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Capital Structure and Firm Performance of Listed Non-Financial Companies on the Nigerian Stock Exchange

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Abstract

The study explores the relationship between capital structure and the financial performance of listed non-financial companies on the Nigerian Stock Exchange (NSE). The research design adopted is ex-post-facto due to the nature of data envelopment analysis, a mathematical programming technique used to evaluate decision-making units. The population consists of all 105 non-financial companies listed on the NSE, and a purposive sample of 60 such companies is chosen for the study. Data is collected from the annual reports of these companies for the period 2009 to 2022, focusing on key financial metrics such as debt to equity ratio (DER), leverage ratio (LEV), return on assets (ROA). The fixed effect regression analysis is employed to determine the significance of these variables and their influence on ROA.The findings indicate a positive association between Debt to Equity ratio and ROA, implying that a higher ratio is linked to improved firm performance. However, the non-significant p-value suggests that this relationship lacks statistical significance at the 5% level. Conversely, Leverage exhibits a negative influence on ROA, potentially due to increased interest expenses and financial constraints. However, this negative relationship also lacks statistical significance. In conclusion, the results highlight that while capital structure does exhibit certain trends in its impact on ROA, the statistical significance is absent. The positive relationship between Debt to Equity ratio and ROA suggests potential benefits in terms of access to capital, lower financing costs, and financial leverage. However, the lack of statistical significance underscores the need for caution when making concrete conclusions. The negative relationship between Leverage and ROA, while not statistically significant, raises concerns about increased financial risk. Overall, the study's outcome suggests that capital structure has no significant effect on the financial performance of companies listed on the Nigerian Stock Exchange. Recommendations stemming from the study include the optimization of capital structure, qualitative analysis to understand the reasons behind capital structure decisions, prudent risk management practices, diversification of funding sources, and regular performance assessments to align capital structure decisions with strategic objectives.

Vol. 8, No.02; 2024

ISSN: 2456-7760

Keywords: capital structure, firm performance, Corporate Finance, Return on Assets (ROA), corporate governance, agency theory

1.0 Introduction

The intricate relationship between capital structure and firm performance has remained a focal point of scholarly exploration and practical concern within the realm of corporate finance. The significance of this association is magnified in emerging economies like Nigeria, where companies seek an optimal balance between equity and debt financing to fuel their growth and enhance overall financial performance (Ayuba, Bambale, Ibrahim, &Sulaiman, 2019). Non-financial companies listed on the Nigerian Stock Exchange (NSE) serve as the bedrock of economic activity in the nation, contributing substantially to economic development and job creation. Understanding the dynamics of capital structure and its impact on the performance of these companies is not only crucial for corporate decision-makers but also holds implications for investors, regulators, and policymakers alike (Alabdullah, 2023). In general, the issue of capital structure is salient area in corporate finance that is essential for the maximization of shareholders returns, wealth maximization, smooth running of firms operation and even the ability of firms to survive amidst competitions. After Modigliani and Miller's 1958 research on capital structure, a significant amount of literature has explored firms' financial structures, both theoretically and empirically, in an attempt to understand why a firm selects a particular capital structure (Harris and Raviv 1991). Capital structure refers to how a company combines various funding sources, including debt financing, preferred and ordinary stock, to finance its operations and capital projects. Financial managers aim to maximize shareholder wealth and company value by selecting the best mix of financial resources (Ayange, Emmanuel, Rosemary, Ndudi, & Samuel, 2021).

The relationship between capital structure and firm performance has been a subject of considerable debate. Capital structure can be measured using accounting-based methods, but market values of leverage are considered the theoretical basis. Total debt to capital ratio is a suitable accounting-based method for estimating leverage. Firm performance encompasses a range of factors that reflect the overall success and efficiency of a company. It includes various financial and non-financial indicators, such as profitability, revenue growth, return on assets, market share, customer satisfaction, and operational efficiency. Firm performance is a comprehensive measure that evaluates the effectiveness of a company in achieving its goals and creating value for its stakeholders. It serves as a crucial yardstick for assessing the overall health and competitiveness of a business in its industry (Hashim, 2019).

The capital structure choice of the firms becomes important factor in corporate governance practices. Financial policies of the firms are commonly the real problem of the decision-making process. It could be a subject of debates among many interests of organization. Meanwhile, the issue of corporate capital structure itself becomes one of the central controversies in modern corporate finance theories. Debates are centered on optimum capital structure: whether or not an optimum capital structure is relevant for Individual firm’s choice. Chevalier &Rokhim (2006) insist that well-defined target debt ratio for individual firm is not relevant. Since asymmetry of information is present in the capital market, firms prefer to use retained earnings as their main

Vol. 8, No.02; 2024

ISSN: 2456-7760

source of funds in Investment than debt. Three famous theories currently dominate the debates of firm capital structure, namely free cash-flow model, pecking-order model and agency theory model (Chevalier &Rokhim, 2006). According to free cash flow theory of capital structure innovated by Jensen (1986), leverage itself can also act as a monitoring mechanism and thereby reduces the agency problem (hence increasing firm value), by reducing the agency costs of free cash flow. There are some consequences derived if firm is employing higher leverage level. Managers of such firm will not be able to invest in non-profitable new projects, as doing so the new projects might not be able to generate cash flows to the firm, hence managers might fail in paying the fixed amount of interest on the debt or the principal when it's due. It also might cause in the inability to generate profit in a certain financial year that may result in failing to pay dividends to firm shareholders. Agency theory is a concept that explains why behavior or decisions vary when exhibited by members of a group. Specifically, it describes the relationship between one party called the principal that delegates work to another, called the agent. It explains their differences in behavior or decisions by noting that the two parties often have different goals and independent of their respective goals, may have different attitudes toward risk. The capital structure may include debt covenant if leverage is a part of capital structure (Murtishaw and Sathaye, 2006).

This study delves into the interplay between capital structure and firm performance, with a specific focus on non-financial companies listed on the Nigerian Stock Exchange. It seeks to address pivotal questions surrounding the choice of financing mix and its consequences for the financial health and prosperity of these entities. To embark on this exploration, the study analyzes relevant capital structure components such as leverage and debt-equity ratios. Furthermore, it scrutinizes firm performance through key financial indicators, including return on assets (ROA). As the Nigerian economy witnesses an evolving corporate landscape and strives for international competitiveness, an in-depth examination of these issues is not only opportune but also fundamental.

1.2 Statement of the Problem

The relationship between capital structure and firm performance has garnered significant interest and debate among researchers and practitioners, particularly in the context of the Nigeria. The composition of capitalis considered critical factors that shape a firm's financial performance.

Non-financial companies listed on the Nigerian Stock Exchange (NSE) play a vital role in the economic development of Nigeria. These companies represent a diverse range of industries and sectors, contributing significantly to the nation's Gross Domestic Product (GDP) and creating employment opportunities. The performance and stability of these listed companies are of paramount importance to the overall economic well-being of the country. One of the key factors influencing their performance is their capital structure, which includes the mix of equity and debt used to finance their operations. The relationship between capital structure and firm performance has been a subject of considerable debate in corporate finance literature.

Furthermore, in the non-financial sector of the Nigeria economy, companies face important decisions about their capital structure, which involves determining the most suitable combination of debt and equity financing. These decisions can significantly impact the overall performance of

Vol. 8, No.02; 2024

ISSN: 2456-7760

these companies. Scholars in Nigeria, like Adebayo, Oyewole, & Lamidi, (2021) have emphasized the crucial role of corporate governance in the non-financial sector, recognizing its universal importance beyond just the manufacturing industry. They argue that the use of good of capital structure decisions has become more evident following financial crises, such as the Asian financial crisis (Jones, 2012; and Schmidt, 2015).

The central problem addressed in this research is the lack of comprehensive empirical evidence that explores the impact of capital structure on the performance of non-financial companies listed on the Nigerian Stock Exchange. Despite the critical role of these firms in the Nigerian economy, there is limited research dedicated to understanding how their financial decisions, particularly those related to capital structure, affect their financial performance. With the problem stated above the research tends answer the question of what extent does capital structure impacts the financial performance of listed Non-financial companies on the Nigeria Stock Exchange? And the study primarily aimed at examines the impact of capital structure on the financial performance of listed Non-financial companies on the Nigeria Stock Exchange.

1.3 Relevant Scholarship

Capital Structure

Capital Structure of a firm is the mix of different securities issued by the firm to finance its operations (Onyebuchi, 2023). Mix of financing methods used by a firm is called the firm's capital structure. Loosely Speaking, capital structure refers to the proportions of debt and equity that make up the liability owners' equity side of firm's balance sheet often refers to the use of debt in a firm's capital structure as leverage. The choice of a firm's capital structure is a marketing problem. It is essentially concerned with how the decides to divide its cash flows into two broad components, fixed component that is earmarked to meet the obligations toward debt Propositions (Mubeen, Han, Abbas, & Hussain, 2020).

The capital structure represents a strategic blend of equity and debt capital within a company. The distribution between debt and equity components is a fluid dynamic, influenced by firm-specific factors and evolving circumstances (Kulikov, AlabedAlkader, Panaedova, Ogorodnikov, & Rebeka, 2023). Varying capital structures can encompass extremes like a fully equity-financed approach, a debt-heavy composition, or an array of mixed proportions. While equity financing brings relatively lower commitment risks in terms of cash flows, it entails ownership and earnings dilution. On the contrary, debt financing entails an obligation with comparatively lower costs but presents heightened risk factors. This intricate interplay of financial mechanisms holds a pivotal status within the realm of corporate finance (Gillan, Koch, & Starks, 2021). However, the selection of an optimal capital structure requires an astute consideration of risk-reward trade-offs and their implications on ownership, earnings, and overall financial health.

Half a century ago, the realm of financial management was significantly less emphasized, primarily focusing on acquiring funds for business operations. However, the present landscape has witnessed a transformative shift, with financial management now encompassing fundamental aspects of business operations, spanning the spectrum from fund acquisition to judicious fund allocation and rigorous financial control (Wang, &Shailer, 2018). Consequently, its influence extends directly to the performance of business entities. Given this evolved role, the finance

Vol. 8, No.02; 2024

ISSN: 2456-7760

manager's decision-making acumen becomes crucial in shaping an organization's financial trajectory.

Central to the finance manager's responsibilities is the determination of the optimal capital mix. This dynamic amalgamation of equity and debt plays a pivotal role in influencing a company's financial performance (Mills, &Mwasambili, 2022). Striking the right balance is an intricate exercise, as the chosen capital structure profoundly impacts various facets of the organization, from earnings to risk exposure. Through astute capital structure decisions, a finance manager can engineer a financial framework that not only aligns with the company's strategic objectives but also enhances its financial performance (Mills, &Mwasambili, 2022).

To this end, the contemporary financial manager's role is far-reaching, extending well beyond the conventional acquisition of funds. The symbiotic relationship between capital structure and financial performance demands a nuanced understanding of risk, return, and organizational goals (Kakande, 2020). It's imperative that finance managers leverage empirical insights and robust analytical tools to optimize capital mix decisions, aiming to augment the organization's financial prowess. As noted by Smith (2023), these strategic decisions have the potential to steer the course of the business, contributing to its resilience, growth, and long-term viability in the competitive landscape of modern finance.

Debt-to-equity ratio

The debt-to-equity ratio is a significant financial measure that evaluates the proportion of debt and equity a company is using to fund its operations (Christianty, &Latuconsina, 2023). This ratio is determined by dividing the total liabilities by the total shareholders' equity. When a company has a high debt-to-equity ratio, it means it is largely relying on debt to support its operations, which can escalate the risk of default and result in financial troubles (Christianty, &Latuconsina, 2023). Conversely, a low debt-to-equity ratio means that the company is using more equity and is therefore less risky. This review of literature investigates the concept of debt-to-equity ratio and its impact on a company's financial health. According to Brigham and Houston (2019), the debt to equity ratio is calculated by dividing a company's total debt by its total assets. This ratio reflects the degree to which a company relies on debt financing, and a higher ratio indicates a greater reliance on debt financing. The ideal level of debt to equity ratio varies by industry, and a ratio that is too high can signal financial distress and bankruptcy risk, while a ratio that is too low can indicate an underutilization of debt financing.

Harris and Raviv's (1991) theory of capital structure proposes that the ideal debt-to-equity ratio of a company is determined by its tax rate, bankruptcy costs, and growth opportunities. The theory suggests that companies with higher tax rates, lower bankruptcy costs, and greater growth opportunities have a higher optimal debt-to-equity ratio. In a study of capital structure determinants across different countries, Rajan and Zingales (1995) discovered that a company's debt-to-equity ratio is positively correlated with its size, the level of tangibility of its assets, and its profitability. In contrast, the debt-to-equity ratio is negatively correlated with a company's growth opportunities.

Vol. 8, No.02; 2024

ISSN: 2456-7760

Messbacher's (2004) research indicates that a high debt-to-equity ratio can have negative effects on a firm's value by increasing debt costs and default risk. The study suggests that a low debt-to-equity ratio is associated with higher firm value. Kim and Sorensen (1986) found that a high debt-to-equity ratio can lead to increased agency costs due to managers' incentive to increase their wealth at the expense of shareholders. Chaganti and Damanpour (1991) suggest that institutional ownership has a positive impact on firm performance, which can affect the debt-to-equity ratio. The study implies that firms with higher institutional ownership are likely to have a lower debt-to-equity ratio. Fazlzadeh, Hendi, &Mahboubi, (2011) study reveals that ownership concentration, foreign ownership, and institutional ownership are significant determinants of the debt-to-equity ratio in Iranian companies.

To sum up, the debt-to-equity ratio is a crucial financial indicator that can offer valuable information about a company's financial wellbeing (Hoang, 2023). The ideal debt-to-equity ratio varies and hinges on several elements such as tax rates, bankruptcy expenses, prospects for growth, and ownership arrangement. Having a high debt-to-equity ratio raises the likelihood of default and lowers the company's value, while a low debt-to-equity ratio corresponds to greater company worth (Riwayati, Kodri, &Manik, 2022). Thus, executives must take into account the effect of the debt-to-equity ratio on their firm's financial position while determining financing options.

The leverage ratio

The leverage ratio is a key financial ratio that measures the proportion of a company's debt to its equity. It holds significance as a pivotal gauge of the company's financial well-being and its capacity to fulfill its financial commitments (Christianty, &Latuconsina, 2023). This section provides a literature review of the leverage ratio and its importance in financial analysis, based on various sources and references.

According to Affandi, Sunarko, &Yunanto, (2019) the leverage ratio holds significant importance as a fundamental measure of risk for evaluating a company. This is due to its reflection of how extensively the company employs financial leverage to support its activities. Furthermore, the leverage ratio serves as a tool to appraise the company's ability to manage its debt commitments and interest payments. A heightened leverage ratio indicates an increased likelihood of default, as the company becomes more dependent on borrowed funds. Kaur, & Singh, (2021) emphasized that a company's cost of capital is significantly affected by its leverage ratio. Companies with higher leverage ratios are more likely to have a higher cost of capital due to lenders' increased demand for returns to compensate for higher risks. In addition, a high leverage ratio can restrict a company's ability to raise additional debt financing, which could impede its growth prospects. Pandey (2010) mentioned that the leverage ratio is a frequently employed tool in financial analysis, particularly for making comparisons among companies within the same industry. This enables analysts to discern companies that exhibit higher or lower levels of leverage compared to their industry counterparts. Additionally, the leverage ratio serves as a means to assess a company's financial performance over different periods, as alterations in the ratio can signal shifts in its financial well-being and risk assessment (Hasanudin, 2023).

Vol. 8, No.02; 2024

ISSN: 2456-7760

Affandi et al. (2019) identified several leverage ratios that are commonly used in financial analysis. These include the debt-to-equity ratio, which compares a company's debt to its equity; the debt-to-assets ratio, which compares a company's debt to its total assets; and the interest coverage ratio, which measures a company's ability to pay its interest expenses using its operating income. These are key financial metric used to evaluate a company's financial health, risk profile, cost of capital, and ability to meet its debt obligations. The study therefore made use leveraging ratios such as the leverage ratio (debt-to-equity) and debt-to-assets ratio play a crucial role in evaluating a company's financial health and risk exposure. The leverage ratio offers insights into the company's debt reliance by comparing total debt to equity, while the debt-to-assets ratio assesses the extent to which assets are financed through debt (Bui, Nguyen, & Pham, 2023). These ratios collectively provide a comprehensive picture of a company's capital structure and risk profile, aiding investors and analysts in understanding its financial sustainability and ability to meet obligations. However, the interpretation should consider industry norms and economic conditions to determine an appropriate level of leverage for the company's specific circumstances.

Financial Performance

Abdulmalik, et al. (2014) suggest that financial performance is key to a firm's effectiveness, with profit maximization, maximizing profit on assets, and maximizing shareholders' benefits being the core measures. Operational performance measures such as growth in sales and market share also contribute to financial performance. The choice of performance measures depends on the information available and the instruments used (Thakkar, &Lohiya, 2022). Traditional financial intors like ROI, leverage, capital efficiency, liquidity, cash flow, inventory turnover, and receivables turnover ratio are commonly used, but non-financial indicators like management quality, corporate culture, executive compensation policies, and shareholder communication should also be considered. Nowadays, value creation and sustainable development are becoming more important in assessing performance. Malm & Roslund (2013) emphasize that there are various methods to assess performance, ranging from evaluating specific divisions within a company to analyzing the company as a whole. In the study at hand, the primary emphasis is placed on evaluating and quantifying the overall performance of the entire company rather than focusing on individual segments or departments. This broader perspective provides a comprehensive understanding of how well the entire organization is performing, taking into account various aspects of its operations, financial health, and strategic direction. By concentrating on the overall firm performance, researchers can gain insights into the company's overall competitiveness, profitability, and effectiveness in achieving its strategic objectives.

Theoretical Review

Modigliani & Miller (MM) Theory

Back in 1958, MM authored "The cost of capital, corporate finance and the theory of investment," which introduced two propositions that have had a significant impact on finance, now being featured in finance textbooks globally. These propositions concern a company's capital structure and cost of capital within a perfect capital market, which assumes no taxes or transaction costs, and equal borrowing and lending rates for individuals and corporations, as Ehrhardt & Brigham, (2011) explains. Five years later, MM published "Corporate Income Taxes

Vol. 8, No.02; 2024

ISSN: 2456-7760

and the Cost of Capital: A Correction" as an extension and correction of their original propositions, incorporating taxes. The inclusion of taxes altered both propositions. The perfect markets theory of capital structure, which states that a company's value is independent of its capital structure and that it can mix any proportion of debt and equity without affecting the firm's value, contradicts the "real world" approach. The determinant factor for firm value is future earnings power, or future cash inflow, as MM had mentioned in 1958, keeping in mind that these propositions operate on the assumption of a perfect capital market.

The proposition of no taxes or irrelevant proposition can be stated as Affandi et al, (2019), MM Proposition I (no taxes): The value of the levered firm is the same as the value of the unlevered firm. This is the first proposition of the MM theorem in absence of taxation. It simply states that, in perfect financial markets, the value of a levered company is exactly the same as an unlevered company (Giglio, 2022).

Prior to the work of Modigliani and Miller (MM), the impact of leverage on a firm's value was considered intricate. However, MM presented a straightforward finding that if leveraged firms are overpriced, rational investors will borrow on their personal accounts to purchase shares in unleveraged firms (Abate, & Kaur, 2023). This is known as homemade leverage, where investors substitute risks to transition from overvalued shares in highly-leveraged firms to those in unleveraged firms by borrowing in personal accounts.

Pecking order Theory

The pecking order theory, in relation to capital structure and financial performance, offers insights into the decision-making processes of firms when it comes to financing their operations. Developed by Myers and Majluf (1984), the theory suggests that firms prefer internal financing sources, such as retained earnings, over external financing, such as debt or equity issuance, due to information asymmetry and adverse selection concerns.

Under the pecking order theory, firms prioritize using retained earnings to fund their investments and operations. This preference stems from the idea that internal financing does not signal negative information to investors, unlike external financing. By relying on retained earnings, firms avoid the costs associated with issuing new securities and the potential signal of undervaluation or lack of investment opportunities (Ulum, Adriyana, Mahmudah, &Mahirun, 2022).

Capital structure decisions play a crucial role within the framework of the pecking order theory (Georgakopoulos, Toudas, Poutos, Kounadeas, &Tsavalias, 2022). Firms tend to have a preference for low levels of debt, as higher debt levels may signal financial distress or limited internal financing capacity. This preference for lower leverage ratios aligns with the notion that firms prioritize internal financing over external financing options (Georgakopoulos, Toudas, Poutos, Kounadeas, &Tsavalias, 2022).

Emperical Review

Bhattarai (2020) examined the effects of capital structure on financial performance of insurance companies in Nepal. Data were collected from the annual report of the respective insurance

Vol. 8, No.02; 2024

ISSN: 2456-7760

companies' web site. The panel data of 14 Nepalese insurance companies from 2007/08 to 2015/16, leading to a total of 126 observations. The data were analyzed using pooled OLS model, random effect model and fixed effect model. The study has been return on assets as dependent variable whereas total debt ratio, equity to total assets, leverage, firm size, liquidity ratio and assets tangibility are independent variables. The result concluded that equity to total assets, leverage, and assets tangibility have effects the financial performance in Nepalese insurance companies' cases.

Pucheta-Martínez, & Gallego-Álvarez, (2020) examined how board size, board independence, CEO duality, female directors and board compensation affect firm performance in a sample of international firms. The 34 countries that made up the panel data sample total 10,314 firm-year observations used in this study, and they have been divided into six geographic zones: Africa, Asia, Nigeria, Latin America, North America, and Oceania. The results revealed that some board characteristics, such as board size, board independence and having a female director, are positively associated with firm performance, whereas CEO duality, contrary to their expectations, also impacts positively on firm performance. Moreover, board compensation is not associated with firm performance.

Usman (2019) examined the impact of capital structure on the financial performance of the consumer goods industry in Nigeria. The population of the study comprised of the non-financial companies listed on the Nigerian Stock exchange with a Sample size of six (6) companies, using filter as a sampling technique of which a period of five (5) years was used from 2012-2016. The Dependent variable of the study is financial performance proxied by return on asset (ROA), while the independent variables of the study are: Long term debt (LTD), Short term debt (STD) and shareholders' funds (ROE). The data generated from annual report and accounts of the selected companies were analyzed by means of descriptive statistics, correlation and regression analysis using E-views 8.0. The result of the analysis was tested at 0.05 (5%) level of significance. The findings of the study show that Short term debts have no significant impact on the financial performance of listed firms in the Nigeria consumer goods industry. It was also discovered that Long term debts have no significant impact on the financial performance of listed firms in the Nigeria consumer goods industry. It was also discovered that Equity has significant impact on the financial performance of listed firms in the Nigeria consumer goods industry.

Kanwal, et al., (2017) investigated the impact of capital structure (Debt to Equity, Long and Short-term ratios) on the financial performance (ROE, ROA, Tobin's Q and PE) for 213 Kenyan firms from 1999 to 2015. The researchers found long, and short-term debt have negative impact on performance. In Vietnam Vo & Phan (2013) examined the impact of CG on financial performance for 77 from 2006 to 2011 vitamin firms. The study showed the BS has negative impact on ROA.

Ahmed & Bhuyan, (2020) examined the relationship between capital structure and firm performance of service sector firms from Australian stock market using cross-sectional panel data over eleven years (2009–2019), or 1001 firm-year observations. Unlike other studies, in this study directional causalities of all performance measures were used to identify the cause of firm performance. The study finds that long-term debt dominates debt choices of Australian service

Vol. 8, No.02; 2024

ISSN: 2456-7760

sector companies. Although the finding is to some extent similar to trends in debt financed operations observed in companies in developed and developing countries, the finding is unexpected because the sectoral and institutional borrowing rules and regulations in Australia are different from those in other parts of the world.

2. Methodology

2.1 Research Design

This refers to the adopted processes for the collection, measurement and analysis of data and plans to obtain answers to the research questions raised in this work. This study adopted an ex-post-facto research design due to the nature of data envelopment analysis, a mathematical programming technique that involves assessing decision-making units.

2.2 Population, Sample Size and Sampling Techniques

The population for this study was all the 105 Non-financial companies listed on the Nigeria Stock Exchange (NSE). This index includes companies from a wide range of industries and sectors, making it a representative sample of the Nigeria market. A sample of 60 listed Non-financial companies were purposively selected from the study population. The reason for this sampling frame was that the selected companies are in existences throughout the study period and their data are readily available and accessible to the researcher. The focus will be on listed non-financial companies that play a vital role in the Nigeria economy. These companies have a substantial impact on the overall financial system as they are key players in various industries, providing goods and services to individuals and firms.

2.4 Sources of Data Collection

The study will collect secondary data from the annual reports of listed in the Nigeria Stock Exchange (NSE) 2009 to 2022. Data to be collected on capital structure include debt to equity ratio (DER) and Leverage ratio (LEV)and financial performance will be return on assets (ROA).

2.5 Model Specification

Finance performance = (Capital structure)

PERFit = (DER + LEV) …….……..1

Impact of capital structure on the financial performance

The model specification for the relationship between corporate capital structure decision and financial performance:

ROAit = β0 + β1 DER+ β2 LEV+ εi……..2

Where:

- ROA = return on assets

The model specification includes independent variables such as DER (Debt/Assets Ratio) and LEV (Leverage Ratio) that are expected to have an impact on the dependent variable, return on

Vol. 8, No.02; 2024

ISSN: 2456-7760

assets. The model will be estimated using multiple regression analysis to determine the significance of each independent variable and their effect on the dependent variable. The results of the regression analysis will help in understanding the relationship between corporate capital structure decision and financial performance.

Definition and Measurement of Variables

VARIABLES	MEASUREMENT	SOURCE/AUTHORS
Debt to equity ratio	This measures the proportion of a company's assets that are financed by debt.	Ningrum, (2023)
Leverage ratio	This measures a company's level of financial leverage or the degree to which it relies on borrowed funds.	Al-Hawatmah, &Shaban, (2023).
Return on Assets	This is measured by ROA = Net Income / Average Total Assets	Harahap, Toni, N., &Simorangkir, (2023).

3.0 Results

Descriptive Statistics on Capital Structure and Firm Performanceof listed Non-financial companies on the Nigeria Stock Exchange

Table 4.2.1

	ROA	LEV	DER
Mean	0.018207	0.79724	1.149449
Median	0.023152	0.56758	0.975544
Maximum	6.174312	19.5571	88.98673
Minimum	-9.82978	0	-343.173
Std. Dev.	0.48714	1.66654	15.02152
Skewness	-7.70205	8.10134	-16.2037
Kurtosis	274.0953	74.2989	386.1889
Jarque-Bera	2224186	161273	4461167
Observations	724	724	724

The descriptive statistics provided in Table 4.1 offer valuable insights into the financial characteristics of listed non-financial companies on the Nigeria Stock Exchange. Three key variables, namely Return on Assets (ROA), Leverage, and Debt to Equity Ratio, are examined to gain a better understanding of these companies' financial performance and capital structure.

In terms of ROA, the average (mean) return on assets is approximately 0.0182, suggesting that, on average, these companies generate a positive return on their assets. However, the wide standard deviation of 0.4871 indicates substantial variability in ROA among these companies.

Vol. 8, No.02; 2024

ISSN: 2456-7760

The presence of both negative and extremely high ROA values, as evidenced by the minimum of -9.8298 and the maximum of 6.1743, raises questions about the financial health and performance disparities within this group. The negative skewness (-7.7021) and exceptionally high kurtosis (274.0953) further emphasize the presence of outliers and the skewed distribution of ROA, potentially influencing the statistical analysis.

Moving to the Leverage variable, the mean Leverage is about 0.7972, implying that, on average, these companies maintain a moderate level of debt relative to equity. However, the median Leverage value of 0.5676 is lower than the mean, indicating the presence of companies with substantially higher levels of leverage that are influencing the average upwards. The standard deviation of 1.6665 underscores the considerable variation in leverage, while the broad range between the minimum (0) and maximum (19.5571) values highlights the diverse capital structures within this group. The positive skewness (8.1013) and high kurtosis (74.2989) reveal the presence of outliers with exceptionally high leverage, potentially impacting the overall distribution.

In the case of the Debt to Equity Ratio, the average ratio is approximately 1.1494, indicating that, on average, these companies hold more equity than debt. However, the median Debt to Equity Ratio of 0.9755 is lower than the mean, signifying the influence of companies with relatively high debt levels. The standard deviation of 15.0215 suggests significant variability in debt-to-equity ratios, but the presence of a minimum value of -343.173 raises concerns about data quality or potential errors. The maximum value of 88.9867 signifies that some companies have an exceptionally high debt-to-equity ratio. The negative skewness (-16.2037) and extraordinarily high kurtosis (386.1889) indicate a heavily skewed distribution with potential outliers.

In summary, these descriptive statistics shed light on the diversity, variability, and distribution characteristics of key financial indicators for non-financial companies listed on the Nigeria Stock Exchange. The presence of outliers, as indicated by the skewness and kurtosis values, underscores the need for cautious statistical analysis and further examination of these companies' financial structures and performance. Additionally, the unusual minimum and maximum values in the Debt to Equity Ratio warrant close attention and validation to ensure data integrity.

The impact of capital structure on the financial performance of listed Non-financial companies on the Nigeria Stock Exchange.

To examine the impact of capital structure on the financial performance of listed Non-financial companies on the Nigeria Stock Exchange, the study's first purpose, is covered in this subsection, which presents and evaluates the results in relation to that goal.

FIXED effect pooled (OLS) panel data econometrics approaches were utilized to estimate the regression in the form's model, the following coefficient:

$$ROAit = \beta0 + \beta1\ DER + \beta2\ LEV + \varepsilon i \quad \ldots\ldots 2$$

Vol. 8, No.02; 2024

ISSN: 2456-7760

Table 4.2

Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.022676	0.029711	0.763222	0.4456
DER	0.000391	0.001208	0.323632	0.7463
LEV	-0.008080	0.031599	-0.255696	0.7983
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.039865	Mean dependent var		0.016803
Adjusted R-squared	-0.035707	S.D. dependent var		0.457677
S.E. of regression	0.465777	Akaike info criterion		1.380967
Sum squared resid	168.1348	Schwarz criterion		1.731324
Log likelihood	-515.9347	Hannan-Quinn criter.		1.515271
F-statistic	0.527512	Durbin-Watson stat		2.264619
Prob(F-statistic)	0.998873			

The results obtained using fixed effect are presented in table 4.2, the estimated coefficient of 0.000391 indicates that Debt to Equity ratio has positive influence on the return on asset of listed Non-financial companies on the Nigeria Stock Exchange. The implication of this is that higher Debt to Assets ratio leads to higher firm performance in terms of return on asset (ROA). The accompanying p value of 0.7463, however, indicates that at the 5% level, the negative effect of the debt-to-assets ratio on the return on assets of particular companies featured on of listed Non-financial companies on the Nigeria Stock Exchange (0.7463 > 0.05). This suggests that higher levels of debt relative to equity are associated with improved firm performance in terms of ROA. The positive influence of the Debt to Equity ratio on the Return on Assets (ROA) of listed Non-financial companies on the Nigeria Stock Exchange could be attributed to several factors. First, debt can be a source of capital that allows companies to invest in new projects, expand their operations, or take advantage of growth opportunities. When leveraged wisely, this can lead to increased asset utilization and, consequently, higher ROA. Second, the cost of debt is often lower than the cost of equity, which means that using debt as a financing source may reduce the overall cost of capital for the company. Lower financing costs can contribute to improved profitability and higher ROA. Additionally, financial leverage, which results from a higher Debt to Equity ratio, magnifies the returns on equity when the company's investments yield a return greater than the cost of debt, potentially leading to an increase in ROA. This result is what is expected, it in consistent with the findings of some previous empirical literature including that of Bhattarai (2020) who concluded that capital structure has effects on the financial performance in Nepalese insurance companies' cases, Usman (2019) who studied the consumer goods companies listed on the Nigerian Stock exchange, his results revealed that capital structure has no significant impact on the financial performance of listed firms in the Nigeria consumer goods industry.

Vol. 8, No.02; 2024

ISSN: 2456-7760

The estimated coefficient of -0.008080 indicates that Leverage has negative influence on the return on asset of listed Non-financial companies on the Nigeria Stock Exchange. The implication of this is that higher Leverage leads to lower firm performance in terms of return on asset (ROA). The accompanying p value of 0.7983, however, indicates that at the 5% level, the negative effect of the debt-to-assets ratio on the return on assets of particular companies featured of listed Non-financial companies on the Nigeria Stock Exchange is not significant (0.7983 > 0.05). It can be inferred that a higher Debt to Assets ratio indicates that a company has a larger portion of its assets financed through debt. This can lead to increased interest expenses, which can eat into the company's profits and reduce its ROA. Second, excessive leverage can result in financial risk, making the company more vulnerable to economic downturns or changes in interest rates, which can negatively impact its profitability. Third, high leverage can lead to pressure from creditors and financial constraints, potentially limiting a company's ability to invest in growth opportunities or operate efficiently. Lastly, investors might perceive high leverage as a sign of financial instability, leading to a decrease in the company's stock price and a negative impact on ROA. This is in consistent with the work Kanwal, et al., (2017) concluded a negative relationship between capital structure and financial performance. However, it is contrary with the work of Asad, Iftikhar, & Jafary (2019) revealed a positive relationship between capital structure and financial performance of new and old textile companies operating under PSX.

Additionally, the test's coefficient of determination (R^2) result of 0.039865 showed that the index of the capital structure explained 3.98% of the financial performance for listed Non-financial companies on the Nigeria Stock Exchange, supporting the claim that these variables were not effective predictors of the financial performance. The Durbin-Watson statistic, calculated at 2.264619, suggests that there is no significant autocorrelation present in the model's residuals. This value, being close to 2, indicates the absence of strong positive or negative autocorrelation.

Hypothesis Testing

The hypothesis of this study stated in null form is that there is no significant impact of capital structure on the financial performance of listed Non-financial companies on the Nigeria Stock Exchange. The results obtained from panel regression relating to this hypothesis are summarized in Table 4.2. According to the results, the null hypothesis that there is no significant impact of capital structure on the financial performance of listed Non-financial companies on the Nigeria Stock Exchange is not rejected at 5 per cent level.

Table 4.3: Summary of Results Relating to Hypothesis One

Hypothesis Statement	**Proxy**	**Results**	**Remarks**
Capital structure has no significant impact on the financial performance of listed Non-financial companies on the Nigeria Stock Exchange.	ROA	F-statistic = 0.527512; p= 0.998873	H_0 is not rejected at 5%

Source: Author's Compilation, 2023

Vol. 8, No.02; 2024

ISSN: 2456-7760

4.0 Summary of the Findings

In this discussion of findings, the study investigated the impact of capital structure on the financial performance of listed Non-financial companies on the Nigeria Stock Exchange. The results revealed a positive influence of Debt to Equity ratio on Return on Assets (ROA), suggesting that a higher ratio is associated with improved firm performance. However, the non-significant p-value implies that this relationship is not statistically significant at the 5% level. On the other hand, Leverage exhibited a negative influence on ROA, which may be attributed to increased interest expenses and financial constraints. Again, the p-value did not reach statistical significance. These findings suggest that while there are trends in the data, further research is needed to draw definitive conclusions about the relationship between capital structure and financial performance in this specific context.

4.1 Conclusion

The results indicate that while capital structure, represented by the Debt to Equity ratio and Leverage, demonstrated certain trends in their impact on ROA, the statistical significance was lacking. The positive association of Debt to Equity ratio with ROA suggests potential benefits in terms of access to capital, lower financing costs, and financial leverage. However, the non-significant p-values emphasize the need for caution in making definitive conclusions. Conversely, the negative relationship between Leverage and ROA may be attributed to increased interest expenses and financial risk. The overall result shows that capital structure has no significant effect on financial performance of companies listed on Nigerian Stock Exchange.

4.2 Recommendation

Based on the findings of the study regarding the impact of capital structure on the financial performance of Non-financial companies listed on the Nigeria Stock Exchange, several recommendations can be made to guide both firms and policymakers:

i. **Optimize Capital Structure**: Non-financial companies should carefully assess and optimize their capital structure. While the study did not find significant statistical relationships, the positive influence of Debt to Equity ratio on Return on Assets (ROA) suggests that debt can be a valuable source of financing. However, companies should be cautious not to over-leverage, which can lead to increased financial risk. A well-balanced capital structure should be tailored to the specific financial needs and risk tolerance of the company.

ii. Qualitative Analysis: Complement quantitative research with qualitative analysis. Interviews or surveys with company management or industry experts may help in understanding the specific reasons behind capital structure decisions and their impact on financial performance.

iii. Risk Management: Companies should continue to focus on prudent risk management practices. While the study did not find significant effects, the negative relationship between Leverage and ROA suggests that companies should carefully manage their debt levels to avoid excessive financial risk. This includes monitoring interest expenses and assessing the overall financial health of the company.

Vol. 8, No.02; 2024

ISSN: 2456-7760

iv. Diversification of Funding Sources: Encourage companies to diversify their sources of funding. Relying solely on debt may increase interest expenses and financial risk. Exploring equity financing and other alternatives can help maintain a balanced capital structure.

v. Regular Performance Assessment: Companies should regularly assess their financial performance and capital structure to ensure they are aligned with their strategic objectives. This evaluation should involve a thorough analysis of how capital structure decisions impact various financial indicators, including ROA.

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