

# Moderating Effect of Board Size Dynamics on The Relationship Between Capital Structure and Financial Performance of Listed Multinational Companies in Nigeria.

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## **Abstract**

*This study investigated the moderating effect of board size dynamics on the relationship between capital structure and financial performance of listed multinational companies in Nigeria. Financial performance was measured using return on assets, while capital structure was captured through the debt-to-equity ratio, short-term debt ratio, and interest coverage ratio. The population comprised twelve multinational companies, of which ten were selected as the sample size. The study covered an eleven-year period from 2014 to 2024. Secondary data were extracted from audited annual reports, and multiple regression analysis was employed to evaluate the direct effects of capital structure and the moderating influence of board size. The findings revealed that the short-term debt ratio exerted a positive and significant effect on return on assets, suggesting that efficient use of short-term financing enhanced operational performance and liquidity support. However, the interaction between short-term debt and board size was negative and significant, indicating that larger boards weakened the beneficial effect of short-term financing, possibly due to more cautious financial policies. The interest coverage ratio showed a negative and significant effect on performance, implying that excessively high interest coverage reflected under-leveraging. Yet, its interaction with board size was positive and significant, demonstrating that larger boards strengthened firms' ability to convert strong debt-servicing capacity into improved financial outcomes. The debt-to-equity ratio exhibited an insignificant direct and moderated effect, showing limited influence on profitability. It recommended that firms maintain board sizes that balance diverse expertise with decision-making efficiency, strengthen governance practices to guide financing decisions, and adopt financing structures that optimize both short- and long-term debt. Policymakers were encouraged to enhance corporate governance frameworks and deepen access to long-term capital to support sustainable profitability.*

**Keywords:** *Capital Structure; Financial Performance; Board Size; Multinational Companies, Debt Management, Dynamics.*

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Date of Submission: 03-05-2026

Date of Acceptance: 13-05-2026

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## **I. Introduction**

Profitability is a key measure of a company's financial health, showing how well a business can turn its resources into earnings. It reflects a company's operational success, its ability to implement effective strategies, and its financial discipline. According to Brigham and Houston (2023), profitability is the result of management decisions regarding cost control, investments, and generating revenue, which makes it a crucial indicator of how well a company is performing. In developing economies across Africa, including Nigeria, profitability is also an important way to measure a company's competitiveness and the effectiveness of its management. Owolabi and Ajibade (2022) note that profitability in African firms is influenced by factors like governance, economic stability, and how well financial resources are used.

In Nigeria, profitability shows how companies handle the challenges of economic instability, regulatory pressure, and sector-specific issues to maintain consistent earnings. Nwosu and Adeoye (2024) point out that factors like the quality of governance, transparent financial reporting, and effective resource allocation are key drivers of profitability for Nigerian firms. These elements help build stakeholder confidence and ensure firms continue to perform well despite market uncertainties.

Capital structure, or how a company finances its operations through a mix of debt and equity, plays a big role in profitability. The right balance allows firms to be flexible, reduce their cost of capital, and seize growth opportunities. Akpan and Eweje (2023) suggest that moderate debt levels can boost profitability by helping firms take advantage of tax benefits and increase their investment capacity. However, too much debt can lead to higher financial risk and interest expenses, negatively impacting profitability. Similarly, Oloruntoba and Hassan (2022) found that having a well-structured financing policy can improve operational efficiency and increase profitability.

Short-term debt is important for managing day-to-day business needs and improving profitability by ensuring good liquidity. Ojo and Fashola (2023) observed that Nigerian firms often use short-term borrowing wisely to boost liquidity and prevent disruptions. However, relying too heavily on short-term debt can expose companies to risks, like needing to repay debt quickly, which could destabilize earnings.

On the other hand, long-term debt helps companies by providing stable funding for major investments, like new projects or upgrading technology, which can lead to stronger profitability in the long run. Emenyonu and Nwankwo (2022) found that long-term debt supports growth and operational scale, benefiting Nigerian firms' profitability. However, if a company takes on too much long-term debt, it could face excessive interest payments, which may harm profit margins.

The interest coverage ratio is another key measure of a company's financial health. It shows a firm's ability to pay interest on its debts from its earnings. A high interest coverage ratio indicates strong profitability, as the company can easily meet its debt obligations. Uchenna and Ezeani (2021) found that firms with strong interest coverage ratios tend to have better profitability because they manage debt more effectively. The relationship between interest coverage and profitability can also be affected by board size. Larger boards often improve decision-making, risk management, and oversight, which can help improve profitability by ensuring better debt management. However, Musa and Ibrahim (2023) warn that too large a board may face coordination issues, which could reduce its positive impact.

While many studies explore the relationship between capital structure and corporate financial outcomes, there is still a lack of consensus on how specific financial indicators, like the debt-to-equity ratio, short-term debt ratio, and interest coverage ratio, directly affect the return on assets (ROA) of multinational companies in Nigeria. Nigerian research has shown mixed results. Some studies suggest that moderate use of short-term borrowing improves profitability by enhancing liquidity and responsiveness (Ogunyemi, 2024), while others argue that higher debt increases financial risk and reduces earnings (Ezeaku & Omodero, 2023). Similarly, international studies present varied findings, with some showing a complex or non-linear relationship between leverage and profitability (Ahmed & Hassan, 2023; Lee & Park, 2025). However, these international insights have not been extensively applied to Nigeria's multinational firms, which face unique market conditions and financing challenges.

There are also gaps in the literature regarding the specific effects of debt components like the debt-to-equity ratio, short-term debt ratio, and interest coverage ratio. Few studies have looked at these components separately in the Nigerian context, which makes it difficult to understand their individual impacts on profitability (Okoroafor et al., 2022; Chibuzor & Etim, 2025). Many studies rely on broad measures of leverage, which overlook the distinct roles of equity balance, short-term borrowing, and interest coverage in profitability.

Theoretical research in Nigeria typically focuses on trade-off and pecking-order theories, which are helpful but don't fully explain how financing decisions signal managerial confidence and expected performance. Signalling Theory, which addresses how debt choices communicate information about a company's prospects, has not been widely applied to multinational companies in Nigeria (Onyema & Folajimi, 2023). Additionally, most studies have neglected the disaggregated effects of different types of debt, which limits our understanding of how specific financing choices influence profitability (Oladipo & Gambo, 2022).

Finally, governance factors like board size are often ignored in studies about capital structure and profitability. A larger board can improve decision-making and risk management, which could help firms achieve optimal debt levels and better profitability (Salami & Abdulrazaq, 2024). However, overly large boards may face challenges with coordination, which could undermine their effectiveness. Despite the importance of board size, it is rarely considered in Nigerian research, leaving a significant gap in understanding how governance impacts capital structure and profitability in multinational firms.

The main objective of this study is to examine the moderating effect of board size on the relationship between capital structure and the financial performance of listed multinational companies in Nigeria. The specific objectives are to:

- i. Determine the effect of the debt-to-equity ratio on the return on assets of listed multinational companies in Nigeria.
- ii. Examine the effect of the short-term debt ratio on the return on assets of listed multinational companies in Nigeria.

- iii. Evaluate the moderating effect of board size on the relationship between the debt-to-equity ratio and return on assets of listed multinational companies in Nigeria.
- iv. Determine the moderating effect of board size on the relationship between capital structure and return on assets of listed multinational companies in Nigeria.

## II. Literature Reviews

### Conceptual Reviews

Profitability is a central concept in corporate finance, as it shows how well a company can convert its resources into lasting earnings. Albright and Inyang (2020) describe profitability as the ability of a firm to generate returns based on its asset base, linking it to the long-term stability of earnings and management effectiveness. However, this traditional view has been critiqued for focusing mainly on internal efficiency metrics, while overlooking broader factors like environmental, social, and governance (ESG) issues, which are becoming increasingly important in today's market.

Koller et al. (2022) take a broader view, suggesting that profitability is a combination of market-based performance measures, such as profit margins and earnings yields, along with accounting metrics like return on assets (ROA) and return on equity (ROE). This approach provides a fuller picture of financial performance, but it assumes that markets are rational and financial reporting is transparent. In emerging economies like Nigeria, where regulations are often imperfect and the economy is unstable, this assumption doesn't always hold up.

In Nigeria, Adeyemi (2024) views profitability as a reflection of how the market perceives a firm's operational efficiency and resilience to financial challenges. This perspective captures some of the unique challenges firms face in Nigeria, such as sector-specific dynamics and governance structures. However, it has been critiqued for not fully considering global competitiveness and external shocks, which can also significantly affect profitability, particularly for multinational corporations.

Capital structure decisions deciding how to finance operations through debt and equity—are closely related to profitability. Harris and Raviv (1991) argue that capital structure can affect profitability by influencing a company's financial risk and cost of capital, challenging earlier views that financing decisions don't matter. Still, this framework assumes efficient markets, which might not be the case in developing economies with credit constraints and volatility.

Brealey, Myers, and Allen (2019) describe capital structure decisions as strategies that balance debt and equity to enhance liquidity, minimize financing costs, and support sustainable earnings. Their model emphasizes the importance of optimal leverage for boosting profitability, but it tends to assume that all industries face similar financing conditions, not taking into account the unique needs of capital-intensive sectors like manufacturing or petroleum.

Abata and Adegbite (2023) focus on how capital structure decisions in Nigeria are influenced by institutional pressures, credit market imperfections, and macroeconomic instability. While their approach provides a useful context for understanding Nigerian firms, it has been critiqued for not adequately addressing governance dynamics and managerial behaviors, which also affect financing decisions.

In Nigeria, Olowookere (2023) views the short-term debt ratio as the share of current liabilities in total assets, highlighting how firms rely on short-term obligations in a volatile financial environment. While this view is useful for understanding liquidity, it doesn't account for the role of governance or institutional factors in short-term borrowing decisions.

From a broader emerging-market perspective, Tran and Le (2023) argue that the short-term debt ratio is crucial for supporting operational liquidity and improving profitability. However, their model doesn't fully address the risks posed by interest rate fluctuations or credit tightening, which are common challenges in developing economies.

Miller (2021) defines the long-term debt ratio as the proportion of debt that matures beyond one year, typically used to fund strategic investments and long-term growth. While this definition is foundational, it assumes stability in lending markets, which is often unrealistic in developing economies that face inflation and currency risk.

### Review of Empirical Studies

Nguyen et al. (2024) conducted a study on the impact of capital structure on profitability, focusing on 812 Vietnamese listed firms over the period from 2013 to 2023. Using panel fixed-effects and dynamic regression models, they found that short-term debt had industry-specific effects on return on assets (ROA). In particular, firms in certain sectors that maintained moderate short-term debt levels saw higher profitability. The authors recommended that firms tailor their debt management strategies to suit the specific dynamics of their industry. However, the study's approach may face challenges, such as endogeneity issues, and its findings may not be directly applicable to emerging markets like Nigeria, where the institutional environment, regulatory

frameworks, and market conditions differ. Despite these limitations, the study highlights the complex impact that short-term debt can have on profitability across different sectors.

Li and Zhao (2023) examined how long-term reliance on short-term debt affects profitability among Chinese A-share firms from 2008 to 2022. Using the system generalized method of moments (GMM), they found that consistent use of short-term debt reduced ROA, primarily due to risks related to refinancing and liquidity. The authors suggested aligning debt maturities with a firm's operational and cash flow cycles to minimize these risks. However, due to differences in China's regulatory environment and financial markets, these findings may not directly translate to Nigerian multinational firms, where institutional frameworks and market conditions differ substantially. Nonetheless, the study offers valuable insights into how managing short-term debt can support or hinder long-term profitability in emerging markets.

Kamau and Mwangi (2023) examined how long-term debt affects profitability in 28 listed Kenyan non-financial firms from 2015 to 2022. Using multiple regression analysis, they found that moderate long-term borrowing positively influenced ROA by signaling financial stability and managerial confidence to investors. The authors advised firms to manage long-term leverage prudently to maximize earnings and reduce financial risks. However, the small sample size and short study period limit the generalizability of the findings. Despite these limitations, the study provides useful insights into how long-term financing can be strategically managed to boost profitability in developing economies with evolving capital markets.

Adeyemi and Ojo (2023) focused on the relationship between interest coverage ratios and profitability in 18 listed Nigerian oil and gas firms from 2012 to 2022. Using panel least squares regression, they found that firms with higher interest coverage ratios had significantly higher ROA, reflecting their ability to meet interest obligations, reduce default risk, and enhance investor confidence. The authors recommended effective debt and earnings management to sustain these benefits. However, the study was limited by potential endogeneity issues and the omission of macroeconomic control variables, which could influence profitability. Nonetheless, the findings emphasize the importance of interest coverage ratios as a key factor in capital structure and corporate performance.

Eze and Nwankwo (2024) examined the effect of interest coverage ratios on profitability in Nigerian consumer goods firms from 2014 to 2022. Using multiple regression analysis, they found that low interest coverage ratios negatively impacted ROA due to increased financial distress and higher default risk. In contrast, firms with moderate interest coverage ratios maintained stable earnings. The authors recommended that firms keep leverage at optimal levels to sustain profitability and minimize risk exposure. This study contributes to understanding how the ability to service interest obligations directly impacts corporate performance in Nigeria, particularly in industries that face economic volatility, credit constraints, and regulatory fluctuations. It emphasizes the importance of sound capital structure management in maintaining profitability.

### **Theoretical Review**

Signaling theory, first introduced by Michael Spence in 1973, helps explain how a company's financial decisions, especially around capital structure, send signals about its quality and future earnings potential to external stakeholders (Spence, 1973). The theory is based on the idea that managers typically have more information about the company's performance than outside investors, creating a situation of information asymmetry. To bridge this gap, firms use financial choices, particularly the use of debt, to signal confidence in their expected profitability.

In the case of listed multinational firms in Nigeria, a balanced short-term debt ratio might signal operational efficiency and the ability to generate immediate returns. However, too much short-term borrowing could raise concerns about liquidity and the ability to refinance debt, signaling potential risks. On the other hand, an optimal long-term debt ratio suggests that the company has confidence in its ability to generate steady cash flows and the long-term success of its projects. Similarly, a high interest coverage ratio signals that a firm can comfortably meet its debt obligations, boosting investor trust and signaling financial stability.

While signaling theory provides valuable insights into how capital structure decisions influence profitability, it has its limitations. It assumes that investors always act rationally, which doesn't always hold true, especially in environments like Nigeria, where macroeconomic volatility, regulatory constraints, and unique firm-specific risks can complicate things. Despite these limitations, signaling theory offers a solid framework for understanding how financing decisions and board governance can shape a company's financial outcomes (Ross, 2021; Frank & Goyal, 2019).

### **III. Methodology**

This study used an ex-post facto research design, which was chosen because it allows for examining relationships between dependent and independent variables without manipulating any factors. This approach is ideal for situations where the events being studied have already occurred and can't be changed. It's particularly

useful in financial research that relies on historical data to understand how past financial decisions have impacted firm performance.

As of December 2024, there were 12 multinational companies listed on the Nigerian Exchange Group (NGX), which formed the population for this study. These companies include well-known names like Nestlé Nigeria Plc, Cadbury Nigeria Plc, Flour Mills of Nigeria, PZ Nigeria Plc, Dangote Cement, Dangote Sugar Refinery, Unilever Nigeria Plc, UAC Plc, Total Marketing, Oando Plc, MTN Communications, and Airtel Communications. The study covered a period of 11 years, from 2014 to 2024. A sample size of 10 companies was selected using purposive sampling, meaning companies were chosen based on the criteria that they had complete data available for the entire study period, from 2014 to 2024.

**Model Specifications**

*Without Moderator (Board Size)*

$$ROAA = \beta_0 + \beta_1 DEBQ + \beta_2 STDR + \beta_3 INCR + U$$

*With interaction*

$$ROAA = \beta_0 + \beta_1 DEBQ + \beta_2 STDR + \beta_3 INCR + \beta_4 BDSZ + \beta_5 (DEBQ \times BDSZ) + \beta_6 (STDR \times BDSZ) + \beta_7 (INCR \times BDSZ) + U$$

Where:

**ROAA** = Return on Assets (Dependent Variable)

**DEBQ** = Debt-to-Equity Ratio

**STDR** = Short-Term Debt Ratio

**INCR** = Interest Coverage Ratio

**BDSZ** = Board Size (Moderator)

To examine the effect of capital structure decisions on financial performance, multiple regression analysis was employed using SPSS (Version 23). This analytical technique was chosen because it effectively determines the magnitude and direction of influence of multiple independent variables on a dependent variable.

**Variable Acronyms and Measurement**

Variable	Definition	Measurement	Sources/References
<b>ROAA</b>	Return on Assets (Dependent Variable)	Net Income ÷ Total Assets	Brigham & Houston (2023); Adeyemi (2024)
<b>DEBQ</b>	Debt-to-Equity Ratio (Independent Variable)	Total Debt ÷ Shareholders' Equity	Abor (2005); Onaolapo & Kajola (2010); Sinebe (2024)
<b>STDR</b>	Short-Term Debt Ratio (Independent Variable)	Short-Term Debt ÷ Total Assets	Enekwe, Agu, & Eziedo (2014); Ogundipe et al. (2012)
<b>INCR</b>	Interest Coverage Ratio (Independent Variable)	EBIT ÷ Interest Expense	Rajan & Zingales (1995); Onaolapo & Kajola (2010)
<b>BDSZ</b>	Board Size (Moderator Variable)	Total number of directors on board	Agbalajobi (2010); Abor (2024)

Source: Compiled by the Author (2026)

**IV. Results and Discussion**

The descriptive results in Table 2 reveal that return on assets (ROA), a measure of the financial performance of the listed multinational companies in Nigeria, ranges from 0.13 to 0.60, with an average of 0.2455 and a standard deviation of 0.12582. The minimum value of 0.13 suggests that some firms are generating relatively low earnings from their assets, which could be due to factors like operational inefficiencies, high costs, or challenges specific to their sectors. On the other hand, the maximum value of 0.60 indicates that some companies are using their assets more effectively, generating strong profits. The average ROA of 0.25 means that, on average, these firms earned about 25 kobo for every ₦1 invested in assets, pointing to moderate profitability across the sample. The range in values around the mean reflects significant differences in how efficiently the companies are utilizing their assets and performing financially

*Table 2 . Descriptive statistics of variables*

	N	Minimum	Maximum	Mean	Std. Deviation
ROAA	110	.13	.60	.2455	.12582
DEBQ	110	.24	182.14	36.2920	27.08151
STDR	110	.83	51.65	17.1050	14.59156
INCR	110	1.00	578.00	57.6180	52.99897
BDSZ	110	8.00	16.00	11.0636	1.77277

Source: SPSS (Version 23) Outputs

The debt-to-equity ratio varies from 0.24 to 182.14, with an average of 36.29 and a standard deviation of 27.08. The minimum value suggests that some companies adopt a more conservative approach, relying more on equity than debt. On the other hand, the maximum value reflects firms that are highly dependent on borrowing, perhaps to fund expansion, foreign investments, or leverage strategies to boost returns. On average, firms carry about ₦36.29 of debt for every ₦1 of equity, indicating relatively high levels of leverage. The large standard deviation highlights the significant differences in capital structure strategies, which can be influenced by factors like firm size, access to credit, risk tolerance, and governance practices.

The short-term debt ratio ranges from 0.83 to 51.65, with an average of 17.11 and a standard deviation of 14.59. This shows that short-term debt plays a significant role in financing for many of these firms. Lower values suggest firms with strong internal cash flows or access to long-term financing, while higher values point to firms that rely more heavily on short-term loans to meet working capital needs, fund imports, or support operational cycles. The average short-term debt of ₦17.11 for every ₦1 of equity, combined with the high standard deviation, indicates considerable variation in short-term financing practices across the firms.

The interest coverage ratio spans from 1.00 to 578.00, with a mean of 57.62 and a standard deviation of 52.99. The minimum value suggests that some companies are under financial strain, barely covering their interest payments, while the maximum reflects firms that are highly profitable and able to meet their interest obligations many times over. The high average interest coverage indicates strong debt-servicing capacity across most firms, but the large variation shows that there are differences in operational efficiency, market exposure, and leverage levels between them.

For the moderating variable, board size ranges from 8 to 16, with a mean of 11.06 and a standard deviation of 1.77. Smaller boards might allow for quicker decision-making but could weaken oversight, whereas larger boards can improve monitoring, provide diverse expertise, and ensure greater accountability. The relatively low variability suggests that most multinational companies have boards that are of moderate size, in line with Nigerian and international governance standards. As a moderator, board size is expected to influence how capital structure variables such as the debt-to-equity ratio, short-term debt ratio, and interest coverage ratio affect return on assets. Larger boards could potentially limit riskier financing choices, while smaller boards may give management more discretion.

Looking at the correlation results in Table 3, the return on assets (ROA) has a correlation coefficient of  $-0.053$  with the debt-to-equity ratio. This indicates a very weak negative relationship, suggesting that as the debt-to-equity ratio increases, financial performance slightly decreases, though the effect is minimal. For these firms, it implies that higher borrowing levels don't significantly impact how well assets generate profits. This could be due to the varying capital structures, sector-specific factors, and differences in operational efficiency across the firms.

**Table 3 Correlation Matrix**

	ROAA	DEBQ	STDR	INCR	BDSZ	VIF
ROAA	1					
DEBQ	-.053	1				1.498
STDR	-.068	-.539**	1			1.501
INCR	.203*	.208*	-.265**	1		1.096
BDSZ	.157	-.144	-.078	.106	1	1.071

**Source: SPSS (Version 23) Outputs**

The correlation between return on assets (ROA) and the short-term debt ratio is  $-0.068$ , which is a very weak negative relationship. This suggests that relying on short-term borrowing is slightly linked to lower financial performance. However, this relationship isn't statistically significant, meaning that the impact of short-term debt on profitability is diluted by factors like the different working capital strategies firms use and their varied access to short-term credit facilities.

There is a statistically significant positive correlation of 0.203 between return on assets and the interest coverage ratio. This indicates that companies with a stronger ability to cover their interest payments with earnings tend to perform better financially. In other words, firms that efficiently manage their debt obligations are more likely to maintain stable operations and show better financial results.

The moderating variable, board size, shows a weak positive correlation of 0.157 with return on assets, which is not statistically significant. This means that firms with slightly larger boards tend to show marginally better financial performance, likely due to better oversight, decision-making, and monitoring. However, the weak correlation suggests that board size alone does not have a strong impact on profitability, and its effects may be more noticeable when interacting with other factors, like capital structure.

There is a strong negative correlation of  $-0.539$  ( $p < 0.01$ ) between the debt-to-equity ratio and the short-term debt ratio. This means that firms with higher levels of debt tend to rely less on short-term borrowing, while those with lower leverage are more likely to use short-term financing. The debt-to-equity ratio also has a

positive significant correlation of 0.208 with the interest coverage ratio, meaning that more profitable firms are better able to handle higher debt levels. On the other hand, the short-term debt ratio has a negative significant correlation of  $-0.265$  with interest coverage, reflecting concerns about liquidity risks.

In terms of governance, board size shows weak correlations with the debt-to-equity ratio ( $-0.144$ ), short-term debt ratio ( $-0.078$ ), and interest coverage ratio (0.106). This suggests that larger boards might have a small influence on financing decisions and debt-servicing ability, but the effects are not strong across all firms.

Finally, the Variance Inflation Factor (VIF) values 1.498 for the debt-to-equity ratio, 1.501 for the short-term debt ratio, 1.096 for the interest coverage ratio, and 1.071 for board size confirm that there is no multicollinearity. This means that each variable provides unique insights into the regression model, ensuring that the parameter estimates are reliable.

The regression results in Table 4, without interaction terms, show that the model explains only a small portion of the variation in financial performance, with an R-squared value of 0.069. This means that only about 6.9% of the changes in return on assets among the listed multinational companies in Nigeria are explained by the debt-to-equity ratio, short-term debt ratio, interest coverage ratio, and board size. The adjusted R-squared of 0.033 further suggests that, after adjusting for the number of predictors and the sample size, the model's explanatory power is even lower. This indicates that while capital structure and board size play a role in profitability, most of the variation in return on assets is driven by other factors, such as operational efficiency, competitive pressures, technology adoption, global market conditions, and management quality.

**Table 4 Regression Results**

Ind. Variables	Coefficients OLS	Standard Error OLS	T Statistics OLS	P-Values
Constants	.158		1.755	.082
DEBQ	-.001	-.114	-.991	.324
STDR	-.001	-.069	-.597	.552
INCR	.000	.197	1.997	.048
BDSZ	.008	.115	1.175	.243
No of Obs	110	110	110	110
R-Squared	.069			
Adjusted R-Squared	.033			
F-Statistic	1.939			
P-Value	.109			

**Source: SPSS (Version 23) Outputs**

The overall model is not statistically significant, as the F-statistic of 1.939 has a p-value of 0.109, which is higher than the typical 5% significance threshold. This means that the combined effects of the capital structure variables and board size do not significantly predict profitability in the firms studied.

The constant term has a coefficient of 0.158, but it is not statistically significant. This suggests that baseline profitability is stable, but not significantly different from zero, and is largely determined by a firm's operational and financial decisions. The debt-to-equity ratio shows a negative effect ( $-0.001$ ) that is also not statistically significant ( $p = 0.324$ ), meaning that higher levels of debt don't seem to have a meaningful impact on return on assets. Similarly, the short-term debt ratio has a negative and insignificant effect ( $-0.001$ ,  $p = 0.552$ ), indicating that short-term borrowing has little to no influence on profitability.

However, the interest coverage ratio shows a positive and statistically significant effect (0.000,  $p = 0.048$ ), meaning that firms with stronger earnings relative to their interest obligations tend to be more profitable. This highlights the importance of having the ability to service debt effectively for maintaining good financial health and operational efficiency.

Board size, the moderating variable, has a positive but insignificant coefficient (0.008,  $p = 0.243$ ), suggesting that larger boards are associated with slightly higher return on assets. However, the effect is not statistically meaningful, possibly because the effectiveness of a board relies more on factors like expertise, independence, and governance practices rather than just its size.

Looking at the regression results in Table 5 with interaction terms, the model explains a moderate portion of the variation in financial performance, with an R-squared value of 0.303. This means that about 30.3% of the variation in return on assets for the listed multinational companies in Nigeria can be explained by the debt-to-equity ratio, short-term debt ratio, interest coverage ratio, board size, and their interaction effects. The adjusted R-squared of 0.255 indicates that, after accounting for the number of predictors, the model still has moderate explanatory power. This suggests that while capital structure decisions, governance structures, and their interactions influence financial performance, more than two-thirds of the variation is likely due to other factors, such as industry characteristics, operational efficiency, macroeconomic conditions, global market exposure, and management quality.

**Table 5 Regression Results with interactions**

Ind. Variables	Coefficients OLS	Standard Error OLS	T Statistics OLS	P-Values
Constants	.961		4.004	.000
DEBQ	-.002	-.392	-.618	.538
STDR	.011	1.308	2.113	.037
INCR	-.015	-6.289	-4.381	.000
BDSZ	-.049	-.697	-2.341	.021
DEBQ*BDSZ	.000	.413	.619	.537
STDR*BDSZ	-.001	-1.511	-2.259	.026
INCR*BDSZ	.001	6.543	4.482	.000
No of Obs	110	110	110	110
R-Squared	.303			
Adjusted R-Squared	.255			
F-Statistic	6.340			
P-Value	.000			

Source: SPSS (Version 23) Outputs

The overall model is not statistically significant, as the F-statistic of 1.939 has a p-value of 0.109, which is higher than the typical 5% significance threshold. This means that the combined effects of the capital structure variables and board size do not significantly predict profitability in the firms studied.

The constant term has a coefficient of 0.158, but it is not statistically significant. This suggests that baseline profitability is stable, but not significantly different from zero, and is largely determined by a firm's operational and financial decisions. The debt-to-equity ratio shows a negative effect (-0.001) that is also not statistically significant ( $p = 0.324$ ), meaning that higher levels of debt don't seem to have a meaningful impact on return on assets. Similarly, the short-term debt ratio has a negative and insignificant effect (-0.001,  $p = 0.552$ ), indicating that short-term borrowing has little to no influence on profitability.

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## V. Conclusion and Recommendations

This study explored how financing decisions impact financial performance among listed multinational companies in Nigeria, specifically looking at the debt-to-equity ratio, short-term debt ratio, and interest coverage ratio, with board size as a moderating factor. The findings showed that the short-term debt ratio had a positive and significant effect on financial performance. This suggests that using short-term borrowing moderately can improve operational efficiency, help meet working capital needs on time, and boost profitability.

Interestingly, the interaction between interest coverage and board size was positive and highly significant, indicating that larger boards' help companies turn their strong debt-servicing capacity into better financial performance. This highlights the important role that governance structures, like board size, play in shaping how financing decisions impact a company's financial outcomes. Based on these findings, the study recommends that multinational companies maintain an optimal board size that balances diverse expertise with decision-making efficiency to strengthen oversight of financing policies.

- i. Firms should adopt balanced financing strategies, using short-term debt judiciously to support operations while avoiding excessive liquidity risk, and strategically leverage interest coverage capacity to pursue profitable investments.

- ii. Additionally, corporate governance frameworks should be enhanced to guide financial decisions, and management should focus on integrating board oversight with debt management to optimize financial performance.
- iii. Policymakers are encouraged to strengthen governance regulations and facilitate access to long-term financing to support sustainable profitability in Nigeria's multinational corporate sector. Sustainable value creation in the sector.

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