

**LONG TERM DEBT AND RETURN ON EQUITY OF LISTED INDUSTRIAL GOODS
MANUFACTURING FIRMS IN NIGERIA**

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ABSTRACT

The objective was to determine long-term debt and return on equity of listed industrial goods manufacturing firms in Nigeria. The study adopted positivism philosophy and ex-post facto research design. The population of the study consists of twelve (12) industrial goods manufacturing firms listed on the Nigerian Exchange Group were sampled to six using purposive sampling technique. The data used in this study were sourced from annual reports and statement of accounts of the selected companies. This study employ descriptive statistics and Panel Least Square (PLS) estimate using panel data from 2015 to 2024 covering a period of ten (10) years for eight listed industrial goods manufacturing firms. The study result disclosed that the effect of long-term debt on return on equity of listed industrial goods manufacturing firms in Nigeria is significant. It was suggested amongst others that to curb the significant effect of short-term debt on return on assets, the management of the listed industrial goods firms should maximize the functions of the risk committee formed to measure the risks involved in debt financing.

Keywords: Long Term Debt, Return on Equity, Debt Structure, Financial Performance

Introduction

The relevance of industrial goods firms in the development of an economy cannot be underestimated across the globe. In Nigeria, the industrial goods sector was recorded as the third major contributor to market capitalization after consumer goods sector (Ahmed & Amina, 2020). It is widely belief that all living souls make use of industrial goods and the sector has improved the chance of survival of the people by ensuring adequate supply of their needs and wants. Industrial goods companies are firms that produce raw material for production and ready-for-consumption products or services and some of these firms include Dangote Cement Company, Berger Paint Plc., Beta Glass Plc, and many more. Their contribution to employment creation and poverty relief has also been acknowledged by the government and to the extent that they now include them in their development plans. In the midst of the support structures include development of host communities, revenue generation to federal government account and offering funding to others sector, usually at concessionary rates. Thus, it is worthy to determine their debt structure and financial performance of these firms like prior studies who focused other sectors in determine debt structure and financial performance locally and globally (Rahji & Kamaldeen, 2020; Adam et al., 2021; Abuamsha & Shumali, 2022; Anis & Abdul, 2022; Aladwan, 2022; Mitaki & Nyariki, 2022; Dian et al., 2022; Hassan et al., 2022; Horsfall, 2022; Ifurueze et al., 2022; Orlu et al., Jabar & Akinadewo, 2023; Sidra, 2023).

Every company has a goal to maximize the value of the company or the wealth of the owner of the company by making good financial reports. A good company's financial performance will be a benchmark for the success of the company's performance (management). Management as the party that manages the company can maximize the level of company performance by presenting good financial reports, to report the results of financial statements to shareholders (Dian et al., 2022).

Long-term debt is an obligation that has a maturity period of more than one year such as bonds (Jonah, 2021). Long term debt involves strict contractual covenants between the firm and lender of the debt which is usually associated with high agency and financial distress costs (Tailab, 2014). Long term debt is measured as long-term liabilities divided by total assets. Long term debt is money that is owed to lenders for more than one year from the date of the current balance sheet. Long term debts are the most preferred sources of debt financing among well-established corporate institutions mostly by their asset base, and collateral is a requirement that many of deposits-taking financial institutions (Foyeke et al, 2016). Shubita and Alsawalhah (2012) observed that high long-term debt levels in the firm are not conducive for the effective operations of firm since they increase the risk of bankruptcy. The high debt levels increase the interest rate, which may incapacitate the liquidity levels of the firm (Vermoesen et al., 2013).

Hypotheses

The following research questions guided the study:

- Ho₁:** The effect of long-term debt on return on assets of listed industrial goods manufacturing firms in Nigeria is not significant,
- Ho₂:** The effect of long-term debt on return on equity of listed industrial goods manufacturing firms in Nigeria is not significant,

Long term debt

Debts that are due for repayment for a period of three to five years are referred to as long term debt. As a result of the long period required for its repayment, such debts are tagged long term. The long-term debt financing is a measurement representing the percentage of a corporation's assets financed with long-term debt, which encompasses loans or other debt obligations lasting more than one year. According to Aniefor and Onatuyeh (2019), long term debts are financial tools obtained from financial institutions to cater for capital expenditure. Such debts are incurred to cater for capital intensive projects such as expansion and diversification of business, procurement of plants, machines and other capital-intensive projects. According to Ubesie (2016), long term debt financing is a debt financing that matures in more than one year. It arises when an organization raises money for working capital or capital disbursements by selling corporate bonds, trade bills or notes to individuals and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and receive a promise the principal and interest on the debt will be repaid. Unlike short term debt, long term debt requires a fixed asset that will serve as collateral security as huge fund is required from the financial institutions and the processing lags become high. Relating its productivity to the financial performance of firms, Liziwe (2017) disclosed that the higher the LTD profile of an organization, the better its chances of survival in the business world. Long-term debt is structured to have a repayment or maturity term of more than five years or that companies use between 20 and 30 years to buy assets, such as equipment and buildings, which are mostly considered loan guarantees. According to Stephen and Gang (2019), this form of financing branch has many benefits in the following ways; (i) Lower interest rate: the guarantee against debt or long-term loans is made through assets and is often associated with the low cost of loans, especially through central banks or Federal Reserves, which they maintain low loan rates to support the housing market and the growth of businesses (Abina & Akinola, 2020). It also has relatively low financing costs, that is, the interest paid for the assets acquired for the business is generally tax deductible and further reduces the total cost of loans with long-term debt. (ii) Capital retention: Capital financing involves financing by investors in exchange for partial ownership of the companies, where shareholders and owners often prefer to maintain ownership and control of the company through the support of the company (Nguyen et al, 2020). Debt After paying the debt with interest, they still have their ownership or control of the bank and, in general, they are considered an

alternative to debt as a long-term source of capital funds for business growth. (iii) Stability rate: the long-term debt is mostly structured and stable over time, with the payment time of the payments and the interest rate often remains constant during the repayment of the loan or before maturity in comparison with short-term credit accounts or capital investment (Mardones & Cuneo, 2020). The financing must consider the interests of the investors and maintain records of the distributions of income, as well as of the shareholders, before changes can be made. (iv) General growth: with short-term financing, debt is used to cover inventory costs and other short-term supply needs, long-term debt is used for the company's operational and infrastructure growth, including tangible assets as the acquisition of new office buildings or equipment, etc (Omollo et al, 2018).

The study by Abina and Akinola (2020) found that there was no significant relationship between long term debt and return on assets. Long term debts are most preferable sources of debt financing among well-established corporate institution mostly by virtue of their asset base and collateral is a requirement many deposit taking financial institutions. Report by European Commission (2008) indicates that large financial banks have considerably reduced lending to SMEs thus inhibiting their potential for growth and financial performance. Caroline and Willy (2015) argued that long term debts provided small firms with more competitive advantages when compared with large firms. According to the results it was found out that there is a direct positive and significant relationship between long term loans and financial performance of the small businesses.

Pecking Order Theory

Stewart and Myers, (1984) developed the theory to explain the corporate financial behavior of firm structure choices. Where the major points firms' managers need to adhere to and which is highly relevant to firm capital structure choices are fund managers wants to uphold sustainable shareholder returns over a given period of time despite variation in earnings, investment opportunities sand share prices. Fund managers prefer internal funding as compared to external financing. Therefore, they opt for less risky option to start with before much riskier financing (Gunarsih, 2017). Securities are normally ranked based on their viewed risk the leverage on one hand to common shares on the other hand.

Myers (1984), he posits that while designing firm capital structure, enterprises should make use of internally generated finances, the followed by external which includes debt and lastly the external equity. Internal financing is regarded as cheap and is not subject to outside interference while external debt being less costly since restrictions is less in comparison to issuing of equity.

The theory hence assumes that fund managers understand their firm's status better and they would possibly do everything to ensure existing shareholders benefit (Qureshi, 2015). The managers are also keen to keep firm's exclusive information classified because using internal financing allows managers keep away from making public disclosures concerning firm investment opportunities and earning potentials on investment. According to Myers and Majluf (1984), project with positive Net present value could easily be rejected because it requires issue of new equity which would give value of projects to new shareholders. This is assumed if the view is held to safeguard the interest of existing shareholders.

But Fama and French (2005) in their study supported preference for equity over leverage against this theory. The scholars argued that firms can avoid information costs or the adverse choice through issuing of equities which are less subject to asymmetric information like equity issues to employees in their compensation strategy or the existing shareholders through rights issue. While making financing choices, there is need to review leverage and equity funding and suggest an optimal financial structure. As suggested by pecking order theory, firms need to use leverage (debt), equity

and liquidity in their financial structure to meet firms' operations in the order of their cost to the firm where cheaper financing structure are considered first.

The three components of firm funding structure make up study variables and therefore need to evaluate how they impact on financial performance of unit trust firms. According to the theory, debt financing influences performance positively because it's cheaper. But the theory doesn't have any preference for use of equity since its most expensive and risky due to the possibility of loss of control and hence a review of the connection between equity and firm financial performance will be done since firms are also funded through equity. The connection between liquidity and firm financial performance will also be evaluated in the research study because pecking order recommend for optimistic relationship between liquid and firm financial performance.

Ho₁: The effect of long-term debt on return on equity of listed industrial goods manufacturing firms in Nigeria is not significant.

.Decision Rule: Accept Ho if $P > 0.05$. Otherwise reject

Decision: The result in table 4.8 discovered that long-term debt had a positive t-value of **(0.867 |** and a probability value of **0.390 > 0.05** indicating an insignificant positive effect of long-term debt on return on equity. This implies that an increase in long-term debt will improve the return on equity of listed industrial goods manufacturing firms in Nigeria. Thus the null hypothesis four is accepted which implied that the effect of long term debt on return on assets of listed industrial goods manufacturing firms in Nigeria is positive but not significant.

Moderated Multiple Regression (MMR)

Moderated Multiple Regression (MMR) Estimates of Model (3) in ROA

The moderating effect of risk committee size on the relationship between total debt structure and returns on assets was tested using Moderated Multiple Regression (MMR) technique. The overall strength of moderation is summarized in table 4.9 and 4.10.

Table 1 Summary of Moderation Analysis of RCS in ROA Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.057	1	.057	.295	.589 ^b
	Residual	11.239	58	.194		
	Total	11.296	59			
2	Regression	2.145	2	1.073	6.681	.002 ^c
	Residual	9.151	57	.161		
	Total	11.296	59			

a. Dependent Variable: ROA

b. Predictors: (Constant), TDS

c. Predictors: (Constant), TDS, RCS

Source: SPSS Output 2025

Table 4.9 provides information on the unmoderated and moderated results obtained from return on assets model. The model has F-statistic values 0.295 and 6.681 in its unmoderated and moderated specifications with respective Prob. ** value 0.589^b and 0.002^c indicated that unmoderated is not properly fitted since the Prob. value is greater than the decision criterion of 5% while the moderated models are properly fitted since the Prob. ** value is less than the decision criterion of 5%.

Table 4.10: Model Summary^c Moderation Analysis RCS in ROA Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.071 ^a	.005	-.012	.44020	.005	.295	1	58	.589	.885
2	.436 ^b	.190	.161	.40069	.185	13.005	1	57	.001	

a. Predictors: (Constant), TDS

b. Predictors: (Constant), TDS, RCS

c. Dependent Variable: ROA

Source: SPSS Output 2023

Table 1 provides information on the unmoderated and moderated results obtained from return on assets (ROA) model. The Durbin-Watson statistic value 0.885 is outside the acceptable range of 1 to 3 specified by Field (2009) and this affirmed that the problem of autocorrelation is likely to exist in the series. The unmoderated and moderated R² for the return on assets (ROA) specifications are 0.005 and 0.190 respectively that accounted for only 0.5% and 19.0% of the variations in return on assets (ROA) while 99.5% and 81.0% was explained by unknown variables that were not included in the Moderated Multiple Regression model in return on assets (ROA). However, for purposes of testing the set hypothesis on the change statistics and other valuable information resulting from the interaction effect of risk committee size. The unmoderated and moderated R² for return on assets (ROA) model are 0.005 and 0.190 respectively resulting to R² change of 0.185 (0.190 - 0.005). This indicated an increase of 18.5% (0.185 x 100) in the variation explained by the addition of the interaction term in the return on assets (ROA) model.

Discussion of Findings

Long Term Debt and Financial Performance Measures

Results from the multiple regression coefficient of model one and two in table 4.5-table 4.8 revealed that, long-term debt of debt structure has negative and significant effect on return on assets (ROA) but positive and insignificant effect on return on equity (ROE) of financial performance of listed industrial goods manufacturing firms in Nigeria. The findings of this study is consistent with the work done by Abuamsha and Shumali (2022), their study concludes that the ROA increases when long-term debts are used for financing the assets in the insurance, investment, and industrial sectors. Dian et al (2022) study indicated that long term debt ratio (LTDA) has a significant effect on Return on assets, Sales Growth (GROWTH) has a positive and significant effect on Return on assets. Hassan et al (2022) results indicate a significant but negative relationship between long term debt, total debt, and return on assets. However, the following prior studies indicated negative and insignificant and they include; Edward et al (2020) result indicated that long tenured debt finances do not positively and significantly impact return on assets. Usman (2019) study discovered that Long term debts have no significant impact on the financial performance of listed firms in the Nigeria consumer goods industry.

Furthermore, the following findings agreed with this study in term of long debt and return on equity. Jabar and Akinadewo (2023) discovered that long-term debt profile has an insignificant effect on financial performance captured with earnings per share of listed consumer goods firms in Nigeria. Philip and Olanrewaju (2020) study result indicated that long-term debt had a statistically insignificant relationship with financial performance in term of return on equity. Edward et al (2020) result indicated that long tenured debt finances do not positively and significantly impact return on equity. Usman (2019) study discovered that Long term debts have no significant impact on the financial performance of listed firms in the Nigeria consumer goods industry. However, the following

prior studies disagreed and they include; Ifurueze et al (2022) study finding reveals that LTDE has significant positive impact on ROE. Aamir et al (2021) results indicated that short-term debt has significant impacts on firm performance in profitability. Efeeloo (2021) findings revealed that long term debt had positive influence on book value per share while firm size had positive and significant relationship. It was recommended that financial managers of oil and gas companies should ensure optimal financing mix that will ensure greater shareholders wealth at all times.

Conclusion(s)

Based on the data obtained from the annual financial reports of listed industrial goods manufacturing firms for the period 2015 to 2024 in Nigeria from Nigeria Exchange group; the data were presented and analyzed, findings were discussed in chapter four and summary of findings are presented above. Therefore, the study concluded that;

1. The effect of long-term debt on return on assets of listed industrial goods manufacturing firms in Nigeria is significant,
2. The effect of long-term debt on return on equity of listed industrial goods manufacturing firms in Nigeria is not significant,

Recommendation(s)

Based on the findings and conclusion of the study, the following recommendations were made:

1. It is recommended that to curb the significant effect of debt financing on financial performance, the management of the listed industrial goods firms should maximize the functions of the risk committee formed to measure the risks involved in debt financing. This would ensure the right choice of the components of corporate debt and their full utilization towards the right angle.
2. The financial institutions in charge of credit facilities should judiciously investigate their debtors (corporate firms) regarding their ability to maintain a productive relationship with them. This would minimize the sudden closure of many firms in the industrial sector due to their inability to pay up their debts or survive after the full payment has been made.
3. The financial managers should adjust the long debt profile to ensure that the company operates at the optimum point the maximize the value relevance of firms and to avoid the negative trajectory.
4. Investors and stakeholders of the industrial goods manufacturing firms should also consider the leverage level of any firm before committing their hard earned money as the strength of a firm financing mix determine the quantum of their returns.

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5. Industrial goods manufacturing firms should increase their commitment to long-term as a source of finance and ensure it is used optimally to finance the assets in order to enhance their net profit margin.
 6. Risk committee members of listed industrial goods manufacturing firms should be concerned with the level of short-term debt and include financially literate members who will contribute to the company's financing decisions in order to make the debt structure optimal for better

financial performance. This is because the results of this study revealed that risk committee size had moderating relationship with debt structure and financial performance.