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Nexus Between Capital Structure and Financial Performance of Listed Manufacturing Firms in Nigeria

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ABSTRACT: The manufacturing sector in Nigeria faces significant challenges, including inadequate financing, high debt levels, and poor financial performance, which hinder its potential for economic growth. This study investigates the relationship between capital structure and financial performance of listed manufacturing firms in Nigeria, focusing on the impact of debt and equity financing.

The study used regression analysis, correlation analysis, and descriptive statistics to examine the financial statements of ten chosen enterprises over ten years (2013–2022) using secondary data from the Nigerian Exchange Group. The findings indicate that while total debt to total assets and long-term debt to total assets have a favorable influence on financial performance, total debt to total equity and short-term debt to total assets have a negative effect.

According to the study's findings, improving capital structure management is essential for improving the financial performance of Nigerian manufacturing companies. Maintaining a balanced debt-to-equity ratio, giving equity financing first priority, leveraging total debt to assets, reducing short-term debt, and skillfully managing long-term debt are some of the recommendations. These findings contribute to a better understanding of the impact capital structure plays in financial performance and are of great use to Nigerian manufacturing companies, policymakers, and regulators.

KEYWORDS: Capital Structure, Financial Performance, Listed Nigerian Manufacturing Companies.

1. INTRODUCTION

A company's capital structure, which includes all of its funding sources, including debt and equity financing as well as retained earnings, is essential to its long-term survival, expansion, and success. This structure is a crucial component of company finance policy since it has a substantial impact on both the financial and corporate success of an organisation (Babalola, 2018). As global economic activities expand and competition intensifies, firms must make viable capital investment decisions to enhance survival, profitability, and growth. A well-structured capital framework not only ensures company survival but also boosts profitability and corporate performance (Akindele, Asri & Adedeji, 2020). Capital structure is still one of the trickiest and most complicated ideas in corporate finance literature, despite its significance (Zahid, 2020).

Manufacturing companies play a crucial role in national economic development and the standard of living, as they lower unemployment rates and contribute significantly to overall economic growth. They supply raw materials, equipment, and machinery to other businesses. In Nigeria, the manufacturing sector is growing, with an increasing number of companies operating within it (Ajibola, Wisdom & Qudus, 2018). Given this sector's strategic importance, understanding the influence of capital structure on the financial performance of manufacturing corporations is essential for management, investors, and shareholders. The choice between equity and debt in building capital structure can significantly affect returns, losses, and market value of shares, highlighting the need for thorough investigation into this association.

Investors and shareholders consider financial performance as a measure of how successfully a company uses its assets to create revenue when assessing the financial health and sustainability of a company. Profitability is frequently used to gauge performance (Akinyemi, Wisdom & Lawal, 2018). Effective use of resources leading to desirable growth in profitability indices is one definition of financial performance (Bilafif & Ibrahim, 2019). To evaluate financial performance, a number of metrics are utilised, such as return on assets (ROA), TOBIN's Q, return on investment

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(ROI), return on equity (ROE), and earnings per share (EPS). Various theories propose that companies ought to have a capital structure that aligns with their characteristics, impacting the risks and rewards associated with funding. While some literature does not care if a firm chooses to maximise its value or not, others contend that the ideal capital mix is reached when the firm's value is maximised and the cost of capital is kept to a minimum (Akgun, Samiloglu & Oztog, 2018). The effects of debt financing on performance are the subject of the conflicting research. Some researchers, like Akingunola, Olawale, and Olaniyan (2018), discover benefits, but others, like Okroafor (2016), identify drawbacks, which calls for more research on this link.

Current capital structure studies analyse the capital structures of organisations using a variety of proxies, including total debt to total assets/equity and short-term/long-term debt to total assets/equity. It is anticipated that an increase in leverage components will improve performance and efficiency. Managers can minimise borrowing costs and increase profitability by maximising leverage in a company's capital structure (Ariekpar, 2020).

The capital structure evaluates how a company uses various funding sources to finance its operations and expansion. Long-term notes payable or bond issuance can be used to raise debt, whereas equity can come via reserves, ordinary shares, preference shares, or retained earnings. Like working capital requirements, short-term debt is a component of the capital structure. One frequent metric used in capital structure research is the debt-to-equity ratio, which shows how risky a company is. A company that is heavily indebted is more likely to have higher levels of leverage, which increases risk (Rodianova & Lugmon, 2019).

This study of the relationship between listed manufacturing firms' capital structure and financial performance was made necessary by the paucity of current research on the subject in Nigeria.

Financing decisions are crucial for businesses to sustain themselves and maximize profitability. The capital structure of a company, comprising debt and equity, affects its performance and value. However, finding the optimal capital mix is challenging, as companies need to balance cost, risk, and flexibility. The Nigerian manufacturing sector, a key driver of the economy, faces financial constraints, infrastructure issues, regulatory uncertainties, and market competition, making capital structure decisions complex. Poor capital structure choices can reduce firm value, emphasizing the need for effective financial management. While existing literature focuses on banking and general industries, in order to fill a substantial knowledge vacuum, this study will look into the effects of overall debt, short-term debt, and long-term debt on the financial performance of listed manufacturing enterprises in Nigeria.

This study's main goal was to evaluate the impact of capital structure on the financial performance of Nigerian manufacturing companies. Other objectives were to:

- i. examine the impact of Capital structure (total debt to total equity ratio, total debt to total asset ratio, short-term debt to total assets ratio, and long-term debt to total assets ratio) on ROE
- ii. evaluate the impact of Capital structure (total debt to total equity ratio, total debt to total asset ratio, short-term debt to total assets ratio, and long-term debt to total assets ratio) on ROA

2. LITERATURE REVIEW

The term "capital structure" describes how a business uses a combination of debt, equity, and other funding sources to finance its operations and expansion (Gul & Cho, 2019). It shows the percentage of debt and equity utilised to fund business ventures and capital expenditures. According to Okonkwo (2020), capital structure is the set of financial commitments used to fund an organization's operations, such as debt and share capital. This structure is essential for choosing capital investments that have an impact on a company's success, and financial professionals will inevitably discuss it (Dao & Ta, 2020). Using a variety of financial statistics, including the gearing ratio, debt-to-equity ratio, leverage ratio, interest-coverage ratio, long-term debt ratio, debt-asset ratio, and short-term debt ratio, it assesses long-term solvency and financial stability. (Nguyen & Nguyen, 2020).

Oyakhire (2019) defines capital structure as the combination of different securities that a business uses to fund its endeavours; this combination is also known as capital mix or financing mix. For both ongoing operations and long-term investments, a company needs money, which can be obtained by debt capital (bonds or debentures) or equity capital (issue stock). A company may choose to use 100% debt, 100% equity, or a combination of the two to finance its operations. For maximising returns and comprehending the effects of financing decisions in a competitive market, the capital structure is essential (Ariekpar, 2020).

Debt and equity, excluding short-term obligations, make up the capital structure on the left side of the financial statement. This structure is used to finance corporate assets in order to improve financial performance (Ajibola & Qudus, 2018). According to Abubakar (2021), managing competitive settings and maximising returns to different organisational components depend on having a suitable capital structure. Financial structure, which includes all short- and long-term sources of finance, is not the same as capital structure. On the other hand, capital structure is a subset of financial structure since it only includes long-term sources such as retained earnings, preferred share capital, long term loans, and debentures..

Capital structure is a crucial concern for firms, according to Zahid (2020), as it influences both cost of capital and financial risk. The optimal balance between debt and equity lowers capital costs, boosts company value, optimises shareholder wealth, and lowers the danger of insolvency by limiting excessive debt. A carefully thought-out capital structure protects the business from the risk of insolvency by preventing it from taking on more debt than it can manage.

Types of Capital Structure

The type of capital structure that various businesses choose differs. Three categories can be used to describe capital structure:

- 1) Zero Leveraged or Zero Geared Capital Structure: A zero leveraged capital structure is one in which there is no leverage of any kind. It describes a financial state in which a business is debt-free. Put differently, the corporation receives all of its funding from equity sources, like share sales

and earnings retention. This indicates that the business does not depend on borrowing money to support its operations. In this case, the company chooses 100% equity financing over the advantage of debt financing, which boosts residual owner worth.

2) Low Geared or Low Leveraged Capital Structure: This describes a financial structure of a business where equity financing is used more frequently than loan financing. Stated otherwise, the percentage of debt in the capital structure of the company is comparatively low when contrasted with the equity. This shows that the company's debt to equity and asset ratio is lower, which lowers financial risk because there is less debt to pay off and interest to be paid. The debt-to-equity ratio is low in low leverage capital structures. Most of the time, this is thought to be a suitable capital structure.

3) High Geared or High Leveraged Capital Structure: When a business depends more on debt financing than equity financing to support its operations and investments, it is said to have a high geared or high leveraged capital structure. This indicates that, in comparison to its equity, the company has a large amount of debt. If creditors' contributions exceed equity holders' contributions, the company is considered highly leveraged. Ordinary shareholders will benefit from this kind of capital structure when the cost of debt is lower than the company's total rate of return on investment.

Oli, F. I., Prince, A. I., Okeke, C. C., Olufunke, O. F., Jack, A. E., & Onwumere, J. U. J., opined that the debt-to-equity ratio can take on any of the following forms, which added to the range of potential capital structure types: 100% ownership: 0% debt, 0% ownership X% equity and 100% debt. Out of these three options, option one for Y% debt is the one where the company is unlevered, meaning it avoids any potential leverage. In actual economic circumstances, option two might not be feasible or realistic since no funder will put their money into a company that lacks equity capital. The third option is the most practical since it incorporates the benefits of leverage together with a certain proportion of debt and equity in the capital structure. (Okeke, 2023).

Importance of Capital Structure

The following explains why creating an appropriate capital structure is crucial:

Managing Return and Risk: One enticing benefit of debt finance is leverage. If a business is able to finance its operations through debt, its profits will increase. It is a two-edged sword, though. Should the business face difficulties, the same leverage may increase losses. Conversely, equity financing has no set repayment terms and does not provide the same opportunity for compounding returns. A well- designed capital structure maximises the risk-reward trade-off for the particular conditions of the business by locating the sweet spot between these two extremes.

Cost of Capital: Every source of funding has associated expenses. While equity carries the hope of future stock appreciation or dividend payments to shareholders, debt has interest payments. The weighted average cost of capital (WACC), or the average cost of all the company's funding sources, is determined by the capital structure. A well-designed capital structure reduces WACC, which boosts profitability. A corporation can attain a lower overall finance cost by strategically utilising a combination of equity and debt, which are usually less expensive.

Financial Flexibility: Imagine a business that needs a rapid capital infusion to take advantage of an unforeseen opportunity. A strong financial structure gives you the adaptability to deal with changing conditions. The corporation can access debt markets for additional capital without becoming unduly dependent on them if it maintains a good balance between debt and equity. This adaptability is essential for surviving recessions, making wise acquisitions, and seizing unanticipated expansion prospects.

Investor Attractiveness: Investors are constantly evaluating a company's risk profile. A capital structure that demonstrates financial responsibility and a sustainable approach to financing is highly attractive. A company with a high debt burden and limited access to additional capital is seen as riskier, potentially leading to lower credit ratings and difficulty attracting new investors. Conversely, a company with a balanced structure is seen as more creditworthy and reliable, making it a more appealing investment for both debt and equity providers.

Maximizing Shareholder Value: At the heart of every financial decision lies the goal of maximizing value for shareholders. A well- designed capital structure contributes to this objective in several ways. By optimizing the risk-reward profile, minimizing financing costs, and enabling growth, the company creates a more attractive investment proposition. Shareholders benefit from increased profitability, potential dividend payouts, and potential stock price appreciation.

Capital Structure and Financial Performance

In the literature on finance and management, the relationship between capital structure and financial performance is important (Hariem and Tursoy, 2021). The mix of debt and equity that a company uses to fund its operations and assets is referred to as its capital structure. According to Alicia (2024), equity finance is the selling of firm shares, whereas debt financing involves the issuance of bonds or loans. An organization's capacity to create value for its shareholders, control expenses, and produce revenue is measured by its financial performance (Van Home & Wachowicz, 2018). As the trade-off theory suggests, firm performance can affect financial leverage because high profitability can lower bankruptcy costs and increase borrowing. According to the pecking order idea, businesses favour internal funding sources above external ones.

Key points in the relationship between capital structure and financial performance include:

Cost of Capital: The capital structure affects the overall cost of capital, the average return rate required by investors. Debt is cheaper than equity due to the tax deductibility of interest payments. However, excessive debt increases financial risk and the cost of debt, potentially raising the overall cost of capital. Balancing debt and equity can minimize the cost of capital and improve financial performance (Dirk and Willem, 2023).

Risk and Return: Capital structure influences a company's risk profile. Higher leverage (more debt) increases financial risk due to fixed payment obligations and potential financial distress. However, a certain level of leverage can enhance return on equity (ROE) by magnifying shareholder returns through financial leverage. Balancing risk and return through an optimal capital structure is key to sustainable financial performance (Dirk and Willem, 2023).

Impact on Profitability: Capital structure affects profitability and net income. Interest expenses from debt reduce taxable income, potentially increasing net profit after taxes (NPAT). However, excessive debt servicing costs can erode profitability, especially during economic downturns or high-interest periods (Nguyen, 2020).

Flexibility and Liquidity: A company's capital structure influences its financial flexibility and liquidity. Heavy debt reliance can limit flexibility during challenging times, as debt obligations must be met regardless of performance. A strong equity base provides more flexibility for investments, expansion and managing liquidity needs (Arief, Muis, and Erna, 2023).

Market Perception and Valuation: Investors and creditors assess financial health based on capital structure. An optimal structure balancing risk and return signals stability and financial strength, potentially leading to higher valuations and better access to capital markets. This can positively influence financial performance and shareholder value.

In conclusion, the cost of capital, risk and return dynamics, profitability, financial flexibility, market perception, and long-term sustainability are all greatly impacted by a company's capital structure. In order to maximise financial performance and create value for stakeholders, achieving an ideal capital structure necessitates thorough evaluation of unique circumstances, industry dynamics, and strategic objectives.

Pecking Order Theory

In contrast to the tradeoff theory, the pecking order theory is a theory of dynamic capital structure. Donaldson first proposed the pecking order theory of capital structure in 1961, and Stewart C. Myers and Nicolas Majluf revised it in 1984. It is one of the corporate leverage hypotheses that has had the biggest impact. It contradicts the notion that businesses with a certain blend of equity and debt financing reduce their cost of capital.

According to Myers and Majluf's (1984) view, managers are hesitant to source additional finance through issuance of equity when the value of their company's shares are perceived to have been undervalued. The issuing of equity would be interpreted by investors as a sign that the firm's stock is overvalued. When fresh shares are issued, the share price will fall and as a result of the market reaction, a company may decide not to issue stock. The knowledge imbalance between managers and the market causes this market reaction. Managers have access to more information about a company's true value and are required to respond in certain ways when it comes to funding. When a company's stock is undervalued, a manager is unlikely to issue equity; yet, when the stock is overvalued, they may be more willing to do so. The market's reaction to a company's capital structure decision is based on their expectations for how the managers will behave (Akinrinola, O.O., Tomori, O.G., Audu, S.I., 2023).

3. METHODOLOGY

This section provides a detailed description of the methodologies utilised to obtain the research findings. It describes the techniques and tools used for data collection and analysis as well as the process of obtaining the necessary information in an effort to take into account the type and source of information required to resolve the problem.

A framework called the research design can be used by a researcher to examine this topic. The study made use of quantitative ex-post facto design; it is a research design that examines occurrences of the past in order to determine current events. According to Nicholas (2023), this design makes it easier to analyse data, statistics, assumptions, and hypotheses. The annual reports and financial statements of manufacturing companies are examined in order to determine the impact of capital structure on their financial performance

The study population consists of 51 listed manufacturing firms on the Nigerian Exchange Group as of May 2024, out of a total of 161 firms. These include industrial, consumer, construction, agricultural, pharmaceutical, conglomerate producers, and oil and gas producers. The study uses a random and purposive sampling technique. Purposive sampling selects companies with available annual reports for 2013–2022. The focus of the study is Nigeria's manufacturing industry, which has been around for more The sample size is calculated using Slovin's formula, which offers a degree of accuracy with a 95% confidence level. Ten manufacturing companies are selected at random from the specified demographic using the formula. The chosen businesses are: Julius Berger Plc, Berger Paints, Dangote Cement, 4. Beta Glass, Guinness Nigeria Plc, Unilever Nigeria Plc, Nestle Nigeria Plc, Cadbury Plc, Dangote Sugar and Honeywell flour mill plc

Due to their accessibility and dependability, the research made use of secondary data from publicly available annual reports and financial statements of listed companies on the Nigerian Exchange Group. Additional sources of data include news stories, previous research on financial earnings, and financial reports from independent analysts. The study's model includes SDTAR, LDTAR, TDTAR, and TDTER as proxies for capital structure and return on assets (ROA), return on equity (ROE), and earnings per share (EPS) as proxies for financial performance (independent variables).

Model specification

The model specified for this study used return on assets (ROA), return on equity (ROE) and earnings per share(EPS) as proxy for financial performance which is the dependent variables and SDTAR, LDTAR, TDTAR, TDTER as proxy for independent variables.

$Y = a + bx$ Regression Equation

Where: Y = Dependent Variable (Financial Performance)

a = Constant

b = Coefficient

x = Independent Variable (Capital Structure)

The regression model is stated below:

$ROA = \beta_0 + \beta_1SDTAR_{it} + \beta_2LDTAR_{it} + \beta_3TDTAR_{it} + \beta_4TDTER_{it} + \mu$ model 1

$ROE = \beta_0 + \beta_1SDTAR_{it} + \beta_2LDTAR_{it} + \beta_3TDTAR_{it} + \beta_4TDTER_{it} + \mu$ model 2

The variables in the equation are defined thus:

ROA = Return on Assets

ROE = Return on Equity

SDTAR = Short-term Debt to Total Assets Ratio

LDTAR = Long-term Debt to Total Assets Ratio

TDTAR = Total Debt to Total Assets Ratio

TDTER = Total Debt to Total Equity Ratio

β_0 = Regression intercept which is constant

$\beta_1 - \beta_4$ = Represent the coefficient of explanatory variables

$\sum_{it}$ = Error terms

4. RESULTS

With a p-value of 0.0001, table 1.1 demonstrates that the intercept (C) has a statistically significant coefficient of 0.052375. showing that the expected return on assets (ROA) is roughly 5.24% when all independent variables are zero. The independent variables in the model account for roughly 57.51% of the variability in ROA, according to the R-squared value of 0.575074. There is a moderate amount of explanatory power indicated by the adjusted R-squared, which is somewhat lower at 55.72% after adjusting for the number of predictors. Regression's S.E.: (0.024424) The standard error of the estimate, or the average separation between the observed values and the regression line, is shown by this value. A better match is indicated by lower values

The F-statistic and its associated p-value indicate that the overall regression model is statistically significant, meaning that the independent variables collectively have a significant impact on ROA. The autocorrelation of the residuals from the regression analysis is found using this statistic. A value near 2 indicates the absence of autocorrelation. Positive autocorrelation is suggested by the result of 0.718546, which shows that the residuals are not independent of one another.

Table 1.2 shows that the intercept (C) has a p-value of 0.0000 and a statistically significant coefficient of (0.089197). This indicates that when all independent variables are zero, the estimated return on equity (ROE) is around 8.92%. The model's independent variables explain approximately 56.82% of the variation in ROE, as indicated by the R-squared value of 0.568232. The corrected R- squared is significantly lower at 55.01% even after accounting for the number of predictors, indicating a moderate level of explanatory power. S.E. of Regression: 0.037589; This value denotes the standard error of the estimate and is the average distance between the observed values and the regression line. Lower values imply a better match.

The F-statistic (31.25645) and associated p-value (0.000000) show that the entire regression model is statistically significant, suggesting that the independent variables together have a significant impact on ROE. This statistic is used to determine the autocorrelation of the residuals from the regression analysis. When the value is close to 2, autocorrelation is absent. The positive autocorrelation value of 0.638337 indicates that the residuals are not independent of each other.

Table 4.1 Regression Analysis

Dependent Variable: ROA
Method: Panel Least Squares
Date: 06/20/24 Time: 03:00
Sample: 2013 – 2022
Periods included: 10
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.052375	0.012810	4.088619	0.0001
LTDTA	0.243325	0.045739	5.319800	0.0000
SDTAR	-1.008092	0.145663	-6.920715	0.0000
TDTAR	0.767557	0.101641	7.551621	0.0000
TDTER	-0.142679	0.032364	-4.408619	0.0000
R-squared	0.575074	Mean dependent var		0.110600
Adjusted R-squared	0.557182	S.D. dependent var		0.036703
S.E. of regression	0.024424	Akaike info criterion		-4.537806
Sum squared resid	0.056670	Schwarz criterion		-4.407547
Log likelihood	231.8903	Hannan-Quinn criter.		-4.485088
F-statistic	32.14205	Durbin-Watson stat		0.718546
Prob(F-statistic)	0.000000			

Source: Author's Computation, using E-view 10, (2024)

Table 4.2 Regression Analysis

Dependent Variable: ROE
Method: Least Squares
Date: 06/25/24 Time: 00:08
Sample: 2013- 2022
Periods included: 10
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.089197	0.019715	4.524391	0.0000
LTDTA	0.373595	0.070393	5.307234	0.0000
SDTAR	-1.686523	0.224177	-7.523174	0.0000
TDTAR	1.170040	0.156427	7.479773	0.0000
TDTER	-0.169118	0.049808	-3.395412	0.0010
R-squared	0.568232	Mean dependent var		0.187500
Adjusted R-squared	0.550053	S.D. dependent var		0.056037
S.E. of regression	0.037589	Akaike info criterion		-3.675525
Sum squared resid	0.134226	Schwarz criterion		-3.545267
Log likelihood	188.7763	Hannan-Quinn criter.		-3.622807
F-statistic	31.25645	Durbin-Watson stat		0.638337
Prob(F-statistic)	0.000000			

Source: Author's Computation, using E-view 10, (2024)

5. DISCUSSION

Results on the Effect of Capital Structure on Nigerian Manufacturing Firms' Financial Performance The study's conclusions regarding the impact of capital structure on the financial performance of Nigerian manufacturing companies are covered in this part. Return on Equity (ROE) and Return on Assets (ROA) are the performance metrics that are employed. Based on earlier research, the analysis emphasises the connection between these performance metrics and different debt ratios.

LTDTA (Long-Term Debt to Total Assets) and Financial performance

The study discovered that, with a correlation of 0.243325, LTDTA and ROA had a positive connection. This suggests that there is a positive correlation between better asset returns and larger long- term debt compared to total assets. This implies that companies that use long-term debt wisely can increase the productivity of their assets, perhaps as a result of the opportunity for investment in long-term initiatives and the cheaper cost of long-term financing when compared to short- term debt.

Similarly, with a coefficient of 0.373595, LTDTA has a positive effect on ROE. This suggests that using long-term debt as leverage can increase equity returns—possibly by creating more profitable investment opportunities. Long-term debt can be used wisely to lower total cost of capital and raise shareholder value. These results are consistent with the theories of Modigliani and Miller (1958), who proposed that tax shields used for debt financing can boost business value, and Myers (2018), who proposed that companies with the right amount of debt can optimise equity returns by borrowing prudently over the long run. Abor, (2017) likewise discovered that long-term debt improves business performance in developing nations. Salim and Yadav (2012) also noted that long-term debt raises return on assets (ROA) by offering steady funding for capital projects.

Financial Performance and Short-Term Debt to Total Assets Ratio (SDTAR)

With a value of -1.008092, the study finds a substantial negative association between SDTAR and ROA. This shows that asset returns are reduced when there is a greater proportion of short-term debt to overall assets. The performance of assets can be negatively impacted by short-term debt due to its higher interest rates and rollover risks, which can result in increased costs and possible liquidity problems.

Similarly, with a coefficient of -1.686523, SDTAR has a negative effect on ROE. This suggests that taking on too much short-term debt can lower equities returns considerably. Short-term borrowing carries a high cost and risk, which can reduce net earnings and, in turn, shareholder returns. The detrimental effect of short-term debt on ROE is consistent with the findings of Aivazian, Ge, and Qiu (2015), who discovered that because of higher interest burdens and financial risk, companies with high short-term debt ratios typically have poorer equity returns. Petersen and Rajan (2018) noted that reliance on short-term debt can limit business growth and impair profitability due to the frequent need for refinancing. Titman and Wessels (1988) discovered that short-term debt raises financial distress costs, negatively impacting firm performance.

Financial Performance and the Ratio of Total Debt to Total Assets (TDTAR)

With a value of 0.767557, TDTAR has a favourable impact on ROA. The robust positive correlation suggests that an overall rise in debt in comparison to assets improves asset returns. By making efficient use of all available debt, one can raise operational efficiency and profitability by investing the capital required to purchase productive assets.

TDTAR, which has a coefficient of 1.170040, likewise positively affects ROE. According to this, having more total debt may increase equity returns by boosting the returns on wise investments. Leverage effect: By using debt to finance growth, businesses can raise returns to equity holders. This aligns with the findings of Rajan and Zingales (1995) who discovered that, as long as debt levels are kept reasonable and utilised wisely, greater leverage is linked to higher returns on equity. According to Margaritis and Psillaki (2010), companies that employ more leverage typically have higher profitability and asset utilisation rates, suggesting that companies can gain from using both short- and long-term debt wisely.

Financial Performance and the Total Debt to Total Equity Ratio (TDTER)

With a correlation of - 0.142679, the study discovered a negative association between TDTER and ROA. This implies that more leverage, as seen by a larger debt to equity ratio, lowers asset returns. Lower profitability might result from excessive leverage's related financial risk and greater interest obligations, which can offset the advantages.

TDTER, with a coefficient of -0.169118, has an adverse effect on ROE as well. This suggests that greater leverage reduces equity returns, maybe as a result of higher loan costs and associated financial risk. Excessive debt levels can reduce shareholder value and erode net earnings, even when

leverage might boost returns. Fama and French (1998), who noted that increasing leverage is frequently linked to poorer ROA due to increased financial stress, corroborate these findings. Excessive leverage has been linked to lower operational efficiency and financial difficulty, as Chen and Strange (2015) have shown. Roberts, Leary, and Graham (2015) found that firms with high leverage often experience lower equity returns due to higher risk and debt costs, and Frank and Goyal (2009) emphasized that maintaining optimal leverage levels is crucial for maximizing shareholder value and financial performance.

6. CONCLUSION AND RECOMMENDATIONS

This study looked into how capital structure affected Nigerian manufacturing companies' financial results. It specifically looked at how financial performance was impacted by the ratios of total debt to total equity, total debt to total asset, short-term debt to total asset, and long-term debt to total asset. All four capital structure ratios and financial performance were found to have statistically significant associations using a ten-year dataset (2013–2022) from listed industrial firms on the Nigerian Exchange Group. The findings show that financial performance is significantly impacted by the total debt to equity ratio, the total debt to asset ratio, the short-term debt to total assets ratio, and the long-term debt to total assets ratio. The study's conclusions, which emphasise the necessity of effective capital structure management to improve financial performance, have significant ramifications for Nigerian manufacturing companies.

This study looked into the connection between Nigerian manufacturing companies' financial performance and capital structure. The results show that financial performance as determined by return on equity (ROE) and return on assets (ROA) is negatively impacted by the total debt to total equity ratio (TDTER) and the short-term debt to total assets ratio (SDTAR). Conversely, financial performance is positively impacted by the long-term debt to total assets ratio (LTDTA) and the total debt to total assets ratio (TDTAR). The findings imply that high levels of leverage, as determined by TDTER, may result in worse financial outcomes since they raise interest payments and financial risk. Nonetheless, within specific bounds, increasing the ratio of total debt to assets, as indicated by TDTAR, might improve equity returns. According to SDTAR, short-term debt is linked to worse financial performance, most likely as a result of increased expenses and inefficiency. Efficient handling of long-term debt, as determined by LTDTA, can augment equity returns through funding expansion prospects and investments that boost profitability.

The study's recommendations, which emphasise the necessity of effective capital structure management to improve financial performance, have significant ramifications for Nigerian manufacturing companies. The report advises businesses to carefully analyse how much debt they take on and how they use their assets in order to create a balanced capital structure that optimises equity returns. The results of the study should also be taken into account by regulators and policymakers when creating rules and laws that affect the capital structure of Nigerian manufacturing companies.

The investigation concludes that the effects of various debt kinds on financial performance are not all the same. A deliberate use of debt relative to assets (TDTAR) can improve equity returns, while higher leverage (TDTER) often has a negative impact on ROE. On the other hand, long-term debt (LTDTA) has a favourable impact on profitability, whereas reliance on short-term debt (SDTAR) seems to be negative to asset returns.

REFERENCES

- 1) Adeoye, S.D., & Olojede, S.O. (2019). Effect of Capital Structure on Financial Performance of Listed Banks in Nigeria. *Asian Journal of Economics, Business and Accounting*, 12(2), 1- 14.
- 2) Ajayi, L. B. & Obisesan, O. G. (2020). Impact of Capital Structure on Firm Performance in Nigeria. *International Journal of Economics, Commerce and Management*. 8(3), 414– 428. *Journal of Research in International Business and Management*. 5(1), 81–89
- 3) Ajibola, A., Wisdom, O., & Qudus, O. L. (2018). Capital structure and financial performance of listed manufacturing firms in Nigeria.
- 4) Akinrinola, O.O., Tomori, O.G., Audu, S.I. (2023) Capital Structure and Financial Performance of Quoted Manufacturing Firms in Nigeria, *International Journal of Business and Management Review*, 11(2), 29-47
- 5) Akinyomi O. J. (2016). Effect of capital structure on firms' performance: Evidence from Nigerian Manufacturing industry. *International Journal of Innovative Research and Studies*. 2(9), 468-480.
- 6) Amraoui, M., Jianmu, Y., & Bouarara, K. (2018). Firms' Capital Structure Determinants and Financing Choice by Industry in Morocco. *International Journal of Management Science and Business Administration*, 4(3), 41-51.
- 7) Arikekpar, O. A. (2020). Capital Structure and Firm performance: An Empirical Study of Manufacturing Companies in Nigeria. *World Journal of Finance and Investment Research*. 5(1), 48– 60.
- 8) Ayomitunde, A. T., Zaanu, S. M., & Adedayo, A. (2019). Capital Structure and Financial Performance of the Quoted Firms in the Nigerian Stock Exchange: An Econometric Approach. *Saudi Journal of Business and Management Studies*, 4(2), 1-15. DOI: 10.36348/sjbms.2019.v04i11.003
- 9) Babalola Y. A. (2018). Triangulation analysis of capital structure and firms' performance in Nigeria. *East Ukrainian National University [Vol. Dahl] 91034 Lugansk, Ukraine*
- 10) Dada, A. O., & Ghazali, Z. B. (2016). The Impact of Capital Structure on Firm Performance: Empirical Evidence from Nigeria. *Journal of Economics and Finance*, 7(4), 23-30.
- 11) Dele J.O., Ifeanyi J.U., Adewale J.A. (2023), Capital Structure and Financial Performance: Panel Evidence from Quoted Manufacturing Firms in Nigeria (2011–2020). *African Journal of Accounting and Financial Research* 6(3), 129-145. DOI: 10.52589/AJAFR-KMSEFQ8M
- 12) Ezuma Smart Chinedu (2022), Capital Structure and Financial Performance of Listed Pharmaceutical Companies in Nigeria. *African Journal of Accounting and Financial Research* 5(2), 1-12. DOI: 10.52589/AJAFR-G7KQBNC.
- 13) Habibniya, H., Dsouza, S., Rabbani, M. R., Nawaz, N. & Demiraj, R. (2022). Impact of capital structure on profitability: Panel data Evidence of the Telecom Industry in the United States. *Risks* 10:157. <http://doi.org/10.3390>.

- 14) Mukumbi, C. M., Khisa, W. E., & Shu, J. (2020). Effect of capital structure on the financial performance of non-financial firms quoted at the Nairobi Securities Exchange. *International Journal of Science and Business*, 4(4), 165-179.
- 15) Nguyen. H. T., & Nguyen, A. H. (2020). The impact of capital structure on firm performance: Evidence from Vietnam. *Journal of Asian Finance, Economics and Business*, 7(4), 97- 105.
- 16) Oladele, S.A., Omotosho, O. and Adeniyi, S.D. (2017). Effect of Capital Structure on the Performance of Nigerian Listed Manufacturing Firms. *European Journal of Business Management*, 9(7), 22 – 32
- 17) Owolabi, S. A. & Inyang, U. E. (2019). *Determinants of capital structure in Nigerian firms: a theoretical review*. *E-Canadian Journal of Accounting and Finance*, 1(1).
- 18) Rahman, M. M., Saima, F. N. and Jahan, K. (2020). The Impact of Financial Leverage on Firm's Profitability: An Empirical Evidence from Listed Textile Firms of Bangladesh. *Journal of Business, Economics and Environmental Studies*, 10(2), 23–31.
- 19) Singh, S., & Singh, A. (2018). Study on the relationship of firms's performance with capital structure: Evidence from Taiwan. *International Journal of Economics and Financial Issues*, 8(3), 307-314.
- 20) C. Mercilina, E. (2018). Capital structure and firms financial performance in Nigeria quoted insurance companies. *Account and Financial Management Journal*, 03(05). <https://doi.org/10.31142/afmj/v3i5.01>
- 21) Dr. Henry Waleru Akani and Anyamaobi Chukwuemeka. (2021). Capital Structure and Financial Performance of Small and Medium Enterprises in Nigeria. *European Journal of Accounting, Finance and Investment*, 7(8), 1–22.
- 22) Olayemi, O. & Fakayode, S. (2021). Effect of Capital Structure on Financial Performance of Quoted Manufacturing Companies in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, .9(5), 73-89.
- 23) Modigliani, F., & Miller, M. H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48(3), 261–297. <http://www.jstor.org/stable/1809766>.
- 24) Adeyemi, A. Z., Unachukwu, J. C., & Oyeniyi, K. O. (2017). Capital structure and its effect on the financial performance of Nigeria insurance industry. *International Journal of Business & Low Research*, 5(3), 8–15.
- 25) Akeem, L. B., Terer, K. E., Kiyanjui, M. W., & Kayode, A. M. (2014). Effects of capital structure on firm's performance: Empirical study of manufacturing companies in Nigeria. *Journal of Financial and Investment Analysis*, 3(4), 39 –57
- 26) Adeoye, S. D., & Olojede, S. O. (2019). Effect of Capital Structure on Financial Performance of Listed Banks in Nigeria. *Asian Journal of Economics, Business and Accounting*, 12(2), 1-14. DOI: 10.9734/AJEBA/2019/v12i230148
- 27) Oli, F. I., Prince, A. I., Okeke, C. C., Olufunke, O. F., Jack, A. E., & Onwumere, J. U. J. (2023). Effect of Capital Structure on Profitability: Evidence from Oil and Gas Firms in Nigeria. *Seybold Report Journal*, 18(07), 149-171. <https://doijs.org/10-5110-77- 9128/>
- 28) Yinusa, O. G. & Babalola, Y. A. (2018). The impact of corporate governance on capital structure decisions of Nigerian firms. *East Ukrainian National University*.
- 29) Offiong, A. I., & Ajaude, E. (2017). Capital structure and the performance of quoted companies in Nigeria. *International Journal of Management Sciences and Business Research*, 6(8), 45-52.
- 30) Olaoye, S. A., Akintola, A. F., Soetan, T. A., & Olusola, N. C. (2020). Capital structure and financial performance of quoted manufacturing companies in Nigeria. *Journal of Social Sciences Research*, 6(10), 874-880. Doi: <https://doi.org/10.32861/jssr.610.874.880>
- 31) Gul, S., & Cho, H. R. (2019). Capital Structure and Default Risk: Evidence from Korean Stock Market. *The Journal of Asian Finance, Economics and Business*, 6(2), 15-24. DOI: 10.13106/jafeb.2019.vol6.no2.15
- 32) Oyakhire, V (2019) Capital structure and performance of oil and gas companies in Nigeria. *International Journal of Finance Commerce* 1(3):1–5
- 33) Chandrasekharan, C. V. (2019). Determinant of capital structure in the Nigerian listed firms. *International Journal of Advanced Research in Management and Social Sciences* ISSN: 2278–6236 1(2).
- 34) Jensen, M., & Meckling, W., (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(2), 305-360.
- 35) Taiwo, A. M., (2015). An empirical analysis of capital structure on firms' performance in Nigeria. *International Journal of Advances in Management and Economics*, 1 (1), 73-86.
- 36) Modigliani, F. and Miller, M.H. (1958). The cost of capital, corporation finance and the theory of Investment. *American Economic Review*, 48(3), 261-97. Modigliani, F. and Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review*, 53, 433–443.
- 37) Miller, M.H. (1977). Debt and Taxes. *Journal of Finance*, 32(2), 261-275.
- 38) Nga, P. T., & Nguyen, T. (2020). The Impact of financial structure on profitability: Empirical evidence from Vietnam Construction Sector. *Asian Economic and Financial Review*, *Asian Economic and Social Society*, 10(9), 1028-1036.
- 39) Dao, B. T. T., & Ta, T. D. N. (2020). A meta-analysis: capital structure and firm performance. *Journal of Economics and Development*, 22(1), 111-129.
- 40) Ayuba, H., Bambale, A., Ibrahim, M. A., & Sulaiman, S. A. (2019). Effects of financial performance, capital structure and firm size on firms' value of insurance companies in Nigeria. *Journal of Finance, Accounting and Management*, 10(1), 57-74.
- 41) Angayarkanni, R. (2018). Measuring the capital structure, profitability and EVA with reference to selected aviation firms in India. *Journal of Social Science and Humanities Research*, 3(1), 1-15.
- 42) Akindele, J. A., Asri, M., & Adedeji, S. B. (2020). Capital structure and commercial banks performance in Nigeria, *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 10(1), 239-249
- 43) Pinto, P., Hawaldar, T.I., Quadras, M.J., & Joseph, R.N., (2017). Capital structure and financial performance. *International Journal of Applied. Business. Economics. Research*. 15.