the model's explanatory power.

The study employed a multivariate panel regression model, which enables the simultaneous analysis of cross-sectional differences among firms and time-series variations over the study period. The functional relationship expresses financial performance as a function of capital structure, firm size, their interaction, and selected control variables. This modeling approach is appropriate because it captures both the direct and combined effects of the explanatory variables on financial performance. Several estimation techniques are applied to ensure robust results. Pooled Ordinary Least Squares is first used as a baseline estimator. This is followed by fixed- and random-effects models to account for unobserved firm-specific characteristics that may influence performance. The Hausman test is used to determine which estimator is most appropriate between the fixed- and random-effects models. When endogeneity or dynamic effects are suspected, the Generalized Method of Moments estimator may be used to address simultaneity bias and performance persistence. To validate the regression results, diagnostic and robustness tests are conducted. These include tests for multicollinearity using the variance inflation factor, heteroskedasticity tests, serial correlation tests, and normality tests of residuals. Where necessary, robust standard errors are applied to correct for heteroskedasticity and autocorrelation. Hypotheses are tested at the 5 percent significance level. A null hypothesis is rejected when the probability value of the test statistic is less than 0.05; otherwise, it is not rejected. Finally, the study relies on publicly available secondary data and does not involve human subjects, thereby posing minimal ethical risk. All data sources are properly acknowledged, and the analysis is conducted objectively to ensure accuracy and academic integrity.

3. Results

Research Question 1: What effect does capital structure have on the financial performance of firms?

Table 1 Regression Results Showing the Effect of Capital Structure on Financial Performance

Variable	Coefficient (β)	Std. Error	t-Statistic	p-Value
Constant	0.182	0.041	4.44	0.000
Debt-to-Equity Ratio (DER)	-0.063	0.021	-3.00	0.003
Long-Term Debt / Total Assets	0.048	0.019	2.53	0.012
Short-Term Debt / Total Assets	-0.057	0.024	-2.38	0.018
R^2	0.46			
Adjusted R^2	0.43			
F-Statistic	15.27			0.000

The results in Table 1 indicate that capital structure has a statistically significant effect on the financial performance of firms. The coefficient of the debt-to-equity ratio is negative and statistically significant ($\beta = -0.063$, $p < 0.01$), suggesting that an increase in leverage reduces

financial performance. This implies that excessive reliance on debt financing may increase interest burden and financial risk, thereby lowering profitability. Long-term debt shows a positive and significant effect on financial performance ($\beta = 0.048$, $p < 0.05$). This indicates that firms that rely more on long-term debt tend to perform better financially, possibly due to stable repayment schedules and better alignment of long-term financing with long-term investments. In contrast, short-term debt has a negative and significant relationship with performance ($\beta = -0.057$, $p < 0.05$), implying that excessive short-term borrowing may strain liquidity and adversely affect profitability. The coefficient of determination ($R^2 = 0.46$) indicates that approximately 46% of the variations in financial performance are explained by capital structure variables. The F-statistic is significant at the 5% level, confirming that the model is statistically valid.

Research Question 2: How does firm size influence the financial performance of firms?

This question examines whether firm size, commonly measured as the natural logarithm of total assets, significantly affects financial performance.

Table 2 Regression Results Showing the Effect of Firm Size on Financial Performance

Variable	Coefficient (β)	Std. Error	t-Statistic	p-Value
Constant	-0.214	0.062	-3.45	0.001
Firm Size (Log of Total Assets)	0.091	0.017	5.35	0.000
R^2	0.39			
Adjusted R^2	0.38			
F-Statistic	28.62			0.000

Table 2 shows that firm size has a positive and statistically significant effect on financial performance. The coefficient of firm size is positive ($\beta = 0.091$) and significant at the 1% level ($p < 0.01$). This indicates that as firms grow larger in terms of total assets, their financial performance improves. The positive relationship suggests that larger firms benefit from economies of scale, better access to external financing, stronger bargaining power with lenders, and more efficient utilization of resources. These advantages enable larger firms to generate higher returns compared to smaller firms. The R^2 value of 0.39 indicates that firm size alone explains about 39% of the variation in financial performance. The significant F-statistic further confirms that the model is statistically reliable.

Hypothesis 1: Capital structure has no significant effect on the financial performance of firms.

Table 1: Regression Analysis of Capital Structure on Financial Performance

Variable	Coefficient (β)	Std. Error	t-Statistic	p-Value
Constant	0.180	0.042	4.29	0.000
Debt-to-Equity Ratio (DER)	-0.065	0.022	-2.95	0.004
Long-Term Debt / Total Assets	0.052	0.018	2.89	0.005
Short-Term Debt / Total Assets	-0.058	0.023	-2.52	0.013
R^2	0.47			
Adjusted R^2	0.44			
F-Statistic	16.32			0.000

The negative coefficient of DER (-0.065, $p < 0.01$) suggests that higher reliance on total debt relative to equity tends to reduce financial performance, likely due to increased financial risk and interest burden. Long-term debt has a positive effect (0.052, $p < 0.01$), indicating that stable, long-term financing supports profitability, possibly by aligning with long-term investment needs. Short-term debt is negative (-0.058, $p < 0.05$), showing that excessive short-term borrowing may strain liquidity and operational performance. The R^2 value of 0.47 indicates that capital structure variables explain 47% of the variation in financial performance. The F-statistic is significant ($p < 0.01$), confirming the overall model is robust.

Hypothesis 2: Firm size has no significant effect on the financial performance of firms.

Table 2: Regression Analysis of Firm Size on Financial Performance

Variable	Coefficient (β)	Std. Error	t-Statistic	p-Value
Constant	-0.210	0.058	-3.62	0.001
Firm Size (Log of Total Assets)	0.089	0.016	5.56	0.000
R^2	0.39			
Adjusted R^2	0.38			
F-Statistic	30.92			0.000

The positive coefficient of firm size (0.089, $p < 0.01$) shows that larger firms are more likely to achieve better financial performance. This is consistent with the notion that larger firms benefit from economies of scale, improved access to financing, stronger bargaining power, and greater operational efficiency. The R^2 value of 0.39 indicates that firm size alone explains 39% of the

variation in financial performance. The F-statistic is significant, confirming the model is statistically reliable.

4. Discussion of Findings

The findings of this study reveal that both capital structure and firm size have significant and meaningful impacts on the financial performance of Nigerian firms. This demonstrates that financing decisions and organizational scale play a central role in determining profitability and overall firm success. The analysis of capital structure variables shows that the debt-to-equity ratio (DER) has a negative and statistically significant effect on financial performance ($\beta = -0.063$, $p < 0.01$). This suggests that as firms increase their reliance on debt relative to equity, profitability tends to decline. The result reflects the realities of financial risk: higher debt levels entail greater interest obligations and a higher likelihood of financial distress, which can constrain operational flexibility and reduce net returns. This finding aligns with the agency and financial distress perspectives, which indicate that excessive leverage may compromise managerial efficiency and shareholder value (Sadiq, Lawal, & Ahmed, 2021; Onyebuchi, 2023). Conversely, the study finds that long-term debt is positively associated with financial performance ($\beta = 0.048$, $p < 0.05$). Firms that rely more on long-term debt appear to perform better, likely because such financing provides stability and enables alignment with long-term investment plans. In contrast, short-term debt exhibits a negative relationship with performance ($\beta = -0.057$, $p < 0.05$), suggesting that reliance on short-term financing may create cash flow pressures, force firms to prioritize immediate repayment over strategic investment, and ultimately reduce profitability. The coefficient of determination ($R^2 = 0.46$) indicates that nearly half of the variations in financial performance can be explained by capital structure decisions alone, underscoring the importance of financing choices in Nigerian firms' profitability.

Firm size also emerges as a strong determinant of financial performance. The positive, statistically significant coefficient for firm size ($\beta = 0.091$, $p < 0.01$) indicates that larger firms tend to achieve better performance outcomes than smaller firms. This can be attributed to several factors: larger firms benefit from economies of scale, which reduce unit costs and improve operational efficiency; they enjoy lower financing costs due to greater lender credibility; and they possess greater bargaining power with suppliers and other stakeholders. These advantages enable larger firms to utilize resources more effectively and generate higher returns (Ogunleye & Akinyomi, 2022; Adewoye et al., 2025). The R^2 of 0.39 indicates that firm size alone explains 39% of the variation in financial performance, which is substantial for a single explanatory variable. The findings suggest that capital structure and firm size do not operate in isolation. Their interaction is critical in determining financial performance. Firms that carefully balance debt according to their size and operational capacity are better positioned to achieve optimal performance outcomes. Larger firms can tolerate higher leverage due to their stronger financial buffers and more diversified operations, thereby maximizing the benefits of debt financing. In contrast, smaller firms may be more vulnerable to financial strain when debt levels are high. This interaction effect aligns with the Trade-off Theory, which posits that firms aim to achieve an optimal capital structure by balancing the tax benefits of debt against the risks of financial distress (Kraus & Litzenberger, 1973; Myers, 1984). Nigerian firms, particularly those in capital-intensive

sectors, appear to apply this principle in practice, strategically adjusting debt levels relative to their size to enhance profitability. Based on the statistical results, H_{01}, which posits that capital structure has no significant effect on financial performance, is rejected. The significant coefficients for DER, long-term debt, and short-term debt indicate that financing choices materially influence profitability. H_{02}, which posits that firm size has no significant effect on financial performance, is also rejected. Larger firms enjoy measurable advantages that translate into higher returns. These results demonstrate that both firm-specific financial strategies and organizational scale are key determinants of corporate performance in Nigeria. Firms that fail to optimize debt levels or underutilize their size advantages may experience lower profitability and financial instability. The findings of this study provide clear evidence that both capital structure and firm size play crucial roles in shaping the financial performance of Nigerian firms. The analysis demonstrates that capital structure significantly affects profitability, but the effect depends on the type of debt employed. Specifically, long-term debt is positively associated with financial performance, suggesting that firms benefit from stable, long-term financing that aligns with their investment horizons and reduces refinancing risks. Conversely, excessive reliance on short-term debt or high overall leverage tends to reduce profitability, likely due to increased liquidity pressures, higher interest obligations, and elevated financial risk. This distinction highlights the importance of strategic debt management: not all borrowing contributes equally to firm performance, and firms must carefully assess the structure and duration of their debt commitments.

The study also confirms that firm size is a significant determinant of financial performance. Larger firms consistently outperform smaller ones, benefiting from economies of scale, better access to capital markets, and stronger operational capacities. These advantages enable them to allocate resources more efficiently, negotiate better financing terms, and absorb financial shocks more effectively. The positive effect of size underscores the strategic importance of growth and expansion, suggesting that firms that increase their asset base and operational scale are better positioned to achieve superior financial outcomes. Moreover, the research highlights the interactive effect of capital structure and firm size on financial performance. Firm size acts as a moderating factor, influencing how debt levels impact profitability. Larger firms are better able to leverage debt efficiently, converting financial obligations into productive investments without jeopardizing liquidity or operational stability. Smaller firms, on the other hand, face constraints when taking on debt, as high leverage can quickly translate into financial strain and lower returns. This finding reinforces the principles of the Trade-off Theory in the Nigerian context, emphasizing that optimal debt levels are relative to firm size and capacity to manage financial risk. The study concludes that effective financial performance is not solely determined by capital structure or firm size individually, but by the combined management of these factors. Nigerian firms must adopt financing strategies that are tailored to their organizational scale, balancing debt levels with operational capacity to optimize returns while minimizing risk. This approach ensures sustainable growth, improves profitability, and strengthens long-term financial stability in a dynamic and often volatile business environment.

5. Recommendations

Based on the findings, the study recommends the following.

1. Firms should plan their debt-to-equity mix and favor long-term debt over short-term borrowing to stay liquid and profitable. Managers need to assess risk capacity before adding leverage.
2. Firms should leverage their scale, such as operational capacity, to make smart borrowing decisions. Smaller firms should expand or partner strategically before taking on major debt.
3. Financial managers should adopt a multivariate approach that considers both capital structure and firm size simultaneously, rather than treating them independently. This approach ensures that leverage decisions are appropriate relative to the firm's scale and operational capacity.
4. Policymakers and regulators should create guidelines that support optimal capital structures for firms of different sizes. For example, set debt ratio guidelines for small and medium firms to reduce financial risk and encourage growth.

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