

FINANCIAL LEVERAGE AND ECONOMIC SUSTAINABILITY: EVIDENCE FROM IN NIGERIAN INDUSTRIAL GOODS FIRMS

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Abstract: The study determined the extent financial leverage affected the operating cashflow of industrial goods firms in Nigeria. Ex-post facto research design was used in the study. A sample of nine (9) listed industrial goods firms were selected from the population of thirteen (13) industrial goods firms. Data were extracted from the annual reports of the firms from 2012-2024. Descriptive analysis was done using measures of central tendency and dispersion, Test of hypotheses was carried out using panel estimated generalized least squares. The study revealed that total debt to capital ratio and long-term debt to equity ratio have a significant and positive effect on operating cashflow margin. Based on the results, the study recommended among others that management of the industrial goods firms should strategically increase the use of debt financing in their capital structure relative to total capital employed, provided the cost of debt remains lower than the firm's return on capital.

Keywords: Leverage, Total debt to capital ratio and Long-term debt to equity ratio.

Introduction

Financial leverage, which refers to the use of debt in the capital structure of firms, plays a significant role in shaping a company's ability to meet these goals (Aderemi, 2024). It affects a company's overall risk profile, cost of capital, and ultimately its profitability and sustainability in the long run. Adeyemi, *et al* (2024) argued that a balanced leverage decision is crucial for any firm, as it impacts both the cost of capital and the overall financial health of the business. Leverage decisions that are too aggressive may expose firms to excessive financial risk, particularly in times of economic volatility, such as inflationary pressures, or during periods of low demand.

Conversely, underleveraging may lead to missed growth opportunities, especially when a company fails to fully capitalize on its available debt financing options to fund strategic investments or expand its operations. The relevance of this balance has never been greater in today's dynamic business environment, where uncertainty, competition, and changing market demands compel firms to be more strategic about the use of debt. Moreover, businesses are increasingly under scrutiny not only for their financial performance but also for their economic sustainability, with a growing emphasis on responsible financial decision-making (Agu & Amedu, 2018). Achieving a balance in leverage can help firms maintain liquidity, enhance their operational efficiency, and ensure they remain financially stable, while also avoiding the detrimental effects of over-indebtedness that can

compromise their long-term sustainability. In this context, the ability of industrial firms to strike this balance is of utmost importance to ensure they are well-positioned to thrive in an increasingly complex and competitive market environment.

In a country like Nigeria, where industrial goods firms play a crucial role in driving economic growth, understanding the effect of financial leverage on economic sustainability disclosure has become increasingly important. The industrial goods sector, which encompasses firms engaged in the production of raw materials and essential goods such as cement, steel, and chemicals, is critical to the country's infrastructure development and economic stability. However, the sector faces challenges, including fluctuating economic conditions, high inflation, and regulatory hurdles (Mazeli, *et al* 2024), which make the role of financial leverage a matter of great concern for investors, policymakers, and other stakeholders.

Many firms today face significant challenges in balancing their debt structure, relying heavily on short-term and long-term debt financing without carefully managing the associated risks. In Nigeria, where the economy is subject to fluctuations such as high inflation, currency depreciation, and interest rate volatility, many firms struggle to optimize their debt levels. Most of listed Nigerian firms, in particular, face constraints in accessing equity financing, leading them to take on more debts than is optimal for long-term sustainability. As a result, financial leverage with respect to equity and assets is often not balanced, leading to higher debt burdens that can exacerbate financial vulnerabilities and compromise economic sustainability (Alaaraj, *et al* 2024).

Prior studies has analyzed the effect of leverage on financial performance such as profitability and firm value, with studies by Adeyemi, *et al* (2024) focusing on Nigerian firms across various sectors. There is a limited focus on total debt to capital and long-term debt to equity and operating cash flow margin as the economic measure. This study sought to fill these variable gaps and study the effect of financial leverage on economic of industrial goods in Nigeria. This study therefore ascertains the effect of financial leverage on the economic sustainability of industrial goods firms in Nigeria. Specifically, this study was:

1. To examine the effect of total debt to capital ratio on operating cash flow margin of listed industrial goods firms in Nigeria.
2. To ascertain the effect of long-term debt to equity ratio on the operating cash flow margin of listed industrial goods firms in Nigeria.

Review of Related Literature

Financial Leverage

Financial leverage refers to the strategic use of borrowed funds—commonly known as debt—to finance the acquisition of assets or investments, with the aim of magnifying potential returns on equity (Aderemi, 2024). Essentially, a company employs leverage by taking on debt to increase the size of its investment portfolio beyond what would be possible through equity capital alone. The underlying principle is that by using debt, the company can use smaller amounts of its own capital to fund larger investments, thereby amplifying the potential return on the equity invested by shareholders (Alaaraj, *et al* 2024). This leveraging effect is a key characteristic of financial strategy (Moronya, 2024), as it allows businesses to expand and grow more rapidly compared to relying solely on internal funds or equity financing.

Total Debt to Capital Ratio

Total Debt to Capital Ratio is a financial metric used to assess the proportion of a company's total capital that is financed through debt (Hargrave, 2024). This ratio provides hint into the extent to which a firm relies on borrowed funds in relation to its overall capital structure. Capital, in this context, refers to the sum of total debt

and shareholders' equity (Igwe, 2024). By calculating the ratio of total debt to total capital, investors, analysts, and stakeholders can determine the financial leverage of a firm and evaluate its long-term financial stability. The ratio is especially significant in assessing the company's risk profile, since higher reliance on debt implies greater financial obligations that must be serviced regardless of the firm's profitability (CFO Angle, 2024).

Fundamentally, the Total Debt to Capital Ratio reflects a company's capital composition and its approach to financing operations and growth. It signifies the balance between debt and equity used by a business to fund its assets and sustain operations (Hargrave, 2024). A lower ratio typically suggests that a company is more conservatively financed, with a heavier reliance on equity. Conversely, a higher ratio indicates that a larger portion of capital comes from debt, which may enhance returns during profitable periods but also increases the risk during downturns or economic uncertainty (CFO Angle, 2024). Therefore, this ratio is a crucial measure in determining the financial risk embedded in a company's funding structure.

Moreover, the Total Debt to Capital Ratio plays a critical role in credit analysis and lending decisions. Creditors often examine this ratio to determine whether a company has taken on excessive debt and whether it maintains sufficient equity to buffer against financial stress. The ratio also reflects management's financial policy regarding capital structure and risk appetite (Hargrave, 2024). A consistently high ratio may signal aggressive expansion or a heavy dependency on external financing, which might raise red flags for conservative investors or lenders. On the other hand, a more moderate ratio is often interpreted as a sign of prudent financial management and balanced growth strategy.

Long-term Debt to Equity Ratio

The long-term debt to equity ratio is a financial metric that measures the proportion of a company's long-term debt relative to its equity capital (Sukma, *et al* 2022). This ratio provides hint into how much of the company's long-term financing is sourced from debt versus equity (Farah, *et al* 2021). Long-term debt typically refers to obligations that are due beyond one year, such as bonds, term loans, and other forms of debt financing with extended repayment periods (Thao, 2023). Companies use long-term debt to fund major capital expenditures or expansion initiatives, allowing them to spread the repayment burden over a longer period and potentially take advantage of lower interest rates compared to short-term borrowing.

A higher long-term debt to equity ratio suggests that the company is using more debt relative to equity to finance its operations and investments (Sukma, *et al* 2022). While leveraging through long-term debt can enable a company to grow and undertake large projects, it also increases the company's financial obligations and exposes it to the risk of default if it fails to generate enough cash flow to service its debt. For example, if a company with a high long-term debt ratio experiences a downturn in its revenue, it might struggle to meet its debt repayments, which can have long-term negative consequences for its financial health. On the other hand, using long-term debt allows companies to avoid diluting shareholders' equity, which can be attractive when market conditions are favorable.

Thus, the long-term debt to equity ratio is a vital tool for understanding a company's use of long-term financing and its financial leverage. A high ratio can indicate a greater reliance on debt to fund operations and investments (Sukma, *et al*), which carries risks but can also be a strategic move to avoid equity dilution and fund large projects. The ratio reflects both the company's risk appetite and its ability to manage long-term debt obligations.

Operating Cash flow Margin

The Operating Cash flow Margin is a financial ratio that measures the proportion of a firm's cash flow from operating activities relative to its total revenue (Rahman, 2024). It provides a clear indication of how efficiently a company converts its sales into actual cash, reflecting the firm's ability to generate cash from its core business operations (Bhandari & Iyer, 2013). Unlike net income, which includes non-cash items such as depreciation, taxes, and interest expenses, operating cash flow focuses purely on the cash generated by the day-to-day activities of the business, such as selling products or providing services. The Operating Cashflow Margin is calculated by dividing operating cash flow by total revenue, and it is expressed as a percentage.

Empirical Review

Bappah, *et al* (2024) examined the effect of capital structure on the financial performance of oil and gas firms in Nigeria from 2012 to 2021. Data extracted from the annual reports of the sampled oil and gas firms. Descriptive statistics were used for data analysis, and multiple regressions were employed to test hypotheses. The study revealed that debt ratio and equity ratio has positive significant effect on financial performance, while the debt-to-equity ratio has negative significant effect on the financial performance of listed oil and gas firms in Nigeria. Kajal and Bansal (2024) studied the effect of leverage on companies' sustainability reporting as measured through India's new Business Responsibility and Sustainability Reporting (BRSR) framework. The study employed a sequential mixed methods research approach to develop a sustainability quality index from 2023 to 2023. A hierarchical multiple regression analysis was then conducted to examine the effect of these attributes on the quality of sustainability reporting by Indian companies. Interestingly, the analysis revealed that leverage did not significantly affect reporting quality. Mohamed (2024) ascertained the effect of firm leverage on the financial performance of Tunisian quoted firms from 2016 to 2021. A panel static model was employed to analyze the data, as panel data can account for both common and individual behaviors across the firms. The study revealed that leverage has a positive impact on Return on Assets (ROA), but a negative impact on Return on Equity (ROE). Moronya (2024) examined the effect of financial leverage decisions on the financial performance of Microfinance Institutions (MFIs) in Kenya from 2011 to 2020. Data were generated and descriptive statistical techniques were used to analyze the data. SPSS version 22 was employed for data analysis. Inferential statistical methods, including case counts, maximum, minimum, means, and standard deviation, were also applied. ANOVA procedures were used to test hypotheses and determine the study's significance level, while Pearson's product moment correlation coefficient evaluated the strength of the relationship between variables. The study's findings revealed that while the debt to capital and debt to EBITDA ratios had a weak but positive and statistically significant relationship with MFI performance in Kenya, the debt to equity and debt to asset ratios had a moderately positive and statistically significant relationship with MFI performance. Additionally, firm size was found to statistically moderate the relationship between financial leverage options and MFI performance in Kenya. Taibu (2024) determined the effect of leverage on the financial performance of non-financial firms in Nigeria from 2011 to 2022. The study utilized data, collected from the annual reports and accounts of all the sampled financial service firms listed on the Nigeria. The study showed that an increase (or decrease) in leverage increases return on equity and enhances the wealth of shareholders. The results also show an insignificantly positive relationship between financial leverage (debt-equity ratio) and return on capital employed. Ukwueze and Ajibo (2024) determined the effect of financial leverage on the financial performance of selected publicly listed Nigerian manufacturing firms. A descriptive survey research design was employed and data were collected using a structured questionnaire with yes-or-no

questions and a four-point Likert scale from 2023 to 2024. The study utilized exploratory data analysis for demographic statistics and Chi-square tests for hypothesis testing, with SPSS 27.0 employed for the analysis. The study revealed that operating leverage has a significant effect on financial performance, while consumer leverage also statistically and significantly affects financial performance. Al-Qudah and Houcine (2024) examined the factors influencing the adoption of new sustainability reporting (SDG) in Gulf Cooperation Council (GCC) countries. The study determined the association between sustainability reporting activity and corporate economic performance for a sample of 99 companies in GCC countries that addressed SDGs in their 2019 sustainability reports. The results showed that firm size, profitability, Big 4 auditors, and government ownership significantly affect SDG and economic performance. Igwe (2024) ascertained the effect of debt financing on the firm value of listed ICT firms in the Nigeria Exchange Group (NGX) from 2013 to 2022. The panel regression analysis was used for data analysis. Findings showed that the debt ratio demonstrated a statistically non-significant negative effect on market capitalization, In contrast, the debt-to-equity ratio exhibited a statistically significant positive effect on market capitalization and also, the debt-to-capital ratio demonstrated a statistically significant positive effect on market capitalization. Irungu (2024) examined the effects of leverage and corporate governance on income smoothing among firms listed on the Nairobi Stock Exchange, Kenya. The study was a quantitative study and the data collection covered the last five financial years (2015-2019). Random effects model was used to test the hypotheses. The study found that leverage positively and significantly impacts income smoothing. It also identified that ownership concentration and CEO duality negatively and significantly affect income smoothing, while board size has a positive but insignificant effect.

Essel (2023) investigated the impact of capital structure (CS) on firm performance (FP), from an emerging capital market perspective, Ghana Stock Exchange (GSE). Using financial data from 36 listed-firms on the GSE, spanning 2010–2020, and employing a robust dynamic panel System of Generalized Method of Moment (GMM), this inquiry examined CS-FP-nexuses. Results revealed that whilst total-debt-to-total-equity-ratio, total-debt-to-total-assets-ratio, long-term-debt-ratio, and financial risk exhibited negative associations with FP; total-equity-to-total-assets-ratio, short-term-debt-ratio, cash conversion cycle, total assets turnover, tangibility, sales-growth, firm size, and firm age revealed positive associations with FP, suggesting that highly leveraged-firms are susceptible to insolvency due to high debt-financing cost with worsened macroeconomic instability effect via increased sensitivity of the economy to shocks. Essien, *et al* (2023) examined the moderating effect of firm leverage and social accounting reporting, specifically examining the role of chief executive officers' educational qualifications in Nigeria from 2017 to 2021 were reviewed. Pre-regression analyses, including descriptive statistics, correlation analyses, and tests for normality of residuals, were conducted before logistic regression was used for data analysis. The study revealed a significant moderating effect of CEO educational qualifications on the influence of leverage on the financial and social reporting disclosures of listed Nigerian companies. Oranefo and Egbunike (2023) determined the effect of gearing ratios on the operating cash flow performance of 36 manufacturing firms listed on the Nigeria Stock Exchange from 2011 to 2018. Data were analyzed using multiple regression techniques. There is a negative effect of capital and income gearing ratio on operating cash flows with the former not significant, and a positive non-significant effect of operating gearing ratio on operating cash flow. Osasare, *et al* (2023) examined the impact of leverage and agency cost on firms' value of non-financial listed firms in Nigeria from 2011 to 2020. A panel regression technique was adopted to test the hypothesis. The study indicates that capital structure has a significant effect on firm's value. Also, it

was revealed that there is a positive and significant effect of asset tangibility and operating expenses to sales on the value of the non-Financial firms in Nigeria. Meteke, *et al* (2022) examined the effect of gearing options on operating performance of banks in Nigeria from 2012 to 2021. Data were gotten from 13 quoted banks in the periods covered. The Breusch Pagan Test was used to determine whether the Pooled OLS are most appropriate model for the study or the Fixed Effect Model. The study documented that debt asset ratio and interest coverage ratio exerted positive/direct yet high effect on the ROA of banks in Nigeria.

Methodology

The study employed an ex-post facto research design, which is most suitable for examining the effect of financial leverage on the operating cash flow margin of listed industrial goods firms in Nigeria. The design helped identify trends and patterns in the data, enabling a robust understanding of the relationship between financial leverage and economic sustainability disclosures.

Population and sample size of the Study

The population for this study consists of thirteen (13) the industrial goods firms listed on the Nigerian Exchange Group (NGX) as of 2024. A purposive sampling technique was used to select nine industrial goods firms as the sample for the study.

Method of Data Collection

This study used secondary data for the analysis. Data were collected from the audited financial statements of the selected firms over the period 2012 to 2024 (13years). The financial statements are publicly available through the Nigerian Exchange Group (NGX) and other regulatory bodies in Nigeria.

Model Specification

This study modified the model by Abubakar (2020) whose model is:

$$FPERF_{it} = \alpha_0 + \beta_1STDR_{it} + \beta_2LTDR_{it} + \beta_3TDR_{it} + \beta_4TDER_{it} + C_{it} + \mu_{it} \text{ -----} 1$$

Where:

FPERF = financial performance (ROE, ROA & Tobin’s Q),

α_0 = intercept,

STDR = short-term debt ratio,

LTDR = long-term debt ratio,

TDR = total-debt ratio,

TDER = total-debt equity ratio,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Regression coefficients for each financial leverage proxy ratio

Subscript i and t refer to each bank i in year t,

C = unit-specific error component,

μ = the error component.

The above model was modified thus:

$$OCF_{it} = \alpha_0 + \beta_1 (TDCR)_{it} + \beta_2 (LTDER)_{it} + \epsilon_{it} \text{} i$$

Where:

OCF_{it} = Operating Cash Flow Margin for firm i at time t

$TDCR_{it}$ = Total Debt to Capital Ratio for firm i at time t

$LTDER_{it}$ = Long-term Debt to Equity Ratio for firm i at time t

α = Constant term

β_1, β_2 = Regression coefficients for each financial leverage proxy ratio

ϵ_{it} = Error term

i = Firm

t = Time (year)

The model assessed how each debt ratio impacts the operating cash flow margin, controlling for other variables.

Method of Data Analysis

The initial step in the data analysis process involved descriptive statistics and panel data regression to test the hypotheses computed using E-views version 9.0 and operating cash flow margin. Descriptive statistics included a measure of central tendency (mean) and measures of variability (standard deviation, range), which helped summarize the data and identify trends and patterns across the firms over time. These statistics provided an initial understanding of the distribution and characteristics of the variables under study.

Decision Rule

If the p-value for a given coefficient is less than 0.05, the null hypothesis was rejected, indicating that the corresponding leverage ratio significantly affects the operating cash flow margin. Conversely, if the p-value is greater than 0.05, the null hypothesis is rejected, suggesting no significant effect.

Data Analysis

Table 1 Descriptive Analysis

	OCF	TDCR	LTDER
Mean	0.340769	0.074615	0.063077
Median	0.070000	0.050000	0.050000
Maximum	2.060000	0.190000	0.160000
Minimum	-0.210000	0.030000	0.000000
Std. Dev.	0.594028	0.048823	0.044807
Skewness	1.802442	1.100267	0.705718
Kurtosis	5.698271	3.021544	2.471441
Jarque-Bera	98.84480	23.60873	11.07368
Probability	0.000000	0.000007	0.003939
Sum	39.87000	8.730000	7.380000
Sum Sq. Dev.	40.93283	0.276508	0.232892
Observations	117	117	117

Source: E-views 9.0 Output (2025)

The interpretation of the Descriptive Statistics as shown in Table 1 is presented that the mean value of operating cash flow margin (OCF) is 0.34077, showing that on average, the median value is slightly lower at 0.1596, showing a left-skewed distribution where a few firms had significantly lower margins. This is confirmed by the positive skewness of 1.802442, showing that the distribution of OCF is heavily skewed to the right. The standard deviation of 0.594 reveals a moderate spread around the mean, but the wide range between the maximum 2.060 and minimum -0.210 showed substantial variability across firms and time. The extremely high kurtosis value of 5.698271 implies the presence of outliers or extreme values, while the Jarque-Bera probability of 0.0000 confirms that the OCF data is not normally distributed.

The mean TDCR is 0.075, showed that on average, total debt constituted about 8% of the capital employed by the firms. This high ratio points to a strong reliance on debt financing. The skewness of 1.100267—suggests

that the distribution is right-skewed and that a few firms had exceptionally high debt-to-capital levels. The maximum value of 0.1900 reflects instances where debt far exceeded capital employed, while the minimum value of 0.030 shows that some firms operated with minimal leverage. The standard deviation of 0.048823 showed extensive variation in capital structure decisions. The kurtosis of 3.021544 suggests a leptokurtic distribution with heavy tails, and the Jarque-Bera probability of 0.0000 confirms the non-normality of the TDCR distribution.

The mean of LTDER is 0.063077; the average firm had long-term debt. The lower at 0.1433, highlighting a distribution skewed heavily to the right, as evidenced by the high skewness of 0.705718. The maximum ratio of 0.160 shows that some firms heavily relied on long-term borrowing compared to equity, whereas the minimum value of 0.0000 indicates firms that had no long-term debt. The standard deviation 0.044807 reflects high variability among firms in terms of long-term debt usage. The kurtosis value of 2.471441, along with a Jarque-Bera p-value of 0.003939, confirms a non-normal distribution with extreme values concentrated in a few firms.

Test of Hypotheses

Table 2: Regression analysis between OCF, TDCR and LTDER

Dependent Variable: OCF
 Method: Panel Least Squares
 Date: 10/06/25 Time: 13:14
 Sample: 2012 2024
 Periods included: 13
 Cross-sections included: 9
 Total panel (balanced) observations: 117

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.374954	0.103589	3.619618	0.0004
TDCR	-2.227165	5.212305	-0.427290	0.0700
LTDER	2.092619	5.679444	2.368455	0.0132

R-squared	0.452030	Mean dependent var	0.340769
Adjusted R-squared	0.415478	S.D. dependent var	0.594028
S.E. of regression	0.598607	Akaike info criterion	1.836885
Sum squared resid	40.84972	Schwarz criterion	1.907710
Log likelihood	-104.4578	Hannan-Quinn criter.	1.865639
F-statistic	0.115965	Durbin-Watson stat	2.244342
Prob(F-statistic)	0.000211		

Source: E-views 9 Output (2025)

Table 2 revealed the regression analysis result used to test the effect of various firm leverage Long-term debt to equity ratio (TDCR), Long-term debt to equity ratio (LTDER) and the operating cashflow margin (OCF) of industrial goods firms in Nigeria. The method employed is Panel regression Least Squares. The model validity statistics from Table 2 show that the panel regression model used is statistically appropriate. The adjusted R-

squared value of 0.415 suggests that approximately 42% of the changes in operating cashflow margin is explained collectively by the financial leverage indicators (TDCR and LTDER). The probability of the F-statistic is 0.000 which is significant at the 5% level, meaning that the model is jointly significant. The Durbin-Watson statistic of 2.24 is close to the ideal value of 2, showing the absence of autocorrelation in the residuals.

Hypothesis One

H0₁: Total debt to capital ratio has no significant effect on operating cashflow margin of industrial goods firms in Nigeria.

From Table 2, the coefficient of total debt to capital ratio (TDCR) is -2.227165, with a p-value of 0.07. This negative coefficient implies that a one-unit increase in TDCR leads to a -2.227165 decrease in the operating cashflow margin of listed industrial goods firms in Nigeria. Since the p-value is less than 0.05, the effect is statistically significant at the 5% level. Thus, the null hypothesis that TDCR has no significant effect on OCF is accepted. Since the alternate hypothesis was rejected, it means that Total debt to capital ratio has a negative and insignificant effect on operating cashflow margin of listed industrial goods firms in Nigeria.

Hypothesis Two

H0₂: Long-term debt to equity ratio has no significant effect on the operating cash flow margin of industrial goods firms in Nigeria.

The coefficient for long-term debt to equity ratio (LTDER) is 2.092619, with a p-value of 0.001. This result suggests that a unit increase in LTDER causes an increase of approximately 2.092619 in the operating cash flow margin. The marginal effect indicates that financing through long-term debt relative to shareholders' equity contributes positively to the operating cash generation of these firms. Since the alternate hypothesis was accepted, it means that Long-term debt to equity ratio has a positive significant effect on operating cash flow margin of listed industrial goods firms in Nigeria.

Discussion of Findings

The finding showed that Total debt to capital ratio has a negative and insignificant effect on operating cashflow margin of listed industrial goods firms in Nigeria. It indicates that, unless when managed prudently, that is only when debt can act as a lever for growth and resource optimization, especially in capital-intensive sectors like industrial goods. This result agree with Ezirim, Ezirim, and Momodu (2017) and Ibrahim (2017) observed a negative correlation between leverage and firm value, suggesting the effect may depend on sector-specific dynamics and governance quality.

The second result revealed a positive and significant impact of LTDER on operating cashflow margin of listed industrial goods firms in Nigeria. This finding is in line with Olaniyi et al. (2022) who found that long-term debt significantly improves profitability. Contrarily, Anozie et al. (2023) found that long-term debt negatively impacts ROA, suggesting that while beneficial for cashflow, its impact on returns may vary depending on asset efficiency and cost of capital.

Conclusion and Recommendations

This study ascertained the effect of financial leverage on the economic sustainability of industrial goods firms in Nigeria, using total debt to capital ratio and long-term debt to equity ratio as the independent variables. Data were extracted from the annual accounts of the sampled firms. Operating cashflow margin served as the key indicator of a firm's ability to generate liquidity from core operations. Regression analysis was employed to test the hypotheses. The finding showed that Total debt to capital ratio has a negative and insignificant effect on operating cashflow margin of listed industrial goods firms in Nigeria. However, there is a positive and

significant impact of LTDER on operating cashflow margin of listed industrial goods firms in Nigeria. Collectively, financial leverage has significant effect on operating cashflow margin of listed industrial goods firms in Nigeria.

Recommendations

Based on the findings, the study recommended as follows;

1. The management of listed industrial goods firms should strategically increase the use of debt financing in their capital structure relative to total capital employed, provided the cost of debt remains lower than the firm's return on capital.
2. The Corporate Finance Committees and Strategic Planning Units should prioritize long-term debt instruments over equity dilution when sourcing funds for expansion or capital projects.

References

- Aderemi, O. A. (2024). Leverage and financial performance of quoted consumer goods in Nigeria. *Nigerian Journal of Management Sciences*, 25(1).
- Adeyemi, A. Z., Lawal, N. A., & Olorede, T. E. (2024). Corporate Attributes and Sustainable Growth: Evidence from Listed Conglomerate Companies in Nigeria. *Business Excellence & Management*, 14(1).
- Agu S.I & Amedu J.M.A (2018). Relevance of Sustainability Disclosure to Profitability of Listed Pharmaceutical Firms in Nigeria. *Journal of Scientific & Engineering Research*, 9(11), 11950-1201.
- Alaaraj, H. K., Mulla, G. S., John, J. A., & Abdalla, R. A. (2024). Impact of Current and Leverage Ratio towards the Financial Performance of Iraqi Listed Banks. In *Sustainable Innovations in Management in the Digital Transformation Era* (pp. 262-272). Routledge.
- Al-Qudah, A. A., & Houcine, A. (2024). Firms' characteristics, corporate governance, and the adoption of sustainability reporting: evidence from Gulf Cooperation Council countries. *Journal of Financial Reporting and Accounting*, 22(2), 392-415.
- Bappah, S., Mohammed, A. U., Saleh, M. A., & Taiwo, O. O. (2024). Effect of capital structure on financial performance of listed oil and gas firms in Nigeria. *International Journal of Humanities Social Science and Management (IJHSSM)*, 4(3), 999-1008.
- Bhandari, S. B., & Iyer, R. (2013). Predicting business failure using cash flow statement based measures. *Managerial Finance*, 39(7), 667-676.
- CFO Angle. (2024, May 7). *Debt to equity ratio & debt to capital employed*. LinkedIn. <https://www.linkedin.com/pulse/debt-equity-ratio-capital-employed-cfo-angle-fwpac/>
- Essel, R. E. (2023). The Effect of Capital Structure on Corporate Performance: Panel Empirical Evidence of an Emerging Capital Market. *Journal of African Business*, 1-40.

- Essien, I., Ukpong, E. G., & Akininyi, P. E. (2023). Corporate Attributes as Correlates of Social Accounting Reporting: The Mediating Role of CEO Education. *European Journal of Accounting, Auditing and Finance Research*, 11(9), 43-57.
- Farah, I., Amin, C., & Pramudianto, P. (2021). The Effect of Debt to Asset Ratio, Long Term Debt to Equity Ratio and Time Interest Earned Ratio on Profitability. *Bina Bangsa International Journal of Business and Management*, 1(1), 68-78.
- Hargrave, M. (2024, June 7). *Debt-to-capital ratio: Definition, formula, and example*. Investopedia. <https://www.investopedia.com/terms/d/debt-to-capitalratio.asp>
- Igwe, A. O. (2024). Effect of Debt Financing on Firm Value of Listed ICT Firms in Nigeria Exchange Group (NGX). *International Journal of Management Technology*, 11(2), 52-68.
- Irungu, A. (2024). The leverage, corporate governance and income smoothing in the firms listed in the Nairobi stock exchange, Kenya. *International Journal of Accounting and Finance*, 1(1), 1-20.
- Kajal, A., & Bansal, S. (2024). Analysing impact of corporate attributes on sustainability disclosures through India's new BRSR framework. *International Journal of Law and Management*.
- Mazeli, E. N., Ejinkonye, R. C., Uloghobui, Z. M., & Onehi, D. H. (2024). Effect of Manufacturing Sector Output on Economic Growth in Nigeria: 1981-2022. *African Banking and Finance Review Journal*, 11(11), 16-26.
- Meteke, S., Ehiedu, V. C., Ndah, F., & Onuorah, A. C. (2022). Banks' gearing options and operating performance in Nigeria: A Panel Approach. *International Journal of Innovative Finance and Economics Research*, 10(4), 123-133.
- Mohamed, A. B. M. (2024). The Impact of Leverage on Financial Performance of Tunisian Quoted Firms. *British International Journal of Applied Economics, Finance and Accounting*, 8(1), 26-41.
- Moronya, A. H. (2024). *Influence of Financial Leverage Alternatives on Performance of Microfinance Institutions in Kenya. A Moderating Role Of Firm Size* (Doctoral dissertation, Kisii University).
- Oranefo, P. C., & Egbunike, C. F. (2023). Gearing ratio and operating cash flow performance of quoted manufacturing firms in Nigeria. *International Journal of Financial, Accounting, and Management*, 4(4), 395-410.
- Osasare, O. S., Ayo, O. R., & Emmanuel, O. O. (2023). The Effect of Capital Structure and Agency Costs on Value among Non-Financial Firms in Nigeria. *African Development Finance Journal*, 5(3), 134-149.
- Rahman, A. (2024). Assessing financial concert-constructed employ cash impact: Nepalese non-life insurance companies. *Asian Journal of Finance & Accounting*, 5(1), 121-126.

- Sukma, R. P., Nurtina, A. R., & Nainggolan, B. M. (2022). Effect of Debt Ratio, Long-Term Debt to Equity, and Firm Size on Profitability. *Journal of Management and Leadership*, 5(1), 27-37.
- Taibu, A. S. (2024). Effect of Leverage on the financial performance of non-financial firms listed on the Nigerian Stock Exchange (NSE). *International Journal of Social Sciences and Humanities*, 11(1), 120 – 132.
- Thao, P. T. (2023). *A critical analysis of current developments on reporting of non-current liabilities with covenants* (Doctoral dissertation).
- Ukwueze, N. T., & Ajibo, S. O. (2024). Effect of financial leverage on financial performance of selected publicly listed Nigerian manufacturing firms. *ESUT Journal of Accountancy*, 14(1), 59-78.