

MODERATING EFFECT OF FIRM SIZE ON THE RELATIONSHIP BETWEEN LONG-TERM DEBT AND FINANCIAL PERFORMANCE OF LISTED HOSPITALITY FIRMS IN NIGERIA

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Abstract

This study became imperative due to the low-level financial performance of hospitality firms. This is further buttressed by the fact that hospitality firms' contributions to GDP in Nigeria are low in comparison with 20%, 17% and 12% of hospitality and tourism contributions to GDP in Seychelles, Cape Verde and Mauritius respectively. This study therefore examined the moderating effect of firm size on the relationship between capital structure and financial performance of listed hospitality firms in Nigeria. Ex-post facto quantitative research design was employed in the study. Secondary data were collected and extracted from the Nigeria Exchange Group (NGX) fact books of listed hospitality firms for period ten (10) years (2014 to 2023) and through annual financial reports of listed hospitality firms. The collected data were analyzed using panel data regression analysis with the aid of STATA (Statistics/Data Analysis) 14.2. The findings revealed that long-term debt financing has significant negative effects on financial performance of listed hospitality firms. In line with these findings, this study recommended that the hospitality firms should reduce reliance on long-term debt financing, as it has been shown to significantly reduce financial performance. Alternative financing options such as equity or internal funds should be explored to avoid long-term financial strain. Policymakers and financial institutions should offer flexible credit terms and innovative funding options tailored to the hospitality sector's unique dynamics to enhance its financial performance.

Keywords: capital structure, financial performance, firm size, debt financing, hospitality firms

1 Introduction

The relationship between capital structure and financial performance has been a subject of considerable interest in corporate finance (Akinyomi, 2013; Yazdanfar & Öhman, 2015). This is particularly relevant for the hospitality industry in Nigeria, where firms face unique challenges such as seasonal demand fluctuations, capital-intensive operations, and limited access to affordable credit (Yusuff, 2016). This study explores how firm size moderates the relationship between capital structure and financial performance of listed hospitality firms in Nigeria context.

In essence, financial performance refers to the degree to which a firm's financial objectives are achieved and is an essential measure of a firm's overall financial health over a given period (Alarussi & Alhaderi, 2018). The two main financial performance indicators are return on asset and return on equity, and they often used by investors, managers, and other stakeholders to assess the firm's profitability, efficiency, and value creation ability. Poor

financial performance can lead to reduced investor confidence and limited access to financing options.

Additionally, return on assets is one of the most commonly used indicators of financial performance. It measures how effectively a company utilizes its assets to generate profit and is calculated as net income divided by total assets (Ebaid, 2009; Alarussi & Alhaderi, 2018). Return on Assets provides insight into management's efficiency in asset utilization, making it a vital tool in assessing operational performance, especially in asset-heavy industries like hospitality.

Despite the vital roles that hospitality industry plays in economic development through job creation, foreign exchange earnings, and infrastructure development (Vijayalakshmi & Manoharan, 2014). However, the sector's financial performance has not matched its growth potential. The Nigerian hospitality sector contributes a meager 3.6% to GDP compared to other African countries like Seychelles (20%), Cape Verde (17%), and Mauritius (12%) (World Economic Forum Report, 2022; Yusuff, 2016). High financing costs, poor infrastructure, and unstable economic conditions contribute to this underperformance (Baker et al., 2000).

Capital structure decisions involve determining the right mix of debt and equity that minimizes cost and maximizes shareholder value (Pandey, 2004; Zhang & Yu, 2016). These decisions are complex and influenced by firm-specific factors, including size, growth opportunities, and risk profile (Onyenwa & Glory, 2017). This study posits that firm size can either mitigate or exacerbate the effects of capital structure and especially long-term debt on financial performance and the relationship that exist thereof (Chen & Strange, 2005).

This study sought to address this gap by investigating the moderating effect of firm size on the relationship between capital structure and financial performance amongst listed hospitality firms in Nigeria with focus on long-term debt financing. By identifying and analyzing this interaction, the research aims to provide actionable insights that can enhance financial decision-making and operational strategies within the sector. Ultimately, understanding these dynamics is crucial for fostering sustainable growth and improving the overall financial health of hospitality firms in Nigeria. The following hypothesis were developed for the study in order to meet the aforementioned goal:

- H₀₁:** Long-term debt financing has no significant effect on return on assets of listed hospitality firms in Nigeria
- H₀₂:** Firm size has no significant moderating effect on the relationship between long-term debt financing and return on assets of listed hospitality firms in Nigeria.

2 Literature Review

Financial Performance

Financial performance measures how well an enterprise used its assets and other resources from its business to generate revenues (Udisifan, Akeem, Bako & Olalere, 2021). Corporate financial performance refers to the extent to which a firm achieves its financial objectives. It has over the years remained perceived only through the prism of profits. This has however changed in the current age. Corporate financial performance at this age has

different meanings depending on the users' view of financial information (Sabri, Mohamed & Sahari, 2020). Managers are interested in profits because their targets are mostly tied to profits achieved. Shareholders are interested in wealth maximization through increased market capitalization and dividend payments. Commercial stakeholders are more interested in the solvency of the firm while creditors are interested in the capacity of the institutions to repay the loans on time. The firm employees desire a stable job accompanied by a high level of material benefits, while the government is interested in an efficient company that pays its taxes and other statutory fees.

Capital Structure

The capital structure of a firm is made up of long-term debt, short-term debt, and equity capital, and it demonstrates how the company finances its entire operations and growth by combining various sources of funding (Udobi-Owoloja, Gbajumo-Sheriff, Umoru, Babatunde & Ilimezekhe, 2020). The capital structure of a corporation varies depending on its size, kind, and other factors such as the company's age, size, asset structure, profitability, growth, risk, and liquidity (Abor, 2014). The goal of capital structure management is to combine financial sources in order to maximize shareholder wealth while lowering the company's cost of capital. The composition of a company's liability, which is relative to numerous financial sources in the composition of the overall obligation, is referred to as capital structure. Any business's capital structure selection is critical; every organization seeks a combination of arrangements that ultimately achieves or grows its performance, profitability, and total value (Nwude & Anyalechi, 2018).

Long-term debt financing

The long-term debt includes among others loans and financial obligations that cover twelve months. Long term debt to a company would include any financing or leasing obligations that are to become due in a greater than 12 months' period. Long term debt also applies to governments; nations can also have long term debt. Long term debt is written in a separate part in a company's balance sheet, the information is used by investors, creditors, and lenders when examining the long-term liquidity of a business they are interested (Ebaid, 2009).

Long term debt to total asset is a yardstick showcasing the percentage of an organisation's assets that are financed by loans and financial commitments lasting more than one year. The long-term debt to total asset gives a general measurement of the financial status of an organisation together with its ability to address financial demands for outstanding loans. A year-over-year decrease in this aspect would suggest that the company is progressively becoming less dependent on debt to develop and manage its business (Onaolapo & Kajola, 2010).

Firm size

Size is observed as a major determinant of financial performance in any firm. It has always been the objectives of the firms to multiply in size in order to have an edge over their competitors, firm size can be measured in terms of its asset base (Gathogi & Ragui, 2014). The positive relation between size and performance is theoretically explained by concept known as economies of scale that can be found in the traditional view of the firm. It can be

interpreted that firm can produce goods at a much lower cost by large companies. The size of the firm is an increase in the firm's employees who have a large market capitalization, and describes the size of a firm. The higher the total assets that indicate the assets or assets owned by the company. Firm size can be measured using total assets, sales or company capital. Firms that have large total assets are considered to have good prospects in a relatively stable period and are able to generate profits compared to companies that have small total assets. Large-scale companies have a higher competitiveness than small companies, because large companies have a large market so they have a great opportunity to obtain large profits

Long-term debt financing and Financial Performance

Akaji, Nwadior and Agubata (2021) examined the effect of debt financing on the performance of Firms in Nigeria. The study measured debt financing using the variables of long-term debt financing (LTDF), short-term debt financing (STDF) and preferred stock financing (PSF) while Firm's Performance on the other hand was measured using Return on equity (ROE). The study focused on the Oil and Gas Sector, Healthcare Sector, and ICT Sector of NSE. The statistical test of parameter estimates was conducted using OLS Regression Model. The research design used was Ex Post Facto design and data for the study were obtained from the 26 firms which formed the sample size with data spanning from 2013-2020. The findings of the study showed that Debt Financing has a significant and positive effect on Firms' Performance in Nigeria at 5% significant level.

Abosede (2020) examined the impact of indebtedness on the performance of quoted Nigerian downstream oil and gas companies. The main objective of the study was to find out whether indebtedness has an impact on the financial performance of the quoted Nigerian downstream oil and gas companies, using Return on asset (ROA) and return on capital employed (ROCE) as proxies to financial performance. Secondary data from 11 listed oil and gas companies on the Nigeria Stock Exchange from 2007-2019 were used in the study. The data generated were analyzed using multiple regressions to examine the relationship between the variables. Indebtedness is proxied by long-term debt, short-term debt and total debt, using the pooled ordinary least square, fixed effect and random effect models. After the estimation, the study found that long-term debt negatively and significantly impacts the financial performance of quoted Nigerian downstream oil and gas companies. The study recommended that listed downstream oil and gas firms in Nigeria should make effective use of long-term debts to enhance their capital employed to generate more return on investment to cover the cost of capital and increase their retained earnings.

Akingunola and Olawale (2017) investigated the effect of capital structure decisions on firm performance using a sample of 22 listed non-financial firms on the NSE for a period of five years (2011–2015). The study examined the impact of Short-term Debt to Total Asset, Long-term Debt to Total Asset, and Total Debt to Total Equity (being the explanatory variables) on Return on Asset and Return on Equity, which represents the dependent variable while controlling for size, tangibility and Growth. The panel dataset was analysed using pooled, fixed effect and random effect models while Hausman's test were used to select the appropriate model. The ROE model revealed that long-term debt to total asset (LTDTA) have significant positive effect on ROE. Firm size has significant positive effect in both models

(ROA and ROE). This implies that, the inclusion of debt (both short term and long term) in the capital structure of a firm positively affects the equity shareholders in terms of firm performance while debt holder might be affected negatively.

Theoretical Framework

The Pecking Order Theory (POT) served as the foundation for the study. This initially proposed by Myers and Majluf (1984), postulates that firms prioritize their sources of financing according to the principle of least effort or resistance, preferring internal financing (retained earnings) first, followed by debt, and finally issuing new equity as a last resort.

This theory is particularly relevant to the present study, which investigates the moderating effect of firm size on the relationship between capital structure and financial performance of listed hospitality firms in Nigeria. The conceptual review established that hospitality firms in emerging markets, such as Nigeria, often rely heavily on debt financing due to limited access to internal funds and equity markets. This behavior is well-aligned with the propositions of the Pecking Order Theory, which suggests that debt becomes the preferred option when internal funds are inadequate.

Moreover, the empirical review further reinforces the suitability of this theory. Studies such as those by Yazdanfar and Öhman (2015), Prempeh, Sekyere, and Asare (2016), and Akingunola, Olawale, and Olaniyan (2017) consistently report that excessive debt—especially in the form of short-term and long-term liabilities—can adversely affect financial performance. These findings align with the pecking order logic that excessive reliance on external borrowing, particularly in firms with weaker financial standing, can increase financial distress and reduce profitability.

Furthermore, the theory explains the significant moderating role of firm size in the capital structure–performance relationship. Larger firms are often better positioned to access external finance at favorable terms, manage debt obligations efficiently, and leverage economies of scale, thereby mitigating the negative effects of debt financing. Smaller firms, on the other hand, may experience higher borrowing costs, stricter loan terms, and limited financial flexibility, which can exacerbate the adverse effects of debt on performance.

In summary, the Pecking Order Theory provides a robust and contextually appropriate framework for understanding the financing decisions of hospitality firms in Nigeria, the varying impacts of different debt structures on firm performance, and the crucial role of firm size in moderating these relationships. Its adoption in this study is therefore theoretically and empirically justified.

Research Model

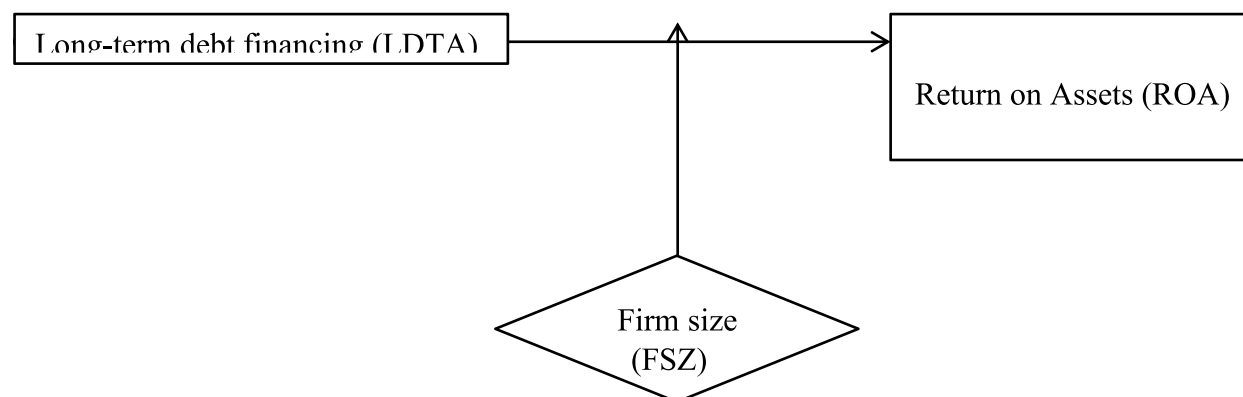


Figure 1 Conceptual Framework

3 Methodology

This study adopted ex-post facto research design by adopting descriptive statistics. The population of the study will comprise all five (5) hospitality firms on the Nigeria Exchange Group (NGX) as at 31st December, 2023. The total numbers of firms are derived from the Nigeria Exchange Group (NGX) fact book as at 2023. All the five (5) listed hospitality firms would be used as sample of the study and as such, census approach was employed as sampling technique. The study used secondary source of data collection. The data were extracted from the annual reports and Nigeria Exchange Group (NGX) fact book 2023 and other relevant sources for a period of Ten (10) years (2014 to 2023).

The models adopted for the study are panel regression models which differs from a regular time-series or cross section regression model by the double subscript (it) attached to each variable (Ekele, 2014). The study then specifies the general form of the panel data models compactly as:

$$ROA_{it} = \alpha_0 + \beta_1 LDTA_{it} + \beta_2 FSZ_{it} + \varepsilon_{it} \dots\dots\dots (1)$$

$$ROA_{it} = \alpha_0 + \beta_1 LDTA_{it} + \beta_2 FSZ_{it} + \beta_3 LDTA * FSZ_{it} + \varepsilon_{it} \dots\dots\dots (2)$$

The first model tries to estimate the direct relationship between the independent and the dependent variable proxied by return on asset (roa) without considering the likely moderating effect of firm size. The second regression model include a one-way moderator effector variable with firm size moderating the relationship between long-term debt financing. The data were analyzed using panel data regression analysis with the aid of STATA v14.2 package. The list of the population firms is given below:

Firms Listed	Date Incorporated	Date
1 CAPITAL HOTEL	1981	1990
2 IKEJA HOTEL	1972	2007
3 TRANSCORP HOTEL	1994	2015
4 TANTALIZER PLC	1997	1970
5 TOURIST COMPANY OF NIGERIA PLC	1964	1970

Source: Nigerian Exchange Group, 2023.

Variable Measurement and Model Specification

The study primarily used capital structure as independent variable proxy by long-term debt financing (LDTA) while the dependent variable is financial performance represented by Return on Asset (ROA) with firm size as moderating variable.

Table 1: Variable Measurement and Definition

Source: Researcher's computation, 2025

The following is the model to empirically test the hypothesis of the study as formulated.

$$ROA_{it} = \alpha_0 + \beta_1 LDTA_{it} + \beta_2 FSZ_{it} + \varepsilon_{it} \dots\dots\dots (1)$$

$$ROA_{it} = \alpha_0 + \beta_1 LDTA_{it} + \beta_2 FSZ_{it} + \beta_3 LDTA * FSZ_{it} + \varepsilon_{it} \dots\dots\dots (2)$$

4 Results and Discussion

The descriptive statistics of the dependent and explanatory variables of the study are presented in Table 2. It provides summary statistics of the variables, which include the mean, standard deviation, minimum and maximum values of the data.

Table 2: Description Statistics

Variables	Obs	Mean	Standard Deviation	Minimum	Maximum
ROA	50	-0.047	0.144	-0.562	0.141
LDTA	50	0.383	0.371	0.01	1.894
FSZ	50	0.6	0.495	0.000	1
LDTAFSZ	50	0.221	0.266	0.000	1.092

Source: Researcher's Computation, using STATA 14

Table 2 above presents the descriptive statistics for all the variables employed in the study. The dependent variable, Return on Assets (ROA), has a mean value of -0.047, suggesting that

Variable Type	Variable Name	Proxy	Acronym	Measurement	Source
Dependent Variable	Financial performance	Return on Asset	ROA	Profit after tax / Total asset	(Richard et. al, 2017)
Independent Variable	Capital Structure	Long-term Debt Financing	LDTA	Long-term Debt / Total Assets	(Javed et. al, 2017)
Moderating Variable	Firm Size	Firm Size	FSZ	Ln (Total Assets	(Azeez, 2015)

on average, the listed hospitality firms in Nigeria operated at a loss over the study period (2014–2023). The relatively large standard deviation (0.144) and the wide range from -0.562 to 0.141 indicate substantial variation in firm performance.

	CO-EFFICIENT	T-VALUES	P-VALUES	Sig	V.I.F
CONSTANT	0.17	1.71	0.095	*	
LDTA	-0.431	-5.10	0.000	***	1.38
FSZ	-0.108	-1.95	0.058	*	1.62
R ²	0.389				
Adjusted R ²	0.347				
F-STATISTICS		8.90			
F-SIGNIFICANCE			0.0000		

The independent variable Long-Term Debt to Total Assets (LDTA), with a higher mean of 0.383, reflects a stronger reliance on long-term borrowing. The observed maximum value of 1.894 for LDTA reveals that some firms are excessively leveraged, having more long-term debt than total assets.

Firm Size (FSZ), measured by the natural logarithm of total assets, shows a mean of 0.6, indicating a moderate asset base among the sampled firms. The interaction terms, LDTA×FSZ, have means of 0.221, and reflect how firm size interacts with debt ratios to influence performance.

These descriptive statistics highlight the variation in financing structure and performance across listed hospitality firms in Nigeria, setting the context for examining moderating effects in the regression models.

5 Presentation and Interpretation of Regression Result

The summary of the regression results obtained from the models of the study comprising of both the main and the effector model is presented in table 3 and 4 while the full result is attached as appendix.

$$ROA_{it} = \alpha_0 + \beta_1 LDTA_{it} + \beta_2 FSZ_{it} + \varepsilon_{it}$$

Table 3: Summary of Base Model GLS Fixed Effect Regression

Source: Researcher's Computation, using STATA 14

Table 3 presents the fixed-effect Generalized Least Squares (GLS) regression results without interaction terms. The model estimates the direct effect of capital structure and firm size on financial performance:

The model has an R² of 0.389 and an adjusted R² of 0.347, indicating that approximately 39% of the variation in ROA is explained by the included variables. The F-statistic of 8.90 ($p < 0.01$) confirms the model's overall significance. Long-Term Debt to Total Assets (LDTA) has a significant negative effect on ROA ($\beta = -0.431$, $p < 0.01$), confirming that greater reliance on long-term debt diminishes firm profitability. Firm Size (FSZ) exhibits a negative marginal effect ($\beta = -0.108$, $p = 0.058$), suggesting that larger firms may experience diminishing returns on assets, potentially due to operational inefficiencies.

The conditional regression models include a one-way moderator effector variable as presented below in table 4

$$ROA_{it} = \alpha_0 + \beta_1 LDTA_{it} + \beta_2 FSZ_{it} + \beta_3 LDTA * FSZ_{it} + \varepsilon_{it}$$

Table 4: Summary of Effector Model GLS Fixed Effect Regression

	CO-EFFICIENT	T-VALUES	P-VALUES	Sig	V.I.F
CONSTANT	0.096	0.93	0.358	**	
LDTA	-0.41	-4.94	0.000	***	2.02
FSZ	0.101	0.92	0.365		9.93
LDTA*FSZ	-0.182	-1.61	0.114		3.29
R ²	0.454				
Adjusted R ²	0.174				
F-STATISTICS		6.65			
F-SIGNIFICANCE			0.0000		

Source: Researcher's Computation, using STATA 14

The conditional regression results in Table 4 introduce interaction terms to examine the moderating role of firm size:

Although the R² increases to 0.454, indicating better explanatory power, the adjusted R² drops to 0.174, suggesting a possible model overfit due to added variables. Nevertheless, the F-statistic remains significant at 6.65 ($p < 0.01$). LDTA retains a statistically significant negative effect ($\beta = -0.41$, $p < 0.01$), confirming the earlier result. LDTA*FSZ is negative but not statistically significant ($\beta = -0.182$, $p = 0.114$), indicating a weaker moderating effect on long-term debt.

Hypothesis Testing

Based on regression outputs, the following hypotheses were evaluated:

Hypothesis Statement	Result	Decision
H₀₁ LDTA has no significant effect on ROA	$p < 0.01$ in both models	Rejected
H₀₂ FSZ does not moderate LDTA*ROA relationship	$p = 0.114$	Not Rejected

6 Discussion of findings

The results from the hypothesis testing provide critical insights into the relationship between capital structure and financial performance of listed hospitality firms in Nigeria, as well as the moderating role of firm size.

Long-term debt financing (LDTA) showed a significant negative effect on ROA, indicating that firms with higher levels of long-term obligations tend to experience reduced financial performance. This supports the pecking order theory, which posits that reliance on external debt, especially over long periods, can lead to increased financial distress and diminished returns. The finding aligns with similar studies which assert that excessive long-term leverage erodes profitability in capital-intensive sectors such as hospitality.

n the other hand, firm size did not significantly moderate the relationship between long-term debt and financial performance. This suggests that the adverse effect of long-term debt persists across firms regardless of their size, underlining the inherent risk associated with prolonged indebtedness in the sector.

In summary, the findings reveal that while long-term debt consistently undermines financial performance. The results underscore the importance of considering firm-specific characteristics, particularly size, when making capital structure decisions in the hospitality industry.

7 Conclusion

This study investigated the moderating effect of firm size on the relationship between capital structure proxies by long-term debt financing and financial performance of listed hospitality firms in Nigeria. The findings from hypothesis testing reveal that long-term debt financing has a significant and negative impact on financial performance. Firm size moderating effect on long-term debt was not statistically significant. Therefore, capital structure decisions, especially regarding long-term obligations, play a critical role in shaping the financial outcomes of firms in this sector.

8 Recommendations

In line with above findings, the following were recommended:

1. **Limit Long-Term Debt Exposure:** Hospitality firms should reduce reliance on long-term debt financing, as it has been shown to significantly reduce financial performance. Alternative financing options such as equity or internal funds should be explored to avoid long-term financial strain.
2. **Adopt Size-Sensitive Financing Strategies:** Firms should develop capital structure strategies that consider their size. Financial planning must align with organizational scale to avoid disproportionate debt burdens that can erode profitability.
3. **Regulatory Support for Financing Access:** Policymakers and financial institutions should offer flexible credit terms and innovative funding options tailored to the hospitality sector's unique dynamics to enhance its financial performance.

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