

EFFECT OF FINANCIAL LEVERAGE ON SHARE PRICE OF INDUSTRIAL GOODS FIRMS IN NIGERIA

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ABSTRACT

This study investigates the impact of financial leverage on the share price of industrial goods firms in Nigeria. Panel data were sourced from the annual reports and accounts of six (6) industrial goods firms listed on the Nigerian Exchange Group for six years from 2018 to 2023. The data were analyzed using the Ordinary Least Squares (OLS) linear regression method. The leverage indicators used include short-term debt (STD) and long-term debt (LTD), while the share price serves as the dependent variable. The findings reveal that the short-term debt ratio has an insignificant negative effect on the share price, whereas the long-term debt ratio has a significant positive effect. The study recommends that the management of listed industrial goods firms in Nigeria should minimize the use of short-term financing due to its high interest rates, which can erode profits, reduce investor confidence, and consequently lower share prices.

Keywords: Firm Leverage, Debt-to-Equity Ratio, Long-Term Debts, Short-Term Debts, Share price.

INTRODUCTION

Over time, increasing attention has been paid to fluctuating economic trends, not only in Nigeria but also globally. A key factor driving these fluctuations is activity within the stock market, which is largely influenced by investors' decisions. Karimi (2020) posits that since investor decisions affect both the stock market and share prices, understanding the factors that shape these decisions is essential. Numerous elements influence the information and perceptions of investors and other market participants, ultimately impacting a company's share price. Some of these factors are internal, while others arise from variables external to the domestic economy (Akinmulegun, 2012).

Financial leverage refers to the extent to which firms utilise equity and debt to finance their investments (Rehman et al., 2021). The financing structure of a company is of critical importance to both managers and capital providers, as an inappropriate financing mix can adversely affect the firm's performance and survival (Enekwe et al., 2014). Julius and Lucky (2020) assert that profitable firms often prefer leverage because it minimises owners' risk and provides cost advantages to shareholders. However, they caution that if debt is poorly managed, firms face multiple challenges, including the obligation to repay both principal and interest, which may constrain financial flexibility. Huber (2011) warns that excessive debt financing can erode profits through long-term interest obligations, thereby discouraging investor confidence. Conversely, an overreliance on equity may limit the amount of capital available for growth (Helen & Stephen, 2018). Debt financing may take either a long-term or short-term form, each possessing distinctive characteristics.

Share price is widely recognised as a measure of a company's performance, with its fluctuations serving as an indicator of broader economic conditions. It represents a major investment avenue, providing substantial returns to investors (Jane et al., 2016). Investors are generally inclined to invest in different companies' shares to gain entitlement to assets and earnings through dividends and capital appreciation. However, due to lower corporate earnings and the potential for dilution associated with high leverage, shareholders in highly leveraged firms bear greater risk than those investing in firms with low leverage.

The industrial goods sector, which supplies capital goods to manufacturing and construction industries, is highly responsive to economic cycles. Its performance depends largely on demand in residential, commercial, and industrial

construction, making it a crucial driver of economic growth (Tom-West & Okoye, 2021). Despite its significance, research examining the relationship between financial leverage and share price in Nigeria's industrial goods sector remains scarce. Most existing studies, such as those by Abubakar (2015) and Classen et al. (2023), focus on financial leverage and performance in Nigeria's banking industry. Others, including Abubakar (2016) and Enekwe et al. (2014), have explored this relationship within the healthcare sector, while studies by Akintoye (2008), Kakanda et al. (2016), and Khan et al. (2021) have concentrated on the consumer goods sector. However, none of these investigations have specifically addressed industrial goods firms or incorporated share price as a variable. Considering the sector's substantial contribution to the Nigerian economy, it is imperative to assess the impact of financial leverage on share price, as inefficiencies in these areas could jeopardise the sustainability of industrial goods firms (Omabu et al., 2021).

The main objective is to examine the effect of financial leverage on share price of industrial goods firms in Nigeria, the following specific objectives are to:

- i. explore the effect of short-term debt ratio on share price of industrial goods firms in Nigeria.
- ii. determine the effect of long-term debt ratio on share price of industrial goods firms in Nigeria.

In line with the above-stated objectives, the following null hypotheses were formulated:

H₀₁: Short-term debt ratio has no significant effect on share price of industrial goods firms in Nigeria.

H₀₂: Long-term debt ratio has no significant effect on share price of industrial goods firms in Nigeria.

REVIEW OF RELATED LITERATURE

Concept of Financial Leverage

Leverage refers to the ratio of total liabilities to shareholders' equity, illustrating the extent to which firms depend on debt financing to enhance profitability. It reflects the proportion of debt relative to equity in a company's capital structure. A key managerial consideration is whether to employ debt financing, as this decision influences both the company's market value and the associated returns and risks for shareholders (Rafiuddin & Rafiqui, 2020). Financial leverage gauges the degree to which an organisation utilises equity and debt to finance its assets. This study focuses on financial leverage, typically represented by loans or other forms of debt, intended to generate returns greater than the cost of borrowing (Ezejiofor et al., 2019). As the level of debt rises, so does the degree of financial leverage (Okoye, 2019). Although equity financing is generally preferred by management due to its lower risk of insolvency, it often yields slower capital growth. According to Enekwe et al. (2014), financial leverage depicts how firms finance their assets using both debt and equity, a practice common in real estate and bond financing. In this study, firm leverage is defined as the extent to which a company employs debt instruments—both short-term and long-term—to fund its assets.

Short-Term Debt

Short-term debt refers to borrowing used to finance current assets that can be quickly converted into cash, such as accounts receivable and inventories. These assets and liabilities are typically expected to be utilised, liquidated, matured, or repaid within a one-year period (Julius & Lucky, 2020). Current assets usually include cash, inventories, and receivables (Abdeljawad et al., 2013), while current liabilities—also termed short-term debt—represent financial obligations due within twelve months (Chad, 2021). Such debts appear under current liabilities on the balance sheet and include commitments that must be settled within the current fiscal year (Akaji et al., 2021). For the purpose of this study, short-term debt is defined as funds borrowed with a repayment period not exceeding one year.

Long-Term Debt

Long-term debt (LTD) denotes outstanding obligations with a maturity period extending beyond one financial year (Khalid & Ahmad, 2022). It is recorded as a non-current liability on the balance sheet. Debentures and other instruments issued by corporations or governments to raise long-term funds fall under this category (Mbonu & Amahalu, 2021).

The ratio of long-term debt to total assets measures a firm's capacity to meet its financial commitments and assess its overall solvency. A lower ratio suggests reduced dependence on debt and, consequently, stronger financial stability. Long-term debt includes obligations due more than a year after the balance sheet date and is reported under non-current liabilities (Omabu et al., 2021). This ratio also serves as an indicator of a firm's financial leverage. Long-term debts, such as leases and mortgages, are distinct from routine trading liabilities (Akinyomi, 2013). For this study, long-term debt is defined as borrowings with repayment periods exceeding one year.

Share Price

Almumani (2014) defines share price as the value at which a single share of a company's tradable stock or financial asset is exchanged in the capital market at a specific time, noting that this price can be directly observed on the stock exchange. It represents the highest or lowest amount at which shares, financial assets, or derivatives are sold, thereby indicating the firm's market value. Egolum and Onyeogubalu (2021) describe share price as the cost of a single unit of a company's stock, derivative, or financial asset, emphasising that it is primarily influenced by the forces of market demand and supply. DeMango and Zhiguo (2021) further explain that investor confidence in a firm's future prospects can cause fluctuations in share prices. Senan et al. (2021) argue that share prices embody the market's overall knowledge and perception, reflecting an equilibrium between buyers and sellers. Likewise, Thomas and Zechner (2021) maintain that share price serves as an indicator of managerial efficiency and the balance of investor demand and supply. In this study, share price is defined as the agreed value at which one unit of a company's stock is bought and sold in the stock market.

Theory Underpinning the Study

This study is grounded in the Signalling Theory, first introduced by Leland and Pyle (1977), which posits that firms of higher quality intentionally send signals to the market to differentiate themselves from those of lower quality. According to Brigham and Houston (2011), signalling involves deliberate actions by firms aimed at showcasing their potential and credibility to investors. The nature and quality of the information communicated by a firm are vital, as they heavily influence the investment decisions of external stakeholders. Under the signalling framework, an increase in investment activity is interpreted as an indication of expected future growth, which in turn enhances the firm's share price and perceived value. Likewise, adopting debt financing can act as a positive signal of financial soundness and reduced business risk, reflecting managerial confidence in the firm's future performance.

The theory assumes that managers possess private information regarding the firm's true quality or future outlook and can convey this information through strategic decisions, such as increasing leverage or paying higher dividends, to demonstrate confidence in the firm's value. However, one notable limitation is its reliance on the assumption of rational investor behaviour. In reality, investors may misinterpret these financial signals due to market inefficiencies, behavioural biases, or imperfect information (Connelly et al., 2011). Despite this limitation, the Signalling Theory provides a valuable lens for analysing how leverage decisions transmit information about a firm's performance, stability, and profitability. In the Nigerian industrial goods sector, where information asymmetry is pronounced due to inadequate corporate disclosure practices, leverage decisions remain a credible means of signalling a firm's financial strength and managerial assurance to investors.

Empirical Review

Johnson and Davis (2024) examined the impact of financial leverage on stock prices in the United States healthcare sector. The study aimed to assess how leverage influences stock price volatility and whether this relationship varies across healthcare sub-sectors. Employing a longitudinal research design, the authors analysed a sample of 40 healthcare firms listed on the New York Stock Exchange (NYSE) using vector autoregression (VAR) for time-series estimation. The findings revealed a significant positive association between leverage and share prices in the pharmaceutical sub-sector but a negative relationship within the medical equipment sub-sector. The study

recommended sector-specific debt policies to manage stock price performance. However, it overlooked global healthcare dynamics that might affect U.S. firms and did not specify the exact period covered.

Adewale and Okoye (2024) investigated the effect of financial leverage on stock price performance in Nigerian manufacturing firms, focusing on the relationship between long-term debt and stock price fluctuations, as well as the moderating effect of firm size. Adopting a descriptive design and correlation analysis, the study assessed 30 manufacturing firms listed on the Nigerian Exchange Group (NGX) using financial data from 2020 to 2023. The results indicated that leverage negatively influences share prices among large firms, whereas its effects on smaller firms are mixed. The authors recommended that manufacturing firms adopt leverage strategies suited to their respective sizes. Nonetheless, the study's concentration on manufacturing limits the generalisability of its findings to other sectors.

Smith and Brown (2023) explored the effect of financial leverage on share price volatility among firms listed on the London Stock Exchange (LSE). The study sought to determine how short-term leverage affects share price movements and how long-term debt influences price stability. Employing a quantitative design with multiple linear regression analysis, the authors analysed financial data from 50 listed firms spanning 2018–2022. The results showed that leverage exerted a statistically significant negative influence on share prices, with long-term debt contributing to heightened volatility. They recommended maintaining a balanced debt–equity structure to minimise price fluctuations. However, the study's applicability to emerging markets is limited.

Osei and Boadi (2023) investigated the impact of leverage on the stock prices of Ghanaian banks, focusing on the relationship between leverage ratios and stock price appreciation, while also considering the moderating role of macroeconomic factors. Using a case study approach and mixed-methods design, the study examined 20 banks listed on the Ghana Stock Exchange (GSE). Data were gathered through interviews with financial experts and secondary financial records from 2019–2023. The results showed that high leverage adversely affects stock price stability during periods of economic turbulence. The authors recommended that banks adopt more conservative debt policies in times of economic uncertainty. However, the study's lack of cross-country comparison restricts its international relevance.

Ogudo et al. (2023) analysed the effect of leverage on shareholder returns among African multinational corporations. The study examined 11 firms from 2010–2017 using dynamic panel estimation, pooled regression, and both fixed and random effects models. Findings revealed that while both debt and equity financing can enhance share prices in the manufacturing sector, only equity financing had a statistically significant impact across industries. The authors advised prudent use of leverage to maximise shareholder value.

Zhang and Li (2022) explored the relationship between firm leverage and share price returns in China's technology sector. Specifically, the study examined how debt ratios correlate with stock price growth and how varying debt structures affect market valuation. Employing a cross-sectional design, the study analysed 35 technology firms listed on the Shanghai Stock Exchange, using a fixed effects panel model to control for firm-specific effects. The results indicated that firms with higher leverage tend to experience slower share price growth, underscoring the importance of optimising capital structure for price stability. The authors recommended that policymakers design frameworks promoting sustainable debt utilisation in technology firms. However, the study's narrow focus on the tech sector and lack of clarity on the study period limit its broader applicability.

Khalid and Ahmad (2022) examined the effect of financial leverage on the share price performance of oil and gas firms in the Middle East. The study specifically aimed to determine how debt affects corporate valuation and to assess the moderating influence of oil price volatility on the leverage–share price nexus. Adopting a quantitative comparative design, the authors analysed data from 25 oil and gas firms between 2017 and 2022 using multiple regression analysis with moderating variables. Findings revealed that high leverage negatively influences share prices during periods of oil price instability. The study recommended that firms adopt flexible debt strategies responsive to oil price fluctuations.

While the focus on oil price volatility limits the generalisability of the findings, the inclusion of recent (2021) data enhanced the study’s contemporaneity.

Akhmadi et al. (2020) assessed the mediating role of debt and dividend policies in the relationship between profitability and stock prices among six mining companies listed on the Indonesia Stock Exchange (IDX) between 2012 and 2016, yielding 30 firm-year observations. Using purposive sampling, the study found that profitability positively influenced stock prices, although increased profitability did not significantly alter debt or dividend policies. However, enhanced dividend policies were associated with higher stock prices. The study concluded that debt and dividend policies did not mediate the relationship between return on equity and stock prices. No specific recommendations were made, and the use of 2016 data in a 2020 publication raised concerns about the study’s temporal relevance.

Helen and Wetsi (2018) investigated the impact of capital structure on the share prices of 15 listed Deposit Money Banks (DMBs) in Nigeria, covering data from 2006 to 2016. Employing the Hausman test, the study determined that the fixed effects model was more appropriate for the panel data analysis. Findings showed that capital structure had a negative and statistically significant effect on share prices. The authors recommended that Nigerian DMBs exercise prudence in capital raising and make greater use of retained earnings for financing. Although the study applied rigorous statistical methods, its focus on DMBs limits the generalisability of its findings.

METHODOLOGY

This study employs an ex-post facto research design, relying exclusively on existing secondary data. The sample comprises six industrial goods firms listed on the Nigerian Exchange Group (NGX) as of 31 December 2022. Covering a six-year period from 2017 to 2022, the study utilised purposive sampling to select relevant firms. Secondary data were obtained from the firms’ published annual reports and financial statements, while share price data were extracted from the NSE Factbook. Data analysis was conducted using panel regression techniques in STATA version 13.

Table 1 Variable Measurement

Variable	Type	Measurement	Source
Share Price (SP)	Dependent variable	Closing price of share at financial year end.	Almumani (2014)
Short-term Debt Ratio (STD)	Independent variable	Divide total Short-term debt by total asset	Ahmadu (2017)
Long-term debt ratio (LTD)	Independent variable	Divide total long-term debt by total asset	Julius & Lucky (2020)

Source: Researcher’s Compilation, 2024.

Model of Specification

The model as specified is expressed in a functional relationship equation as follows with the explanatory variable (short-term debt and Long-term debt) and the response variable (share price).

$SP = f(STD, LTD)$

Expressing the above linear equation in econometric form, it becomes

$SP_i = \beta_0 + \beta_1SD_i + \beta_2LD_i + \mu_i$ Model

Where:

SP = Share price

STD = Short-term debt

LTD = Long-term debt

$\beta_1- \beta_2$ = Coefficient of the independent variables
 β_0 = Constant (intercept)
i= Firms
 μ = error term.

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Descriptive Statistics

Table 2: Summaries of the descriptive statistics.

Variable	Obs	Mean	Std. Dev	Min	Max
SP	36	47.1543	81.9816	0.302	216.9
STD	36	0.6242	0.5709	0.1653	2.229
LTD	36	0.0798	0.0623	0	0.2563

Source: STATA 13 software.

Table 2 shows that the mean share price (SP) was 47.1543, with a standard deviation of 81.9816, indicating substantial fluctuations in the share prices of industrial goods firms throughout the study period. The standard deviation for short-term debt (STD) ranged from a minimum of 0.1653 to a maximum of 2.2296, with a mean of 0.6242. The relatively high mean compared with the standard deviation (0.5709) suggests that industrial goods firms largely depended on short-term debt, averaging about 62% usage. Long-term debt (LTD) recorded a mean of 0.0798 and a standard deviation of 0.0623, signifying only a slight variation in long-term debt financing during the study period. Furthermore, Table 2 indicates that all three variables were appropriately distributed, as their mean values fell within their respective minimum and maximum ranges.

Normality Test

Table 3 presents the results of the normality test for the model. The decision rule is to accept normal distribution for any variable if the p-value exceeds 0.05 and reject normality if the p-value is 0.05 or lower.

Table 3: Normality Test

Variable	Obs	W	V	Z	Prob>z
SP	36	0.5643	15.887	3.783	0.0000
STD	36	0.7065	10.702	4.957	0.0000
LTD	36	0.9367	2.309	1.750	0.0000

Source: STATA 13 software

Table 3 shows that the p-values for SP, STD, and LTD are all below 0.05. According to the decision rule, the residuals were not normally distributed. As a result, these findings may present challenges for the ordinary least squares (OLS) regression. Therefore, a more generalized regression model was adopted.

Pearson Correlation

Table 5: Below is the Pearson correlation matrix for the data set to show the extent of associations between the variables.

SP	STD	LTD
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SP	1.0000		
STD	-0.2813*	1.0000	
LTD	0.3953*	-0.2177	1.0000

Source: STATA 13 software

Table 3 displays the correlation matrix, revealing that short-term debt (STD) has a significant negative correlation with share price (SP) at -0.2813, while long-term debt (LTD) shows a significant positive correlation with SP at 0.3953. Additionally, LTD and STD have a significant negative correlation of -0.2177, suggesting a mutually exclusive relationship where an increase in one leads to a decrease in the other.

Heteroskedasticity Test

Table 4 presents the results of the heteroskedasticity test. According to the decision rule, a p-value greater than 0.05 indicates that the model has residuals with constant variance.

Table 4: Breusch-Pagan / Cook-Weisberg test

Variable	Chi2	p-value
Model	18.66	0.0730

Source: STATA 13 software

Table 4 indicates a P-value of 0.0730, which is greater than 0.05, signifying the absence of heteroskedasticity. The model's homoskedastic nature implies that the residual variance is constant, making the results reliable for predictive purposes.

Regression Analysis

Table 5: Below is the linear regression model conducted for the estimation of this mode using the pooled OLS technique.

Variable	Coeff.	t-value	P-value
-cons	1.680	2.67	0.215
STD	-34.261	-2.01	0.050
LTD	660.811	2.59	0.015
R-sqd			0.3869
Adj. R-sqd			0.2847

Source: STATA 13 software

Table 5 above shows that the adjusted R-squared, representing the goodness of fit of the model after accounting for degrees of freedom, is 0.2847. This indicates that long-term and short-term debts together explain approximately 28% of the variations in the share prices of the firms examined between 2017 and 2022. The results further reveal that short-term debt (STD) has a significant negative effect on share price (-2.01) with a p-value of 0.050, while long-term debt (LTD) has a significant positive effect (2.59) with a p-value of 0.015.

Test of Hypotheses

Table 5 indicates that short-term debt (STD) has a coefficient of -34.261 and a p-value of 0.050, signifying a significant negative effect on the share price of industrial goods firms in Nigeria. Consequently, the null hypothesis, which states that the short-term debt ratio has no significant effect on the share price of industrial goods firms in Nigeria, is rejected.

Likewise, Table 5 reveals that long-term debt (LTD) has a coefficient of 660.811 and a p-value of 0.015, indicating a significant positive influence on the share price of industrial goods firms in Nigeria during the study period. Therefore,

the null hypothesis asserting that the long-term debt ratio has no significant effect on the share price of industrial goods firms in Nigeria is also rejected.

Discussion of findings

The study demonstrates that the short-term debt ratio (STD) exerts a significant negative effect on the share price of industrial goods firms in Nigeria. The regression results imply that, holding all other variables constant, a one-naira increase in the short-term debt ratio leads to a decline in share price over the study period. This outcome is consistent with the findings of Julius and Lucky (2020) and Ja'afar and Adamu (2021), but contrasts with the results reported by Helen and Wetsi (2018).

Moreover, the study establishes that the long-term debt ratio (LTD) has a significant positive influence on share price. The regression analysis suggests that, with all other factors held constant, a one-naira increase in the long-term debt ratio results in a rise in share price within the study period. This finding aligns with the works of Akhmadi et al. (2020) and Julius and Lucky (2020) and reinforces the assumptions of the Signalling Theory, which posits that debt can serve as a positive indicator of future growth prospects, thereby elevating stock prices.

CONCLUSION AND RECOMMENDATIONS

In conclusion, the study finds that a higher short-term debt ratio (STD) adversely affects the share price of industrial goods firms, as it signals weak financial performance. Conversely, an increase in the long-term debt ratio (LTD) positively influences share price, since long-term borrowing enables firms to meet operational needs without eroding shareholder returns, thereby improving market valuation.

The study recommends that:

- i) Management of industrial goods firms should formulate strategies to reduce dependence on short-term debt, as its high interest cost undermines performance and share value.
- ii) Firms should prioritise long-term debt financing, as it significantly enhances share price and overall financial performance.

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