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Effect of Debt Financing on Financial Performance of Listed Nigerian Manufacturing Industries: A Conceptual Review

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Abstract

The declining financial performance of Nigerian listed manufacturing firms, coupled with increasing reliance on debt financing and macroeconomic instability, has raised concerns about whether debt improves or weakens firm performance, given the mixed empirical evidence on its impact. This paper is a conceptual paper aimed to examines the effect of debt financing on financial performance, using ROA as a measure of financial performance. After reviewing both empirical and theoretical framework, it was concluded that the optimal use of debt can improves firm performance in the Nigerian manufacturing sector and recommends that managers adopt balanced capital structure strategies, while policymakers promote a stable financial environment to support sustainable borrowing.

KEY WORDS:* *Debt, Financial Performance, Return on Assets, Financial Risk

1. Introduction

The performance of the manufacturing industry at the global level posted positive growth across most regions in the second quarter of 2025 (UNIDO, 2025). However, the performance varied considerably from one region to another. For example, countries from Asia regions witnesses a robust growth of 1.6 per cent. Contrary to available data from Africa indicating a strong quarterly gain of 1.1 per cent, when compared to America and the Caribbean, which recorded a 0.5 per cent increase in 2025 (UNIDO, 2025).

In assessing Nigeria's manufacturing sector performance, available data indicated that despite modest output growth, capacity utilization continues to lag due to persistent infrastructure deficits, foreign exchange volatility, high production costs, and above all, funding problems. Available records from the Nigerian Stock Exchange show a remarkable financial performance with a 22 percent revenue increase in the manufacturing sector in 2025.

Financial performance represents a complete evaluation of a firm's overall standing in categories such as total assets, liabilities, expenses, revenue, and overall profitability. It reflects the result of the firms' policies and operations in monetary terms (Muhammad et al., 2019). Additionally, to improve firm financial performance, corporate entities use different sources internally and externally to finance their operations, which subsequently affects their financial performance.

Many studies opine that businesses that are leveraging stand to have high financial performance when compared to those that depend on equity financing. For instance, Chinese manufacturing firms have high debt-to-equity ratios, with an average ratio of 1.45, this can increase financial risk and reduce their financial performance (Li et al., 2020). Similarly, a recent study indicated that 63.2 percent of Chinese manufacturing firms have high debt-to-equity ratios, which is a significant concern for their financial stability. (Li et al., 2020). Similarly, Germany, France, Italy, and Spain experienced industrial production of 2.9 percent in 2024 compared with 2023. Malaysian manufacturing SMEs face challenges in accessing financing, which can limit their growth and innovation (Yong et al, 2020).

Similarly, in Nigeria, firms such as Dangote Group employ a high-debt capital structure to finance their capital-intensive projects in cement, sugar, and oil refining. A significant portion of its debt is dollar-dominated, exposing the firm to currency fluctuations (Okafor & Eze, 2020). The $19 billion Dangote Refinery project has increased leverage, raising concerns about repayment capacity. Aliko Dangote's overwhelming influence led to centralized decision-making, reducing board independence. Minority investors have limited influence on major financial decisions. Declining profitability and Multinational constraints in Nestle Nigeria led to a high cost of equity financing due to reliance on retained earnings; the company faces pressure to maintain high dividend payouts, limiting reinvestment (Ajibolade & Akintoye, 2020).

1.2. Statement of the Problem

The manufacturing sector is a vital pillar of Nigeria's economy, contributing substantially to GDP, employment, and domestic production, yet manufacturing firms continue to face volatility in profitability and growth (Otekunrin et al., 2020. Despite periodic sectoral recoveries and standout performers, recent evidence shows mixed financial outcomes (e.g., significant firms recording losses in some years, then rebounding). Concurrently, capital markets, macroeconomic instability (exchange-rate volatility, inflation), and limited access to affordable long-term finance constrain firms' financing choices (Olaoye & Adekanbi, 2021). How firms structure their capital (mix of debt, equity, and internal funds) therefore becomes central to understanding and improving the financial performance, resilience, and long-term competitiveness of Nigeria's manufacturing industry (Umar & Musa, 2022).

Several empirical studies have been conducted on the effect of debt on financial performance at different times, including Jimba and Awodiran (2019), Singh and Bagga (2019), Osagie and Enadeghe (2022), Anozie et al (2023), and others. A Plethora of conceptual studies are limited in explaining the nexus between debt financing and financial performance in the Nigerian manufacturing sector. The study, therefore, seeks to examine the effect of debt financing on the financial performance of listed manufacturing firms in Nigeria. In achieving this objective, the study raised the question of the extent to which Debt Financing affects the Return on Assets of listed Nigerian Manufacturing industries.

2. Literature Review

2.1 Financial Performance

Financial performance in a broader sense refers to the degree to which financial objectives have been accomplished and is an important aspect of financial risk management (Usman, 2019). In their contribution, Akpokerere and Obonofiernro (2022) defined financial performance as a company's capacity to produce revenue in relation to its capital base and outpace costs. Similarly, Hassan et al (2022) opined that firm financial performance is the extent to which a firm's actions towards the achievement of its overall goals. These definitions aimed at determining how resources are effectively and efficiently put into use. Firms that effectively utilize their resources excel over those firms that do not judiciously put their resources to use. In a nutshell, performance tries to portray how successful a firm managing its resources to achieve the desired objective.

2.1.1 Measures of Financial Performance

There are various ways/techniques in measuring financial performance; these techniques include accounting-based, which is regarded as a valid indicator of financial performance (Gentry and Shen, 2010), and market-based measures of performance, which are inclined to highlight expected future performance as opposed to actual firm performance (Alzarani, 2014). To measure financial performance, using account-based ratios, Abdulrahaman and Yakasai (2025), Alzarami (2014); Korolo and Korolo (2023) use account-based ratios, including Return on Assets, Return on Equity, Gross Profit Margin, and Net Profit Margin.

2.1.1.2 Return on Assets (ROA)

Return on Assets (ROA) is one of the profitability measures used to assess how successfully a firm converts its total investments in assets into net profit. A higher ROA percentage indicates highly productive and effective management. Van Horne and Wacowicz (2021) defined Return on Assets as a profitability ratio that indicates how efficiently a company is utilizing its assets. This definition emphasizes efficiency in asset utilization. Similarly, Gitman and Zuter (2020) state that ROA measures the overall profitability of assets by dividing the firm's net income by its total assets,

showing the return generated by management's investment decision. This perspective links ROA to managerial efficiency in decision-making and investment. Brigham and Ehrhardt (2023) describe ROA as an indicator of a company's ability to convert its investment in assets into net income; the higher the ROA, the more effectively the asset used. This highlights the correlation between higher ROA and stronger operational performance.

Furthermore, Pal Singh and Bagga (2019) and Korolo (2023) defined it as the profit before income tax divided by total assets. According to Siregar (2021), the higher the return on assets, the more effectively firm assets are used; in other words, bigger profits may be made with the same amount of assets and vice versa. It is widely used in financial performance analysis and decision-making, and it is expressed as a percentage.

In addition to that, ROA is used in differentiating between competing companies and can be used to compare similar companies within the same industry. It provides information about the relationship between income and assets employed. ROA demonstrates how efficient management is at utilizing its resources

. A high ROA indicates that a company is generating substantial income relative to its asset base, meaning it is managing its resources effectively. On the other hand, a low ROA may signal inefficiencies, poor investment decisions, or underutilization of assets.

2.2 Debt Financing

Debt is the amount of money borrowed by an individual, business, or government from a lender, with the promise to repay the amount, usually with interest (Brealy, et al, 2020). Debt can be classified into secured and unsecured debt, long-term debt, short-term debt, and institutional loans. Secured debt is debt that is backed by collateral, for example, mortgages. Unsecured debt is the one that which is not backed by collateral; it relies on creditworthiness. Example: personal loans and credit cards.

2.2.1. Long term-debt

It is an obligation with a maturity of more than one year from the date it was issued. Lawan, (2014). Opines that long-term debt could be seen as any amount owed for a period exceeding 12 months

from the date of the statement of financial position, which could also be in the form of loans, mortgage bonds, debentures, or other obligations not due for one year. Long-term debt must be disclosed on the balance sheet, including its accrued interest and maturity date. A firm must have long-term debt assets at its disposal for its operations. Acquiring such long-term debt assets requires sourcing long-term financing. Bonds and debentures provide loan capital to the company and are referred to as hybrid securities because they combine some features of both common stock and bonds. The amount of long-term debt is a measure of leverage and is distinguished from long-term liabilities, which may include supplies if services are already paid for.

2.2.2. Short-term Debt

Short-term debt financing is originally scheduled for payment within one year. The firm decides on the desired proportion first before determining the composition of short-term debt sources of credit to be employed. In the theoretical model of Umobong (2015), only short-term liabilities can fund increasingly liquid investment projects when economic conditions deteriorate in countries with adequate financial infrastructure, such as Asian countries. Management of a vulnerable company undertakes fiscal adjustment only if threatened by a large enough withdrawal of external funding; to promote this outcome, creditors must lend short-term (Jeanne, 2001).

3. Review of Empirical Studies

Several studies were conducted at different levels to examine the relationship between debt financing and Return on Assets. For example, Ahmed et al (2023) studied the relationship between capital structure and firm performance with agency cost as a moderating variable of Iranian listed companies for a period of ten (10) years from 2011 – 2019. Three proxies were employed to measure firm financial performance: ROA, TQ, and EPS, while capital structure was measured using the debt-to-assets ratio (DTA) and the debt-to-market capitalization ratio (DTMC). The empirical results showed that DTA has a significant and negative effect on ROA and EPS but a positive effect on TQ. DTMC has a negative and significant impact on all performance indicators. Thus, capital structure decreases firm financial performance in terms of profitability. The negative result could not be devoid of a lack of effective utilization of the company's assets, which is an indicator that the company's assets are poorly managed. However, if other measures of financial

performance, like return on equity, gross profit margin, etc., were used could have produced different results.

In another study, Osagie and Enadeghe (2022) examine the impact of capital structure on the performance of non-financial companies in Sub-Saharan Africa. A total of forty (40) non-financial firms were studied using their capital structure variables of long-term debt to equity (LTDQ), total debt (TD), total debt to equity (TDQ), and total debt to total assets (TDTA), as well as their ROA performance. The results from the panel data analysis showed that LTDQ, TD, and TDQ have a positive impact on ROA performance, while TDTA has a negative impact on ROA performance.

Similarly, Oyedokun et al. (2018). Studied the impact of capital structure on the firm's financial performance of listed consumer goods companies in Nigeria for a period of ten (10) years between 2007 and 2016. Using a sample size of ten (10) out of twenty (20) listed consumer goods, they found that the log of equity has no significant influence on Return on Assets (ROA), but statistically significant for the log of debt. Also, the results indicate that capital structure, proxied by the log of equity, has a significant positive effect on earnings per share, while the relationship between the log of total debt and earnings per share is negative and statistically significant. Further, the regression estimates show that capital structure measured by the log of equity has a significant positive effect on dividend per share, while the relationship between the log of total debt and earnings per share is negative and non-significant. However, the use of dividend per share (DPS) as control variables as against the dependent variable used in the study could give a different result. Furthermore, taking the log of total debt or equity may not have fully captured the debt-to-equity proportion in the capital structure of an entity.

On the other hand, Jimba and Awodiran (2019) examine the influence of capital structure on the financial performance of listed firms in Nigeria. They sampled forty (40) selected firms for a period of ten (10) years from 2007 to 2016. They found that capital structure has a positive and statistical impact on the financial performance (ROA & ROE) of listed firms in Nigeria. However, the use of market-based performance could produce different results.

In contrast, Ayomitunde et al. (2019) studied the influence of capital structure on the financial performance of the quoted firms in the Nigerian Stock Exchange. The target population of the study consists of 169 companies that are listed on the Nigerian Stock Exchange as of 2018, out of

which 40 listed firms were sampled for a period of six years (2012 – 2017). The results show that long -term debt and total debt have a negative and significant impact on both ROA and ROE. While short-term debt has no significant impact on financial performance. However, the data for the study stops at 2017, and a lot of changes that have occurred between 2017 and the present date could render the results invalid. Thus, the study is aged.

Singh and Bagga (2019) examine the effect of capital structure on profitability: an empirical panel data study of 50 companies listed on the National Stock Exchange of India from 2008 to 2017. The results showed that total liabilities to total assets and total debt to equity ratio have a positive and significant impact on profitability (ROA and ROE). However, when a market-based measure of performance is used, a different result could be obtained.

Likewise, Mohammad et al, (2019) studied the impact of capital structure on the financial performance of listed construction firms in Malaysia. They sampled forty-one (41) listed construction firms in the main board of the Bursa Stock Exchange for a period of five years. The results from the multiple regression analysis revealed that Long Term Debt (LTD) was positive and statistically significant to ROE, whereas Short Term Debt (STD) negatively influenced ROE. This suggests that Debt with a maturity of more than one year increases ROE, thus improving firm financial performance. However, STDs decrease firms' financial performance. Further, Total Debt was found to have an insignificant impact on ROE. Also, the regression estimates show that the three measures of capital structure have no significant impact on Return on Assets (ROA). However, the use of market base measure of financial performance could produce different results.

Equally, Usman (2019) investigated the impact of capital structure on the financial performance of the consumer goods industry in Nigeria. The study sampled six (6) out of fourteen (14) listed consumer goods firms in the Nigerian Group Exchange (NGX) for a period of five years from 2012 to 2016. The results of the analysis revealed that STD and LTD are not major determinants of the financial performance of listed consumer goods firms in Nigeria. Further, the result showed that equity ratio significantly influences a firm's Return on Assets (ROA). However, a sample size comprising all manufacturing firms in Nigeria may produce different results.

Also, Anozie et al (2023) examined the impact of capital structure on the financial performance of oil and gas companies in Nigeria. Using convenient sampling techniques, they sampled five out

of ten (10) listed oil and gas companies between 2011 and 2020. The results from the multiple regression analysis showed that long-term debt to total assets has a negative and significant influence on ROA. This implies that the proportion of long-term debt capital in the equity formation of the company decreases firm financial performance. On the other hand, the regression estimate shows that short-term debt to total assets and total debt to equity have an insignificant impact on ROA. However, the use of other measures of financial performance could produce different results. Correspondently, Ahmed et al (2023) studied the relationship between capital structure and firm performance with agency cost as a moderating variable of Iranian listed companies for a period of ten (10) years from 2011 to 2019. Three proxies were employed to measure firm financial performance, that is, ROA, TQ, and EPS, while capital structure was measured using debt to assets ratio (DTA) and debt to market capitalization ratio (DTMC). The empirical results showed that DTA has a significant and negative effect on ROA and EPS but a positive effect on TQ. DTMC has a negative and significant impact on all performance indicators. Thus, capital structure decreases firm financial performance in terms of profitability. However, if other measures of financial performance, like return on equity, gross profit margin, etc were used could have produced different results.

Likewise, Tesema (2024) studied the effect of capital structure on the performance of listed manufacturing companies in Ethiopia. They sampled eighty–eight (85) listed companies for a period of five years between 2017 and 2021. The results from Generalized Moment Method (GMM) showed that total capital structure proxies by total debt and long-term debt have a negative and significant impact on performance proxies by Net operating profit margin (NOP) and ROA. Thus, decreases financial performance of listed manufacturing companies in Ethiopia. If the time frame for the study were 10 years, not five years, the result would be different.

Kalash (2021) examined the impact of environmental performance on capital structure and performance of 49 firms listed on the Istanbul Stock Exchange in Turkey. Using Ordinary least squares and binary logistic regression models to analyze the data, the findings revealed that environmental performance has significant and positive effects on the firm's leverage. Also, environmental performance had a significant and positive impact on return on assets, operating profitability, and return on equity, but no significant impact on stock returns. The implications revealed that increased borrowing costs for Turkish firms after the 2018 currency crisis in Turkey

enable the firms to make better decisions related to capital structure and to understand the role of environmental performance in reducing the cost of debt and enhancing financial performance. If another technique of analysis were used, like panel data could produce different results.

Dao and Ta (2020) examined the relationship between capital structure and performance of 32 journals, reviews, and school presses with 340 studies by employing a meta-analytical approach using Metal regression and found that corporate performance is negatively related to capital decisions, which inclines toward the trade-off model with agency costs and pecking order theory.

4. Theoretical Framework

Many theories underpin capital structure and financial performance including the Modigliani and Miller theory, Agency Cost theory, Static – Trade-off theory, Pecking Order theory, and the Market Timing theory.

4.1 Irrelevance Theory

Modigliani and Miller (1958) proposed the capital structure irrelevance theory, which states that under the assumption of a perfect capital market, the choice between bonds and stocks does not affect firm value; in other words, capital structure does not influence financial performance. A perfect capital market does not have corporate tax or transaction costs, and when information asymmetry is not a concern, a firm's financial performance is determined by its ability to create value, no matter whether the capital it uses is from internal or external sources. The MM model fails to predict it because it considers only the tax-saving effect of debt and ignores the cost of financial risk and agency cost when debt increases.

Modigliani and Miller (1963) found that large firms are more diversified than small ones and face lower risk. In addition, large firms have a low bankruptcy cost and are well known, which makes it easier to enter the stock market. When firms have the same profitability, the larger firm will have a relatively low level of debt Chen (2011). Myers and Majluf pointed out that the problem of formation asymmetry is not as severe in big firms, and the information cost is also lower than for small firms. Moreover, large firms prefer to use equity capital rather than debt capital, with Titman (1984), arguing that small firms rely on the former because they have to face a high issue cost. Therefore, larger companies have access to obtain funding from equity capital. The company's

ability is a positive signal for investors to invest, and will have an impact on the firm's value. Previous studies have shown that firm size has a positive effect on firm financial performance.

4.2 Agency Theory

Agency theory, having its roots in economic theory, was exposited by Alchian and Demsetz (1972) and further developed by Jensen and Meckling (1976). Daily et al (2003) argued that two factors can influence the prominence of agency theory. First, the theory is conceptually and simply a theory that reduces the corporation to two participants of managers and shareholders. Secondly, agency theory suggests that employees or managers in organizations can be self-interested.

The agency theory states that shareholders expect the agents to act and make decisions in the interest of the principal. On the contrary, the agent may not necessarily make decisions in the best interests of the principals Padilla, 2000). According to this theory, the basic agency problem in modern firms is primarily due to the separation of ownership from management. Pincus et al. (1989), claim that the roles of the board of directors can be explained within the framework of agency theory, whereby the contract between principal and agent allows the agent to conduct the business on behalf of the principal. Agency theory suggests that shareholders require protection because management (agents) may not always act in the interests of the absentee owners (principals) [Fama., (1980); Fama and Jensen., (1983); Jensen and Meckling., (1976).

The theory is relevant to the study because it is simply the relationship between the principal and the agent, such as shareholders and the company executives or managers. In this theory, shareholders, who are the owners or principals of the company, hire the agents to perform work. Principals delegate the running of the business to the directors or managers, who are the shareholders' agents (Clarke, 2004).

4.3 Static-Trade-off Theory

The theory is relevant to the study in the sense that it considers a comparison between the tax advantages and disadvantages of various sources of finance and their effect on value in determining the sources of finance for a firm.

The trade-off theory of capital structure suggested how the optimal level of debt and equity in the company's capital structure was chosen to derive maximum benefits from the tax shield, as the interest expense is considered a tax-deductible expense (Kraus and Litzenberger, 1973). In addition, it is also helpful in choosing the best financing level of debt and equity that will save the organization from financial troubles. Corporate governance helps a company to find and maintain this balance. In a firm with weak governance, managers might take on too much debt for risky projects, ignoring bankruptcy risk, or they might take on too little debt to avoid the scrutiny that comes with lenders. The link between their capital structure and performance will be weak or even negative. In a firm with strong governance, the board of directors provides effective oversight. They ensure that the company's debt level is carefully chosen to maximize the tax benefits and minimize the risks. So, in these well-governed firms, the relationship between capital structure and financial performance will be stronger and more positive. Therefore, corporate governance is the moderator that makes the static trade–off theory work effectively in the real world, especially in the complex context of Nigerian manufacturing industries.

Static-Trade-off theory negates the assumption of no bankruptcy costs, the increased costs of debt financing that result from the higher probability of bankruptcy. These bankruptcy costs include both direct costs (such as legal and administration costs) and indirect costs and difficulties that a company has to suffer when under financial distress, like loss of reputation, loss of bargaining power, etc. Bankruptcy costs can significantly affect a company's cost of capital, hence are important in determining and making changes to its capital structure.

4.4 Pecking Order Theory

Myers and Majluf (1984) propounded the pecking order theory. The theory states that companies show a distinct preference for utilizing internal finance (retained earnings or excess liquid assets) over external finance. If internal funds are insufficient to finance investment opportunities, a company might obtain external finance, but it will choose among various external finance sources so as to minimize additional costs.

4.5 Market Timing Theory

Baker and Wugler (2002), in the market timing theory, stated that companies time their equity issues in a way that they issue the fresh stock when the stock prices are overvalued and buy back shares when they are undervalued. As a result, variations in stock prices influence a firm's capital structure. Companies do not care whether they finance with debt or equity; they simply pick the type of financing, which now appears to be more valued by financial markets.

5. Discussion and Implications

STOT does not predict a universal sign for debt coefficients. The prediction of the sign depends on whether the firm is below or above D. The monetary policy rate was 27.25% in May 2026. At such rates, interest expense quickly erodes tax benefits. Consequently, the tax benefit of debt, 0.30D, is offset by distress costs, with D lower than in developed markets.

If D is low due to high distress costs, the policy should focus on reducing those costs rather than subsidizing debt. Improving court efficiency, establishing specialized commercial courts, and developing a corporate bond market would shift the distress cost curve to the right, raising D and allowing firms to use more tax-advantaged debt without harming ROA.

6. Conclusion

The paper applied static trade-off theory to analyze the debt-performance relationship in Nigerian listed manufacturing firms. It posits that firms balance tax shields against financial distress costs, implying an optimal debt level and a non-linear effect on performance.

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